

OUTCOME BASED CURRICULUM 2016

Program Diploma in Travel and Tourism



**Government Polytechnic,
Nagpur**

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The mission of Government Polytechnic, Nagpur is-

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OUTCOME BASED CURRICULUM 2016



Program: Diploma in Travel and Tourism



by

Curriculum Development Cell,

Government Polytechnic, Nagpur

Document Written by

Dr. S.W.Rajurkar

and

Mr. G.V.Gotmare

Curriculum Development Cell

Government Polytechnic, Nagpur, India

Curriculum Developed by

Faculties and Experts (Mentioned in individual curriculum)

Approved by

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Program wise Board of Studies (PBOS),

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Governing Board (GB),

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Published by

Dr. C.S.Thorat

Principal,

Government Polytechnic, Nagpur, India



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The Program Structure and Curriculum Contents for Diploma in Travel and Tourism are approved in Advisory Board (AB), Programwise Board of Studies (PBOS), Board of Studies (BOS), and Governing Board (GB), Government Polytechnic, Nagpur.

(Mr. Rajesh Pund)
I/C. Head of Deptt.
Travel and Tourism
and
Chairman PBOS (TR)

(Mr. G.V.Gotmare)
In-charge
Curriculum Development Cell
and
Member Secretary PBOS (TR)

(Dr. C.S.Thorat)
Principal

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3	Shri. Y.Y.Mahajan,	Member (Academic)	Asst. Professor, Dept. of Metallurgy ,VNIT, Nagpur
4	Mr. Y.K.Gaiky	Member (RBTE, Nominee)	Lecturer in Mechanical Engg. Govt. Polytechnic, Sakoli
5	Miss. V.C.Humney	Member (Institute)	Lecturer in Metallurgical Engg. Govt. Polytechnic, Nagpur
6	Shri S.M.Waikar	Member (Institute)	Lecturer in Metallurgical Engg. Govt. Polytechnic, Nagpur
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3	Shri.R.Y.Ghormade	Member (Academic)	HOD Electrical, Dharampeth Polytechnic, Nagpur
4	Dr. S.S.Bharatkar	Member (MSBTE Nominee)	Lecturer in Electrical. Engg. Govt. Polytechnic, Amravati
5	Mrs. S.P.Thote	Member (Institute)	Lecturer in Electrical. Engg. Govt. Polytechnic, Sadar, Nagpur.
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5	Shri. R.L.Meshram	Member (Institute)	Lecturer in I.T. Govt. Polytechnic, Nagpur
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5	Mrs. L.Raman	Member (Institute)	Ex. HOD, Travel and Tourism, Govt. Polytechnic, Nagpur
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6	Mrs.Rupali Hirurkar	Member (Institute)	Sr. Lecturer, Govt. Polytechnic, Nagpur
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6	Mr.G.R.Dewalkar	Member (Institute)	Sr. Lecturer, Govt. Polytechnic, Nagpur
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6	Mrs.S.B.Adulkar	Member (Institute)	Sr. Lecturer, Govt. Polytechnic, Nagpur
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4	Dr.K.A.Nandekar	Member (MSBTE Nominee)	G.H.Raisoni polytechnic,Nagpur
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7	Shri. G.V.Gotmare	Member Secretary	Officer In-Charge CDC, Govt. Polytechnic, Nagpur

List of contributors for curriculum development

Sr. No.	Name of Faculty	Designation
Travel and Tourism		
1	Shri Rajesh Pund	Lecturer, Government Polytechnic, Nagpur.
2	Ms Sheetal Jagtap	Lecturer, Government Polytechnic, Nagpur.
3	Mrs Lakshmi Raman	Ex. HOD, Government Polytechnic, Nagpur.
4	Ms Erika Kar	Director, Pegasus Institute, Nagpur
5	Mrs Amita Tandon	I/C, Principal, Women's Technical College (LAD), Nagpur
6	Miss Rupinder Nanda	Visiting Lecturer, Government Polytechnic, Nagpur
7	Shri Sandeep Bapat	Visiting Lecturer, Government Polytechnic, Nagpur
8	Ms Pushpa Khubchandani	Director, Uniglobe Pawansut Travels, Nagpur
9	Dr Arvind Upasani	Visiting Lecturer, RSTM Nagpur University, Nagpur

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CHAPTER 1

Government Polytechnic, Nagpur an Introduction

This chapter gives the history of Government Polytechnic, Nagpur.

1.1 History

The **Government Polytechnic, Nagpur** is an oldest technical institution in central India. It was founded on 14th July 1914 as the Government Engineering School. At its commencement the school had 16 students on roll and was located in the Victoria Science College (now the Institute of Science) in Nagpur. During its first year the school provided courses in Civil Engineering & Mechanical Engineering up to diploma standard. Later in 1915 Automobile Engineering Course was also established which was subsequently converted into Post Diploma in Automobile Engineering. The institution has given birth to Engineering College presently known as Visvesvaraya National Institute of Technology, Nagpur (VNIT). The school was expanding rapidly & from 16 students enrolled in 1914 increased to nearly 2000 in current year and Govt. Engineering School converted to Government Polytechnic, Nagpur.

1.2 Autonomy

The Institute has recently celebrated its Centenary year. Government Polytechnic, Nagpur has history of 102 Glorious Years. The Government Polytechnic, Nagpur is committed to contribute to through excellence in technical education, to serve as valuable resource for industry and society. The institute is always upright in responding to educational needs of its changing world's scenario.

From academic session 1995 the institute was conferred with autonomous status by Government of Maharashtra as per Government Resolution No. WBP-1093/(2640) (69)VE-5 Dated- 31st March, 1994, in context of academic matter viz. identification of

need of new programs, requisite curriculum design, implementation of self-designed curriculum, assessment, evaluation and certification of students.

1.3 Awards

Some of the prestigious awards received by Government Polytechnic, Nagpur are as follows:

- State Award “Best Overall Performance 1996” (ISTE Narsee Monjee Award)
- State Award “Best Polytechnic, 1997” , (Govt. of Maharashtra)
- National Awards “Best Polytechnic, Student Chapter 2002”,(Institute of Engineers (India))
- National Awards “Best Polytechnic, Student’s Project ,2002” (ISTE Narsee Monjee)
- State Award “Best Overall Performance 2016” (ISTE Narsee Monjee Award)
- National Education Award for “Best Technical Educational Institute in Maharashtra State-2016”

1.4 Geographical Location of Nagpur City

The latitude of Nagpur, India is 21.146633, and the longitude is 79.088860. Nagpur, India is located at India country in the Cities place category with the gps coordinates of 21° 8' 47.8788" N and 79° 5' 19.8960" E. Nagpur, India elevation is 311 meters height. Nagpur is located at the exact centre of the Indian peninsula. Figure 1.1 shows the location. The city has the Zero Mile Stone locating the geographical centre of India, which was used by the British to measure all distances within the Indian subcontinent. [Wikipedia]. The city gets its name from the river Nag, which flows through the city, originating at a small village called Lavha. It is famous for the Nagpur orange and is known as the "Orange City" for being a major trade centre of oranges cultivated in the region.



Figure 1.1. Location of Nagpur City

1.5 Government Polytechnic, Nagpur Campus

Government Polytechnic, Nagpur is situated in heart of the Nagpur City at “Sadar” area, 2.1 km walking distance from zero mile stone as well as Nagpur railway station. The campus map of GPN is shown in Fig. 1.2.



Figure 1.2. Government Polytechnic, Nagpur Campus

CHAPTER 2

Polytechnic Education System

This chapter describes the polytechnic education system in India. Various bodies responsible for polytechnic education in India are also described below.

2.1 Higher Education System in India

The aim of any country's higher education system is sustainable development and achieving higher growth rates. It is enabled through creation, transmission and dissemination of knowledge. To achieve this, India has setup a school education system and higher education system. The higher education system is one of the strongest parts of the Indian education system.

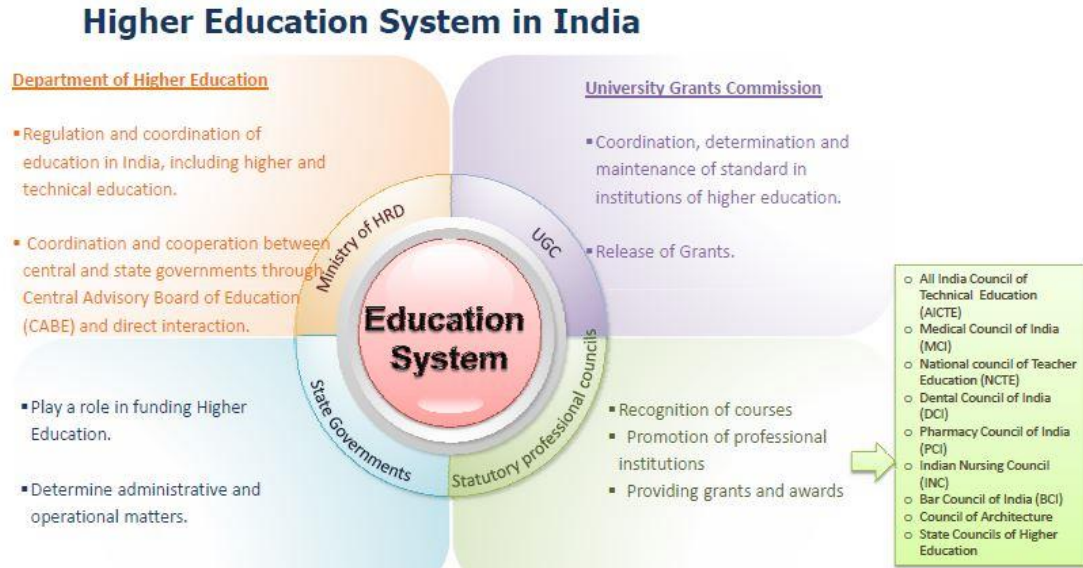


Figure 2.1. Higher Education System in India

Figure 2.1 shows the various bodies responsible for higher education in India, with their roles, as follows:

1. Ministry of Human Resource Development (HRD)

- Regulating and coordination of education in India
 - Coordination and cooperation between central government through central advisory board of education (CABE) and direct interaction
2. University Grant Commission
 - Coordination, determination and maintenance of standards in institutes of higher education
 - Release of grants
 3. State Governments
 - Funding Higher Education
 - Determine administrative and operational matters
 4. Statutory Professional Councils their roles and responsibilities.
 - Recognition of Courses
 - Promotion of Professional institutions
 - Providing grants and awards

The higher education in India is categorised in to following three categories as shown in Fig. 2.2:

1. General Education
2. Professional Education
3. Vocational Education

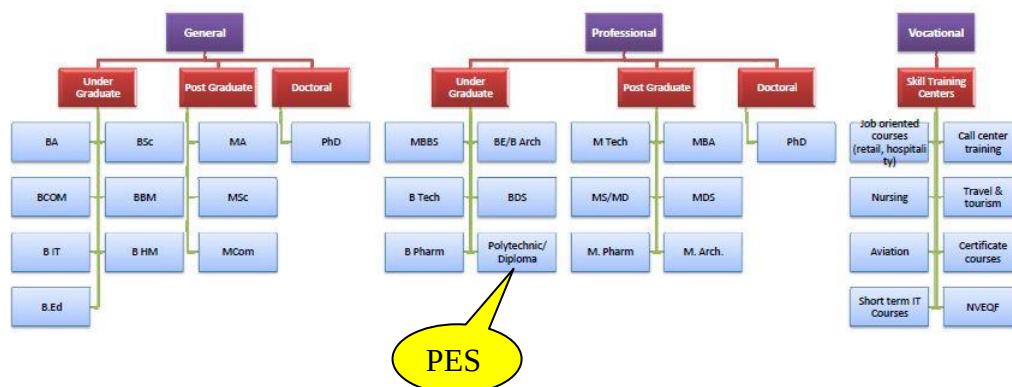


Figure 2.2. Classification of Higher Education System in India

Polytechnic Education System (PES) in India is the undergraduate level category of professional Education.

GPN is one of the autonomous polytechnic of PES in India. It is mandatory for GPN to follow the guidelines framed by the various bodies responsible for technical education, which are as follows:

2.1.1 Department of Higher Education, MHRD

The Department of Higher Education, MHRD, is responsible for the overall development of the basic infrastructure of Higher Education sector, both in terms of policy and planning in India. Under a planned development process, the Department looks after expansion of access and qualitative improvement in the Higher Education, through world class Universities, Colleges and other Institutions

2.1.2 All India Council for Technical Education (AICTE)

The All India Council for Technical Education (AICTE) has been in existence since November 1945 as a national level Apex Advisory Body. AICTE became a statutory body through an act of Parliament 52, in 1987.

AICTE was established with a view to the proper planning and co-ordinated development of the technical education system throughout the country, the promotion of qualitative improvement of such education in relation to planned quantitative growth and the regulation and proper maintenance of norms and standards in the technical education system for matters connected therewith. One of the major functions of AICTE is to lay down norms and standards for courses, curricula, physical and instructional facilities, staff pattern, staff qualifications, quality instructions, assessment and examinations.

2.1.3 National Board of Accreditation (NBA)

The National Board of Accreditation (NBA), India was initially established by AICTE (All India Council of Technical Education) under section 10(u) of AICTE act, in the year 1994, for periodic evaluations of technical institutions & programmes basis according to specified norms and standards as recommended by AICTE council.

NBA in its present form came into existence as an autonomous body with effect from 7th January 2010, with the objective of Assurance of Quality and Relevance of Education, especially of the programmes in professional and technical disciplines, i.e., Engineering and Technology, Management, Architecture, Pharmacy and Hospitality, through the mechanism of accreditation of programs offered by technical institutions.

NBA has introduced a new process, parameters and criteria for accreditation. These are in line with the best international practices and oriented to assess the outcomes of the programme. NBA adopted Outcome Based Education (OBE) model for accreditation of all engineering programs in India from 2013.

2.1.4 Higher and Technical Education, Government of Maharashtra

It is the apex authority responsible for steering and supporting the development and growth of quality Higher and Technical Education that meets educational and social objectives of the state. This department is highly committed towards inclusive education and realizes the importance of quality of education and has undertaken numerous initiatives for achieving highest quality standards in the field of education. Accreditation and Re-accreditation of the Universities and Institutes of higher learning has been made mandatory to ensure the quality of institutions.

2.1.5 Directorate of Technical Education (DTE), Government of Maharashtra

The role of the Directorate is to maintain, enhance the standard, quality of technical education by laying the policies, establishing developing Govt. Institutions, guiding supervising the aided, private institutions, interacting with industry and national level institutions, co-ordinating with other departments of State Government, Government of India Statutory Organisations and to contribute to the development of industry society at large.

2.1.6 Maharashtra State Board of Technical Education (MSBTE)

Maharashtra State Board for Technical Education (MSBTE) was established with the enactment of the Maharashtra State Board of Technical Education Act 1997 to regulate the matters pertaining to diploma level technical education in the state of Maharashtra.

According to act section 34, the autonomous institutions shall be required to obtain equivalence for their courses and programmes from the MSBTE. The MSBTE shall monitor all academic and examination related activities of the Autonomous Institutions such as curriculum, teaching examination scheme, teaching hours, academic schedule, eligibility of candidate to appear for the examination, etc.

2.2 Polytechnic Education System

Polytechnic education in India constitutes an important segment of Technical Education and contributes significantly to the economic development. Aimed at creating a vast amount of technical manpower, the polytechnics have played a vital role in providing skilled manpower at various levels for organized, unorganized and Service Sectors.

The aim of the polytechnic education is to create a pool of skill based manpower to support shop floor and field operations as a middle level link between technicians and engineers. The pass-outs of Diploma level Institutions in Engineering & Technology play an important role in managing shop-floor operations. It is further an established fact that small & medium Industry prefer to employ Diploma Holders because of their special skills in interpreting engineering, drawings, estimating, costing, billing, supervision, measurement, testing, repair & maintenance etc.

Curriculum is an educational programme designed, developed & implemented in formal educational system to achieve pre-determined & pre-stated educational objectives. Every individual social system comes in to existence as a result of need of its output emerged in its environment. Educational objectives of PES can be stated as follows:-

- a) To cater to specific manpower need in overall Technical Manpower Spectrum of industry and society that lies between craftsman on one side and technocrat on other.

- b) To cater the man power need of primary, secondary and tertiary sector of industry.
- c) To cater to individual educational need for development of self, community and society.
- d) To cater to an individual need to update him in tune with advancement in engineering and technology.

Educational objectives stated above talk about manpower with-certain task profile. To develop such task profile in an individual, which consists in general of all duties and associated tasks and sub tasks that an individual is supposed to perform, it is required to organize various experiences in different setups viz. classrooms, laboratories, workshops and fields, through out any educational programme. With such experiences it should be ensured that students acquire requisite knowledge, skills, attitudes and abilities to perform sub tasks and duties and finally job which he is likely to get after passing programme.

Hence, it is essential to design education program taking in to account predetermined objectives in the form of curriculum, then develop requisite resources viz. physical like space, equipment, and furniture etc. human, information and implement it to achieve the educational objectives.

CHAPTER 3

Curriculum Development System

This chapter describes the organization structure, curriculum development system and the various bodies responsible for the development of curriculum of GPN.

3.1 Organizational Structure of GPN

GPN, being part of PES it has been catering needs of individual, community, society and industry since last 102 years. Up to 1995 services being offered by GPN were under different status viz. university, MP DTE and MSBTE.

In 1995 the institute was conferred with autonomous status by Government of Maharashtra as per Government Resolution No. WBP-1093/(2640) (69)VE-5 Dated- 31st March, 1994, in context of academic matter viz. identification of need of new programs, requisite curriculum design, implementation of self-designed curriculum, assessment, evaluation and certification of students. In nutshell accountability regarding academic matters referred above followed by placement of students in world of work is trusted on the institute. Functional organization of students in world of work is entrusted to the institute. Functional organization parallel to hierarchical organization of institute is constituted for running institute under autonomous status effectively and efficiently. Fig. 3.1 shows the organizational structure of GPN.

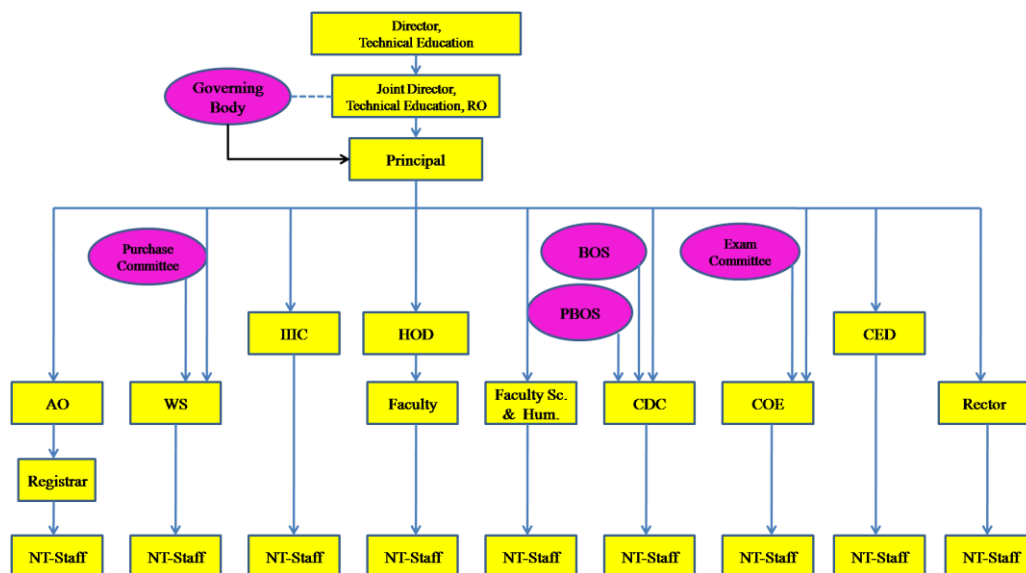


Figure 3.1. Organizational Structure of GPN

3.2 Curriculum Development System

Since, 1995 the institute has been designing/revising and implementing curricula of 11 programmes. This is being done using Curriculum Development System shown in Figure 3.2.

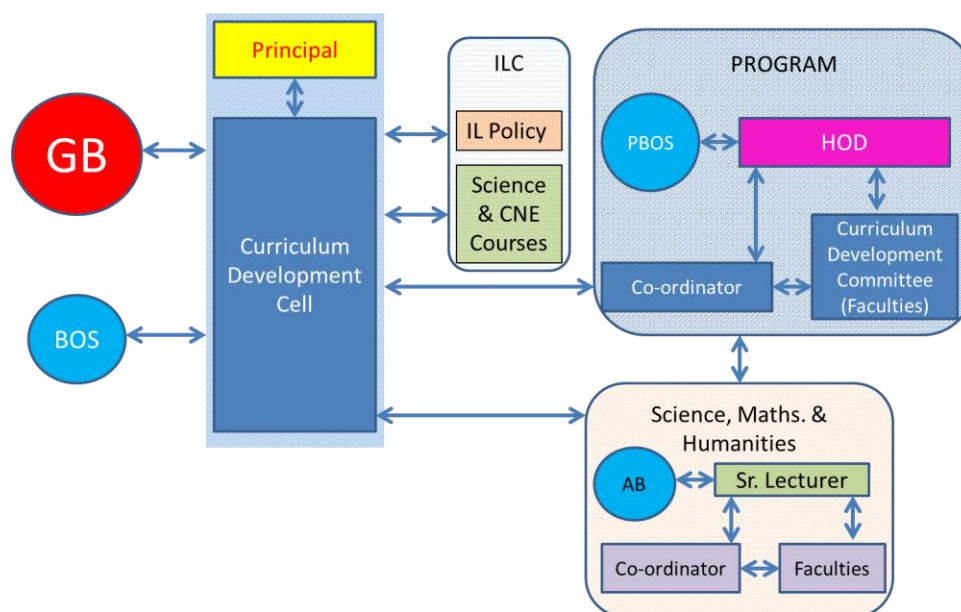


Figure 3.2. Curriculum Development System

Curriculum Development System consists of Programs (Civil, Mechanical, and Electrical etc.), Non Programme Department (Science, Maths, and Humanities), Institute Level Committee (ILC), and Curriculum Developmental Cell (CDC) headed by Principal of the Institute. Institute follows certain process in designing, revising, developing and implementing curriculum and student assessment & evaluation for enhanced students' learning. The constitutional bodies Governing Body (GB), Board of Studies (BOS) and Program wise Board of Studies (PBOS) for programs and non-constitutional body i.e. Advisory Board (AB) for Non Programme Department are responsible for approval of curriculum.

3.2.1 Governing Board (GB)

GB is an apex body. The committee members and roles and responsibilities of GB of GPN are stated below:

- **Committee Members:**

1. Joint Director of Technical Education Maharashtra State, Bombay - Chairman
2. Nominee from Western Regional Committee Govt. of India - Member
3. Regional Officer, Human Resource Development or Co-ordinator, TTTI, Pune - Member
4. Representative from the Local Centre the I.E.(India) - Member
5. Representative from the Engineering Association - Member
6. Representative from the District Industries - Member
7. Project Director, State Project Implementation Unit (World Bank) – Member
8. Principal of the Polytechnic – Member Secretary

- **Functions and Responsibilities:**

1. To decide the policy of the institute and decide guidelines of the function of various committees.
2. To analyse all issues and provide policy directive for developing the scheme and implementing it at the institute level.
3. To appoint the various committees of Governance for smooth functioning of the Institute.

4. To institute scholarships fellowships studentships, Mudat prize and certificates on the recommendation of Board of Studies.
5. Approve new programmes of studies leading to Diploma/Post-Diploma.
6. Approve modifications in present curriculum in order to meet the changed demands of the industry society from time to time.
7. Approve Annual Reports of the Institute
8. Approve Continuing Education Programmes or similar Activities Beneficial to the Students/Community Institute.
9. To approve the fees and other charges payable by the students of the Polytechnics on the recommendation of Board of Studies.

3.2.2 Board of Studies (BOS)

BOS is an Institute level committee. The committee members and roles and responsibilities of BOS of GPN are stated below:

- **Committee Members:**

1. Representative of the Industry - Chairman
2. Head of Department of 5 Programmes - Member
3. Local Experts of 5 Programmes- Member
4. Nominee of Board of Technical Examinations, M.S. Bombay- Member
5. In-charge of Curriculum Development Component– Member Secretary

- **Functions and Responsibilities:**

1. To prepare Syllabi for various courses and develop curriculum keeping in view the objectives of the Institute and the national requirement for consideration. Syllabi shall be equivalent to Syllabi of Board of Technical Examinations.
2. To suggest methodologies for innovative teaching and evaluation techniques.
3. To Co-ordinate research teaching, extension and other academic activities in the various departments/ institute.
4. To recommend books including test books for various courses of studies.

3.2.3 Program Wise Board of Studies (PBOS)

PBOS is a program level committee. GPN is having 11 PBOS committees. The committee members and roles and responsibilities of PBOS of program of GPN are stated below:

- **Committee Members:**

1. Head of the Department concerned- Chairman
2. Two Senior Lecturers- Member
3. One expert in the programme from the neighbouring institution - Member
4. Nominee from the Board of Technical Examinations Bombay - Member
5. One Expert from the local industry in each Programme – Member
6. In-charge of Curriculum Development component - Member-Secretary

- **Functions and Responsibilities:**

1. To decide Philosophy of curriculum design course wise.
2. To analyse present needs and to identify desirable changes, additions, deletions coursewise.
3. Analyse of personnel development.
4. Formation of Programme objectives.
5. Selection of contents.
6. Design of student's evaluation.
7. To decide resources required and development thereof.
8. To decide strategy of implementation.
9. Recommend equivalence for granting exemptions.

3.2.4 Advisory Board (AB)

Non Program Department (Science, Maths, and Humanities) are not having PBOS as per the Government Resolution. The AB is constituted in line with the PBOS for Non Program Department. There are 4 AB each for Physics, Chemistry, Mathematics and English Department.

CHAPTER 4

Outcome Based Education Philosophy

Government Polytechnic, Nagpur adopted the OBE approach for curriculum design because, National Board of Accreditation (NBA) focusing on the adoption of OBE approach for all engineering programmes in India from 2013 for accreditation. Programmes to be accredited from 2013 will have to be based on OBE approach. NBA adopted Outcome based Model because, OBE is “Learner Centric” rather than “Teacher Centric”

4.1 Outcome Based Education

Outcome Based Education (OBE) is an education approach that focuses on the graduate attributes or outcomes after completing an academic programme. Outcome based approach means knowing what you want to achieve and then taking the steps to do so.

Some Benefits of OBE are-

1. More directed and coherent curriculum.
2. Graduates (students) will be more “relevant” to industry and other stakeholders.

The framework required for implementation of OBE consists of the following as shown in Figure 4.1 and consists of:

- Outcome Based Curriculum (OBC): What students should able to do?
- Outcome Based Teaching learning (OBTL): Making the students to achieve the outcomes
- Outcome Based Assessment (OBA): How to measure, what the students has achieved?

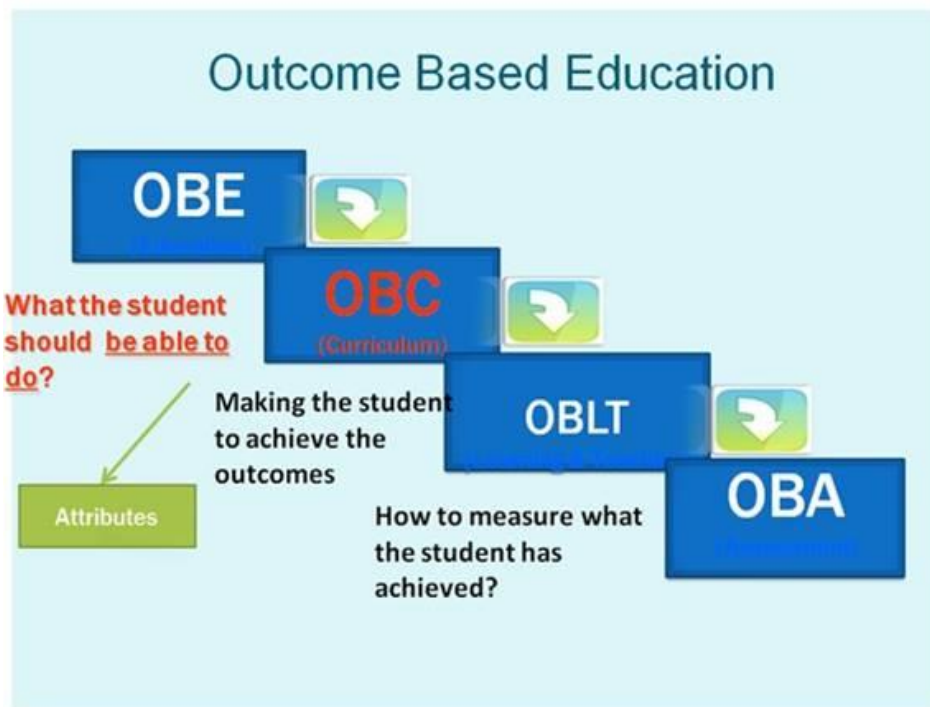


Figure 4.1. Outcome Based Education Framework

4.2 KEY constituents of OBE

Figure 4.2 shows the key constituent of OBE.

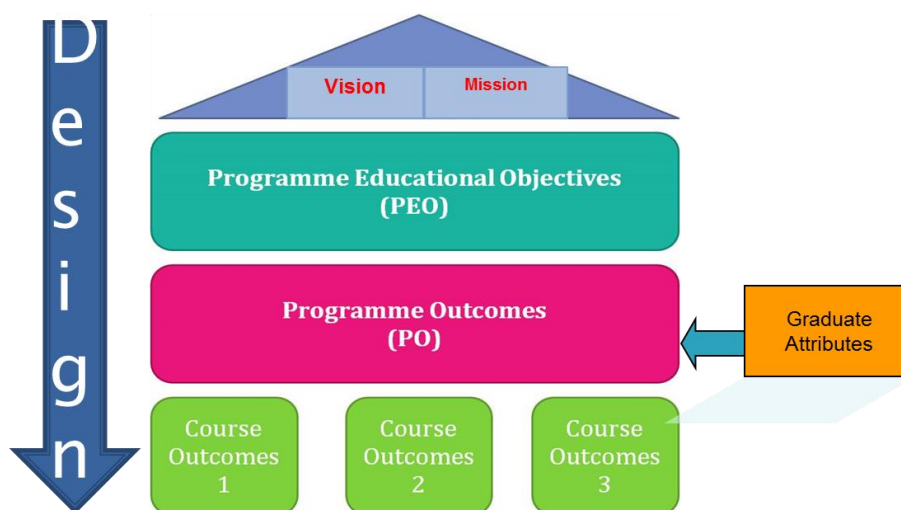


Figure 4.2. Key Constituents of OBE

4.2.1 Vision

Vision is a picture of the future you seek to create, described in the present tense, as if it were happening now. It shows where we want to go, and what we will be like when we get there.

4.2.2 Mission

Mission statement defines what an institution is, why the institution exists, and its reason for being. It defines what we are here to do together.

4.2.3 Graduate Attributes (GA's)

Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. WA (Washington Accord) defines 12 GA's for Engineering Graduates.

4.2.4 Program Outcomes (PO's)

Programme Outcomes (POs) describe what students should know and be able to do at the end of the programme. They are to be in line with the graduate attributes (GAs) of NBA. PO's are to be specific, measurable and achievable. POs transform the PEOs into specific student performance and behaviors that demonstrate student learning and skill development.

Following are POs (Ten) for all diploma engineering programs as per NBA guidelines-

1. **Basic Knowledge:** Ability to apply knowledge of basic Mathematics, Science and Engineering to solve the engineering problems
2. **Discipline Knowledge:** Ability to discipline specific knowledge to solve core and/or applied engineering problems
3. **Experiments and Practice:** Ability to plan and perform experiments and practices and use the results to solve engineering problems

4. **Engineering tools:** Apply appropriate technologies and tools with an understandings of limitations
5. **The Engineer and Society:** Demonstrate knowledge to assess the societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to engineering practice.
6. **Environment and Sustainability:** Understand the impact of engineering solutions in societal and environmental context, and demonstrate knowledge and need for sustainable development.
7. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
8. **Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse/ multidisciplinary teams.
9. **Communication:** An ability to communicate effectively.
10. **Life-long learning:** Recognize the need for, and have preparation and the ability to engage in independent and life-long learning in context of technological changes.

4.2.5 Program Educational Objectives (PEO's)

The Program Educational Objectives (PEOs) are broad statements that describe the career and professional accomplishments that the programme is preparing graduates to accomplish. PEOs should be measurable, appropriate, realistic, time bound and achievable.

4.2.6 Program Specific Outcomes (PSO's)

No definition for PSO's is found in literature. According to Dr. B.L. Gupta, NITTTR, Bhopal, PSO's are the broad statements of Program specific outcomes as per the local needs.

4.2.7 Course Outcomes (CO's)

Course Outcomes (COs) are clear statements of what a student should be able to demonstrate upon completion of a course. They should be assessable and measurable knowledge, skills, abilities or attitudes that students attain by the end of the course. It

is generally a good idea to identify between four and seven. All courses in a particular programme would have their own course outcomes. These course outcomes are designed based on the requirement of the programme outcomes (POs). Each course outcomes are mapped to a relevant PO and they are mapped to the programme educational objectives (PEO). The teaching learning process and assessment methods are to be designed in such a way to achieve the COs. It is important to ensure that the student is able to acquire the knowledge or skill required. Table 4.1 clarifies the difference between Course Objectives Vs Course Outcomes

Table 4.1. Difference between Course Outcomes and Course Objectives.

Course Objectives	Course Outcomes
Describe what a teacher needs to teach, and what needs to be planned to teach.	Describe what students should demonstrate upon the completion of a course.
Example- At the end of the course, students will- Understand the types of wiring system.	Example- At the end of the course, students will be able to- Choose a suitable wiring system for particular installation.

4.2.8 Specific Learning Outcomes (SLO's) or Learning Outcomes (LO's)

Learning outcomes (LO's) or Specific Learning Outcomes (SLO's) are “*statements of what is expected that the student will be able to do as a result of learning the activity*”. (Jenkins and Unwin, 2001); i.e at the end of each unit or chapter. SLO's should also be assessable and measurable knowledge, skills, abilities or attitudes that students attain by the end of the unit

CHAPTER 5

Bloom's Taxonomy

Outcome-based education is an educational model in which curriculum and pedagogy and assessment are all focused on student learning. Learning is a relatively permanent change in behaviour potentiality that results from reinforced practice or experience. A group of educational psychologists led by Benjamin Bloom develops a taxonomy, or classification system, for learning. Some aspects of Bloom's Taxonomy is described below.

5.1 Introduction to Bloom's Taxonomy

Benjamin Bloom (1948) developed classifications of intellectual behaviour and learning in order to identify and measure progressively sophisticated learning. Bloom's taxonomy is especially important in higher education where outcomes need to address the student ability to use information, not just recall and regurgitate concepts. Lower levels of learning are easier to assess but do not adequately display what the student can do with the knowledge. However, learning is not a purely cognitive function; learning occurs differently when it entails performing a skill or re-evaluating behavior. This approach is based on biological structure of human being as shown in figure 5.1.

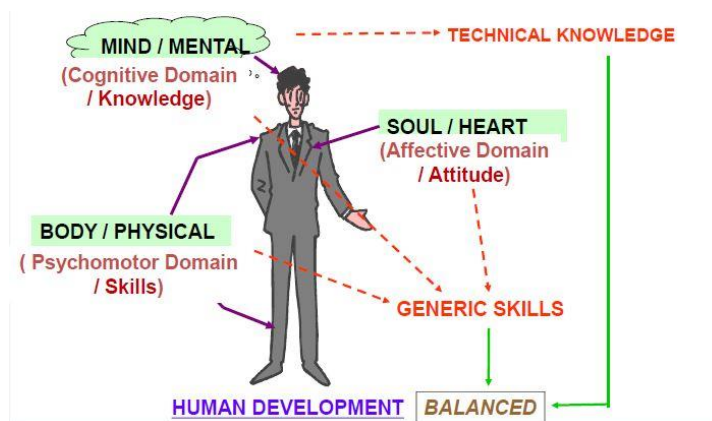


Figure 5.1. Human Being and Domains of Learning

Important elements of this approach which form basics of learning are explained below.

5.2 Domains of Learning

Learning is a process by which students develop relatively permanent change in mental associations through experience. This is how learning is defined by cognitive psychologists. Behavioral; psychologists define learning as a relatively permanent change in behavior. However, learning is not a purely cognitive function; learning occurs differently when it entails performing a skill or re-evaluating behavior.

There are following domains of learning:

- A: Cognitive Domain relates to intellectual skills or abilities
- B: Affective Domain relates to emotions, feelings, likes, dislikes etc.
- C: Psychomotor Domain relates to manipulative skills of hands, legs. Eye-hand coordination

In Engineering & Technology courses, endeavor is made to design curriculum with a focus on development of cognitive skills through classroom teaching, whereas manipulative (psychomotor) skills are developed in workshops, laboratories & seminars where students work individually or in a group. Development of affective skills attitudes and value is supposed to be acquired through projects and co-curricular activities. These are also developed from the work culture or institutions.

How far a student has developed these abilities/skills especially from cognitive and psychomotor domains is assessed on the basis of suitable examinations. When classroom and laboratory teaching is viewed in this light, evaluation becomes an integral part of teaching – learning process.

5.2.1 Cognitive Domain

Dr. Benjamin Bloom (1956) analysed questions asked in various examinations in American situation and proposed a hierarchical arrangement of instructional objectives (Intellectual abilities) tested by these questions.

The lowest level of cognitive learning achieved by a student is demonstrated by the recall of information that the student retrieves from his long term memory. So, the storage and retrieval of specific facts, concepts, principles, laws, definitions, properties, procedures etc. directly from memory was classified as a knowledge level objective. Thus questions

testing memory of students were treated as at the lowest level of the hierarchy of intellectual abilities. The other levels of hierarchy proposed by Dr. Bloom in 1956 relate to the degree of information processing required in the brain needed to provide answer to a question. The various levels in the cognitive hierarchy proposed by Dr. Bloom in 1956 and further revised in 2001 are shown in figure 5.2.

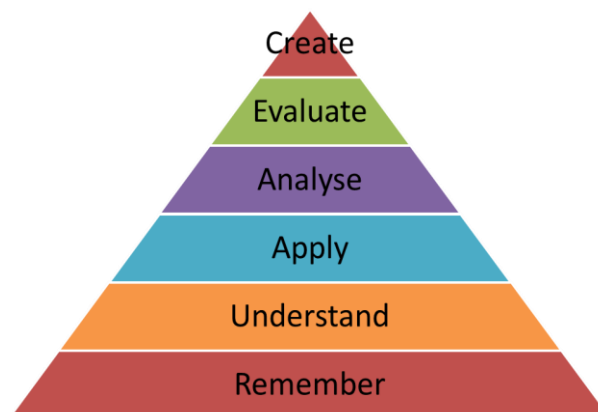


Figure 5.2. Revised cognitive hierarchy Levels

Table 5.1. Cognitive Domain Levels Action Verbs

Cognitive Domain Levels	Behavior descriptions	Action Verbs
Remember	Recall or recognize information	Define, Duplicate, List, Name, Identify, Recall, Reproduce, Recognize, Retrieve
Understand	Understand meaning, re-state data in one's own words, interpret, extrapolate, translate	Calculate, Categorize, Clarify, Classify, Compare, Conclude, Contrast, Describe, Exemplify, Expand, Illustrate, Infer, Interpret, Locate, Paraphrase, Predict, Report, Restate, Summarize, Translate
Apply	Use or apply knowledge, put theory into practice, use knowledge in response to real circumstances	Carry out, Classify, Demonstrate, Execute, Illustrate, Implement, Practice, Solve, Use, Utilize

Analyse	Interpret elements, organizational principles, structure, construction, internal relationships; quality, reliability of individual components	Appraise, Attribute, Compare, Contrast, Deconstruct, Detect, Differentiate, Discriminate, Distinguish, Examine, Formulate, Infer, Integrate, Organize, Parse, Relate, Select, Sequence, Structure, Test
Evaluate	Assess effectiveness of whole concepts, in relation to values, outputs, efficacy, viability; critical thinking, strategic comparison and review; judgment relating to external criteria	Appraise, Check, Coordinate, Critique, Defend, Detect, Dispute, Judge, Monitor, Prioritize, Rate, Reconstruct, Select, Support, Verify
Create	Develop new unique structures, systems, models, approaches, ideas; creative thinking, operations	Change, Combine, Compile, Compose, Construct, Create, Design, Formulate, Generate, Hypothesize, Improve, Invent, Plan, Predict, Produce

5.2.2 Psychomotor Domain

The Psychomotor Domain (RH Dave's version, 1970) was established to address skills development relating to the physical dimensions of accomplishing a task. Because, 'motor' skills extend beyond the originally traditionally imagined manual and physical skills, always consider using this domain, even if you think your environment is covered adequately by the Cognitive and Affective Domains. Whatever the situation, it is likely that the Psychomotor Domain is significant.

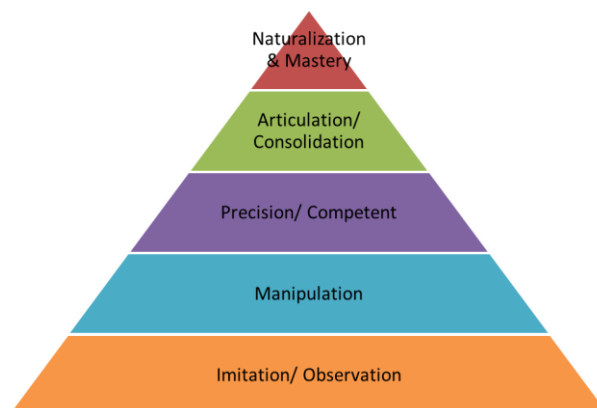


Figure 5.3. Psychomotor hierarchy Levels

Table 5.2. Psychomotor Domain Levels Action Verbs

Psychomotor Domain Levels	Behavior descriptions	Action Verbs
Imitation/ observation	Copy action of another; observe and replicate	Copy, follow, replicate, repeat, adhere, attempt, reproduce, organize, sketch, duplicate
Manipulation	Reproduce activity from instruction or memory	Re-create, build, perform, execute, implement, acquire, conduct, operate
Precision/ competent	Execute skill reliably, independent of help, activity is quick, smooth, and accurate	Demonstrate, complete, show, perfect, calibrate, control, achieve, accomplish, master, refine
Articulation/ consolidation	Adapt and integrate expertise to satisfy a new context or task	Solve, adapt, combine, coordinate, revise, integrate, adapt, develop, formulate, modify, master
Naturalization & Mastery	Instinctive, effortless, unconscious mastery of activity and related skills at strategic level	Construct, compose, create, design, specify, manage, invent, project-manage, originate

5.2.3 Affective Domain

Affective Domain, was detailed by Bloom, Krathwhol and Masia (1964, *Taxonomy of Educational Objectives: Vol. II, The Affective Domain*.) Bloom's theory advocates this structure and sequence for developing attitude - also now commonly expressed in the modern field of personal development as 'beliefs'. As with the other domains, the Affective Domain detail provides a framework for teaching, training, assessing and evaluating the effectiveness of training and lesson design and delivery, and also the retention by and affect upon the learner or trainee.

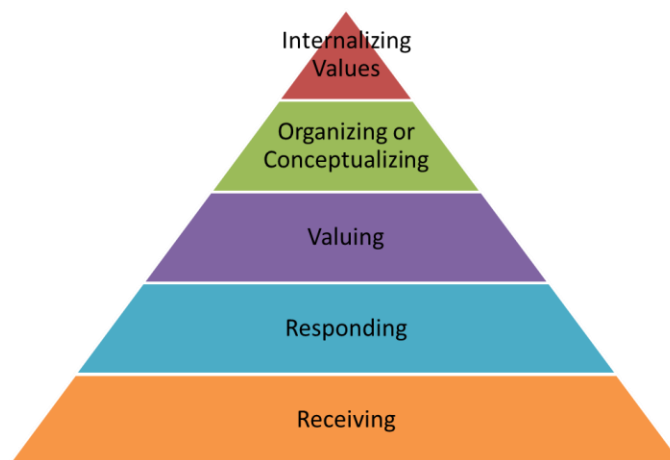


Figure 5.4. Affective Domain hierarchy Levels

Table 5.3. Affective Domain Levels Action Verbs

Affective Domain Levels	Behavior descriptions	Action Verbs
Receiving	Open to experience, willing to hear	Ask, listen, focus, attend, take part, acknowledge, hear, be open to, retain, follow, concentrate, read, do, feel
Responding	React and participate actively	React, respond, interpret, clarify, contribute, question, present, cite, write, perform
Valuing	Attach values and express personal opinions	Argue, challenge, debate, refute, confront, justify, persuade, criticize,
Organizing or Conceptualizing	Reconcile internal conflicts; develop value system	Build, develop, formulate, defend, modify, relate, prioritize, reconcile, contrast, arrange, compare
Internalizing Values	Adopt belief system and philosophy	Act, display, influence, solve, practice,

5.3 Program Outcomes and Domains of Learning

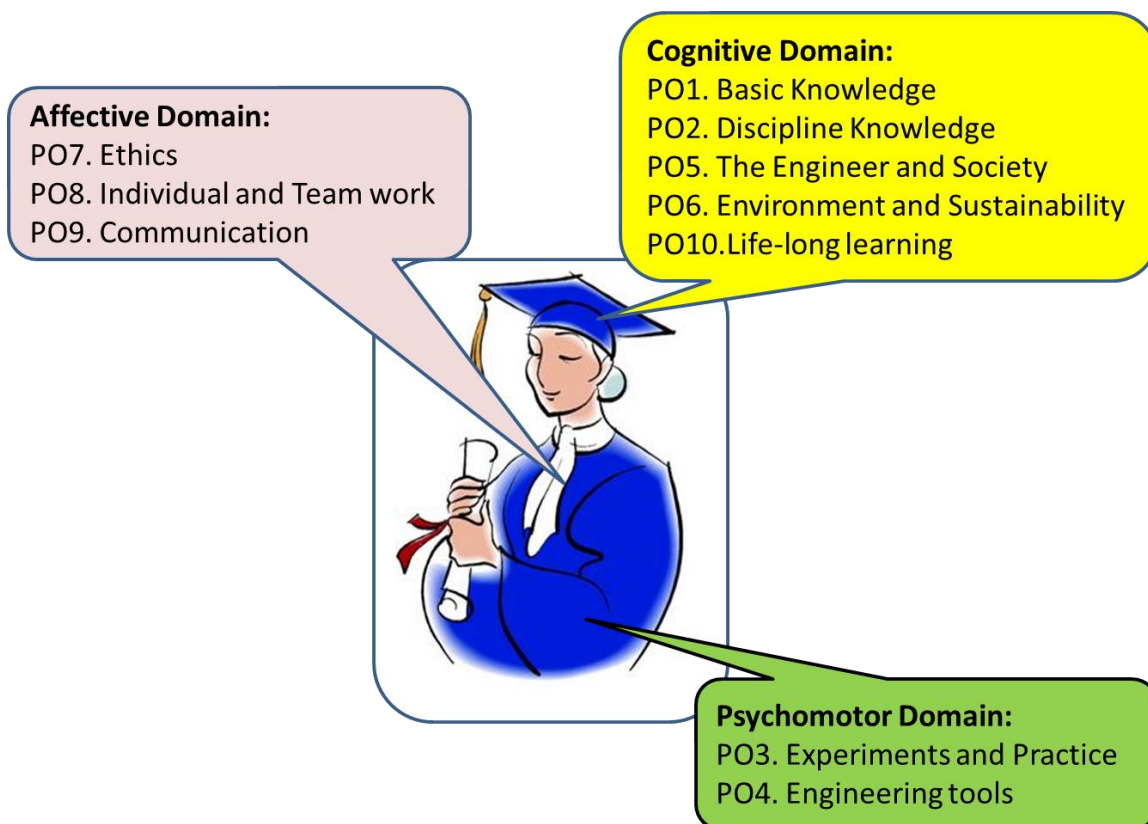


Figure 5.5. Program Outcomes and Domains of Learning

Program Outcomes (POs) framed by NBA for diploma students are the specific characteristics required by the stake holders in the students. There is definite relation between these outcomes with the three different domain of learning, which are described in figure 5.5. These classification plays major role while framing curriculum.

CHAPTER 6

Curriculum Revision Process

Since, autonomous status GPN revised curriculum after every 5 years. 2016 revision is the fifth revision. Concept of Bloom's Taxonomy is included in GPN curriculum since the beginning; however the complete model of OBE is adopted first time in the curriculum revision process. The complete curriculum revision process is described below.

6.1 Change Management

GPN is the diploma level educational institute is having total 12 diploma program, out of which 11 programs are under autonomous status. Curriculum revision of such 11 programs in a short period with the new unknown model is a huge task before CDC. It is natural reaction of human being even in the best circumstances for any change, is to resist.

GPN used ADKAR model for change management. This diagnostic tool helps our organization and our employees understand where they are in the change process. We use this tool to identify gaps in your change management process and to provide effective coaching for our faculties.

The ADKAR model is used to:

- manage faculties resistance
- help faculties transition through the change process
- create a successful action plan for curriculum development
- develop a strategy of curriculum development

6.1.1 ADKAR Model for Change Management

ADKAR has become very popular with managers and project teams because this change management model is easily applied and simple to teach to others, including executive sponsors of change. ADKAR stands for:

- **Awareness** : Awareness of the need for change
- **Desire** : Desire to participate and support the change
- **Knowledge** : Knowledge on how to change
- **Ability** : Ability to implement required skills and behaviors
- **Reinforcement** : Reinforcement to sustain the change

Following change management tools are used in curriculum revision process.

1. Communication
2. Motivation
3. Workshop
4. Resistance Management
5. Training

Figure 6.1 shows the mapping of these tools with ADKAR.

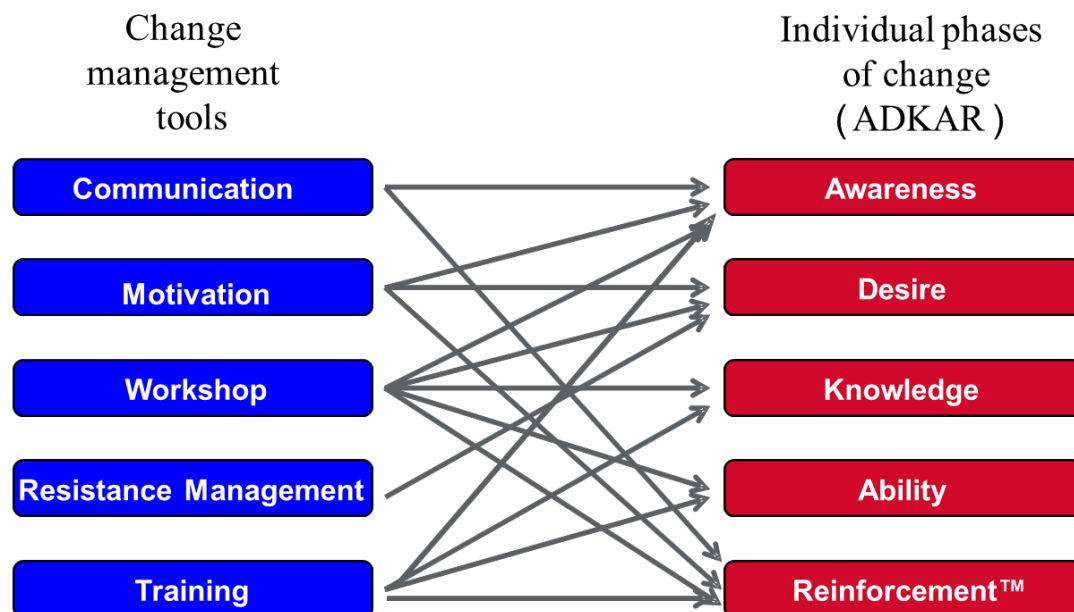


Figure 6.1. Mapping of change management tools with ADKAR

6.1.2 Results of ADKAR Model

As a result of using ADKAR model for change we got following results:

- Date of Starting curriculum Revision process : 23/01/2016
- Date of Completion of curriculum Revision process : 24/11/2016
- Time Period to complete curriculum Revision : 11 Months.
- No. of Programs for curriculum Revision : 11
- No. of Courses for curriculum Revision : 293
- Implementation of OBE curriculum from : July 2016

6.2 Curriculum Revision Process

Following Method is adopted for Development of Curriculum

- Study Outcome Base Education Philosophy
- Analyse OBE Curricula of Diploma in Engineering in India and Autonomous Institute (MS) curricula
- Analyse Model Diploma in Engineering curriculum by AICTE
- Compare 2011 curriculum with MSBTE existing curriculum
- Study NBA/AICTE/MSBTE/NSQF guidelines
- Organize Search Conference for validation of skills
- Collect Feedback (Program-wise) on existing curriculum from stake holders
- Curriculum mapping with POs to identify curriculum gaps
- Decide Institute Level policies
- Develop Model
- Prepare Action Plan for development
- Analyse and Brain storming at program level
- Develop Vision, Mission and PEOs and curriculum at program Level (Framing, Mapping, Editing, Revising)
- Approve from PBOS, BOS and GB.

6.2.1 Study of OBE Philosophy

CDC studies the OBE philosophy, which is described previously in this document. The training of faculties are arranged for awareness of faculties.

6.2.2 Analysis of OBE curricula

Following Boards in India adopted Outcome based curriculum for Diploma in Engineering:

- Gujarat Technological University-2014-15
- Board of Technical Examinations, Bengaluru, Karnataka- 2015-16
- State Board of Technical Education, Kerala state- 2015-16
- MSBTE is going for OBE from- 2017-18

The analysis of above OBE curriculum of each and every program is a huge task; however CDC studied curriculum of Diploma in Electrical Engineering of above said boards and analyze their curriculum based on the following points.

- Credits
- Credits Ratio TH:PR
- Total Courses
- Examination Scheme
- Comparison of Autonomous Curriculum in State

The results are shown in table 6.1 to 6.5

Table 6.1. Credits Comparison

Boards	Theory Periods	Practical Periods	Credits
GTU, Ahmedabad (OBE)	95	87	182
BTE, Bengaluru (OBE)	88	108 (2Pr=1Cr)	142
SBTE, Kerala (OBE)	NA	(2Pr=1Cr)	47 per Year
MSBTE, Mumbai (G scheme)	106	93	199
AICTE Model Curriculum	90	102 (2Pr=1Cr)	145
G. P. Nagpur (2011)	113	87	200

Table 6.2. Credit Ratio TH:PR Comparison

Boards	TH:PR
GTU, Ahmedabad (OBE)	52:48
BTE, Bengaluru (OBE)	62:32
SBTE, Kerala (OBE)	70:30 (I yr)
MSBTE, Mumbai (G scheme)	53:47
AICTE Model Curriculum	64:36
G. P. Nagpur (2011)	57:43

Table 6.3. Courses Comparison

Boards	Theory Courses	Practical Courses
GTU, Ahmedabad (OBE)	28	06
BTE, Bengaluru (OBE)	22	18
SBTE, Kerala (OBE)	NA	NA
MSBTE, Mumbai (G scheme)	31	12
AICTE Model Curriculum	29	16
G. P. Nagpur (2011)	29	12

Table 6.4. Examination Scheme Comparison

Boards	Theory		Practical	
	TEE	CA	TEE	CA
GTU, Ahmedabad (OBE)	70	30	20/40	30/60
BTE, Bengaluru (OBE)	100	25	50	25
SBTE, Kerala (OBE)	100	50	50	50

MSBTE, Mumbai (G scheme)	100	25	50	25/50
AICTE Model Curriculum	70	20*+10**	50	25
G. P. Nagpur (2011)	80	20	25	25/50

*Progressive Test

** Assignments

Table 6.5. Comparison of Autonomous Curricula

Institute	TH	TU	PR	Total	Theory Papers	Practical	Total Courses
G.P. Mumbai	96	12	68	176	25	13	38
VJTI, Mumbai	92	16	86	194	27	19	46
G.P. Aurangabad	103	00	81	184	26	13	39
G.P. Kolhapur	104	00	76	180	31	10	41
G.P. Nasik	111	03	82	196	29	11	40
G.P. Nagpur	113	05	82	200	29	12	41

6.2.3 Comparison with MSBTE Existing Curriculum

As mentioned 2.1.1, autonomous institutions shall be required to obtain equivalence for their courses and programs from the MSBTE, it is essential to compare GPN curriculum with existing curriculum for variation in content, Existing Courses for Revision/Deletion, New Courses proposed, detailed Comparison of Examination Scheme. This task is performed at program level. The analysis of this task is used to decide the course outcomes, course contents as well as to finalize the program structure of revised curriculum. The formats for the same are shown in table 6.6 to 6.9.

Table 6.6. Comparison of Existing Curriculum-2011 with MSBTE-2012 Curriculum

SN	MSBTE Curriculum				Equivalent course in Autonomous Curriculum				Content Variation if any with MSBTE
	Subject Code	Name of Subject	TH Periods	PR Periods	Course Code	Name of course	TH Credits	PR Credits	

Table 6.7. List of Existing Courses for Revision/Deletion etc.

Sr. No.	Course Code	Name of Course	Write-R (Revision) NR (No Revision) D (Deletion)	Reason for R/NR/D	Name of New title if proposed

Table 6.8. List of New Courses proposed

Sr. No.	Name of new courses proposed (if any)	Reason for introduction of New courses

Table 6.9. Comparison of Examination Scheme with MSBTE Curriculum

Sr. No.	Points	MSBTE Curriculum	Autonomous Curriculum	Remarks if any
1	Theory Paper Maximum marks			
2	Practical Maximum marks			
3	Progressive Test Maximum marks			
4	Term work Maximum marks			
5	No. of subject/courses having internal practical exam.			
6	No. of subject/courses having external practical exam			

7	No. of subject/courses having internal oral exam			
8	No. of subject/courses having external oral exam			
9	No. of subject/courses having term work			
10	No. of non-exam subject/courses			
11	Industrial training included in curriculum (Yes/No)			

6.2.4 Study of NBA/AICTE/MSBTE Guidelines

The guidelines given in following documents are studied, and the final conclusions are made to framed curriculum documents.

1. Orientation Workshop on Outcome Based Accreditation NBA training text material- to frame Vision, Mission of the Institute, Vision, Mission, PEOs of the program.
2. AICTE Guidelines- 21st Academic Council Meeting of AICTE on 3rd April, 2013 to decide percentage of various level courses. The abstract of the guidelines is mentioned in the table 6.10.

Table 6.10. Abstract of Guidelines

S. N.	Levels	Percentage	Course Heads
1	General	5 to 10%	Language / Communication skills
			Humanities and Social Science
			Economics & Principle of management
			NSS, NCC, NSO, Rural Development
2	Basic Science	15 to 25%	Computer literacy with numerical analysis
			Mathematics
			Physics
			Chemistry

3	Engineering Sciences and Technical Arts	15 to 25%	Engineering Graphics
			Workshop Practice
			Engineering Mechanics
			Electrical Science I (Basic Electrical Engineering)
			Thermodynamics and Heat Transfer
			Material Science and Engineering
			Electrical Science II (Electronics and Instrumentation)
4	Professional Subjects	55 to 65%	
i)	Professional Core	22.5 to 27.5%	Minimum number of Core courses suggested by experts
ii)	Professional Elective	12.5 to 15%	About 10% Electives should be made available to the students
iii)	Free Elective	7.5 to 10%	Open interdisciplinary electives allow a student to diversify his/her spectrum of knowledge
iv)	Project	5 to 10%	
v)	Seminar & Industrial Training	2.5 to 5%	

3. MSBTE Guidelines MSBTE/D-10/Director/2012/303 Dt.1st October, 2012-

The important guidelines given by MSBE are as follows:

- Credits should not be more than 160 and should be uniform across the program
- Curriculum should be laboratory based and having more practical weightage
- Curriculum should be restricted to five levels
- 4th and 5th level courses are considered for award of diploma
- Practical Examination should be based on performance only.

- Implant training should be made compulsory any time in vacation after first year and separate credits should be given.
- Online examination of courses should be start gradually. To begin with one course per semester.

6.2.5 Search Conference

The search conference is organized at institute level on dated 12/02/2016. The experts from the industries, academic institutions and alumni were present. The main objectives of organization of search conference are as follows:

- Validate generic and technical skills identified by the program.
- Suggest new skills to be developed in a technician pertaining to specific work area by industry/ field experts.
- Collect Feedback on existing curriculum and suggestions on previous received feedback.
- Suggest new course content to be incorporated in curriculum.
- Obtain suggestions on various topics related to program structure.
- Analyze and prepare a final list of generic skills and technical skills and from courses based on validated skills later on.
- Formation of Courses

6.2.6 Curriculum mapping

The 2011 curriculum is mapped to identify Program strengths (attributes that are widely addressed) and Gaps (attributes that are addressed by only a few learning experiences).

The simplest form of curriculum map is a matrix whose rows are the learning experiences (curriculum courses) and columns are the Graduate attributes (or Program Outcomes).

The curriculum courses include General Studies Courses, Basic Science Courses, Engineering Sciences and Technical Arts Courses, Professional Courses (Core, project, seminar etc.), Elective Courses.

To establish the curriculum map, each faculty member reviews his/her courses and identifies the attributes that are addressed in the course based on its content and materials.

A sample curriculum mapping sample is shown in Table 6.10. Program wise curriculum mapping is given in subsequent chapter.

Table 6.11. Curriculum mapping (Sample)

SN	Course code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
			Basic Knowledge	Discipline Knowledge	Experiments and Practice	Engineering tools	The Engineer and Society	Environment and Sustainability	Ethics	Individual and Team work	Communication	Life-Long Learning	Maintain Electrical Equipment's	Maintain Electrical Power System
1	EV1101	Environmental science	X	-	-	-	X	X	X	X	X	X	-	-
2	EE1301	Basic Electrical Engineering	X	X	X	X	-	-	X	X	X	X	X	X
3	EE1401	Electrical Circuit and Network	X	X	X	X	-	-	-	X	-	X	X	X
4	EE1402	Electrical Measurement	-	X	X	X	X	-	X	X	-	X	X	X

6.2.7 Institute Level Policies

Institute level policy for curriculum development is decided by the CDC on the basis of followings:

- OBE Model
- Analysis of various curriculum Autonomous Institute/ MSBTE curriculum/ OBE curriculum
- NBA/AICTE/MSBTE Guidelines
- Feed Back from stake holders
- Search Conference Outcomes
- Curriculum Mapping of 2011 curriculum and
- GPN 2011 Curriculum

The following institute level suggestions are forwarded to the various programs for framing program structure.

1. Levels of Courses V

- **Level I- General studies courses- 5 (5 to 10%)**

1. English
2. Communication Skill
3. Environmental science
4. Economics & Management
5. Rural development (Non Theory)

- **Level II- Basic Science Courses- 6 (15 to 25%)**

6. C programming (including introduction to office tools) (Non Theory) (Note: Letter on this course is changed to Computer Applications as suggested in CM/IT PBOS)
7. Physics
8. Chemistry
9. Mathematics-I
10. Mathematics-II
11. Mathematics- III

(Note: The program which does not require mathematics-III course, may opt for more Computer literacy with numerical analysis courses. Letter on three mathematics courses are converted into two mathematics courses, by increasing the credits)

- **Level III Engineering Sciences and Technical arts courses- 7 (15 to 25%) (should be programme specific)**

12. Engineering Graphics (Theory)
13. Workshop Practice (program specific) (Non Theory)
14. Electrical Science I (Basic Electrical Engineering)
15. Electrical Science II (Electronics and Instrumentation)
16. Material Science and Engineering (program specific)

17. Engineering Mechanics

18. Thermodynamics and Heat Transfer (or mechanical related e.g. Elements of Mechanical Engineering for EE or program specific as per the experts suggestions)

- **Level IV- i) Professional Core Courses– 11- 22.5% to 27.5%**

19. to 27- Theory cum Practical Courses

28 to 29 – Practical courses (Non-Theory)

(Note: Letter on number of core courses are increased to 14)

- ii) **Project Courses- 5 to 10%**

30 to 31 – Practical Courses prerequisite for project (Non-Theory) Department specific workshop + program related design laboratory

32. Industrial Project

- iii) **Seminar and Industrial Training Courses- - 2.5 to 5%**

33. Seminar

34. Industrial Training/Practices

- **Level V- Elective Courses– 11- 22.5% to 27.5%**

- i) **Professional Elective Courses- 5/8 - 12.5 to 15%**

35. to 42- Theory cum Practical Courses

(Note: Letter on number of professional electives are changed to 3/6)

- ii) **Free Elective- 7.5 to 10%**

43. Finishing School (Common for all Brach)

44 to 53. Any one Elective Course each from 10 programs

(Note: Letter on number of electives courses are changed to 1/12)

2. **Detailed Curriculum Response**

CDC has suggested the various responses on various criteria based on the above study and are given in table 6.12

Table 6.12. Suggestive Curriculum at a Glance

SN	CRITERION	Suggestive RESPONSE
1	Total No. of Courses in a Program	55*
2	Total courses required.	41
3	No. of courses having theory papers.	29
4	No. of courses having non Theory exam.	12
5	No. of General Studies courses	5
6	No. of Basic Science Courses	6
7	No. of Engineering Science courses	7
8	No. of Professional Core courses	11
9	No. of Professional Elective courses	5/8
10	No. of Professional Free Elective courses	2/10*
11	No. of Project courses	3
12	No. of Seminar courses	2/3
13	Total credits (1 Th Hr = 1Credit & 2 Pr Hr = 1Credit)	150-155
14	Total marks	4600 (approx.)
15	Proportion of Hours (Periods), Th : Pr	50:50 (approx.)
16	Proportion of credits, Th : Pr	65:35 (approx.)
17	Proportion of marks; Th : Pr	50:50 (approx.)
18	Total courses for Award of Class	12
19	Total theory paper courses for Award of Class	10
20	Total marks for Award of Class	1600

6.2.8 Development of Curriculum Revision Model

Top to bottom design approach model of OBE described in Figure 4.2 is found in literature. No other model is found in literature. OBE is not only top to bottom design approach; it is a 360⁰ approach model. Based on this 360⁰ CDC developed our own model based on the study of described above. Government Polytechnic, Nagpur model is named as GoPoNa Model. The model is as shown in figure 6.2.

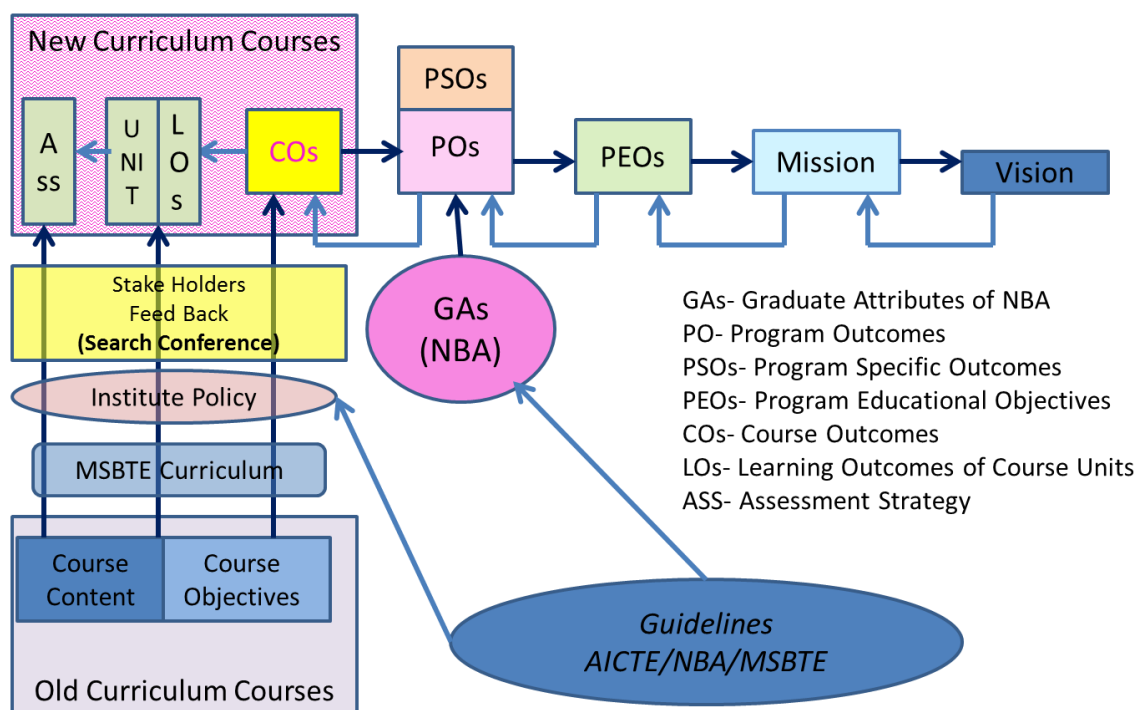


Figure 6.2. GoPoNa Model

GoPoNa Model is based on the OBE philosophy, various guidelines framed by the AICTE/NBA/MSBTE, and Search conference outcomes (feedback from stake holders). As OBE is 360⁰ approach various feedback loops are provided in the model for continuous improvement. The model is self-explanatory.

6.2.9 Preparation of Action Plan

Due to time constraint it is decided that the curriculum development process should be divided in to two phases. In first phase Curriculum of common courses i.e. Level I, II, III

are to be develop. And in second phase program specific courses of level IV and V are to be developed. The action plan is prepared for the both phases and is shown in table 6.13 and table 6.14 respectively.

Table 6.13. First Phase Action Plan

S.N.	Activity	Period/Date of Completion, up to
1	- Formation of PBOS at departmental level - Formation of institute level committee for deciding common policies. - Formation of committee for deciding Basic Engg. , Science and CNE courses policies	31/12/2015
2	Comparison of 2011 curriculum with MSBTE curriculum (Preliminary Task)	02/01/2016
3.	Meeting for deciding common policies of outcome based curriculum at institute level.	19/01/2016
4	Meeting for deciding policies of Basic Engg. , Science and CNE courses.	19/01/2016
5	Workshop for outcome based design procedure	22/01/2016
6	Preparation of Vision, Mission statements, POs and COs at program level	01/02/2016
7	Preparation of program structure based on outcome based education (course titles, scheme etc) by all programs (first draft, based on the information/data received from industries) & submission to I/C CDC.	10/02/2016
8	Checking of first draft of program structure of all program by curriculum revision committee (CDC) and return to respective program suggesting necessary corrections if any.	17/02/2016
9	Preparation of revised draft, if required, of program structure by the program and submission to CDC.	24/02/2016
10	Search conference for Validation of skills, program structure and course content detailing by all programs at department level.	02/03/2016
11	Course Content detailing of I, II & III sem. courses strictly as per Guideline of Curriculum Revision , information obtained from industries, content detailing format , feedback of MSBTE equiv. committee etc.	11/03/2016
12	Revising program structure, course content based on the outcome of search conference(if required)	19/03/2016

13	Arranging Program-wise Board of studies meeting (PBOS) of all program for courses of all levels by respective Program.	31/03/2016
	Suggestions in PBOS if any to be incorporated for getting approval from PBOS.	
14	Submission of curriculum of I, II & III sem. courses (soft copy) by program head/ “coordinator – curriculum” of program, to I/C CDC.	07/04/2016
15	Finalizing/checking of curriculum of I, II & III sem. courses of all program by Curriculum Revision Committee & submission to respective programs.	14/04/2016
16	Presentation of curriculum structure and courses in BOS meetings.	20/04/2016
17	Presentation of curriculum structure and courses in G.B. meetings	27/04/2016

Table 6.14. Second Phase Action Plan

S.N.	Activity	Period/Date of Completion, upto
1	Course Content detailing of III (if any), IV & V Level. courses strictly as per Guideline of Curriculum Revision , information obtained from industries, content detailing format , feedback of MSBTE equiv. committee etc.	06/06/2016 to 07/08/2016
2	Revising program structure, course content based on the outcome of search conference(if required)	14/08/2016
3	Arranging Program-wise Board of studies meeting (PBOS) of all program for courses of all levels by respective Program.	Up to 24/08/2016
4	Suggestions in PBOS if any to be incorporated for getting approval from PBOS.	
5	Submission of curriculum of IV & V level courses (soft copy) by program head/ “coordinator – curriculum” of program, to I/C CDC.	31/08/2016
6	Finalizing/checking of curriculum of IV & V level courses of all program by Curriculum Revision Committee & submission to respective programs.	01/09/2016
7	Presentation of curriculum structure and courses in BOS meetings.	07/09/2016 08/09/2016
8	Presentation of curriculum structure and courses in G.B. meetings	Before Diwali Vacation

6.2.10 Analysis and Brain Storming at Program Level

As per the action plan, OBE philosophy, guidelines and outcomes of search conference faculties in the program develops the program Structure (PS) and curriculum of courses as a group task.

The draft program structure of Electrical Engineering (Described in chapter 7) and draft curriculum of Basic Electrical Engineering is developed (shown in table 6.16) by CDC as a model for development of various programs PS and curricula.

Table 6.15. Program Structure Level I (sample)

PROGRAM STRUCTURE												
Level I: General Studies												
DIPLOMA IN ELECTRICAL ENGINEERING												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
1	EN101E	English	Nil	03	00	02	04	70	30	50 [@]	25	175
2	EN102E	Communication Skills	Nil	03	00	02	04	70	30	50 [@]	25	175
3	MN101E	Industrial Organization & Management	Min.60 credits	04	00	00	04	70	30	Nil	Nil	100
4	EV101E	Environmental Science	Nil	01	01	00	02	70**	30	Nil	Nil	100
5	RD101E	Rural Development	Nil	00	00	02	01	Nil	Nil	50 [@]	25	75
Total				11	01	06	15	280	120	150	75	625

- Abbreviations:
TH – Theory ; PR- Practical; TU- Tutorial; TEE- Term End Examination; CA- Continuous Assessment
- *Credit Formula: 1 TH Hr. = 1 Credit; 1 TU Hr. = 1 Credit; 2 PR Hrs. = 1 Credit
- Symbolic Representation
** Online Examination, @ Internal Practical Examination, # External Practical Examination, \$ Award of class course.

6.2.11 Development of Vision, Mission and PEOs and Curriculum

Vision and Mission of the Institute is revised by the CDC in consultation with all the programs, industry experts, academic expert and alumni in search conference. Vision,

Mission, PSOs and PEOs of the programs are developed by program itself in consultation with industry experts, academic expert and alumni in search conference. Vision and Mission of the Institute is approved in BOS and PBOS and Vision, Mission, PSOs and PEOs of the programs are approved in PBOS, BOS and GB.

6.2.12 Approval from AB, PBOS, BOS and GB

Program Structure, Curriculum of Science, Maths and Humanities departments are approved in AB and program specific courses are approved in PBOS of individual departments, Science, Maths and Humanities courses are also put before the PBOS of each program for approval, the suggestions obtained in PBOS are carried out before put it to BOS and all approved courses are put before BOS for approval. The approved curricula are put before GB for final approval. Table shows the details of PBOS, BOS and GB meetings.

6.3 Curriculum Revision at a Glance

• No. of Programs	:	11
• No. of Courses	:	291
• No. of GB Meetings	:	2
• No. of BOS Meetings	:	3
• No. of PBOS Meetings	:	33
• No. of AB Meetings	:	4
• No. of ILC Meetings	:	5
• No. of SCC Meetings	:	4
• No. of Coordinators Meetings	:	5
• Trainings Workshops	:	3
• Individual Department Trainings	:	13
• Search Conference	:	1
• No. of Faculties Involved	:	108
• No. of outside Experts Involved	:	46
• Days Spent for Curriculum Editing	:	26

CHAPTER 7

Model Course Curriculum

Model Course Curriculum of Basic Electrical Engineering is framed by CDC of GPN and circulates among the programs for development of various curricula. The workshop is arranged to describe the contents in it. The details are described below.

7.1 Basic Information

Following introductory information related to course is given in each curriculum.

PROGRAMME : **DIPLOMA IN ELECTRICAL ENGG.**
LEVEL NAME : **ENGINEERING SCIENCES AND TECHNICAL ARTS COURSES**
COURSE CODE : **EE301E**

The unique method is developed for assigning course code for the various courses, which is described in Figure 7.1.

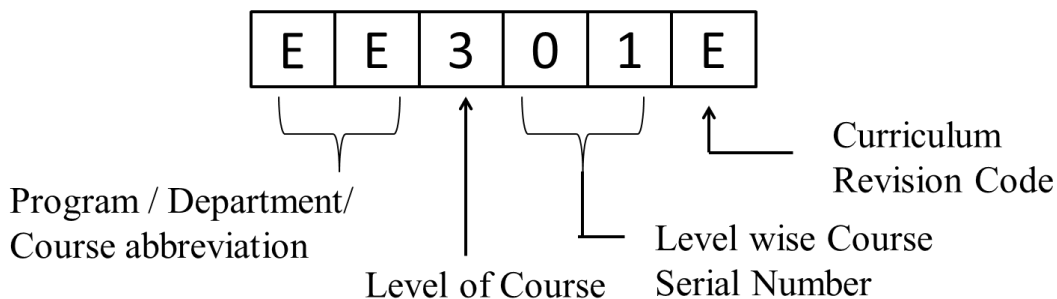


Figure 7.1. Course Code

COURSE TITLE : **BASIC ELECTRICAL ENGINEERING**
PREREQUISITE : **NIL**
TEACHING SCHEME: **TH: 04; TU: 00; PR: 02(CLOCK HRs.)**
TOTAL CREDITS : **05 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)**
TH. TEE : **03 HRs**
PR. TEE : **02 HRs (Internal)**
PT. : **01 HR**

7.2 Rationale

In rationale the importance of the course is described in brief.

7.3 Course Outcomes (COs)

COs are “Building Blocks” of OBE system. COs are measured at the end of the course. They are aligned with one or more POs and are closely related to the assessments. COs are measurable and assessable. Every course is having six COs.

Blooms taxonomy is important in higher education, where outcomes needs to be address the student ability to use information, not just recall, therefore all course outcomes are written in higher levels of learning. COs are based on all domains of learning to fulfill maximum POs and start with the action verb. The example of CO is given below showing domains of learning. CO1, CO2 and CO3 are in cognitive domain. CO4, CO5 and CO6 are in psychomotor domain. CO3 falls also under affective domain.

1. **Apply** electrical safety concept
2. **Use** principle and basic laws in electrical engineering for different applications
3. **Solve** simple electrical circuits.
4. **Connect** electrical measuring instruments in the circuit
5. **Record** the readings of various electrical meters.
6. **Operate** electrical equipment.

7.4 Course Details: Theory

In course content is limited to six units. Each unit is having topic and subtopic. Based on the content Specific Learning Outcomes (SLOs) in cognitive Domain are mentioned. Action verbs of Cognitive Domain in all levels of learning;

1. Knowledge,
2. Comprehension,
3. Application, Analysis, Synthesis, Evaluation.

These SLOs are in line levels of learning domains mentioned in specification table or vice versa. Table 7.1 shows example.

Table 7.1. Course Details Theory (sample)

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Electrical Safety	1. Apply electrical safety rules while working 2. Remove the electrocuted person from live conductor 3. Interpret electrical safety signs and symbols 4. Apply different methods of artificial respiration on electrocuted person 5. Select fire-fighting equipment on different types of fires.	1.1 Electrical Safety, Causes of accidents, General safety rules, Concept of electrical shock, Effect of electric shock, Method of removing electrocuted person, Safety signs and symbols. 1.2 Artificial respiration-schaefer's method, silvester's method, mouth to mouth respiration. 1.3 First Aid 1.4 Fire, Causes of Fire, Basic ways of extinguishing the fire Classification of fire, Class A, B,C, D, Fire fighting equipments, fire extinguishers, and their types .	06

7.5 Course Details Practical

All Specific Learning Outcomes (SLOs) are in psychomotor domain to develop the practical skills. Table 7.2 shows example.

Table 7.2. Course Details: Practical (sample)

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify electrical measuring instruments, sources, ICDP/ITDP, switches, loads, wires and execute safety precautions in laboratory.	1. Electrical Safety	4
2	Connect voltmeter, ammeter and wattmeter in electrical circuit.	2. Fundamentals of electricity	2
3	Measure the current, voltage and resistance with the help of multi-meter or tong tester.		2
4	Find unknown resistance using ohms law.		2
5	Find temperature coefficient of materials.		2

Skill test is mandatory to assess the skills acquire during the course work before term end examination.

7.6 Specification Table

Specification table is a blue print for setting question paper. It is useful for designing a valid question paper. In OBE 2016 curriculum; specification table is provided for question paper setting (as well as for student); which shows the level wise cognitive process dimensions. The sample Specification table is shown on table

Table 7.3. Specification Table (sample)

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Electrical Safety	00(02)	04(00)	00(00)	04(02)
02	Fundamentals of Electricity	06(02)	08(08)	06(00)	20(10)
03	DC Circuits	02(00)	04(00)	06(06)	12(06)
04	Electrostatics	02(00)	06(04)	00(00)	08(04)
05	Magnetism and Electromagnetism	06(04)	04(08)	06(00)	16(12)
06	AC Fundamentals	02(00)	08(00)	00(06)	10(06)
	Total	18(08)	34(20)	18 (12)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

It is suggested that for:

- Basic Courses: R=30%; U=50%; A=20%
- Higher Level Courses: R=20%; U=50%; A=30%

7.7 Question Paper Profile (QPP)

Question paper profile (QPP) is the steps to words the step of e-governance. We can generate the question paper using computer program with the help of QPP and question bank on each bit of QPP. QPP is also the ready reckoner to the setter for setting questions on different levels of cognitive domain and topics. QPP reduces the process time of printed Question Paper for Examination.

Table 7.4. Question Paper Profile (sample)

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	2	R	2	3	R	2	4	R	2	5	R	2	6	R	2	1	R	2	5/7
	2	R	2																
02	2	R	4	1	U	4	2	U	4	2	U	4	2	U	4				3/5
03	5	R	4	2	U	4	3	U	4	4	U	4	5	U	4				3/5
04	5	U	4	6	U	4	6	U	4	5	U	4	5	R	4				3/5
05	4	U	6	2	A	6	3	A	6										2/3
06	3	A	6	5	A	6	6	A	6										2/3

2 Marks Bit- 5(2) = 7 Bits

4 Marks Bit- 9(6) = 15 Bits

6 Marks Bit- 4(2) = 6 Bits

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

7.8 Assessment and Evaluation Scheme

A detailed assessment and evaluation scheme is mentioned in curriculum in tabulated form as mentioned in table 7.5, which is self-explanatory.

Table 7.5. Assessment and Evaluation Scheme (Sample)

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	PT	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Scripts	1, 2, 3
		Class Room Assignments		Assignments	10	--	Assignment Book	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Scripts	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	ST	Students	One skill test at end of term	20	--	Practical Answer Scripts	4,5,6
		Journal Writing		Assignments	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Practical Answer Scripts	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First PT	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course Survey			End Of The Course	Questionnaires			

7.9 Scheme of Practical Evaluation

A detailed scheme of practical evaluation is mentioned in curriculum having practical examination in tabulated form, which is a guideline for development of rubrics for assessment purpose. A sample scheme of practical evaluation of EE301E is shown in table 7.6.

Table 7.6. Scheme of Practical Evaluation (Sample)

S.N.	Description	Max. Marks
1	Drawing circuit diagram, selection of equipment's. writing procedure etc.	10
2	Performance	20
3	Calculation, Result, Drawing Graphs (if any)	10
4	Viva voce	10
	TOTAL	50

7.10 Mapping of Course Outcomes with POs and PSOs

All developed curricula are mapped with POs and PSOs of the program. The POs and PSOs which fulfilled by the curriculum content are identified first. Individual course outcomes written previously are then mapped with the POs and PSOs. A sample mapping of EE301E is shown in table 7.7.

Table 7.7. Mapping of COs with POs and PSOs (Sample)

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
CO1	3	3	-	-	-	-	1	-	-	-	3	3
CO2	3	3	-	-	-	-	-	-	-	-	3	3
CO3	3	3	-	-	-	-	-	-	-	-	3	3
CO4	3	3	2	2	-	-	-	2	2	2	3	3
CO5	3	3	2	2	-	-	-	2	2	2	3	3
CO6	3	3	2	2	-	-	-	2	2	2	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

7.11 Reference & Text Books

A reference and text books required as per the content of curriculum are mentioned as a reference for the student as well as faculties. Only standard books having ISBN numbers are given priority in the document. A sample of EE301E is shown in table 7.8.

Table 7.8. Reference & Text Books (Sample)

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Principle of Electrical Engineering and Electronics	V.K.Mehta, S.Chand & Company Ltd., Reprint, 1996	81-219-1053-6
2.	A Text Book Of Electrical Technology Vol-I	B.L.Theraja, A.K.Theraja, S.Chand & Co Ltd., Reprint,2006	81-219-2440-5
3.	Basic Electrical Engineering	V.N.Mittle, Arvind Mittal, The McGraw Hill Education Pvt. Ltd, Reprint, 2011	13: 978-0-07-059357-2
4.	Experiments in Basic Electrical Engineering	S.K.Bhattacharya and K.M.Rastogi., New Age International Publisher, Reprint, 2009.	978-81-224-1042-6
5.	A Text Book on laboratory courses in Electrical Engineering	S.G.Tarnekar and P.K.Kharbanda, S.Chand& Company Ltd., Third, 1990	13: 978-8121901048

7.12 E-References

E-references as per the content of curriculum are mentioned as a reference for the student as well as faculties. Standard e-references are given priority in the document. These references are useful for students learning. A sample of EE301E is shown below.

- <http://nptel.ac.in/courses/108108076/1> , assessed on 18th January 2016
- <http://www.electrical4u.com> , assessed on 18th January 2016
- <https://www.youtube.com/watch?v=A9KSGAnjo2U>, assessed on 18th January 2016

7.13 List of Major Equipment's/Instruments with Specification

The list of major equipment's/ instruments required for performing the practical to developed psychomotor skills is mentioned in the document. A sample list of EE301E is shown below.

1. Ammeter MI 0-5-10 A
2. Voltmeter MI 0-150-300 V
3. Wattmeter 0-3000 W
4. Digital Multi-meter
5. Rheostat assorted sizes
6. Variable Inductor

7.14 List of Experts & Teachers who Contributed for Curriculum

The list of experts & teachers who contributed for curriculum is mentioned in the document followed by the signature of chairman PBOS and member secretary of PBOS for the authenticity of the curriculum.

S.N.	Name	Designation	Institute / Industry
1.			
2.			

 Sign. _____
 (Member Secretary PBOS)

 Sign. _____
 (Chairman PBOS)

CHAPTER 8

Curriculum Document

Detailed curriculum document of Diploma in **Travel and Tourism** is given below.

8.1 Vision of Institute

To become a Center of Excellence, providing quality technical education and training

8.2 Mission of Institute

The mission of Government Polytechnic, Nagpur is-

1. To frame institutional policies for effective implementation of teaching learning process
2. To inculcate values and ethics for life-long learning through curricular, co-curricular and extra-curricular activities
3. To develop facilities and services for academic excellence
4. To enhance the skills of faculties and staff through industry institute collaboration.

8.3 Vision of Program

Vision of the Travel and Tourism Program:

To become a centre of excellence in imparting skill based Travel & Tourism Education.

8.4 Mission of Program

Mission of the Travel and Tourism Program:

M1: To impart high quality travel & tourism education and professional ethics to students.

M2: To adopt the best pedagogical methods in order to maximize knowledge transfer.

M3: To have adequate mechanisms to enhance understanding of implementation of theoretical concepts in practical scenarios.

M4: To provide the best facility, infrastructure, and environment to the students and Faculty members, creating an ambience conducive for excellence in travel & tourism education.

8.5 Program Educational Objectives (PEOs)

The Program Educational Objectives of (PEOs) Travel and Tourism Program are:

PEO1: To acquire a strong background in basics of travel, technical arts and ability to use these tools in travel and tourism.

PEO2: To develop the ability to demonstrate technical competence in the fields of travel & tourism and develop solutions to the problems in various areas of travel and tourism.

PEO3: To develop professional skills by using modern tools in travel & tourism.

PEO4: To attain the qualities of professional leadership and excellence through life-long learning and produce professionals who ensure ethical and moral behavior.

PEO5: To produce travel professionals who ensures social responsibility and environmental concern.

8.6 Program Outcomes (POs) :-

PO1: Basic Knowledge: Ability to apply knowledge of basic Mathematics, Science and Engineering to solve the engineering problems

PO2: Discipline Knowledge: Ability to discipline specific knowledge to solve core and/or applied engineering problems.

PO3: Experiments and Practice: Ability to plan and perform experiments and practices and use the results to solve engineering problems

PO4: Engineering tools: Apply appropriate technologies and tools with an understandings of limitations

- PO5: The Engineer and Society:** Demonstrate knowledge to assess the societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to engineering practice
- PO6: Environment and Sustainability:** Understand the impact of engineering solutions in societal and environmental context, and demonstrate knowledge and need for sustainable development.
- PO7: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice
- PO8: Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse/ multidisciplinary teams.
- PO9: Communication:** An ability to communicate effectively.
- PO10: Life-long learning:** Recognise the need for, and have preparation and the ability to engage in independent and life-long learning in context of technological changes.

8.7 Program Specific Outcomes (PSOs)

PSO1: Plan, organize, market, sell and execute tours.

PSO2: Assist people make their travel easier and convenient.

8.8 Mapping of Vision, Mission, PEOs, POs, PSOs

8.8.1 Mapping of Vision and Mission

Table 8.1. Mapping of Vision-Mission

	Mission Statements			
	M1	M2	M3	M4
Vision Statement	✓	✓	✓	✓

8.8.2 Mapping of Mission and PEOs

Table 8.2. Mapping Mission-PEOs

Mission Statements	Program Educational Objectives (PEOs)				
	PEO1	PEO2	PEO3	PEO4	PEO5
M 1	✓				
M 2	✓	✓	✓	✓	✓
M 3	✓	✓	✓	✓	✓
M 4	✓	✓	✓	✓	✓

8.8.3 Mapping of PEOs and POs- PSOs

Table 8.3. Mapping PEOs-POs & PSOs

PEOs	Program Outcomes (POs)										PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
PEO1	✓	-	-	-	-	-	-	-	-	-	✓	-
PEO2	-	✓	✓	✓	-	-	-	-	-	-	-	✓
PEO3	-	-	✓	✓	-	✓	-	-	✓	✓	-	-
PEO4	-	-	-	✓	-	-	-	✓	✓	-	✓	✓
PEO5	-	-	-	✓	✓	✓	-	-	-	✓	✓	✓

8.9 Identified Skills in Search Conference

8.9.1 Technical skills for Travel and Tourism Diploma Students

1	Learn about travel and the tourism industry.
2	Different aspects of tourism industry.
3	Constitution of travel and tourism
4	Carrier opportunity in travel and tourism industry.
5	Expand knowledge on environment.
6	Learn skill to develop co-relation between environment and tourism.

7	Study the protection laws.
8	Learn the role of tourism in conservation.
9	Student will learn the different destination of tourism.
10	Potential to make destination as a foreign exchange earner.
11	Cultural diversity of India.
12	India as a major tourism destination.
13	India as a primarily cultural destination in International Tourism.
14	History of tourism.
15	Domestic and International tourism.
16	Role of architecture in tourism.
17	Acquaint with all the touristic countries as per the specified IATA areas.
18	Locate places on the map and learn 3 letter codes.
19	Understand the world map and plotting of countries.
20	Learn the importance and the different modes of transportation around the world.
21	Get familiarized with all the touristic countries as per the specified IATA areas.
22	Understand the location of the countries and places within them.
23	To plot the places on the map accurately
24	Identify the countries in Designated IATA areas.
25	To learn the importance of tourist attractions and make an effective itinerary.
26	Learn the various modes of transportation and relate it with tourist places.
27	Expand the area of learning beyond communication.
28	Learn skill to develop personal traits.
29	Draw motivation from various sources.
30	Learn to draft technical letters.
31	Understand Computer System.
32	Use the system software Win. 98/2000.
33	Use word of correspondence
34	Use Excel for Account.

35	Use presentation software preparing slide show.
36	Use internet for accessing information & Sending e-mail.
37	Acquaint then with accounting package
38	Understand the global CRS system
39	Learn to prepare various itineraries
40	To learn fare calculation
41	Learn about the international tourisms organization.
42	Differentiate the role between national and international bodies.
43	Study the set of tourism departments
44	Career options in Tourism Industry.
45	Learn all procedures to get passport made
46	Understand all travel formalities.
47	Get acquainted with airport formalities and health regulations.
48	Acquaint with all book keeping procedures
49	Understand journal, ledger entries.
50	Work with various a/c packages.
51	Prepare balance sheets.
52	Acquaint with different depts. Of travel agency.
53	Understand the skills needed to handle clients.
54	Get familiarized with different functions of Travel Agency.
55	Acquaint with the business environment of the travel and tourism industry.
56	Acquaint with the required commercial skills for the industry.
57	Familiarize with the required characteristics attributes and skills for the industry.
58	Acquaint with major air transport regulations.
59	Acquaint with the marketing environment of the travel & tourism industry.
60	Acquaint with the required commercial skills for the industry.
61	Acquaint with sales and marketing techniques in relation to the tourism industry.
62	Get familiarized with promotional marketing strategies.

63	Differentiate between business & leisure travel.
64	Familiarize with convention Business
65	Get acquainted to MICE requirements.
66	Able to plan MICE/Conference Projects.
67	Familiarize with basic hotel facilities and terminology.
68	Acquaint with types of hotels.
69	Acquaint with the association of hotel and tourism sector.
70	Understand the concept of entrepreneurship
71	Get familiarized with the different types of ownership
72	Plan projects.
73	Develop the skills to work from home.
74	Acquaint themselves about minimum connecting time and international time calculator.
75	Familiarize of CRS.
76	Study various journey concepts.
77	Calculate child and infant fares.
78	Calculate different fares and special fares.
79	Familiarize with standard traffic documents.
80	Acquaint themselves about minimum connecting time and international time calculator.
81	Study various journey concepts with Back haul and circle trip, minimum check..
82	Study mixed classes and special fares.
83	Familiarize with standard traffic documents.
84	Familiarize with billing and settlement plan (BSP).
85	Acquaint themselves with various plans.
86	Study the tourism plans.
87	Familiarize with the planned destinations.
88	Acquaint with major air transport regulations.
89	Acquaint with the marketing environment of the travel & tourism industry.
90	Acquaint with the required commercial skills for the industry.

91	Acquaint with sales and marketing techniques in relation to the tourism industry.
92	Get familiarized with promotional marketing strategies.
93	Differentiate between business & leisure travel.
94	Familiarize with convention Business
95	Get acquainted to MICE requirements.

8.9.2 Generic skills for Travel and Tourism Diploma Holder

1	Learn about travel and the tourism industry.
2	Different aspects of tourism industry.
3	Constitution of travel and tourism
4	Carrier opportunity in travel and tourism industry.
5	Expand knowledge on environment.
6	Learn skill to develop co-relation between environment and tourism.
7	Study the protection laws.
8	Learn the role of tourism in conservation.
9	Student will learn the different destination of tourism.

8.10 2011 Curriculum Mapping with Program Outcomes (POs)

The 2011 curriculum is mapped to identify Program strengths (attributes that are widely addressed) and Gaps (attributes that are addressed by only a few learning experiences). The mapping table is shown below.

Table 8.4. 2011 Curriculum Mapping with POs & PSOs

Course code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
		Basic Knowledge	Discipline Knowledge	Experiments and Practice	Engineering tools	The Engineer and Society	Environment and Sustainability	Ethics	Individual and Team work	Communication	Life-Long Learning	Plan, organize, market, sell and execute tours package	Assist people make their travel easier and convenient
EN9101	Communication skills	X	-	X	-	-	-	-	X	X	X	-	-
TR9101	Profile of Tourism Industry	-	X	X	-	X	X	X	X	X	X	X	X

TR9102	Importance of Environment	X	-	-	-	X	X	X	X	X	X	-	-
TR9201	India and Places of Tourist Interest I	-	X	X	X	-	-	-	X	X	X	X	X
TR9202	Indian Tradition and Heritage I	-	X	X	X	X	X	X	X	X	X	X	X
TR9203	India and Places of Tourist Interest II	-	X	X	X	-	-	-	X	X	X	X	X
TR9204	Indian Tradition and Heritage II	-	X	X	X	X	X	X	X	X	X	X	X
TR9205	World Geography I	X	-	X	X	-	-	-	-	X	X	X	X
TR9206	World Geography II	X	-	X	X	-	-	-	-	X	X	X	X
EN9301	Generic Skills I	X	-	X	-	X	X	X	X	X	X	X	X
EN9302	Generic Skills II	X	-	X	-	X	X	X	X	X	X	X	X
EN9303	Generic Skills III	X	-	X	-	X	X	X	X	X	X	X	X
NE6302	Yoga	-	-	-	-	X	X	X	X	X	X	-	-
NE6303	Public Speaking	-	-	-	-	X	X	X	X	X	X	-	-
TR9401	Information Technology I	X	-	X	X	X	X	X	X	X	X	X	X
TR9402	Information Technology II	X	-	X	X	X	X	X	X	X	X	X	X
TR9403	Organization in Tourism Industry	-	X	X	-	-	X	X	X	X	X	X	X
TR9404	Travel Documentation	-	X	X	-	-	X	X	X	X	X	X	X
TR9405	Basic Accounts	X	-	X	-	X	-	X	X	X	X	X	X
TR9501	Travel Agency Management	-	X	X	-	-	-	X	X	X	X	X	x
TR9502	Tour Operation Management	-	X	X	-	-	X	X	X	X	X	X	X
TR9503	Marketing and Sales Techniques	X	-	X	-	-	X	X	X	X	X	-	-
TR9601	Industrial Training	X	X	X	X	X	X	X	X	X	X	X	X
TR9602	Business and Incentive Travel	-	X	X	-	X	X	X	X	X	X	X	X
TR9603	Hotel Operation	-	X	X	-	-	X	X	X	X	X	X	X
TR9604	Entrepreneurship Development	-	X	X	--	X	--	X	X	X	X	X	X
TR9701	Basic Airfare and Ticketing	-	X	X	X	-	-	X	X	X	X	X	X
TR9702	Advance Airfare and Ticketing	-	X	X	X	-	-	X	X	X	X	X	X
TR9703	Planning in Tourism	-	X	X	-	-	X	X	X	X	X	X	X

8.10.1 Identified Gaps in 2011 Curriculum

2011 curriculum mapping with Program Outcomes (POs) and Program Specific Outcomes (PSOs) are carried out. It is found that, the content in 2011 curriculum related to following POs are less related to other POs.

1. PO4:Engineering Tools
2. PO5: The Engineer and Society
3. PO6: Environment & Sustainability
4. PO7: Ethics
5. PO9: Communication

Therefore, to fulfill these gaps some common courses and program specific courses are suggested in curriculum

Common Courses:

1. English
2. Rural Development
3. Finishing school
4. Free Electives (Total twelve courses)

Program related courses:

1. Database Operation

8.11 Courses Identification

Courses are formed based on identified skills in search conference, identified gaps in 2011 curriculum, AICTE guidelines and institute policy framed by ILC. The following table shows the identified skills and courses formed based on it.

Table 8.5. Courses Identification from Identified Skills

Identified Skills	Courses
• Common course to attain Program Outcomes	1. English
• Common course to attain Program Outcomes	2. Communication skills
• Acquaint with French Language.	3. Spoken French
• Common course to attain Program Outcomes	4. Environmental Science
• Common course to attain Program Outcomes	5. Rural Development
• Understand Computer System.	6. I.T.Application

• Use the system software Win. 98/2000. • Use word of correspondence • Use Excel for Account. • Use presentation software preparing slide show. • Use internet for accessing information & Sending e-mail.	
• Acquaint then with accounting package • Understand the global CRS system • Learn to prepare various itineraries • To learn fare calculation	7. Database Operation
• Acquaint with all book keeping procedures • Understand journal, ledger entries. • Work with various a/c packages. • Prepare balance sheets.	8. Basic Accounts
• Learn about travel and the tourism industry. • Different aspects of tourism industry. • Constitution of travel and tourism • Carrier opportunity in travel and tourism industry.	9. Profile of Tourism Industry
• Understand the concept of entrepreneurship • Get familiarized with the different types of ownership • Plan projects.	10. Entrepreneurship Development
• Student will learn the different destination of tourism. • Potential to make destination as a foreign exchange earner. • Cultural diversity of India. • India as a major tourism destination.	11. Tourism In Northern States of India
• Student will learn the different destination of tourism. • Potential to make destination as a foreign exchange earner. • Cultural diversity of India. • India as a major tourism destination.	12. Tourism In Southern States of India
• India as a primarily cultural destination in International Tourism. • History of tourism. • Domestic and International tourism. • Role of architecture in tourism.	13. Cultural Heritage of India
• India as a primarily cultural destination in International Tourism. • History of tourism. • Domestic and International tourism. • Role of architecture in tourism.	14. Cultural Traditions of India

• Expand the area of learning beyond communication. • Learn skill to develop personal traits. • Draw motivation from various sources. • Learn to draft technical letters.	15. Key Skills for Self Development
• Acquaint with different depts. Of travel agency. • Get familiarized with the different types of ownership.	16. Employability Skills
• Familiarize with basic hotel facilities and terminology. • Acquaint with types of hotels. • Acquaint with the association of hotel and tourism sector.	17. Hotel Operations
• Learn all procedures to get passport made • Understand all travel formalities. • Get acquainted with airport formalities and health regulations.	18. Travel Documentation
• Acquaint with different depts. Of travel agency. • Understand the skills needed to handle clients. • Get familiarized with different functions of Travel Agency.	19. Travel Agency Operations
• Acquaint with the business environment of the travel and tourism industry. • Acquaint with the required commercial skills for the industry. • Familiarize with the required characteristics attributes and skills for the industry. • Acquaint with major air transport regulations.	20. Tour Operations
• Acquaint with the marketing environment of the travel & tourism industry. • Acquaint with the required commercial skills for the industry. • Acquaint with sales and marketing techniques in relation to the tourism industry. • Get familiarized with promotional marketing strategies.	21. Marketing and Sales Techniques
• Acquaint with all the touristic countries as per the specified IATA areas. • Locate places on the map and learn 3 letter codes. • Understand the world map and plotting of countries. • Learn the importance and the different modes of transportation around the world.	22. International Travel Geography
• Get familiarized with all the touristic countries as per	23. World Tourism -

the specified IATA areas. • Understand the location of the countries and places within them. • To plot the places on the map accurately • Identify the countries in Designated IATA areas. • To learn the importance of tourist attractions and make an effective itinerary. • Learn the various modes of transportation and relate it with tourist places.	America And Europe
• Get familiarized with all the touristic countries as per the specified IATA areas. • Understand the location of the countries and places within them. • To plot the places on the map accurately • Identify the countries in Designated IATA areas. • To learn the importance of tourist attractions and make an effective itinerary. • Learn the various modes of transportation and relate it with tourist places.	24. World Tourism- Africa, Australasia
• Acquaint themselves about minimum connecting time and international time calculator. • Familiarize of CRS. • Study various journey concepts. • Calculate child and infant fares. • Calculate different fares and special fares. • Familiarize with standard traffic documents. • Acquaint themselves about minimum connecting time and international time calculator. • Study various journey concepts with Back haul and circle trip, minimum check.. • Study mixed classes and special fares. • Familiarize with standard traffic documents. • Familiarize with billing and settlement plan (BSP). • Acquaint themselves with various plans. • Study the tourism plans. • Familiarize with the planned destinations.	25. Basic Airfare and Ticketing
• Differentiate between business & leisure travel. • Familiarize with convention Business • Get acquainted to MICE requirements. • Able to plan MICE/Conference Projects.	26. Business and Incentive Travel
• Learn about travel and the tourism industry. • Acquaint with different depts. Of travel agency.	27. Industrial Training

• Acquaint themselves about minimum connecting time and international time calculator. • Familiarize of CRS. • Study various journey concepts. • Calculate child and infant fares. • Calculate different fares and special fares. • Familiarize with standard traffic documents. • Acquaint themselves about minimum connecting time and international time calculator. • Study various journey concepts with Back haul and circle trip, minimum check.. • Study mixed classes and special fares. • Familiarize with standard traffic documents. • Familiarize with billing and settlement plan (BSP). • Acquaint themselves with various plans. • Study the tourism plans. • Familiarize with the planned destinations.	28. Advance Airfare and Ticketing
• Guide Tourist	29. Basic Guide Training
• Acquaint with Medical Tourism	30. Medical Tourism
• Acquaint with rural and Agro Tourism.	31. Rural and Agro Tourism
• Common course to attain Program Outcomes	32. Finishing School
• Common course to attain Program Outcomes	33. Free Electives

8.12 Program Structure

The program structure of the Travel and Tourism program is developed as described in chapter 6 previously and is given below.

8.12.1 Program Structure Level I: General Studies

Table 8.6. Program Structure Level I: General Studies

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
1	EN101E	English	Nil	03	00	02	04	70	30	50 [@]	25	175
2	EN102E	Communication Skills	Nil	03	00	02	04	70	30	50 [@]	25	175
3	TR 101E	Spoken French	Nil	02	00	04	04	Nil	Nil	50 [@]	25	075
4	EV101E	Environmental Science	Nil	01	01	00	02	70**	30	Nil	Nil	100
5	RD101E	Rural Development	Nil	00	00	02	01	Nil	Nil	50 [@]	25	075
Total				09	01	10	15	210	90	200	100	600

- No. of Compulsory Courses : 05
 - Abbreviations: TH – Theory ; PR- Practical; TU- Tutorial; TEE- Term End Examination; CA- Continuous Assessment
 - 1TH Hr =1 Credit ; 1 TU Hr = 1 Credit ; 2 PR Hr = 1 Credit
- ** Online Examination
- @ Internal Practical Examination
- # External Practical Examination

8.12.2 Program Structure Level II: Basic Science Courses

Table 8.7. Program Structure Level II: Basic Science Courses

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
1	TR201E	IT Application	Nil	02	00	04	04	Nil	Nil	50 [@]	25	75
2	TR202E	Database Operations	TR 201E	02	00	04	04	Nil	Nil	50 [@]	25	75
3	TR203E	Basic Accounts	Nil	03	02	02	06	70	30	50 [@]	25	175
4	TR204E	Profile of Tourism Industry	Nil	03	00	04	05	70	30	50 [@]	25	175
5	TR205E	Entrepreneurship Development	Nil	03	00	02	04	70	30	50 [@]	25	175
Total				13	2	16	23	210	90	250	125	675

- No. of Compulsory Courses : 05
- No. of Optional Courses : Nil
- Abbreviations: TH – Theory ; PR- Practical; TU- Tutorial; TEE- Term End Examination; CA- Continuous Assessment
- 1TH Hr =1 Credit ; 1 TU Hr = 1 Credit ; 2 PR Hr = 1 Credit
- ** Online Examination
- @ Internal Practical Examination
- # External Practical Examination

8.12.4 Program Structure Level IV: Professional Courses

Table 8.9. Program Structure Level IV: Professional Courses

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
a) Core Courses												
1	TR401E	Travel Documentation ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
2	TR402E	Travel Agency Operations ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
3	TR403E	Tour Operations ^{\$}	TR 402E	03	00	02	04	70	30	50#	25	175
4	TR404E	Marketing and Sales Techniques ^{\$}	Nil	04	00	02	05	70	30	50#	25	175
5	TR405E	International Travel Geography	Nil	04	00	02	05	70	30	50@	25	175
6	TR406E	World Tourism-America And Europe ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
7	TR407E	World Tourism-Africa, Australasia ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
8	TR408E	Basic Airfare and Ticketing ^{\$}	TR 405E	04	00	02	05	70	30	50#	25	175
9	TR409E	Business and Incentive Travel ^{\$}	Nil	04	00	02	05	70	30	50#	25	175
Sub Total (a)				31	00	18	40	630	270	450	225	1575

8.12.5 Program Structure Level IV: Professional Courses (Project Courses)

Table 8.10. Program Structure Level IV: Professional Courses (Project Courses)

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
b) Project & Seminar Courses												
10	ID404E	Industrial Training ^{\$}	100 Credits	10	00	36	28	Nil	Nil	300 [#]	200	500
Sub Total (b)				10	00	36	28	Nil	Nil	300	200	500
Total (a) + (b)				41	00	54	68	630	270	750	425	2075

- No. of Compulsory Courses : 10
 - Abbreviations: TH – Theory ; PR- Practical; TU- Tutorial; TEE- Term End Examination; CA- Continuous Assessment
 - 1TH Hr =1 Credit ; 1 TU Hr = 1 Credit ; 2 PR Hr = 1 Credit
- ** Online Examination
 @ Internal Practical Examination
 # External Practical Examination

8.12.6 Program Structure Level V: Elective Courses

Table 8.11. Program Structure Level V: Elective Courses

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
a) Professional Electives (Any three courses)												
Elective –I												
1	TR501E	Advance Airfare and Ticketing	TR 404E	03	00	04	05	70	30	50#	25	175
2	TR502E	Basic Guide Training	Nil	03	00	04	05	70	30	50#	25	175
Elective –I I												
3	TR503E	Medical Tourism	Nil	03	00	04	05	70	30	50#	25	175
4	TR504E	Rural and Agro Tourism	Nil	03	00	04	05	70	30	50#	25	175
Sub Total (a)				06	00	08	10	140	60	100	50	350
b) Free Elective – Non-Technical												
1	FS501E	Finishing School	Nil	00	00	04	02	Nil	Nil	50@	25	75
Sub Total (b)				00	00	04	02	00	00	50	25	75

8.12.7 Program Structure Level V: Elective Courses

Table 8.12. Program Structure Level V: Elective Courses

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
c) Free Electives Technical (Any one)				% Not offered for Program								
	FE501E	Basic Building Drawings %	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
1	FE 502E	Refrigeration and Air Conditioning Maintenance	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
2	FE503E	Electrical Maintenance	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
3	FE504E	Hobby Electronics	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
4	FE505E	Basic Packaging Technology	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
	FE506E	Industrial Metallurgical Practices %	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
5	FE507E	Computer Network	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
6	FE508E	PC Architecture & Maintenance	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
7	FE509E	Fabric Selection and Care	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
8	FE510E	Two and four Wheeler Technology	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
9	FE511E	Energy Conservation and Management	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
10	FE512E	Learning Ability Development	Nil	00	00	04	02	Nil	Nil	50 [@]	25	75
Sub Total (c)				00	00	04	02	Nil	Nil	50	25	75
Total (a) + (b) + (c)				06	00	16	14	140	60	200	100	500

- No. of Compulsory Courses : 03 No. of Optional Courses : 12
- Abbreviations: TH – Theory ; PR- Practical; TU- Tutorial; TEE- Term End Examination; CA- Continuous Assessment
- 1TH Hr =1 Credit ; 1 TU Hr = 1 Credit ; 2 PR Hr = 1 Credit ** Online Examination @ Internal Practical Examination # External Practical

8.12.8 Program Structure Abstract

Table 8.13. Program Structure Abstract

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Level	Course Title Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Credit Percentage (Approx.)	Examination Scheme (Max. Marks)				
			TH	TU	PR			Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
1	I	General Studies	09	01	10	15	10%	210	90	200	100	600
2	II	Basic Science Courses	13	02	16	23	15%	210	90	250	125	675
3	III	Engineering Sciences and Technical Arts Courses	24	00	12	30	20%	350	150	200	100	800
4	IV	Professional Courses	41	00	54	68	46%	630	270	750	425	2075
5	V	Elective Courses	06	00	16	14	09%	140	60	200	100	500
Total			93	03	108	150	100%	1540	660	1600	850	4650

Above program structure is approved in PBOS meeting held on 12th April, 2016 for implementation from Academic session 2016-17.

8.13 Award of Class Courses

Table 8.14. Award of Class Courses

DIPLOMA IN TRAVEL AND TOURISM												
Sr. No	Course Code	Course Title	Prerequisite courses/credits	Teaching Scheme (TH,TU,PR Hrs./Week)*			Total Credits*	Examination Scheme (Max. Marks)				
				TH	TU	PR		Theory		Practical		Total Marks
								TEE	CA	TEE	CA	
A) Core Courses												
1	TR401E	Travel Documentation ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
2	TR402E	Travel Agency Operations ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
3	TR403E	Tour Operations ^{\$}	TR 402E	03	00	02	04	70	30	50#	25	175
4	TR404E	Marketing and Sales Techniques ^{\$}	Nil	04	00	02	05	70	30	50 [#]	25	175
5	TR406E	World Tourism-America And Europe ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
6	TR407E	World Tourism-Africa, Australasia ^{\$}	Nil	03	00	02	04	70	30	50#	25	175
7	TR408E	Basic Airfare and Ticketing ^{\$}	TR 405E	04	00	02	05	70	30	50#	25	175
8	TR409E	Business and Incentive Travel ^{\$}	Nil	04	00	02	05	70	30	50#	25	175
9	ID404E	Industrial Training ^{\$}	100 Credits	10	00	36	28	Nil	Nil	300 [#]	200	500
Total(A+B)				37	0	52	63	560	240	700	400	1900

8.14 Curriculum at a Glance

Table 8.15. Curriculum at a Glance

SN	CRITERION	RESPONSE
1	Total No. of Courses in a Program	42
2	Total courses required	31
3	No. of courses having Theory papers	22
4	No. of courses having non Theory exam.	09
5	No. of General Studies Courses	5
6	No. of Basic Science Courses	5
7	No. of Engineering Science Courses	7
8	No. of Professional Core Courses	10
9	No. of Professional Elective Courses	2/4
10	No. of Professional Free Elective Courses	2/11
11	No. of Project & Seminar Courses	1
12	Total Credits (1 Th Hr = 1Credit & 2 Pr Hr = 1Credit)	150
13	Total Marks	4650
14	Proportion of Hours (Periods), Th : Pr	47:53 (approx.)
15	Proportion of Credits, Th : Pr	64:36 (approx.)
16	Proportion of Marks; Th : Pr	48:52 (approx.)
17	Total courses for Award of Class	9
18	Total theory paper courses for Award of Class	8
19	Total marks for Award of Class	1900

8.15 Courses Flow Diagram

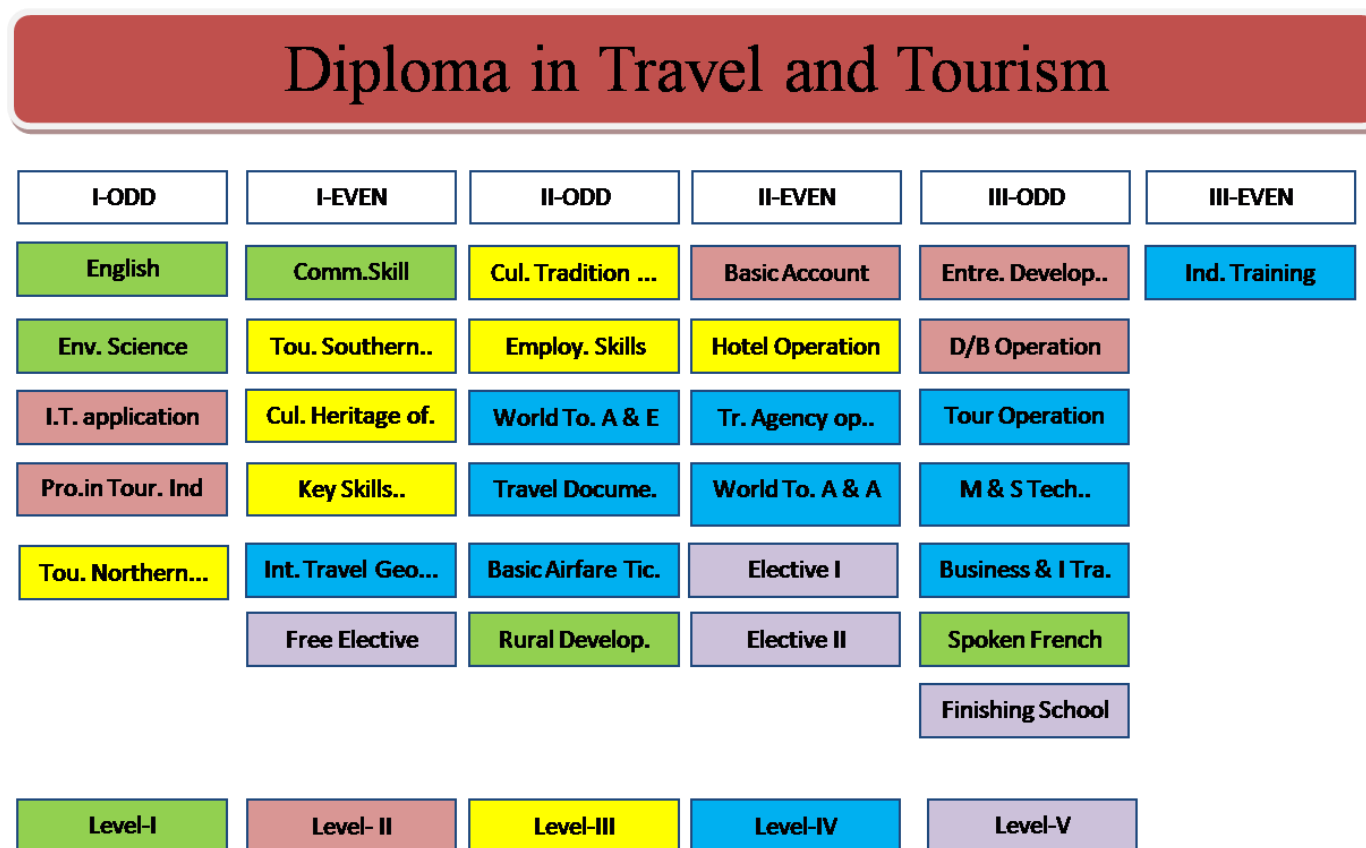


Figure 8.1. Course Flow Diagram

APPENDIX A

Curriculum

LEVEL - I

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE,ME,EE,EC,PK,MT,IT,AE,CM,TX,TR
LEVEL NAME	: GENERAL STUDIES
COURSE CODE	: EN101E
COURSE TITLE	: ENGLISH
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: 03 HRs
PR. TEE	: 02 HRs (Internal)
PT.	: 01 HR

❖ RATIONALE:

The basic structure of English through Grammar enhances Holistic development as an individual as well as their role in the world. While teaching this course, complete emphasis will be laid on enhancing expression of ideas in English by the students. Excellence in this language enables a technician to develop his professional career as well as a strong standing in society.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Construct grammatically correct sentences.
2. Express ideas effectively in oral and written form.
3. Enhance comprehending abilities.
4. Develop interest in and appreciate literature.
5. Use social skills and be conversant.
6. Speak sentences with correct intonations.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Application of Grammar	1. Identify grammatical rules to form correct sentences. 2. Use correct sentence pattern in writing and speaking. 3. Enrich vocabulary. 4. State and identify various tenses to be used in a situation.	1.1 Articles :Appropriate use of definite and indefinite articles 1.2 Prepositions: To use correct prepositions as per context. 1.3 Phrases: Combining words to form various phrases. 1.4 Tenses: Appropriate uses of tenses in given situations. 1.5 Voice: use of active and passive voice. 1.6 Narration: Conversion of direct and indirect speech.	12
2. Text	1. Present oral summary of topics read or heard. 2. Adjust speed of reading. 3. Follow oral instructions and interpret them to others 4. Present summary of topics read and heard.	2.1 Text: Learning to read fluently and to develop insight through prose and poetry. Selected prose and poetry prescribed in the text. 2.2 Prose: 1. Positive Thinking- By Stephen 2. Vision 2020- Dr. A.P.J. Abdul Kalam. 3.What India Wants: A.Our muddled Generation- DineshKumar. B. Employers want Employees not Exam results –Manish Sabharwal. 4. The Last Cab Ride- Kent Newburn 2.3 Poem: 1.Kalahandi-Jaganath Prasad Das 2.Money Madness-D.H. Lawrence 3. Where the mind is without fear- Rabindranath Tagore. 4. Voice of the unwanted Girl-Sujata Bhatt.	16
3. Success stories And Seen passages for Comprehension.	1. Take down lecture notes while listening. 2. Write single or multiple sentences. 3. Comprehend main ideas and reproduce them. 4. Ask pertinent question as well as to answer them.	3.1 Success stories:(selected Two success stories from text) 1."It happened in India" Kishor Biyani 2. Aditya Kumar Birla. 3.2 Comprehension: (Selected two passages from the text)	06

4. Vocabulary Building	1. Use word formation devices. 2. Use new words in sentences. 3. Read/write new words from various media. 4. Enrich vocabulary through reading.	4.1 Synonyms and Antonyms 4.2 One word substitution. 4.3 Using words and expressions appropriate to audience.(peers, superiors, subordinates and others)	04
5. Conversational Practice.	1. Use correct pronunciations 2. Pronounce the words correctly. 3. Speak sentences with correct intentions. 4. Use correct accent/stress for the words.	Sample situations for conversational practice. 5.1 Introducing yourself and others. 5.2 Meeting and parting. 5.3 Requests 5.4 Inquiries and information. 5.5 Asking, Giving and Refusing Permission. 5.6 Apologizing.	04
6 Writing Techniques.	1. Expand ideas into paragraphs 2. Prepare speeches as per situations 3. Connect multiple sentences.	6.1 Paragraph writing: Elaborate and expand ideas. 6.2 Speech writing: Welcome speech, Farewell speech, Introducing the guests and vote of thanks.	06
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Tense Busters -All levels(To be performed in language lab)	Application of Grammar)	04
2.	Reading and making notes	Prose	02
3.	Summarizing poems	Poetry	02
4.	Reading and making notes	Short stories	02
5	Reading and making notes	Prose	02
6	Comprehending passage	Comprehension passage	02
7	Issues in English(to be performed in language lab)	Vocabulary building	06
8	Formal conversations-Telephonic ,Video conferencing	Conversation practice	02
9	Introducing –self and others	Conversation practice	02
10	Observation of oratory speeches of renowned speakers	Conversation practice	02
11	Preparing speech and presenting	Writing techniques	02
12	Writing a paragraph on given topic	Writing techniques	02
Skill Assessment			02
Total Hrs.			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Application of Grammar	06(04)	06(04)	00(00)	16(12)
02	Text	04(04)	16(04)	06(00)	26(08)
03	Short stories	04(04)	08(04)	00(00)	08(04)
04	Vocabulary Building	04(00)	04(04)	00(00)	08(04)
05	Conversational Practice	00(00)	00(00)	06(06)	06(06)
06	Writing Techniques	00(00)	00(00)	06(06)	06(06)
	Total	18(12)	34(16)	18 (12)	70 (40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	U	2	1	U	2	1	U	2	1	U	2	1	U	2	1	U	2	5/7
	1	R	2																
02	2	U	4	2	R	4	2	R	4	2	U	4	2	U	4				3/5
03	3	U	4	3	U	4	2	R	4	2	R	4	3	U	4				3/5
04	4	R	4	4	A	4	1	R	4	1	R	4	1	U	4				3/5
05	5	A	6	5	A	6	5	U	6										2/3
06	6	A	6	6	A	6	6	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	05
2	Overall presentation of given assignment	05
3	Viva voce	10
4	Activity	05
	TOTAL	25

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (Cos)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	-	3	-	-	-	-	-	3	3	-	-
2	3	-	3	-	-	-	-	-	3	-	-	-
3	-	-	3	-	-	-	-	-	3	3	-	-
4	-	-	3	-	-	-	-	-	-	-	-	-
5	-	-	3	-	-	-	1	1	3	3	-	-
6	3	-	3	-	-	-	-	1	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1	Positive Thinking	Stephen, Inspirational Stories ,June 2011	-
2	Vision 2020	Dr.A.P.J. Abdul Kalam 'Prism', Macmillan Publication.	1403928282
3	What India Inc-	Dinesh Kumar, Manish Sabharwal, Golden Harvest,	9788125059523
4	The Last Cab Ride	'Life', by Stephen	-
5	Kalahandi	Jaganath Prasad Das, Reflection on vital issues', by P.J.George	9788125041764
6	Money Madness	D.H.Lawrence by P.J.George Orient Blackswan 2010	9788125041764
7	Where the mind is without fear	Rabindranath Tagore Prism, Macmillan Publication	1403928282

8	Voice of the unwanted girl	Sujata Bhatt Prism, Macmillan Publication	1403928282
9	High School English Grammar and Composition	Wren and Martin Revised by Dr.N.D.V. Prasada Rao, S.Chand Publication.	81-219-0009-3
10	Business communication	Urmila Rao Himalaya Publication, 2011	81-8318-438-3
11	Contemporary English Grammar-structure and composition	David Green Revised Edition,2004 Himalaya Publication	033392183-6
12	Interactive English	S.K.Gangal, Revised Edition 1997 Allied Publishers	81-7023-678-9
13	Applied English Grammar and composition.	Dr. P.C. Das, 2013, New Central Book Agency.	978-81-7381-542-3
14	English for Practical Purposes	Z. N. Patil, B.S. Valke	033935098

❖ **E-REFERENCES:**

www.talkenglish.com-grammar , assessed on 12th March, 2016

www.edufind.com-englishgrammar ,assessed on 12th March, 2016

www.perfect-english-grammar.com, assessed on 12th March, 2016

www.yosuccess.com, assessed on 13th March, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr. Sadiya Raza	Lecturer in English & Coordinator	Government Polytechnic, Nagpur.
2.	Dr. Nutan Chotai	Expert, Head of Dept.	LAD College, Nagpur.
3.	Mrs. K.N. Deshmukh	Expert, Head of Humanities	SDMP, Nagpur.
4.	Dr. Shilpa Sarode	Expert, Asst. Professor	LAD, Nagpur
5.	Mrs. M.M. Machale	Lecturer in English	Government Polytechnic, Nagpur.
6.	Ms. Humeera Quraishi	Visiting Lecturer in English	Government Polytechnic, Nagpur.
7.	Ms. Marlyn Fernandes	Visiting Lecturer in English	Government Polytechnic, Nagpur.
8.	Ms. Nazish Ahmed	Visiting Lecturer in English	Government Polytechnic, Nagpur.

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA INCE,ME,EE,EC,PK,MT,IT,AE,CM,TX,TR
LEVEL NAME	: GENERAL STUDIES
COURSE CODE	: EN102E
COURSE TITLE	: COMMUNICATION SKILLS
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03 TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM.	: 03 HRs
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 01 HR

❖ RATIONALE:

In this present competitive scenario, proficiency in communication skills is one of the basic needs of technical students. A diploma holder is therefore expected to meet the challenges of communicating with his peers, superiors, subordinates and clients. Communication skills will help him towards achievement of perfection.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Apply concepts of communication in the given situation.
2. Modify language skills.
3. Execute requisite qualities as per industry requirements.
4. Compose official documentation.
5. Participate in and conduct group discussions and meetings effectively
6. Use correct pronunciations and intonations.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Communication	1. Identify modern concept of communication. 2. Breaks down barriers to communicate effectively. 3. Modify appropriate body language. 4. Derive confidence while conversing.	1.1 Definition, Process, Types: Verbal-Non Verbal, Formal-Informal, Upward-Downward, Horizontal. 1.2 Barriers of communication: Physical, Mechanical, Psychological, Language, Status . Ways to overcome barriers. 1.3 Selection of proper channels of communication. 1.4 Non-verbal communication in detail: Body language, Eye contact, Dress and appearance, color, sound, Gestures, Postures, Pictorial representations.(Maps, Charts ,Graphs)	14
2. Inculcation of various generic skills.	1. Identify their receptive skills to strengthen their productive skills. 2. Derive listening abilities. 3. Use detailed write-ups 4. Participate in conversations.	2.1 Listening and reading skills- Importance of listening skills, levels of listening, Types of reading, Phonetics, IPA 2.2 Speaking and writing – Importance of Pronunciation, Importance of Debate.	08
3. Areas of self-Development.	1. Identify strengths and weakness. 2. Classify different types of motivation in one's life. 3. Plan presentations properly. 4. Modify leadership qualities.	3.1 Aims of self-development, self-awareness with respect to strength and weakness, How to overcome weakness for acquiring self-confidence. 3.2 Motivation –Introduction, Definition, Types with example. 3.3 Presentation skills – Parameters, Appearance, use of body language, Eye contact, content preparation, Depiction of interest of audience. 3.4 Time management- Importance, Process of time planning. 3.5 Team Building and Leadership qualities.	10
4. Development of	1. Plan group discussion. 2. Relate behavior during and post	4.1 Interview Techniques: Preparation, Behavior during interview, post interview. 4.2 Group discussion: Being the first	06

soft skills.	interview. 3. State and justify one's abilities.	member, how to make a general discussion, to give a concrete shape to discussion, purpose.	
5. Business correspondence	1. Identify various types of letters. 2. List down one's qualities by writing resume. 3. Use various reports to express ideas effectively in English	5.1 Letters: Job application and Resume writing Leave letter, Sales letter, Enquiry letter, order letter, complaint letter. 5.2 Report writing: Progress, Accident, Trouble, Feasibility. 5.3 Notices, circular, Memorandum-mail messages.	10
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practic al's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Master the skill of face -to -face communication	Communication	02
2.	Sharpen one's body language while communicating with the help of Extempore/Impromptu.		02
3.	Demonstrate through role-play skills of a good communicator like RJ, News reader, commentator.		04
4.	Master the art of reading, writing, listening skill(to be performed in Language lab using software)	Inculcation of various Generic skills	06
5	Execute the art of Debate		02
6	Transcribe the given words phonetically		02
7	Master the skill of oral presentation by presenting a topic through PowerPoint presentation.	Areas of self-development.	02
8	Demonstrate leadership qualities		02
9	Manipulate Group Discussion by active participation	Development of soft skills	02
10	Build interview techniques through Mock Interview		02
11	Implement the art of writing E-mails and reports	Business correspondence	02
12.	Implement the art of writing Formal drafting's by preparing resume, letters.		02
Skill Assessment			02
Total Hrs.			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Communication	06(06)	04(04)	06(04)	16(14)
02	Inculcation of various Generic skills among future engineers	02(00)	08(10)	00(06)	10(16)
03	Areas of self Development	06(00)	06(06)	06(00)	18(06)
04	Development of soft skills	02(04)	08(00)	00(00)	10(04)
05	Business Correspondence	00(00)	08(04)	08(00)	16(00)
	Total	20(08)	30(20)	20 (12)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	2	R	2	3	R	2	4	R	2	5	A	2	3	U	2	5/7
	1	R	2																
02	1	R	4	1	R	4	2	U	4	2	U	4	5	U	4				3/5
03	3	R	4	4	R	4	2	U	4	3	U	4	5	U	4				3/5
04	1	U	4	5	U	4	4	U	4	1	A	4	4	U	4				3/5
05	2	A	6	3	A	6	3	U	6										2/3
06	1	A	6	5	A	6	2	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	05
2	Overall presentation of given assignment	05
3	Viva voce	10
4	Activity	05
	TOTAL	25

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (Cos)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	2	-	3	-	-	-	-	3	3	3	-	-
2	-	-	3	-	-	-	-	-	3	-	-	-
3	-	-	3	-	-	-	-	3	3	3	-	-
4	2	-	3	-	-	-	-	-	3	3	-	-
5	-	-	3	-	-	-	-	3	3	3	-	-
6	-	-	-	-	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Professional Communication skills	S.R.Pravin, S.Chand Publications	81-219-2092-02
2.	Developing Communication skills	Macmillan Publications, Revised Edition, 2011	0333929195
3.	Business communication and Soft skills.	G.S.R.K , Himalaya Publication, First Edition, 2009	978-81-8488-596-5
4.	Secret of face to face communication.	Peter Urs, Bendar, Macmillan Publication	0333937139
5.	Technical communication principles and practices	Meenakshi Raman, Prakash Singh, Oxford University Press,	0-19-567695-5
6	Effective English Communication	Krishna Mohan, Raman Tata McGraw Hills,	13978-0-19-566804-9
7	Modern Commercial Correspondence	R.S.Pillai, Bhagwati, S.Chand & Co.	812190519-2

❖ **E-REFERENCES:**

www.mindtools.com.au, assessed on 12th March, 2016

www.interviewbest.com, assessed on 12th March, 2016

www.skillsyouneed.com-presentationskills, assessed on 12th March, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr. Sadiya Raza	Lecturer in English&Coordinator	Government Polytechnic, Nagpur.
2.	Dr. Nutan Chotai	Expert, Head of Dept.	LAD College, Nagpur.
3.	Mrs. K.N. Deshmukh	Expert, Head of Humanities	SDMP, Nagpur.
4.	Dr. Shilpa Sarode	Expert, Asst.Professor	LAD, Nagpur
5.	Mrs. M.M. Machale	Lecturer in English	Government Polytechnic, Nagpur.
6	Ms. Humeera Quraishi	Visiting Lecturer in English	Government Polytechnic, Nagpur.
7.	Ms. Marlyn Fernandes	Visiting Lecturer in English	. Government Polytechnic, Nagpur.
8.	Ms. Nazish Ahmed	Visiting Lecturer in English	Government Polytechnic, Nagpur.

(Member Secretary PBOS)

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GOVERNMENT POLYTECHNIC, NAGPUR.
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COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL & TOURISM
LEVEL NAME	: Basic Science Courses
COURSE CODE	: TR101E
COURSE TITLE	: SPOKEN FRENCH
PREREQUISITE	: NIL
TEACHING SCHEME:	TH: 02 Hrs; TU: 00 Hrs; PR: 04 Hrs (Clock Hours)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 00 HRs
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 00 HRs

❖ **RATIONALE:**

French language has grown to the position of an important means of communication in the field of hospitality and tourism. The student will be familiarized with the foreign language that will prepare them for global employment opportunities in travel and tourism.

❖ **COURSE OUTCOMES:**

After completing this course students will be able to–

1. Identify basic spoken French.
2. Respond to the request in French.
3. Use basic French communication.
4. Read basic words
5. Introduce themselves in French.
6. Practice tourism related words.

COURSE DETAILS:**A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs .
1.Basic French Sounds	Not Applicable	Basic French Sounds 1.1 French Sounds 1.2 Pronunciation 1.3 Accents 1.4 Alphabets	04
2.Introductory French Vocabulary	Not Applicable	Introductory French Vocabulary 2.1 Tourism related Words 2.2 Hospitality Terms 2.3 Salutations 2.4 Glossary of general terms (Menu, Transport)	06
3.Fundamentals of French Grammar	Not Applicable	Fundamentals of French Grammar 3.1 Articles 3.2 Preposition 3.3 Verbs 3.4 Adjectives 3.5 Sentence Forms 3.6 Nouns & Pronouns	08
4.Introduction & Salutations	Not Applicable	Introduction & Salutations 4.1 Basic Introduction 4.2 Asking Introduction 4.3 Describing a Person 4.4 Describing a Place	04
5.Numbers, Date, Time, Days, Months	Not Applicable	Numbers, Date, Time, Days, Months 5.1 Numbers (Cardinal & Ordinal) 5.2 Days 5.3 Date 5.4 Months 5.5 Time 5.6 Seasons & Directions	04
6.Basic Conversation	Not Applicable	Basic Conversation 6.1 Asking Questions 6.2 Replying to Queries 6.3 Asking & Telling Directions 6.4 Situational Conversations	06
Total Hrs.			32

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify the Basic French Sounds & Pronunciation	1. Basic French Sounds	2
2.	Identify the different Alphabets and Letters		2
3.	Identify different Types of Accents & their Use in French		2
4.	Practice Tourism related Words & their Meanings	2. Introductory French Vocabulary	2
5.	Practice Hospitality Terms & their Meanings		2
6.	Practice Salutations & their Meanings		2
7.	Use various references to improve glossary of general terms (Menu, Transport) & their Meanings		2
8.	Use articles & prepositions in basic sentences	3. Fundamentals of French Grammar	2
9.	Use verbs & adjectives in basic sentences		2
10.	Use nouns & pronouns in basic sentences		2
11.	Practice forming Sentence using basic Forms		4
12.	Introduce yourself in French	4. Introduction & Salutations	2
13.	Ask introduction to Others		4
14.	Describe a Person in French		2
15.	Describe a Place (Home, Hotel, Tourist Place)		4
16.	Count the Numbers (Cardinal & Ordinal)	5 Numbers, Date, Time, Days, Months	2
17.	Ask and Tell Days & Months		2
18.	Ask and Tell Date & Time		4
19.	Describe Seasons & Directions		4
20.	Ask Basic Questions	6. Basic Conversation	2
21.	Reply to Basic Queries		2
22.	Ask & Tell Directions		2
23.	Practice situational Conversations I-With Tourists & Guests		4
24.	Practice situational Conversations II-With Transporters & Service Providers		2
	Skill Assessment		4
		Total	64

❖ **SPECIFICATION TABLE FOR THEORY PAPER: Nil**❖ **QUESTION PAPER PROFILE FOR THEORY PAPER: Nil**

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	--	--	--	--	--
		Assignments		--	--	--	--	
	TEE (Term End Examination)	End Exam	Students	--	--	--	--	--
				Total	--	--		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1,2,3,4,5,6
		Journal Writing		Continuous	05	--	Journal	1,2,3,4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	1,2,3,4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Overall presentation of given assignment	10
3	Activity	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	-	-	-	-	-	-	3	3	3	-	3
2	3	-	-	-	-	-	-	3	3	3	-	3
3	3	-	-	-	-	-	-	3	3	3	-	3
4	3	-	-	-	-	-	-	3	3	3	-	3
5	3	-	-	-	-	-	-	3	3	3	-	3
6	3	1	-	-	-	-	-	3	3	3	-	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	En Echanges (A Text book of French)	Neelima Reddi and Anjali Paranjape, Oxford University Press, 2000	0195635132
2.	A Votre Service 1	Rajeshwari Chandrasekar et al, Goyal Publishers, Delhi, 2003	81-87572-02-7
3.	Cours de langue et de civilization francaises I	G. Mauger, Goyal Publishers, Delhi, 2005	81-87572-09-4

❖ **E-REFERENCES:**

Nil

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr Arvind Upasani	Visiting Lecturer	RSTM Nagpur University
2.	Shri Rajesh Pund	Lecturer	Govt Polytechnic, Nagpur
3.	Shri Sandeep Bapat	Visiting Lecturer	Govt Polytechnic, Nagpur
4.	Miss Rupinder Nanda	Visiting Lecturer	Govt Polytechnic, Nagpur
5.	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
6.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
7.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
8.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
9.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/EC/CM/IT/AE/PK/MT/TX/TR
LEVEL NAME	: GENERAL STUDIES
COURSE CODE	: EV101E
COURSE TITLE	: ENVIRONMENTAL SCIENCE
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 01; TU: 01; PR: 00 (CLOCK HRs.)
TOTAL CREDITS	: 02 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: 01 Hr. (Objective Type Online Examination)
PR. TEE	: NIL
PT.	: 15 MINUTES (Objective Type offline Examination)

❖ RATIONALE:

The world today is facing the biggest challenge of survival. Degradation of ecosystem, depletion of natural resources, increasing levels of pollution, poses major threat to the survival of mankind. The need of the hour, therefore, is to concentrate on the area of environmental science, which shall provide an insight into various environment related issues.

Environmental science is an interdisciplinary academic field that integrates physical and biological sciences, with the study of the environment. It provides an integrated, quantitative, and interdisciplinary approach to the study of environmental systems & gives an insight into solutions of Environmental problems

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Define the terms related to Environmental Studies.
2. Identify natural resources and resolve problems associated with them.
3. Identify alternate energy resources and use them efficiently during their engineering practices.
4. Develop habits which will cause less harm to environment
5. Analyze key issues about environment and create public awareness about those environmental issues.
6. Follow environmental ethics as lifelong learning.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs .
1. Earth Systems and Resources	1. Name the historical events of earthquakes, volcanoes, Tsunami, cyclone & landslides in the world. 2. Identify problems associated with soil, water 3. Define weather and climate. 4. Analyze the global water problems.	1.1 Earth Science: Concepts of Geologic time scale; earthquakes, volcanoes , Tsunami , cyclone & landslides 1.2 The Atmosphere: Weather and climate; the Coriolis Effect 1.3 Global Water Resources and Use: Present scenario, surface and groundwater issues; global problems; and its conservation. 1.4 Soil : soil erosion and other soil problems; methods of soil conservation	02
2. Concept of Biodiversity	1. Define Biodiversity 2. List Levels of biodiversity 3. Define and list the biodiversity hotspots 4. List the endangered species 5. Prepare a report on value of Biodiversity 6. Suggest methods /steps for Biodiversity conservation	2.1 Definition of Biodiversity 2.2 Levels of biodiversity 2.3 Value of biodiversity 2.4 Threats to biodiversity, loss of biodiversity (biodiversity hotspots) 2.5 Conservation of biodiversity (modern methods of biodiversity conservation)	02
3. Energy Resources and Consumption	1. Match the energy forms projects 2. List various forms of energy 3. State advantages and disadvantages of forms of energy 4. Select appropriate solutions of Efficient Use energy 5. Utilize techniques for energy consumption to reduce impact on environment.	3.1 Energy Consumption history 3.2 Present global energy use, Future energy needs 3.3 Energy forms:(conventional and non conventional) 3.4 Energy Conservation 3.5 Renewable Energy: Solar energy; solar electricity; biomass; wind energy; ocean waves and tidal energy; geothermal	03
4. Pollution	1. Define pollution and pollutants 2. List the types of pollutants. 3. Identify the Pollutants and their sources 4. Develop habits to reduce pollution 5. State the standard / limiting/ controlling values	4.1 Definition of pollution. 4.2 Air pollution: Definition, Classification, sources, effects, Prevention and ambient air quality standards. 4.3 Water Pollution: Definition, Classification, sources effects, Prevention And WHO and BIS water quality standards.	04

	of various types of pollution.	4.4 Soil Pollution/land pollution: Definition, sources, effects, prevention 4.5 Noise Pollution: Definition, sources, effects, prevention. 4.6 Biomedical Waste and E-Waste -- Origin, Effects and control Measures. 4.7 CPCB and MPCB norms and roles and responsibilities.	
5 Social Issues and Environment	1. Define sustainable development 2. Evaluate sources of Green house effect, acid rains, Global warming 3. List the incidences of Nuclear Accidents,	5.1 Concept of development, sustainable development 5.2 Watershed management , rain water harvesting 5.3 Global Warming, greenhouse effect; ozone depletion, relevant laws and treaties 5.4 Nuclear Accidents and Holocaust: Basic concepts and their effect on climate, , relevant laws and treaties	03
6. Environmental Education	1. Differentiate between formal and non formal education 2. List the various acts and their provisions 3. Develop awareness about environment.	6.1 Formal and non-formal education 6.2 Role of Govt. and Non-Govt. Organization 6.3 Indian constitutional provisions regarding the environment. Brief description of the following acts and their provisions: Environmental Protection Act and Prevention of Water, air and noise Pollution Act. 6.4. Concept EIA and environmental Ethics	03
Total Hrs.			16

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Prepare report on Loss of biodiversity, its conservation and also describe biodiversity hotspots.	Concept Of Biodiversity	4
2	Prepare report on use of various renewable energy sources.	Energy Resources And Consumption	4
3	Group discussion and Assignment on article collection from news papers, magazines and internet on local environmental pollution.	Pollution	4
4	Prepare report on case study of Industrial/Nuclear/any other Disaster in India.	Social Issues And Environment	4

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Earth Systems And Resources	02(00)	04(00)	02(00)	08(00)
02	Concept Of Biodiversity	04(00)	08(00)	02(00)	14(00)
03	Energy Resources And Consumption	04(00)	08(00)	04(06)	16(00)
04	Pollution	04(00)	10(04)	06(00)	20(04)
05	Social Issues And Environment	02(00)	04(00)	00(00)	16(12)
06	Environmental Education	02(00)	02(00)	02(00)	06(00)
	Total	18(00)	36(00)	16 (00)	70 (00)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			Bit 7		
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M
01 To 35	1	R	2	2	R	2	3	R	2	4	R	2	1	U	2	2	R	2	1	U	2
	3	U	2	2	A	2	1	A	2	2	U	2	3	R	2	4	U	2	2	U	2
	4	A	2	4	U	2	4	U	2	5	R	2	2	U	2	3	U	2	4	R	2
	2	U	2	3	U	2	5	R	2	4	U	2	3	U	2	5	U	2	3	A	2
	4	U	2	3	A	2	4	A	2	6	R	2	6	U	2	6	U	2	4	A	2

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3, 4,5,6
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3, 4,5,6
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Online Examination Report	1, 2, 3, 4,5,6
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	--	--	--	--
		Journal Writing		Continuous	--	--	--	--
				TOTAL	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

Nil

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	--	--	--	3	3	3	3	--	3	-	-
2	3	--	--	--	--	3	--	--	--	3	-	-
3	3	--	--	--	3	3	--	--	--	3	-	-
4	3	--	--	--	3	3	3	3	--	3	-	-
5	--	--	--	--	3	3	3	3	2	3	-	-
6	--	--	--	--	3	--	3	3	2	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Environmental studies	Oxford University Press, New Delhi. 2011	0-19-807228-2
2.	Environmental Science	Y.K. Singh, New Age International, New Delhi	8122418481, 9788122418484
3.	A Text Book Of Environmental Science	Arvind Kumar, APH Publishing, New Delhi	817648590X, 9788176485906
4.	Environmental Engg	A Kamla & D.L.Kanth Rao, Tata Mc Graw-Hill, New Delhi	0-07-451708-2
5.	A Textbook of Environmental Studies	Shashi Chawla, Tata Mc Graw-Hill, New Delhi	9781259006388

❖ **E-REFERENCES:**

1. https://en.wikipedia.org/wiki/Lists_of_nuclear_disasters_and_radioactive_incident_s, accessed on 20 January 2016
2. www.legalserviceindia.com/articles/noip.htm accessed on 18 March 2016
3. <https://prezi.com/8mnz--ldkybc/apes-unit-1-earth-systems-resources/> accessed on 23 March 2016
4. <http://www.conserve-energy-future.com/AlternativeEnergySources.php>, 18 March 2016

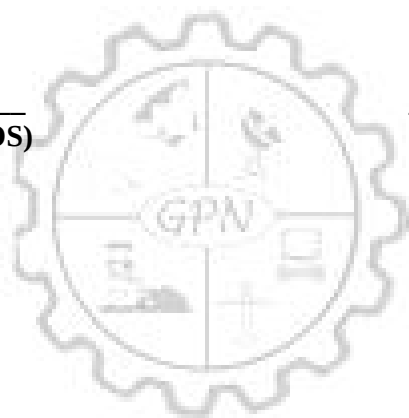
❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1	Dr. S J Patil	Head of Civil Engineering, (I Shift)	Government Polytechnic, Nagpur.
2	R N Giradkar	Head of Civil Engineering, (II Shift)	Government Polytechnic, Nagpur.
3	N. U Sulbhewar	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
4	B. R. Ambade	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
5	D. A. Khandare	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
6	Mr. M. R. Shelote	Consultant Engineer	M R Associates, Nagpur
7	Dr. R. N. Khapre	Associate Professor	Ramdeobaba College of Engineering and Management, Nagpur
8	Mr. A. J. Fulzele	Assistant Secretary (Tech.)	MSBTE, RO, Nagpur

(Member Secretary PBOS)



(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/EC/CM/IT/AE/PK/MT/TX/TR
LEVEL NAME	: GENERAL STUDIES
COURSE CODE	: RD101E
COURSE TITLE	: RURAL DEVELOPMENT
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 02 (CLOCK HRs.)
TOTAL CREDITS	: 01(1TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

India is a rural developing country. About 70 percent of the total inhabitants are living in rural area. The development of India as a whole cannot be possible without development of the rural areas. The Central and state Governments tried to develop rural area through various welfare, health, economic, and social schemes. But it is the moral duty of each urban person to think about the development of rural area.

Young students are said to be new Nation. Therefore, this subject has been introduced so that the students should aware about the rural scenario in India. They should think and work for the overall rural development as per the development indicators prescribed at International level. They should write, and work for the Rural – Urban Linkage to upgrade the rural level.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Interpret Indian development indicators with International level.
2. Use and record questionnaire for rural survey.
3. Apply engineering knowledge for rural economy.
4. Suggest suitable scheme for rural development.
5. Prepare sustainable development plan for rural development.
6. Create suitable environment in rural area for development of every individual.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Write report of Development, Indicators of development, Rank of India in various development indexes (Individual task). Report includes: • Development, Modern Concepts, Indicators of development, • Importance, Scope and Objectives of RD. • Agriculture development, Agricultural allied development, Social and Human Development. • Rank of India in Human development index, Water and Sanitation Index, Shelter index, Education to all indexes, Health and wellness index.	Overview of Rural Development	04
2	Write report related to particular village (Group of 10 students). Survey, observe and evaluate Educational issues, Occupational issues, Agricultural issues, irrigation issues, migration issues, landless issues, Water supply and sanitation issues, Health issues, Poverty issues, Nutrition issues, Unemployment issues, Economy issues, Market for agriculture products issues, in Rural Development. Report includes: • Social structure of Rural India, Educational issues, Occupational issues, Agricultural issues, irrigation issues, migration issues, landless issues, Water supply and sanitation issues, Health issues, Poverty issues, Nutrition issues, Unemployment issues, Economy issues, Market for agriculture products issues, etc	Issues of Rural Development	06
3	Write report related to particular village (Group of 10 students). Survey, observe, evaluate and propagate Rural Development programmes (Sarva Shiksha Mission, Jal Swarajya Scheme, Water shed Management, Gobar Gas Scheme, Water Harvesting, MNREGA etc.) Run by Central and State Govt, according to directive principles in Indian Constitution. Report includes: • Constitutional provisions for Rural Development, Directive Principles. • Schemes of Central and State Govt. for Rural Development. • Role of GOs and NGOs. • Empowerment –Social, Educational, Economic, Women and Human. • Private Public Partnership (PPP), its advantages and disadvantages.	Constitutional Provisions and Programs for Rural Development	06

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
4	Write report related to particular village (Group of 10 students). Survey, observe and propagate Modern Technology (Rural Housing, Non Conventional Energy, Rural Water Supply and Sanitation, Agricultural allied industries etc.) in Rural Development. Report includes: • Low cost housing. • Rural water supply and sanitation, • Water conservation and Water shed management, • Non-conventional energy. • Computer application and Management Information system, Info – literacy, Global village • Solid waste management.	Technology for Rural Development	06
5	Write report related to particular village (Group of 10 students). Survey issues and challenges in Rural Development programs and suggest Rural – Urban link for social change in rural development and Nation Building. Report includes: • Basic micro-economic theories and concepts, Growth, Income, Employment, Finance. • Rural resources – Land, Forest, Water, Human, Capital and Market. • Rural Economy - Agriculture Reforms, Rural Finance, Rural Urban linkage. • Understanding BUDGET of Central and State Govt. • Corporate Social Responsibilities. • SEZ, Advantages and disadvantages on rural development.	Economical Developments	06
6	Present a report on Rural Development experiences of the same village, challenges, opportunities, suggestions. Presentation includes: • Success stories of rural development in India, Asia and other countries.	Rural Development Success Stories	04
Total			32

Note – The students shall select any one village and perform all practical based on experiences in that village.

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	--	--	--	--
		Journal Writing		Continuous	25	10	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Writing skills, Data collection from internet, Writing references, etc.	05
2	Survey skills, Preparation of questionnaire, Gathering information through interviews, etc.	10
3	Knowledge of rural development schemes, its salient features, its role in rural development, etc.	10
4	Knowledge of modern technology, Tech terms, its need in rural area, rural development through technology, etc.	10
5	Rural urban linkage, sustainable human development, global village, etc.	05
6	Presentation and viva-voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	3	-	-	-	-	-	1	-	3	-	-
2	3	3	-	3	-	-	-	3	3	3	-	-
3	3	3	-	3	-	-	2	3	3	3	-	-
4	3	3	2	3	3	-	3	3	3	3	-	-
5	3	3	2	3	3	2	1	3	3	3	-	-
6	3	3	2	3	1	-	1	-	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Micro Enterprise & Rural Development In India,	Subrata Kumar Ray, Neha Publishers & Distributors.	9788183875752
2.	Rural Development Indian Context,	Expert Panel Of GPH, Publisher: GPH.	9789382688976
3.	Rural Development Planning And Management,	Expert Panel Of GPH, Publisher: GPH	9789382688990
4.	RURAL DEVELOPMENT, Concept and Recent Approaches, ,	A. Thomas William and A.J. Christopher, Edition – 2011.	9788131602652,
5.	Rural Development & Policies	Dr. B.D. Sharma,	9789381385418

6	Empowering Rural Development Through Panchayats.	Dr. H.K. Lal, Publisher: Neha Publishers & Distributors	9788174456250
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❖ **E-REFERENCES:**

- www.un.org/esa/agenda21/natlinfo/countr/israel/ruraldevelopment.pdf , assessed on 5th March 2016
- rural.nic.in/sites/downloads/NewReleases/Greening_RD_Report.pdf , assessed on 5th March 2016
- planningcommission.nic.in/plans/stateplan/sdr_punjab/sdrpun_ch5.pdf, assessed on 5th March 2016
- jica-ri.jica.go.jp/IFIC_and_JBICI-Studies/english/.../pdf/chapter4.pdf. assessed on 5th March 2016
- www.fao.org/3/a-ah885e.pdf, assessed on 5th March 2016
- [yojana.gov.in/CMS/\(S\(y4drc55g1m1qhnd4soqih45\)\)/pdf/.../January.pdf](http://yojana.gov.in/CMS/(S(y4drc55g1m1qhnd4soqih45))/pdf/.../January.pdf), assessed on 5th March 2016
- <https://www.youtube.com/watch?v=LXgyAfnBgWo>, assessed on 5th March 2016
- <https://www.youtube.com/watch?v=jCpEh78M4xE> assessed on 5th March 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Not Applicable

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr. S.J. Patil	Head of Civil Engineering	Government Polytechnic, Nagpur.
2.	Mr. B. R. Ambade	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
3.	Mr. T. K. Rangari	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
4.	Ms. D. A. Khandare	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
5.	M. R. Shelote	Consultant	M.R. Associates, Nagpur
6.	Dr. R. N. Khapre	Associate Professor	RCOEN, Nagpur
7.	A. J. Fulzele	Assistant Secretary (Tech)	MSBTE, RO, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

LEVEL - II

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: BASIC SCIENCE COURSES
COURSE CODE	: TR 201E
COURSE TITLE	: IT APPLICATION
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 02 TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

This course is classified as core Technology courses. The students will study the various tools like word processing, spreadsheets, presentation tools and Internet for using them in technology courses appropriately.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify the basic components of computers.
2. Perform operations using office tools.
3. Prepare documents using office tools.
4. Handle Spread sheets.
5. Prepare Presentations.
6. Use Internet and other software's.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1.Computer Fundamentals	Not Applicable	Computer Fundamentals 1.1 Overview to Computer System 1.2 Types of Computer 1.3 Hardware and Software 1.4 Types of Software 1.5 Operating System: DOS and Windows 98/2000 1.6 Application Software 1.7 Representation of Data 1.8 Components of a Computer-CPU, Memory 1.9 Input and Output Devices- Keyboard, Mouse, Monitors, Printers 1.10 Storage Devices-Types of Storage Devices, Magnetic Storage Devices, Optical Storage Devices	04
2.Operating system	Not Applicable	Operating system 2.1 Exploring the Desktop 2.2 The Start Button 2.3 Shortcuts 2.4 Perform operation using various Tools 2.5 My Computer 2.6 Windows Explorer 2.7 Copying Files 2.8 Using Send To 2.9 Creating, Renaming and Deleting Folders 2.10 Copying, Deleting, Moving and Renaming Files 2.11 Find Files and Folders 2.12 Word Pad 2.13 Opening and Saving File 2.14 Editing Document and Formatting Text 2.15 Previewing and Printing	04

		Document 2.16Recycle Bin	
3. Word Processor	Not Applicable	Word Processor 3.1 Introduction to Office Tools: 3.2 Introduction to Word Processing 3.3 Creating and Formatting a Document 3.4 Auto Text, Auto Complete and Auto Correct 3.5 Grammar and Spell Check 3.6 Changing font and Type Sizes 3.7 Inserting and Sizing a Document 3.8 Opening and Saving a Document 3.9 Printing and Previewing a Document 3.10 Finding and Replacing Text 3.11 Creating and Removing the Hyper Link 3.12 Creating Reports and Tables. 3.13 Template (Letter, Fax, Memo, Report)	08
4. Spreadsheet	Not Applicable	Spreadsheet 4.1 Introduction to Electronic Spread Sheet 4.2 Formatting a Worksheet 4.3 Inserting Data into Worksheet 4.4 Entering Formulas and Functions 4.5 Types of Charts 4.6 Creating Charts 4.7 Moving and Sizing Charts 4.8 Copying a Chart 4.9 Using Auto Fill 4.10 Splitting Windows and Freezing Panes 4.11 Using Goal Seek	06
5 Presentation	Not Applicable	Presentation 5.1 Introduction to Presentation Program 5.2 Creating a Presentation 5.3 Auto Content Wizard 5.4 Viewing and Editing a Presentation 5.5 Inserting, Moving, Hiding and Deleting Slides 5.6 Inserting Pictures and Clip Art. 5.7 Opening, Saving and Printing a Presentation 5.8 Creating and Enhancing a Table 5.9 Slide Layouts	06

		5.10 Modifying the Slide and Title master 5.11 Adding Transition and Build Effects	
6. Internet and E-mail Applications	Not Applicable	Internet and E-mail Applications 6.1 Introduction to Internet 6.2 History and Uses of Internet 6.3 Connecting to Internet 6.4 Dial Up Access and Direct Access 6.5 Domains and Addresses 6.6 DNS and IP Addresses 6.7 Using the World Wide Web 6.8 Internet Browser and Browsing the Web 6.9 Services on Internet 6.10 E-mail Services 6.11 Search Engines 6.12 Chat Services. 6.13 Google mapping	04
Total Hrs.			32

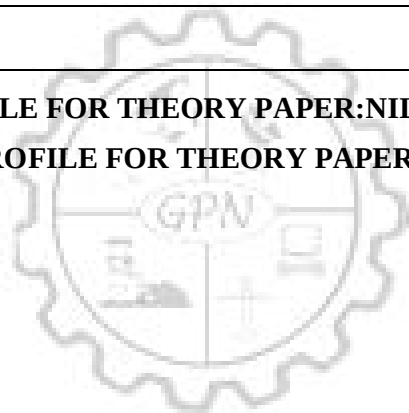
B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify the components of computer and peripheral devices	1.Computer Fundamentals	2
2.	Identify the different types of printer and their setting		2
3.	Identify different Types of Storage Devices such as Magnetic Storage Devices, Optical Storage Devices		2
4.	Create, Rename and Delete Folders	2.Operating System	2
5.	Moving folders and files from one drive to another drive.		2
6.	Create paint file by using different drawing tools.		2
7.	Create Word Pad document and saving it, Editing Document and Formatting Text.		2
8.	Create and save and Formatting a Document	3. Word Processor	2
9.	Use Auto Text, Auto Complete and Auto Correct option on existing document		2
10.	Create and Remove the Hyper Link		2
11.	Create Reports and Tables and Template(any one)		4
12.	Create and Formatting a Worksheet	4. Spreadsheet	2
13.	Inserting Data into Worksheet And Entering Formulas and Functions		4
14.	Create different types of charts		4
15.	Copy a Chart and use Auto Fill option on existing chart		2

16.	Create a simple text slide using formatting, Selecting a slide layout.	5 Power Point	2
17.	Insert Pictures and Clip Art on slides of presentation.		2
18.	Create and Enhancing a Table On Slide Layouts		4
19.	Insert auto shapes, clip-arts and form group/un group objects from slides. Apply slide transitions and slide timings and animation effect for slide show		4
20.	Perform Internet connection.	6.Internet and E-mail Applications	2
21.	Create own e-mail id, send and receive mail with attachment		2
22.	Searching information using search engine (Google, MSN, bing etc.)		4
23.	Do Internet chatting and understand the chat toolbar.		2
24.	Organize favourite websites in different browsers.		2
	Skill test		4
Total			64

❖ SPECIFICATION TABLE FOR THEORY PAPER:NIL

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:NIL



❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	40	--	Rubrics, Assessment Sheets & Project work done	1, 2, 3, 4,5,6
		Writing		Continuous	10	--	Project Report	1, 2, 3, 4,5,6
				TOTAL	50	20		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	100	40	Rubrics & Project Report and work done	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Writing steps	10
2	Performance	20
3	Knowledge	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	-	3	-	-	-	-	3	-	3	-	-
2	3	-	3	3	-	-	-	3	-	3	-	-
3	3	-	3	3	-	-	-	3	-	3	-	-
4	3	-	3	3	-	-	-	3	3	3	-	-
5	3	-	3	3	-	-	-	3	3	3	-	-
6	3	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Internet and Web Technologies	Raj Kamal, Tata McGraw Hill Inc., 2002	0070472963
2.	Window 8.1	Pert Mason - Bookboon, 2014	978-87-403-0763-4
3.	Introduction to Computers	Alexis Leon, Vikas Publishing House, 1 edition	9788182092341

❖ **E-REFERENCES:**

- [https://www.google.co.in/?gfe_rd=cr&ei=YnD_VtWnPInI8AfyiZSQBw&gws_rd=ssl#q=Pert+Mason+-+Bookboon+%2C+2014+\(windows+8.1\)+ISBN+number](https://www.google.co.in/?gfe_rd=cr&ei=YnD_VtWnPInI8AfyiZSQBw&gws_rd=ssl#q=Pert+Mason+-+Bookboon+%2C+2014+(windows+8.1)+ISBN+number), assessed on 2nd April 2016
- <https://www.open.org>, assessed on 2nd April 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Operating System
2. CPU Intel core i3/i5/i7)
3. Printer
4. Modem

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Ms.I.G.Lokhande	Lecturer in Information Technology	Government Polytechnic, Nagpur.
2.	Ms.S.N.Chaudhari	Lecturer in Computer Engg.	Government Polytechnic, Nagpur.
3.	Ms.S.S.Sayyed	Lecturer in Information Technology	Government Polytechnic, Nagpur.
4.	Prof. Manoj Jethawa	HOD, Computer Science	Shri Datta Meghe Polytechnic, Nagpur
5.	Prof. N. V. Choudhari	Asst. Professor(CSE),	DBACOE, Wanadongari, Nagpur
6.	Mr. Atul Upadhyay	COE	Vista Computers, Ramnagar, Nagpur

(Member Secretary PBO)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL & TOURISM
LEVEL NAME	: BASIC SCIENCE COURSES
COURSE CODE	: TR202E
COURSE TITLE	: DATABASE OPERATION
PREREQUISITE	: TR201E
TEACHING SCHEME	: TH: 02; TU: 00; PR: 04 (CLOCK HRS.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
THEORETICAL EXAM	: NIL
PRactical EXAM	: 02 HRS (Internal)
PT EXAM	: NIL

❖ RATIONALE:

Travel & Tourism students should know the facts, concepts, principles and procedures in information technology. This course describes the basic facts, concepts & principles for the understanding of basic elementary knowledge related to database area. It is very useful course for understanding the knowledge in the field of database processing applications. The course focuses on the fundamentals of knowledgebase and relational database management systems. Also gives basic knowledge to create web pages by using HTML tags.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Design database/tables for system.
2. Draw different model for database.
3. Identify different attributes.
4. Insert/Retrieve data to/from database.
5. Use different functions to retrieve data.
6. Design different web pages by using HTML tags.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Introduction To Database	Not Applicable	1.1 Basic concepts, 1.2 Advantages of a DBMS over file processing system, 1.3 Components of a DBMS and overall structure of a DBMS. 1.4 Data Abstraction & Data Independence. 1.5 Functions of Database Administrator 1.6 Data Models: • Network Model • Hierarchical Model • E-R Model	04
2. Relational, E-R Data Model And Integrity Specification	Not Applicable	2.1 Relational Model: Basic concepts, attributes and domains, 2.2 Keys concept: Candidate key, primary key, Super Key, Foreign Key. 2.3 E-R model, Components of E-R Model, 2.4 Types of Attributes. 2.5 Weak & Strong Entity 2.6 Integrity constraints: Domain, Entity And Referential Integrity constraints, On delete cascade.	4
3. Sql-An Overview	Not Applicable	3.1 Introduction to SQL components: DDL,DML,DCL,TCL 3.2 DDL commands: Create, Alter, Rename, Drop, Truncate 3.3 Integrity Constraints: Entity, domain & Referential 3.4 DML Commands: Insert, Update, Delete, 3.5 Clauses: Select, From, Where	06
4. Operators & Functions	Not Applicable	4.1 Arithmetic operators 4.2 Logical operators 4.3 Set operations 4.4 Aggregate functions 4.5 Clauses: Group by, Having, Order by 4.6 String functions and 4.7 Date-time functions.	06

5. Join Concept	Not Applicable	5.1 Join Concepts: Purpose, 5.2 Types of join: natural Join, Self Join, Outer Join. 5.3 Outer Join Types: Left, right & Full 5.4 Views 5.5 Sub queries, Nested sub queries 5.6 DCL Commands. 5.7 TCL Commands	4
6. Using HTML	Not Applicable	6.1.What is HTML, overview, basic HTML document? 6.2.Heading Tags, Paragraph Tag,, Line Break Tag, Centering Content, Horizontal Lines, Preserve Formatting , Non breaking Spaces. 6.3.starting tag , HTML Tag vs. Element, Nested HTML Elements 6.4.Core Attributes, The id Attribute, The title Attribute, The class Attribute, The style Attribute, The dir Attribute, The lang attribute, Generic Attributes 6.5. Form Attributes, HTML Form Controls, Text Input Controls, Single-line text input controls Attributes, Password input controls Attributes, Multiple-Line Text Input Controls, Checkbox Control, Radio Button Control, Select Box Control 6.6.Format HTML document bold, italic, font size etc. 6.7.Add HTML images, tables list, image link, text link	08
Total Hrs.			32

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Draw Network Model, Hierarchical Model & E-R Model for any database system.	Introduction To Database	4
2	Draw relational Model; identify primary key and foreign key.	Relational, E-R Data Model And Integrity Specification	4
3	Execute DDL commands in SQL.	Sql-An Overview	4
4	Use Integrity constraints in SQL.		6
5	Execute DML commands in SQL.		6
6	Use Arithmetic Operators on data.	Operators & Functions	2
7	Use Logical operators on data.		2
8	Use Set operations on data.		4
9	Use & execute Aggregate functions.		2
10	Use all six clauses on data.		2
11	Use & execute String functions.		2
12	Use & execute Date-time functions.		2
13	Use different types of join to retrieve data from two or more tables.	Join Concept	6
14	Create view on data.		2
15	Use Sub queries, Nested sub queries to retrieve data.		2
16	Execute DCL & TCL commands in SQL.		2
17	Create HTML document by using different tags, elements and attributes.	Using HTML	2
18	Format above created document using different style.		4
19	Create login form using HTML forms.		4
20	Add images, tables and text link to above created document.		2

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Nil

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Nil

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	40	--	Rubrics, Assessment Sheets & Project work done	1, 2, 3, 4,5,6
		Writing		Continuous	10	--	Project Report	1, 2, 3, 4,5,6
				TOTAL	50	20		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	100	40	Rubrics & Project Report and work done	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Designing different databases, selection of proper fields, data types, etc.	10
2	Performance	20
3	Designing queries, web pages & forms(if any)	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	-	3	-	-	-	-	3	-	3	-	-
2	3	-	3	-	-	-	-	3	-	3	-	-
3	3	-	3	-	-	-	-	3	-	3	-	-
4	3	-	3	3	-	-	-	3	3	3	-	-
5	3	-	3	3	-	-	-	3	3	3	-	-
6	3	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Database System Concepts	Abraham Silberschatz, Henry F. Korth And S. Sudarshan, Mcgrawhill Educatio, 6, 2013	9789332901384
2.	Introduction to Database Management Systems	2006 ISRD Group, Tata McGrawHill Education, 2005.	9780070591196
3.	An Introduction to Database System	Bipin Desai, West Publishing Company, 1997	13: 9780314667717
4.	HTML5 for Publishers	Sanders Kleinfeld	10/ASIN: B005ISQ7JM

5.	HTML5 for Web Designers	Jeremy Keith	10/ASIN: 0984442502
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❖ **E-REFERENCES:**

http://www.tutorialspoint.com/dbms/sql_overview.htm assessed on 28th April 2016

http://www.tutorialspoint.com/html/html_basic_tags.htm assessed on 04th April 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS/SOFTWARE WITH SPECIFICATION**

1. Personal Computer with Operating system (XP, Windows etc)
2. Open Source Database Tools (Oracle/ Mysql)

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr. S. P. Lambade	HOD, Computer Engineering	Government Polytechnic, Nagpur.
1.	Ms. S. N. Chaudhari	Lecturer in Computer Engineering	Government Polytechnic, Nagpur.
2.	Ms. I. G. Lokhande	Lecturer in Information Technology	Government Polytechnic, Nagpur.
3.	Mr. L. D. Vilhekar	Lecturer in Information Technology	Government Polytechnic, Nagpur.
4.	Prof. Manoj Jethawa	HOD Computer Science	Shri Datta Meghe Polytechnic, Nagpur
5.	Prof. N.V. Chaudhari	Asst. Professor (CSE)	DBACEO, Wanadongari, Nagpur
6	Mr. Atul Upadhyay	CEO	Vista Computers, Ram Nagar, Nagur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: BASIC SCIENCE COURSES
COURSE CODE	: TR203E
COURSE TITLE	: BASIC ACCOUNTS
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03; TU: 02; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 06 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 01 HR

❖ RATIONALE:

“Accounting is like a salt in food; no one appreciates precision & presence but notices absence and deficiency”. Accounting is a backbone of any business. Explaining principles, procedure, tools of accounting along with their advantages and limitations (if any) would be essential. It will help students to differentiate between income (revenues) and expenses, allocate the monetary transactions to respective heads of accounts and record them. It helps in taking accurate decisions. This course impart students a systematic and in-depth knowledge of writing Cash book, Preparation of operation Cost statement to cast fair / competent price for the product as well as Control or Reduce the cost for maximum profitability.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Reproduce various accounting terminology, differentiate real nominal personal transactions and understand role of vouchers and ledger.
2. Identify cash, petty cash, locate causes of differences between cash and bank balances as well as understand incomplete records.
3. Identify joint ventures franchise branch and department. Understand cost and costing methods.
4. Specify category of transactions, demonstrate vouchers and carry out ledger posting and balancing.
5. Prepare cash book, reconciliation statement and calculate profit from incomplete records.
6. Exhibit joint venture, branch and department accounts & Evaluate profit. Fix the price of tours and traveling services.

❖ **COURSE DETAILS:****A. THEORY:**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1 Double entry system of book keeping	1. Define and Describe meaning of various Accounting terminology, concepts & conventions. 2. Differentiate transactions as real, nominal and personal . 3. Describe rules of debit and credit.	1.1 Meaning, Scope (area of application), Objective, Advantages and Disadvantages, distinction between Book-Keeping and Accountancy and their systems. 1.2 Double Entry System: Principles, Application, Nature, Advantages and limitations. Classification of Income and Expenditures as a Capital, Revenue and Deferred. 1.3 Classification of transactions as Real, Nominal & Personal with rules of Debit and Credit. Meaning, Advantages & Kinds of Journal, Class Demonstration of passing Journal Entries.	06
2 Vouchers & Ledger Posting	1. Define and describe different vouchers and ledgers. 2. Differentiate transactions as real, nominal and personal & apply rules of debit and credit. 3. Draft vouchers; make head wise ledger posting and balance accounts.	2.1 Vouchers: Meaning, importance as a proof of transactions and substitutes to Journal. Kinds/types of evidential documents. Class assignments on drafting and filling vouchers. 2.2 Ledger: Meaning, Importance, heads of account and Draft/format. Rules of posting and balancing. Problems on Direct Ledger entries, balancing of Ledger	10
3 Cash Book , Petty Cash Book & Bank Reconciliation Statement	1. Define and describe various terms used in cash Book. 2. Record Cash & bank transactions with discount, contra entries and overdraft facility.	3.1 Cash Book: Meaning, Special feature of a Cash Book as a Primary Book. Classification of Cash Book as Single, Double and Triple column. Discount: Meaning, its types and treatment with	10

	3. Elaborate the importance of cash and bank in mode of payment or settlement of transactions. 4. Describe the meaning of petty cash and prepare analytical petty cash book under imprest system. 5. Locate the causes of differences between Bank and Cash book balance and reconcile them.	Distinction. Meaning and accounting treatment of Bank overdraft and contra entries. Problems on Triple column cash Book Only. 3.2 Petty Cash Book: Meaning, special feature and methods of drafting petty cash book. Meaning of House Bank, Cash Bank, Cash Float and Due Back. Imprest System of Petty Cash Book with its advantages and application. Problems on Analytical Petty Cash Book. 3.3 Bank Reconciliation Statement: Need of bank Reconciliation Statement and its usefulness. Meaning of Regular Balance and Overdraft. Preparation of Bank Reconciliation Statement.	
4 Single entry system	1. Define and Describe the Meaning & significance of single entry for small scale business. 2. Calculate profit for the year with the help of incomplete data.	4.1 Meaning, significance, application and points of distinction between single and double entry system. 4.2 Meaning and drafting of Statement of affairs and statement of profit and loss. 4.3 Problem on estimation of profit and loss with the help of statement of affairs.	06
5 Joint Ventures, Franchise, Branch and Departments	1. Define and Describe the meaning & significance of joint ventures, Franchise, branch and department for tourism industry. 2. Record specialized transactions in accounts. 3. Allocate service department cost to operating departments & calculate profit of each department.	5.1 Meaning, significance, application and points of distinction for- 5.2 Joint venture accounting. 5.3 Branch and departmental accounting with allocation of service department cost to operating department. 5.4 Franchise/Franchising. 5.5 Simple problem on Joint Venture, Allocation of departmental expenses, including departmental income statement.	08

6 Tour and Transport Costing (Operational)	1. Define and describe different types of cost and costing. 2. Illustrate significance of costing methods and select exact method to suit operation. 3. Calculate operation cost for the unit given. 4. Fix Net Takings (selling price) for specific event.	6.1 Meaning and kinds of cost. 6.2 Meaning, methods of costing and their suitability to the industrial application. 6.3 Problems on transport and tour costing only.	08
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Tutorials	Specific Learning Outcomes (Psychomotor Domain)	Unit	Hrs.
1	Classify the transaction as real, nominal, personal, capital, revenue and deferred, analyze events and apply appropriate principles.	1 Double entry system of book keeping	04
2	Prepare evidential documents (vouchers, receipts, cash/credit memos). Explain heads of account, standard format, ledger posting and Balancing. Record transaction in ledger, balance them and interpret.	2 Vouchers & Ledger Posting	06
3	Prepare cash book, compare with bank pass book and reconcile the difference. • Explain cash and bank transactions and their recording.	3 Cash Book , Petty Cash Book & Bank Reconciliation Statement	06
4	Calculate profit or loss from incomplete records. Use principles of single entry system.	4 Single entry system	04
5	Practice to handle Joint venture and department transactions. Evaluate departmental performance.	5 Joint Ventures, Franchise, Branch and Departments	06
6	Prepare operational cost sheet and fix the price/ rate for services offered by recognizing elements of cost & Allocation of Overheads in cost sheet.	6 Tour and Transport Costing (Operational)	06
Total Hours			32

Practical	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs
1	Specify the category of transaction for given events by applying appropriate principles.	1 Double entry system of book keeping	04
2	Prepare evidential documents (vouchers, receipts, cash/credit memos) in standard format, post transactions to ledger and Balance them. Interpret the balances in financial terms.	2 Vouchers & Ledger Posting	06
3	Record cash and bank transactions in Triple column cash book as well as in Petty cash book. Compare cash book with bank pass book and reconcile the difference.	3 Cash Book , Petty Cash Book & Bank Reconciliation Statement	06
4	Calculate profit or loss from incomplete records.	4 Single entry system	04
5	Record Joint venture transactions and calculate profit or loss. Evaluate Branch & departmental performance.	5 Joint Ventures, Franchise, Branch and Departments	06
6	Prepare operational cost sheet and fix the Sales price/ rate for offered services.	6 Tour and Transport Costing (Operational)	06
Total Hours			32

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Unit No.	Unit Title	Levels from cognition process			Total marks
		R	U	A	
01	Double entry system of book keeping	06 (00)	04 (04)	00 (00)	10 (04)
02	Vouchers & Ledger Posting	02 (00)	04 (02)	06 (04)	12 (06)
03	Cash Book , Petty Cash Book & Bank Reconciliation Statement	02 (00)	04 (02)	04 (06)	10 (08)
04	Single entry system	02 (00)	00 (04)	06 (00)	08 (04)
05	Joint Ventures, Franchise, Branch and Departments	04 (04)	04 (00)	06 (04)	14 (08)
06	Tour and Transport Costing (Operational)	02 (00)	08 (04)	06 (06)	16 (10)
	Total	18 (04)	24 (16)	28 (20)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Que.	Bit 1			Bit 2			Bit3			Bit 4			Bit 5			Bit 6			Option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	01	R	02	02	R	02	03	R	02	04	R	02	06	R	02	02	U	02	5/7
	03	U	02																
02	01	R	04	01	U	04	02	U	04	01	U	04	05	R	04	-	-	-	3/5
03	03	U	04	05	U	04	05	R	04	04	U	04	05	R	04	-	-	-	3/5
04	03	A	04	06	U	04	06	U	04	02	A	04	05	A	04				3/5
05	02	A	06	04	A	06	03	A	06	-	-	-	-	-	-	-	-	-	2/3
06	05	A	06	06	A	06	06	A	06	-	-	-	-	-	-	-	-	-	2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Correctness in drafting and posting	20
2	Totalling and balancing	20
3	Neatness	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1.	3	3	3	-	3	-	3	3	3	3	3	3
2.	3	3	3	-	3	-	3	3	3	3	3	3
3.	3	3	3	-	3	-	3	3	3	3	3	3
4.	3	3	3	-	3	-	3	3	3	3	3	3
5.	3	3	3	-	3	-	3	3	3	3	3	3
6.	3	3	3	-	3	-	3	3	3	3	3	3

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Cost Accounting	D.K. Mittal , Luv Mittal, Galgotia Publishing Co. 2006,	13:9788175155282
2.	Elements of Hotel Accountancy	G. S. Rawat, Dr. JMS Negi, N. Gupta, Aman Publication, New Delhi., 7 th Edition, 2011	10: 8182040639 13: 978-8182040632
3.	Financial and Cost Control Techniques in Hotel and Catering Industry	Jagmohan Negi, Metropolitan, 1987	8120002571, 9788120002579
4.	Fundamentals to Financial Analysis	Sandeep Bapat, Champion, Nagpur, 1986	-
5.	Hotel Accountancy and Financial Control	Ozi A. D'Cunha, Glesson O. D'Cuncha, The Dicky's Enterprises, Mumbai, 2004	-
6.	Modern Accountancy - Vol. I	A. Mukharjee, M. Hanif, Tata – MacGraw Hill Publishing Co. Ltd. New Delhi., 2015	13: 9780074630174

❖ **E-REFERENCES:**

1. <https://accountlearning.com/advantages-of-office-systems-and-routine/> accessed on 20 October 2017
2. <http://www.investopedia.com/terms/b/bill-of-materials.asp> accessed on 20 October 2017

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- Non – programmable commercial calculator.
- 30 cm. Ruler.
- Pen (blue or black only), pencil and eraser.

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel and Tourism	Government Polytechnic, Nagpur.
2.	Mrs. Sheetal Jagtap	Lecturer	Government Polytechnic, Thane.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: BASIC SCIENCE COURSES
COURSE CODE	: TR204E
COURSE TITLE	: PROFILE OF TOURISM INDUSTRY
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03 TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE	: 03 HRs
PR. TEE	: 02 HRs (Internal)
PT.	: 01 HR

❖ RATIONALE:

Tourism industry is the rapidly growing industry and it is one of the world's biggest business. This subject will introduce the student to all aspects of tourism industry. The student will realize that a single trip involves many others who work behind the scene. They will get familiarized with the constituents of Travel & Tourism & get Enlighten with the vast career opportunities available in this field.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify the role of infrastructure in tourism.
2. Recognize various impacts of tourism.
3. Identify motivation behind different Tourism and role of guides and escorts.
4. Prepare a short report on six A's of Destination by visiting nearest tourist place.
5. Prepare a mini Project on different type of services
6. Prepare a seminar on any topic of the curriculum.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1 : Introduction of Tourism Industry	1. State meaning of different terms related to tourism industry 2. Describe tourist, Visitor & Tourism Concept. 3. Distinguish between Domestic & International Tourism. 4. Describe A's of tourism.	1.1 Definition, Meaning & Concept of Tourism, Tour, Tourist, Visitor, Excursionist. 1.2 Importance of Tourism in Indian Economy. 1.3 Domestic & International Tourism. 1.4 Inbound & Outbound Tourism. 1.5 Six A's of Tourism. i. Attraction ii. Accessibility iii. Accommodation iv. Amenities v. Activities vi. Affordability	10
2 : History (Evolution) of Tourism	1. Describe History of Tourism 2. Describe development of Tourism in India 3. Describe present status of Tourism in India.	2.1 Growth of Tourism. 2.2 Reason of travel in Ancient and Middle period 2.3 Thomas Cook (Grand Circular Tours) in 18th Century. 2.4 Development of Tourism in India after Independence. 2.5 Present status of Tourism in India.	08
3 : Infrastructure of Tourism	1. State modes of transport 2. Describe role of transportation, Accommodation and amenities in Tourism. 3. Describe ancillary Services 4. Justify the affordability and convenience of mode of transport.	3.1 Role of Transport in Tourism Industry in India. 3.2 Mode of Transport – (Air, Land (Rail, Road), Water). 3.3 Role of Accommodation in Tourism Industry. 3.4 Ancillary Services (Travel Insurance, Guide, Escort, Forex, courier, etc.).	08
4 : Impacts of Tourism	1. State significance of tourism in the economic development of a nation. 2. State impacts of tourism	4.1 Economic-Employment generation, for ex. Multiplier effect, leakage, infrastructure development. 4.2 Social and cultural political impact- Standard of living, passport to peace, international understanding, national integration.	10

5 : Types of Tourism	1. Identify basic motivation behind different Tourism. 2. Use different types of Tourism while Tour planning.	5.1 Basic motivation for Tourism ▪ Social & Cultural ▪ Sport ▪ Business ▪ Political ▪ Religious ▪ Health 5.2 Types of Tourism ▪ Eco Tourism ▪ Agro Tourism ▪ Rural Tourism ▪ Sport Tourism ▪ Adventure Tourism ▪ Wellness Tourism ▪ Medical Tourism ▪ Cruise Tourism ▪ Business Tourism ▪ Sustainable Tourism ▪ Space Tourism	18
6.Travel Agent & Tour Operator	1. Distinguish between Travel Agent &Tour Operator. 2. Differentiate between Guide and Escort	6.1 Define, Meaning & Nature of travel agent. Role of Travel Agent and Tour Operator in Tourism Industry 6.2 Guide - Roles& Functions - Basic Qualities 6.3 Escort - Roles& Functions - Basic Qualities	10
Total Hrs.			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Collect information brochures from Govt. Tourist Offices (State tourism boards) and compile the information.	1.Introduction of Tourism Industry 5. Types of Tourism	08
2.	Draw a silk route on a given map and analyze its importance (Trading, communication)	2.History (Evolution) of Tourism	04
3.	Prepare a chart on motivation of travel with two examples of each motivation.	2.History (Evolution) of Tourism 5. Types of Tourism	06

4.	Search and enlist the important website of tourism industry components. - Airline - rail - Tour operator - Govt. tourism boards(all state) - Hotel	5. Types of Tourism	06
5	Prepare a mini Project on different type of Transport which includes- - Types of Transport - Class of travel - Merits and demerits of transportation - Current status of available transportation infrastructure. - Conclusion	3. Infrastructure of Tourism	06
6	Prepare a short report on six A's of Destination by visiting nearest tourist place.	5. Types of Tourism 6.Travel Agent and Tour Operator	06
7	Prepare a seminar on any topic of the curriculum. 	1.Introduction of Tourism Industry 2.History (Evolution) of Tourism 3. Infrastructure of Tourism 4. Impacts of Tourism 5. Types of Tourism 6.Travel Agent and Tour Operator.	06
8	Prepare and present a power point presentation on detail study of any one travel motivation.	5. Types of Tourism	06
Total Hrs.			48

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Introduction of Tourism Industry	06(04)	04(02)	00(00)	10(06)
02	History (Evolution) of Tourism	10(06)	00(00)	00(00)	10(06)
03	Infrastructure of Tourism	04(00)	04(02)	04(04)	12(06)
04	Impacts of Tourism	00(00)	08(06)	00(00)	08(06)
05	Types of Tourism	04(00)	08(04)	06(04)	18(08)
06	Travel Agent & Tour Operator	06(00)	06(08)	00(00)	12(08)
	Total	30(10)	30(22)	10(08)	70(40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	2	R	2	5	R	2	5	R	2	4	U	2	1	U	2	5/7
	3	U	2																
02	1	U	4	5	U	4	3	A	4	3	A	4	5	A	4				3/5
03	1	R	4	2	R	4	2	R	4	6	U	4	6	U	4				3/5
04	3	R	4	3	U	4	5	U	4	5	U	4	1	R	4				3/5
05	5	A	6	6	U	6	4	U	6										2/3
06	4	U	6	6	R	6	2	R	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	3	-	-	-	-	-	-	3	3	3	3
2	3	3	-	-	-	-	-	-	3	3	3	3
3	3	3	-	-	-	-	-	-	3	3	3	3
4	3	3	3	-	3	3	3	3	3	3	3	3
5	3	3	3	-	3	3	3	3	3	3	3	3
6	3	3	3	-	3	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	An Introduction to Travel and Tourism	Foster Dennis L., Mc Graw Hill, 1990	10: 0026808617 13: 9780026808613
2.	The Travel Industry	Chuck Y. Gee,, James C. Makes, Dexter J. L. Choy, Van Nostrand, Reinhold , 3 rd Edition, 1997	978-0-471-28774-2
3.	Tourism Operations and Management	Sunetra Roday, Archana Bhiwal, Vandana Joshi, Oxford University Press, 2009	0198060017, 9780198060017
4.	Tourism in new Millennium	Dr. S. P. Bansal, Abhishek Publication, Chandigarh, 2002	10: 8185733295 13: 978-8185733296
5.	Basic Tourism	Krishnan K. Kamara, Mohinder Chand, Kanishka Publication, New Delhi, 2004	10: 8173915237 13: 978-8173915239
6.	Successful Tourism Management	Premnath Seth, Sterling Publication Ltd., New Delhi, 1986	10: 8120700295 13: 978-8120700291

❖ **E-REFERENCES:**

- https://www.youtube.com/watch?v=k6_PeO-E_Cs , assessed on 07 April, 2016
- <http://psna.ru/index.php?p=turist&st=207> April, 2016
- http://www.tourism.wa.gov.au/jumpstartguide/pdf/Quickstart_five%20A%27s%20of%20TourismLOW.pdf , assessed on 07 April, 2016
- <http://www.differencebtw.com/difference-between-travel-agent-and-tour-operator/> , assessed on 08 April, 2016
- http://www.hotelresortinsider.com/news_story.php?news_id=139465&cat_id=8 , assessed on 09 April, 2016
- <http://business.mapsofindia.com/india-budget/infrastructure/tourism.html> , assessed on 09 April, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6.	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7.	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: BASIC SCIENCE COURSES
COURSE CODE	: TR205E
COURSE TITLE	: ENTREPRENEURSHIP DEVELOPMENT
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 01 HR

❖ RATIONALE:

Entrepreneurship is a talent or quality residing in human being, extracting, developing, polishing the hidden talent and performing as an entrepreneur is a task. Entrepreneurs contribute a lot in economic development of the nation. This course assists students in seeking essential qualities/traits in themselves as an entrepreneur, seeking/hunting opportunities in tourism, getting training or assistance from government or NGOs, realizing dreams through appropriate commercial organization by preparing project report. It highlights qualities, advantages and difficulties of family business.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Recognize entrepreneur, entrepreneurs, entrepreneurship & enterprise & develop Essential Entrepreneurial competencies and pursue opportunities.
2. Identify suitable commercial organization, institutional support and family business.
3. Describe Meaning, scope, essentials, preparation and presentation of project report.
4. Develop entrepreneurial competencies.
5. Execute appropriate form of commercial organization.
6. Identify & appraise Project.

❖ **COURSE DETAILS:****A. THEORY:**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1 Entrepreneur	1. Recognize entrepreneur; entrepreneurship, enterprise and business differentiation. 2. Describe Difficulties or problems for entrepreneur including Women 3. Differentiate between entrepreneur and manager.	1.1 Concept, Characteristics & Functions of an entrepreneur. 1.2 Types of entrepreneurs including Women entrepreneur. 1.3 Difficulties or problems for entrepreneur including Women entrepreneur. 1.4 Difference between entrepreneur & manager. Also in business and enterprise.	08
2 Entrepreneurship	1. Develop entrepreneurial qualities/ traits / competencies.	2.1 Role of entrepreneurship in economic development. 2.2 Meaning of entrepreneurial competency or traits. 2.3 Major entrepreneurial competencies. 2.4 Developing competencies.	08
3 Ownership Structure	1. Identify features of ideal commercial organization. 2. Describe merits and demerits of commercial organization. 3. Elaborate franchise and joint ventures.	3.1 Features of an ideal form of commercial organization 3.2 Meaning, features, Merits, Demerits / Limitations and points of Distinction - » Proprietorship[Sole trader] » Partnership » Company » Co-operative 3.3 Ownership pattern in small scale enterprises in India. 3.4 Franchises & Joint ventures [theoretical aspect only]	10
4 Institutional & Government Support	5.1 Recognize the supportive role of organizations in entrepreneurship development. 5.2 Identify policies of government about small scale industries.	4.1 Organizations which support & finance entrepreneur • National Small Industries Corp [NSIC] • Small Industries Development Organizations [SIDO] • Small Scale Industries Board [SSIB] • State Small industries	10

		{SSICS} • District industries Corporation [DIC] • Industrial Estates & SEZ • Specialized Institutions [Including Financial] • Technical Consultancy Organizations. 4.2 Entrepreneurship Development Programs {brief} 4.3 Tax Benefits /holidays for Small Scale Industry 4.4 Government Policy about Small Scale Enterprises {brief}.	
5 Managing Family Business	1. Describe the meaning, scope, problems, merits and demerits of family business.	5.1 Definition 5.2 Negative and positive Aspects. 5.3 Issues and problems in family business.	06
6 Project Identification, Selection & Financing.	1. Describe the meaning, scope, advantage of project report. 2. Elaborate elements of project report and able to prepare project report for small unit. 3. Describe the need of finance and its source.	6.1 Contents of Project Report. Formation of Project Report 6.2 List of licenses required to open and operate travel agency/house. 6.3 Need for Financial Planning. 6.4 Micro and Macro finance – meaning, scope and sources.	06
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Tutorials	Specific Learning Outcomes (Psychomotor Domain)	Unit	Hrs.
1	Perform Case Study of any one of following service organizations individually: • Eating Joint [fast food center/ restaurants/ coffee shops etc.] • Car rental service. • Souvenir shop. • Information Centre. • Guide services. • Travel Agency. • Prepare questioner for interview of the entrepreneur • Perform interview. • Present conclusion of the interview in the class individually.	1 Entrepreneur 2 Entrepreneurship 4 Institutional & Government Support 5 Managing Family Business	16
2	Prepare a Sample Business Proposal /Plan for the given task in a group. • Draw Layout of Office with list of equipment and budget. • Forecast capital requirement & plan of acquisition. • Prepare Operational cost statement and projected income statement. • Prepare hard copy of report. • Present the report (in group) using power point presentation.	3 Ownership Structure 6 Project Identification, Selection & financing.	16
Total Hours			32

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Unit No.	Unit Title	Levels from cognition process			Total marks
		R	U	A	
01	Entrepreneur	02 (00)	04 (04)	06 (00)	12 (04)
02	Entrepreneurship	06 (04)	06 (04)	00 (00)	12 (08)
03	Ownership Structure	06 (04)	00 (04)	06 (00)	12 (08)
04	Institutional & Government Support	04 (00)	08 (06)	00 (00)	12 (06)
05	Managing Family Business	02 (04)	08 (00)	00 (00)	10 (04)
06	Project Identification, Selection & Financing.	02 (00)	04 (04)	06 (06)	12 (10)
	Total	22 (12)	30 (22)	18 (06)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Que.	Bit 1			Bit 2			Bit3			Bit 4			Bit 5			Bit 6			Option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	2	R	2	5	R	2	3	R	2	6	R	2	5	R	2	5/7
	5	R	2																
02	2	R	4	3	R	4	4	R	4	2	R	4	3	R	4	-	-	-	3/5
03	1	U	4	4	U	4	4	U	4	1	U	4	2	U	4	-	-	-	3/5
04	5	U	4	5	U	4	6	U	4	3	U	4	6	U	4				3/5
05	1	A	6	3	A	6	4	U	6	-	-	-	-	-	-	-	-	-	2/3
06	6	A	6	2	U	6	6	A	6	-	-	-	-	-	-	-	-	-	2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	20
2	Report writing	20
3	Presentation	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1.	-	3	3	-	3	-	3	3	3	3	3	3
2.	-	3	3	-	3	-	3	3	3	3	3	3
3.	-	3	3	-	3	-	3	3	3	3	3	3
4.	-	3	3	--	3	--	3	3	3	3	3	3
5.	--	3	3	-	3	-	3	3	3	3	3	3
6.	-	3	3	-	3	-	3	3	3	3	3	3

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Dynamics of entrepreneurial development and management	Vasant Desai, Himalaya Publishing House, Fourth revised Edition, 2000	81-786-6059-8
2.	Entrepreneurial Development	Dr. S. S. Khanka, S. Chand & Co., Revised edition, 2012	81-219-1801-4
3.	Entrepreneurship	Rajiv Roy, Oxford University Press, Second edition, 2011	10: 0198072635 13: 978-0198072638
4.	Entrepreneurship and Small Industry (Theory and Practice)	Dr. Neeta Baporikar, Himalaya Publishing House, Second Edition, 2013	978-93-5097-602-9
5.	Entrepreneurship Development	Dr. Kailas S. Kadu, Mukesh Patil, Thakur Publication Pune, First Edition, 2013-14	978-93-82249-71-1

6.	Entrepreneurship development	Upal Sinha, Shubham enterprises Nagpur , First Edition, 1998	-
7.	Entrepreneurship Development and Management	Jose Paul N., Ajith Kumar, Himalaya Publishing House Fourth Revised edition, 2000	-
8.	Fundamentals of Entrepreneurship	G. S. Sudha, Ramesh Book Depot, Jaipur-New Delhi, First Edition, 2004-05	81-8142-120-5

❖ **E-REFERENCES:**

1. www.ediindia.org
2. www.niesbud.nic.in
3. www.skilldevelopment.gov.in
4. <https://msme.gov.in/>

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- NIL

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
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5.	Mrs. Sheetal Jagtap	Lecturer	Government Polytechnic, Thane.
6	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
7	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur
8	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.

 (Member Secretary PBOS)

 (Chairman PBOS)

LEVEL - III

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS
COURSE CODE	: TR301E
COURSE TITLE	: TOURISM IN NORTHERN STATES OF INDIA
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: 03 HRs
PR. TEE	: 02 HRs (Internal)
PT.	: 01 HR

❖ RATIONALE:

India is famous for its varieties of attractions in the terms of destinations. People around the world flock towards this enigmatic land to savour its bio-diversity. This course intends to make the students familiar with the flora and fauna, historical monuments and other places of tourist interest in North, West, and Northeastern states in India. They will also appreciate the wide variety of tourist attractions in the form of wildlife sanctuaries, Parks, hill stations, Beach resorts etc.

❖ COURSE OUTCOMES:

After completing this course students will be able to –

1. Recognize physical & political divisions To locate topography and climate of India
2. Recognize capitals of all states & union territories of India and 3 letter codes of major cities.
3. Spot the places of tourist interest from North, West and North - East India the map.
4. Use different types of maps for various purposes & locate tourist places.
5. Prepare report of tourist destination practicing learnt aspects.
6. Identify major tourist destinations of given states & assign 3 letter codes.

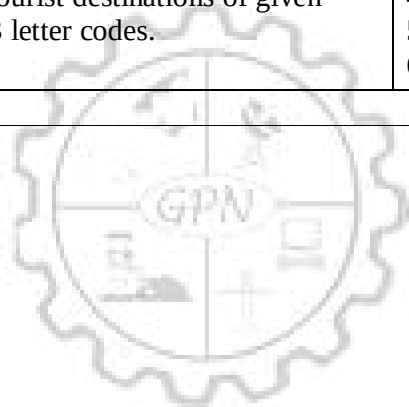
❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. India	1. Recognize and show on map physical division of India 2. Recognize and show on map political division of India	1.1 Physical division 1.2 Political division	04
2. Geographical Distribution	1. Relate the topography with tourist attractions 2. Use seasonality, climate, and weather in tourism and destinations in planning.	2.1 Topography 2.2 Climate, Weather 2.3 Seasonality in tourism and destinations	06
3. States & Capitals	1 Recognize 3 letter codes of major cities. 2 Locate the capitals of states on the map.	a. Major cities of India and 3 letter codes 3.2 Location and map of major cities of India.	06
4. North Indian States	1 Spot major tourist destinations of given states. 2 State the tourist attractions of given states.	4.1 Brief historical background 4.2 Monuments, Forts, Palaces Temple & cave architecture o Hill resort o Beach resort o Wildlife Sanctuaries, National parks Island resorts 4.6 Cultural centres / Museum and art galleries 4.7 Fairs and festivals centres, dance & music 4.8 Dress, custom, language and staple cuisine 4.9 Ports, River valley projects (States : Bihar, Haryana, Himachal Pradesh, Jammu & Kashmir, Panjab, Uttaranchal, Uttar Pradesh, West Bengal, Chandigarh,)	18
5. West Indian States	1 Identify major tourist destinations of given states. 2 State the tourist attractions of given states.	o Brief historical background o Monuments, Forts, Palaces Temple & cave architecture o Hill resort o Beach resort o Wildlife Sanctuaries, National parks Island resorts 6.1 Cultural centres / Museum and art galleries	14

		6.2 Fairs and festivals centres, dance & music 6.3 Dress, custom, language and staple cuisine 6.4 Ports, River valley projects (States : Gujrat, Haryana, Panjab, Rajasthan, Chandigarh, Dadra & Nagar Haveli, Diu & Daman.)	
6. North Eastern States	1 Identify major tourist destinations of given states. 2 State the tourist attractions of given states.	o Brief historical background o Monuments, Forts, Palaces Temple & cave architecture 6.3 Hill resort 6.4 Beach resort 6.5 Wildlife Sanctuaries, National Parks, Island resorts 6.6 Cultural centres / Museum and art galleries 6.7 Fairs and festivals centres, dance & music 6.8 Dress, custom, language and staple cuisine 6.9 Ports, River valley projects (States : Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal)	16
Total Hrs			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Use different types of maps for different purposes	1. India 3. States & Capitals	08
2	Locate the tourist places on map of India	4. North Indian States 5. West Indian States 6. North Eastern States	08
3	Prepare report of tourist destination covering maximum aspects learnt earlier.	1. India 2. Geographical Distribution 3. States & Capitals 4. North Indian States 5. West Indian States 6. North Eastern States	08
4	Identify & assign 3 letter codes to major cities.	3. States & Capitals	02
5	Identify major tourist destinations of given states & assign 3 letter codes.	4. North Indian States 5. West Indian States 6. North Eastern State	06
Total Hrs			32



❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	India	06 (04)	04 (02)	00 (00)	10 (06)
02	Geographical Distribution	04 (06)	06 (00)	00 (00)	10 (06)
03	States and Capitals	08 (04)	00 (02)	04 (00)	12 (06)
04	North Indian States	00 (00)	10 (06)	00 (00)	10 (06)
05	West Indian States	06 (04)	08 (04)	04 (04)	18 (12)
06	North Eastern states	04 (00)	00 (04)	06 (00)	10 (04)
	Total	28 (18)	28 (18)	14 (04)	70 (40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	2	R	2	2	R	2	6	R	2	6	R	2	1	U	2	5/7
	3	U	2																
02	1	R	4	1	U	4	5	U	4	3	R	4	1	R	4				3/5
03	3	R	4	3	R	4	4	U	4	6	U	4	5	R	4				3/5
04	3	A	4	5	U	4	5	A	4	5	U	4	5	A	4				3/5
05	2	U	6	5	R	6	2	R	6										2/3
06	6	A	6	4	U	6	4	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	3	3	-	-	-	3	3	3	3	3
2	-	3	3	3	-	-	-	3	3	3	3	3
3	-	3	3	3	-	-	-	3	3	3	3	3
4	-	3	3	3	-	-	-	3	3	3	3	3
5	-	3	3	3	-	-	-	3	3	3	3	3
6	-	3	3	3	-	-	-	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Insight Guides - India	Samueal Israel & Bikram Grewal	10: 0395662419 13: 978-0395662410
2.	India –Lonely Planet	Bryan Thomas & David Collins et al	10: 1743216769 13: 978-1743216767
3.	Atlas of India	Any Publication	-
4.	Cultural Tourism of India	S.P. Gupta & Krishna Lal	10: 8124602166 13: 978-8124602164

❖ **E-REFERENCES:**

Nil

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- DVD's of (All state tourism boards)
- Magazines (Travtalk, Travel bitz Monitor)
- TV Channel: TLC, Travelxp, Travel living.
- Computer Lab with Internet connection.``
- LED Projector
- Miniature of Caves ,Temples , Train, Forts and Gods Idols(Trimurti, Gautam Buddha, Mahavir)

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
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8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS
COURSE CODE	: TR302E
COURSE TITLE	: TOURISM IN SOUTHERN STATES OF INDIA
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: 03 HRs
PR. TEE	: 02 HRs (External)
PT.	: 01 HR

❖ RATIONALE:

India is a major tourist destination and offers diverse attraction. Each state in India is unique for its places of tourist interest. This course intends to make students familiar with various places of tourist interest in East & South Indian States. The course highlights special efforts made by Indian Government in the form of special trains, theme parks; promote tourism which is major foreign exchange earner.

❖ COURSE OUTCOMES:

After completing this course students will be able to –

1. Locate major tourist destinations of east, central and south Indian states on given map.
2. Illustrate Luxury Trains, Cruises, Theme parks and specialized events.
3. Identify trends in tourism.
4. Prepare & present proposal for major tourist destinations of east, central and south Indian states.
5. Prepare & present proposal for Luxury Trains, Cruises, Theme parks and specialized events.
6. Present upcoming trends in tourism.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. East Indian states	1 Identify major tourist destinations of given states. 2 State the tourist attractions of given states. 3 Locate major tourist destinations on given map	State wise study of East Indian states- West Bengal, Odisha, Andaman and Nicobar Islands 1.1 Brief historical background 1.2 Monuments, fortes, places 1.3 Temple & cave architecture 1.4 Hill resort 1.5 Beach resort 1.6 Wildlife Sanctuaries& National parks 1.7 Island resorts 1.8 Cultural centres / Museum and art galleries 1.9 Fairs and festivals centres, dance & music 1.10 Dress, custom, language and staple cuisine 1.11 Ports, River valley projects	10
2. Central Indian states	1 Identify major tourist destinations of given states. 2 State the tourist attractions of given states. 3 Locate major tourist destinations on given map	State wise study of Central Indian states- Madhya Pradesh, Chhattisgarh, Maharashtra, and Goa. 2.1 Brief historical background 2.2 Monuments, fortes, places 2.3 Temple & cave architecture 2.4 Hill resort 2.5 Beach resort 2.6 Wildlife Sanctuaries& National parks 2.7 Island resorts 2.8 Cultural centres / Museum and art galleries 2.9 Fairs and festivals centres, dance & music 2.10 Dress, custom, language and staple cuisine 2.11 Ports, River valley projects	10
3. South Indian states	1 Identify major tourist destinations of given states. 2 State the tourist attractions of given states. 3 Locate major tourist destinations on given map	State wise study of Central Indian states- Tamil Nadu, Karnataka, Kerala, Lakshadweep, Pudducherry, Andhra Pradesh, and Telangana. 3.1 Brief historical background 3.2 Monuments, fortes, places	16

		3.3 Temple & cave architecture 3.4 Hill resort 3.5 Beach resort 3.6 Wildlife Sanctuaries & National parks 3.7 Island resorts 3.8 Cultural centres / Museum and art galleries 3.9 Fairs and festivals centres, dance & music 3.10 Dress, custom, language and staple cuisine 3.11 Ports, River valley projects	
4. Tourist products of India	1 Identify other tourist product than the popular places. 2 Describe any one luxury train. 3 Describe any cruiseship	4.1 Introduction of tourist products of India. 4.2 Luxury trains for tourist, toy trains, special trains- Shatabdi, Rajdhani & Kokan railway 4.3 Indian cruise, state cruise, Libra, Houseboats 4.4 Wild life, Theme parks	10
5. Adventure sports in India	1 Identify various adventure sports in India. 2 Describe the requirements of adventure sports under study	Process and requirements of – 5.1 Land based adventures- Mountaineering, trekking, rock climbing 5.2 Aerial adventures- Paragliding, sky diving, bungee jumping 5.3 Water sports- White water rafting, angling, canoeing, kayaking	10
6. Upcoming tourism varieties & Changing trends in Tourism	1 Identify upcoming trends in tourism in India. 2 Describe Camel Safaris 3 Describe the requirements for emerging forms of tourism	Features of – 6.1 Unique Festivals - Riverside festivals- Brahmaputra Festival, Sindhu darshan Festival. 6.2 Camel safaris 6.3 Rural tourism, Medical tourism, Farm tourism etc.	8
Total Hrs			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Mark state, Capitals and tourist attractions on map of India for eastern and southern states	State wise study of South Indian states	2
2	Locate the tourist places on map	State wise study of	2
3	Prepare report of tourist destination covering maximum aspects learnt earlier.	East Indian states State wise study of	2
4	Identify major tourist destinations of given states	Central Indian	2

5	Prepare project report on any one-tourist place. (Selling tourist product)	States	2
6	Prepare a report in appropriate format after visiting nearby tourist places	State wise study of Central Indian States	2
7	Mark tourist attractions on map of Maharashtra.		2
8	Prepare a report on various places of tourist interest in Nagpur city after visiting it. • General Information (Location, climate, best time to visit), • Destination (Historical background), Importance, Type of tourism, • Conclusion		2
9	Prepare notes of important points of Guest lecture on 'changing trends in tourism'	State wise study of South Indian states State wise study of East Indian states State wise study of Central Indian States	2
10	Prepare and Submit the list of all South, East and Central Indian state tourism board websites		2
11	Prepare and present PPT on any one South and East state which include - General information (Location, Dress, Costume, language, best time to visit and cuisine) Tourist Attraction (with historical background)		2
12	Find out online information on any one South and East state wildlife sanctuaries. • General Information (Location, area, best time to visit) • Specialty reserve • Flora and fauna		2
13	Prepare an Excel sheet which cover Capital city ,best time to visit Language , Adventure sport ,tourist train ,Cuisine& monument of all South and East state		2
14	Present any one luxury train of India	Tourist product of India	2
15	Present any one adventure tourism in India	Adventure sports in India	2
16	Present any one upcoming tourism type in India	Upcoming tourism varieties & Changing trends in Tourism	2
Total Hrs.			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	East Indian states	02(04)	04(06)	06(00)	12(10)
02	Central Indian states	02(00)	04(02)	06(04)	12(06)
03	South Indian states	06(00)	08(04)	04(06)	18(10)
04	Tourist products of India	04(04)	08(02)	00(00)	12(06)
05	Adventure sports in India	02(04)	06(00)	00(00)	08(04)
06	Upcoming tourism varieties & Changing trends in Tourism	02(00)	06(04)	00(00)	08(04)
	Total	18(12)	36(18)	16(10)	70(40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	2	R	2	3	R	2	5	R	2	6	R	2	2	U	2	5/7
	4	U	2																
02	2	U	4	3	U	4	3	A	4	2	A	4	3	U	4				3/5
03	3	R	4	3	U	4	1	U	4	1	R	4	6	U	4				3/5
04	4	R	4	4	U	4	4	U	4	4	R	4	5	U	4				3/5
05	5	U	6	6	U	6	1	U	6										2/3
06	1	A	6	2	A	6	3	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	3	3	-	3	3	-	3	3	3	3	3
2	3	3	3	-	3	3	-	3	3	3	3	3
3	3	3	3	-	3	3	-	3	3	3	3	3
4	3	3	3	-	3	3	2	3	3	3	3	3
5	3	3	3	-	3	3	2	3	3	3	3	3
6	3	3	3	-	3	3	2	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	India A Travel Guide	Aruna Deshpande, Indian Publishing House, First Indian Edition, 2007	8184081758
2.	Traveller's companion to India	TTK healthcare ltd,	8170530342
3.	Incredible India	Dr. R. P. Arya, Jitendra Arya, Dr. Gayatri Arya, Anshuman Arya, Indian Map Service, 2007	-
4.	India	Samueal Israel, Bikram Grewal, APA Production, Germany, 1985	-
5.	India –Lonely Planet	Bryan Thomas & David Collins et al	10: 1743216769 13: 978-1743216767

6.	Atlas of India	Any Publication	-
7.	Cultural Tourism of India	S.P. Gupta & Krishna Lal, Indraprasthara Museum of Art and Archaeology, 2002	10: 8124602166 13: 978-8124602164

6 E-REFERENCES:

- www.incredibleindia.org.in, accessed on 28th June, 2016
- www.tourism.gov.in, accessed on 28th June, 2016
- www.asi.gov.in, accessed on 28th June, 2016

❖ LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION

- DVD's of (All state tourism boards)
- Magazines (Travtalk, Travel bitz Monitor)
- TV Channel: TLC, Travelxp, Travel living.
- Computer Lab with Internet connection.``
- LED Projector
- Miniature of Caves ,Temples , Train, Forts and Gods Idols(Trimurti, Gautam Buddha, Mahavir)

❖ LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS
COURSE CODE	: TR303E
COURSE TITLE	: CULTURAL HERITAGE OF INDIA
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04 TU: 00; PR: 00(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: NIL
PT. EXAM	: 01 HR

❖ RATIONALE:

Cultural tourism is related to a country or region's culture, particularly the lifestyle, history, art, architecture, religions and other elements that determine the way of life.

In this course students will study about cultural and heritage tourism, with particular emphasis on Indian art, architecture, fairs, cuisine etc.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Recognize heterogeneity in cultures and religions of India
2. Interpret various Gods according to iconography.
3. Differentiate Temple Architecture style of North and South Indian temples.
4. Illustrate unique architectural styles of caves in India.
5. Illustrate British Architecture & evolution of Indo British Architecture in India.
6. Illustrate Islamic Architecture & evolution of Indo Islamic Architecture in India

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Religions Of India	1. Identify different religious practices and their pilgrimage places. 2. Realize that all religions teach the same Principle 3. Name the different religious place of the various religions. 4. State the principles of various religions of India. 5. Identify the various Gods, Goddess and prophets of the different religions.	1.1 Principles, famous pilgrimage places, teachings, practices of following religions ▪ Hinduism ▪ Islam ▪ Buddhism ▪ Christianity ▪ Sikhism ▪ Jainism ▪ Zoroastrianism	12
2. Iconography Meaning & Importance	1. Describe the role of iconography in different religions 2. Definition of the different iconography 3. State the Meaning and Description of the iconography 4. Identify the various Gods according to their iconography	2.1 Definition of iconography, meaning, description of followings 2.1.1 Hindu Iconography ▪ Bramha ▪ Vishnu ▪ Shiva ▪ Saraswati 2.1.2 Buddhist Iconography ▪ Dhyni Buddhas ▪ Manushi Buddhas ▪ Gautam Buddhas ▪ Future Buddhas 2.1.3 Jain Iconography ▪ Mahavira ▪ Parshwnatha ▪ Bahubali (Gomateshwa)	12
3. Temple Architecture	1. Appreciate the Temple Architecture style in different parts of India. 2. Differentiate between the layout of North and south Indian Temple 3. State the different features of the temple. 4. Name the location of the North and South Indian temples 5. Identify the different locations of the temple.	3.1 North-West Indian Temple History, features of the temple architecture, location of the temple • Akshardham Temple- Delhi, • Khajurao, • Golden Temple • Somnath Temple 3.2 South-East Indian Temple History, features of the temple architecture, location of the temple	12

		• Madurai Temple, • Brihadeshwara - Tanjavar, • Jaggannath Temple- Puri • Tirupati Balaji Temple • Bhubaneswar - Raja Rani Temple • Konark Sun Temple 3.3 Difference between North and south Indian Temple on the basis of followings • Layout • God and goddess • Architecture • Location	
4 Cave Architecture And Painting	1. Appreciate importance of caves in tourism Industry 2. Illustrate the uniqueness of architectural styles of caves 3. Differentiate the types of caves. 4. Elaborate the significance of the caves in Indian Tourism.	4.1 Importance, Features and Evolution of caves in India • Maharashtra – Ajanta & its paintings, Ellora caves • Bhimbetka • Mamallapuram (Mahabalipuram) 4.2 Types of Caves with their examples 4.3 Significance of Caves in Indian Tourism	12
5. British Architecture	1. Describe British Architecture in India. 2. Describe the main features of British architecture 3. Appreciate importance of architecture in tourism Industry 4. Name the various British architectural sites of India 5. State the evolution of Indo British Architecture in India	5.1 British Architecture Main features, Evolution, Architectural Description, Importance and buildings. • Chatrapati Shivaji Maharaj Terminal, • Clock Tower- Mumbai, Rastrapati Bhavan, • Sansad Bhavan, • Gate way of India, • Victoria Memorial, • Goa churches	08

6. Indo Islamic Architecture	1. Describe Islamic Architecture in India 2. Describe the main features of Indo Islamic Architecture 3. Appreciate importance of architecture in tourism Industry 4. Describe Indo Islamic Architecture in India 5. Name the various Indo Islamic architectural sites of India 6. State the evolution of Indo Islamic Architecture in India	6.1 Indo Islamic Architecture Main features, Evolution, Architectural Description, Importance and monuments of all major Mughals Emperors • Taj Mahal, • Agra fort, • Red Fort, • Fatehpur sikri, • Bibi ka Maqbara, • Qutub minar, • Jama Masjid –Delhi, Humayun Tomb	08
Total Hrs.			64

❖ **LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:**

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
NIL			

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Religions of India	02,06(00)	00(04)	04(04)	12(08)
02	Iconography meaning and importance	06(00)	04(06)	04(00)	14(06)
03	Temple architecture	02(04)	06(02)	00(00)	08(06)
04	Cave architecture and Painting	02(04)	04,06 (02)	00(00)	12(06)
05	British architecture	02,02(04)	08(04)	00(00)	12(08)
06	Indo Islamic architecture	00(00)	04,04(06)	04(00)	12(06)
	Total	22(12)	36(24)	12(04)	70 (40)

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	3	R	2	4	R	2	5	R	2	5	R	2	3	U	2	5/7
	4	U	2																
02	2	U	4	2	A	4	1	A	4	1	U	4	1	A	4				3/5
03	4	U	4	5	U	4	5	U	4	5	R	4	5	U	4				3/5
04	6	U	4	6	U	4	6	A	4	3	R	4	4	R	4				3/5
05	1	R	6	2	R	6	2	U	6										
06	3	U	6	4	U	6	6	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3, 4,5,6
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3, 4,5,6
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3, 4,5,6
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	--	--	--	--
		Journal Writing		Continuous	--	--	--	--
				TOTAL	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
	NIL	

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	3	3	3	3	3	3	3	3	3	3
2	-	3	3	3	3	3	3	3	3	3	3	3
3	-	3	3	3	3	3	3	3	3	3	3	3
4	-	3	3	3	3	3	3	3	3	3	3	3
5	-	3	3	3	3	3	3	3	3	3	3	3
6	-	3	3	3	3	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Wonder that was India	A.L.Basham, Rupa and Company, Calcutta, 1996	0283354577
2.	Facts of Indian culture	Mrudula Ganguly, Gunjan Srivastava Specturm India, New Delhi, 1997	81-7930-477-9
3.	A concise History of Indian Art.	Roy C.Craven, Thames and Hudeon Ltd. London, 1976	10: 0195199448 13: 978-0195199444
4.	Cultural tourism of India	S.P.Gupta, Krishna Lal, Indraprashta Museum of Art and Archaeology, 2002	10: 8124602166 13: 978-8124602164
5.	Foundation of Indian culture	Kalika Prasad Tiwari, Pointer Publishers, Jaipur, India, 2001	10: 8171322506 13: 9788171322503

❖ **E-REFERENCES:**

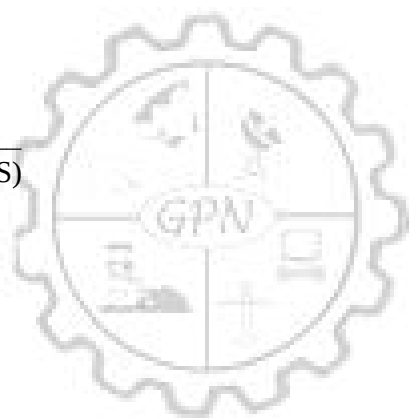
- <http://www.culturalindia.net/indian-religions/> assessed on 07 April, 2016
- <http://templenat.com/arch.html>, assessed on 07 April, 2016
- <http://www.culturalindia.net/indian-architecture/ancient-architecture/cave-architecture.html> assessed on 08 April, 2016,
- https://en.wikipedia.org/wiki/Indian_iconography, assessed on 08 April, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)



GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS
COURSE CODE	: TR304E
COURSE TITLE	: CULTURAL TRADITIONS OF INDIA
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04; TU: 00; PR: 00(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: 03 HRs
PR. TEE	: NIL
PT.	: 01 HR

❖ RATIONALE:

Culture and heritage tourism are inter-related, India has a rich culture and heritage, its music, dance arts and fairs and festivals provide a unique experience to the tourist. This course will highlight different types of Handicrafts, which are one of the tourist products. Indian Music, Dance, Fair and Festivals, Forts and Palaces attract number of tourist to India. This course will make them aware of the tourism potential of the cultural heritage that India is endowed with.

❖ COURSE OUTCOMES:

After completing this course students will be able to –

1. Differentiate between organized and calendar festivals
2. Elaborate different kind of Textile, Carving and Indian handicraft.
3. Differentiate dances of India.
4. Differentiate the Music & musical instruments of India.
5. Differentiate museums of India.
6. Illustrate the importance of forts in tourism.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1 Indian Fairs & Festivals	1. Identify various calendar and organized festivals in India 2. Differentiate between organized and calendar festivals 3. Describe celebration of various festivals 4. Justify the importance of Fair and festival in tourism.	1.1 Calendar Festivals - Makara Sankranti, Pongal, - Republic Day - Goa Carnival, Goa - Gudi Padwa or Ugadi , Maharashtra, Andhra Pradesh & Karnataka - Holi - Baisakhi, Punjab Bihu, Assam - Holi - Good Friday & Easter - Mahavir Jayanthi - Ramnavami - Budh Purnima - Rath Yatra, Orissa - Hemis Festival, Ladakh, Jammu & Kashmir - Independence Day - Janmashtami - Onam, Kerala - Ganesh Chaturthi, - Durga Puja, West Bengal - Dussehra - Diwali - Ramzan id - Id-ul-Zuha (Bakr-Id) - Navaratri - Christmas 1.2 Organized Fair - National Kite Festival, Ahmedabad, Gujarat - Elephanta Festival, Mumbai - Nehru Trophy Boat Race, Kerala - Pushkar Fair, Rajasthan 1.3 Difference between calendar and organized festivals.	16
2 Indian Handicrafts	1. Identify the places popular for handicrafts, Textiles, and Carvings. 2. Describe the different kind of Textile, Carving and Indian handicraft. 3. Justify the relevance of Textile, Carving and Indian handicraft to tourism.	2.1 Handicrafts style 2.2 Textiles and its types 2.3 Carving – stone, ivory, metal, wood	08

3 Dances of India	1. Identify various Classical and folk Dances of India with their location of origin and practice 2. Describe all dance form of India with its feature. 3. Justify the importance of Classical and folk Dances in tourism.	3.1 Classical Dances Types (History, Style, Costume, Famous Exponents) - Bharatnatyam. - Kathak. - Kathakli. - Odissi. - Manipuri - Kuchipudi 3.2 Folk dances of India Bhangra, Giddha, Bihu, Lavni, Ghoomar, Garbha, Chari, Chhau, Karagam,	16
4 Indian Music	1. State meaning of various terms related to Indian music. 2. Describe importance of music in life and tourism industry 3. Differentiate the musical instruments. 4. Identify the various exponents in Indian music. 5. Identify the various Indian musical instruments.	4.1 History and Development of Indian Music 4.2 Types of Indian Music – Hindustani & Carnatic Music 4.3 Concepts of Raga and Taal (Names of at least five Ragas) 4.4 Musical Instrument – Two exponents of each - Wind- Flute, Shehnai - String- Sitar, Vina - Percussion- Tablas, Mrudangum	06
5 Museums	1. Identify the various Indian museums with their locations. 2. Describe Characteristics and special features of museum in tourism.	Characteristics and special features of- 5.1 National Museum-Delhi 5.2 Rail Museum - Delhi 5.3 Chatrapati Shivaji vastu sangralaya (Prince of Wales) – Mumbai 5.4 Victoria Memorial Museum- Kolkatta 5.5 Salarjung Museum-Hyderabad 5.6 Textile Museum Ahmadabad	08
6 Forts and Palaces in India	1. State the importance of forts in tourism. 2. Describe the features of various Indian Forts and Palaces. 3. Justify the role of Indian Forts and Palaces in tourism.	Importance of following forts and palaces in tourism 6.1 Forts - Junagadh fort, - Chittorgarh fort - Amber fort, - Gwalior fort - Daulatabad fort - Murud -Janjira fort - Golconda fort 6.2 Palaces - Mysore Palace - Udaipur Lake Palace - Umaid Bhavan Palace - Jaipur city palace	10
Total Hrs			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
NIL			



❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Indian Fairs & Festivals	06(06)	06(00)	04(00)	16(06)
02	Indian Handicrafts	06(00)	06(02)	00(04)	12(06)
03	Dances of India	00(00)	06(06)	06(00)	12(06)
04	Indian Music	06(04)	02(02)	00(00)	08(06)
05	Museums	04(04)	08(04)	00(00)	12(08)
06	Forts and Palaces in India	02(00)	06(04)	00(04)	08(08)
	Total	24(14)	36(18)	10(08)	70(40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	4	R	2	6	R	2	6	U	2	2	U	2	1	U	2	4	U	2	5/7
	2	U	2																
02	4	R	4	5	R	4	5	U	4	6	U	4	5	U	4				3/5
03	4	U	4	5	U	4	6	U	4	4	R	4	5	R	4				3/5
04	1	A	4	1	U	4	2	U	4	2	A	4	6	A	4				3/5
05	2	R	6	3	A	6	3	U	6										2/3
06	1	R	6	3	U	6	1	R	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3, 4,5,6
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3, 4,5,6
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3, 4,5,6
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	--	--	--	--
		Journal Writing		Continuous	--	--	--	--
				TOTAL	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
NIL		

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	-	-	-	3	-	-	3	3	3	3	3
2	3	-	-	-	3	-	-	3	3	3	3	3
3	3	-	-	-	3	-	-	3	3	3	3	3
4	3	-	-	-	3	-	-	3	3	3	3	3
5	3	-	-	-	3	-	-	3	3	3	3	3
6	3	-	-	-	3	-	-	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Festivals and Holiday of India	P. Thomas, 1984, Taraporevala & Sons	9780906216835
2.	Festivals of India	1982, Dintor National Book Trust, New Delhi, India	9788171817559
3.	Indian Mythology	Veronica Lons, , Published by Littlehampton Book Services Ltd (1967)	10: 0600023699 13: 9780600023692
4.	The Splendour of Indian Dance	Mohan Khokar, 1988, Himalayan Books, New Delhi	10: 8170020026 13: 9788170020028
5.	Iconography of the Hindus, Buddhists and Jains	R. S. Gupte, Latest, D.B. Taraporevala & Sons Co. Pvt. Ltd. Mumbai	10: 0865900280 13: 9780865900288
6.	Cultural Tourism of India	S. P. Gupta & Krishna Lal, 2002, Indraprastha Museum of Art and Archaeology, New Delhi	
7.	Foundations of Indian Culture	Kalika Prasad Tiwari, 2001, Pointer Publishers, Jaipur, India	10-81-7132-250-6 8171322506

❖ **E-REFERENCES:**

- <http://www.culturalindia.net/indian-religions/> assessed on 07 April, 2016
- <http://templenat.com/arch.html>, assessed on 07 April, 2016
- <http://www.culturalindia.net/indian-architecture/ancient-architecture/cave-architecture.html> assessed on 08 April, 2016,
- https://en.wikipedia.org/wiki/Indian_iconography, assessed on 08 April, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- NIL

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

 (Member Secretary PBOS)

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GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL & TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS COURSES
COURSE CODE	: TR305E
COURSE TITLE	: KEY SKILLS FOR SELF DEVELOPMENT
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 02; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: NIL
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: NIL

❖ RATIONALE:

Over a period of time, it has been observed that efficiency of polytechnic student can be increased at the workplace by imparting key skills right from entry to the polytechnic. It is designed by keeping self in focus with a clear objective of developing Key Skills, to enhance the capabilities in the fields of searching, assimilating and using information on job.

It is an effort to develop student that enables him to be successful in finding a practical and quick solution to any problem he comes across. It covers more or less all aspects of life skills. The development of subject is progressively ascending parallel to development of study in polytechnic.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify information resources & implement them in learning skill.
2. Carry out effective customers handling through telephonic skills.
3. Execute customer orientation program by widening product knowledge & various presentation tools.
4. Draft project report using information sources.
5. Carryout mock drill customer orientation, complaint handling for effective customer satisfaction.
6. Expertise presentation tools.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Information Source	1. Identify the information resources. 2. Classify information centres. 3. List the different types of information centres.	1.1 Introduction 1.2 Types of information sources 1.2.1 Print Media 1.2.2 Documentary sources 1.2.3 Non-documentary sources 1.2.4 Non-print media 1.2.5 Electronic Media 1.3 Information Centre 1.3.1 Classification 1.3.2 Services 1.4 Procedure for Information Search 1.4.1 Steps for Information search 1.4.2 Preparation of bibliographic card 1.4.3 Preparation of index card	08
2. Learning	1. Develop learning skill	2.1 Introduction 2.2 Concept of learning 2.3 Basic model of learning 2.4 Principles of learning	04
3. Effective customer Handling	1. Deal with various types of customers 2. Deal with customer complaints 3. Exercise ethics.	3.1 Overview 3.2 Dealing with upset customers 3.3 Dealing with different complaints of customers 3.4 Calming upset customers	04
4. Telephone skills	1. Use the telephone 2. Transfer calls 3. Take messages 4. Make outgoing calls	4.1 Telemarketing 4.2 Using the telephone 4.3 Answering external calls 4.4 Good telephone techniques 4.5 Transferring calls 4.6 Taking messages 4.7 Making outgoing calls 4.8 Language and terminology 4.9 Phonetic Alphabet	04
5. Customer Service Orientation	1. Use positive language 2. Illustrate Time Sensitivity.	5.1 Developing self confidence 5.2 Product knowledge • Brochures • Destinations • Know your company • Familiar with unknown facts. • Tour booking conditions 5.3 Positive language 5.4 Time sensitivity	06
6. Presentation	1. Use different presentation tools	6.1 Presentation tools • Brochures	06

of Product		• Videotapes / CD's • Voice / Make recommendation • (USP, descriptive words, offer alternatives)	
Total Hrs.			32

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify information sources.	Information Source	04
2	Identify information centres.		04
3	Prepare a visit report on information Centre.		04
4	Prepare a small project by using any one information source.		04
5	Perform role play – handling various customers	Effective customer Handling	04
6	Perform role play – handling customer complaints		06
7	Prepare a material for product knowledge	Customer Service Orientation	08
8	Prepare a project on acquiring knowledge.	Learning Skills	14
9	Develop internet surfing skill for acquiring knowledge.		04
10	Use Phonetic Alphabet in mock telephone communication (booking through telephone)	Telephone skills	04
11	Present a tourism product	Presentation of Product	03
12	Summarise after studying various CDs available with the department		05
Total Hrs			64

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Nil

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Nil

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	40	--	Rubrics, Assessment Sheets & Project work done	1, 2, 3, 4,5,6
		Writing		Continuous	10	--	Project Report	1, 2, 3, 4,5,6
				TOTAL	50	20		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	100	40	Rubrics & Project Report and work done	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	20
2	Overall presentation of given assignment	10
3	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1		3	3	-	3	3	-	3	3	3	3	3
2		3	3	-	3	3	3	3	3	3	3	3
3		3	3	-	3	3	3	3	3	3	3	3
4		3	3	3	3	3	3	3	3	3	3	3
5		3	3	3	3	3	3	3	3	3	3	3
6		3	3	3	3	3	-	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1	Learning to Learn	Kenneth a Kiewra, Nelson F. Dubois, Aliyen & Bacon, 1998	0205263194, 9780205263196
2	Basic Managerial Skills for all	H. Megrath, Prentice Hall , 1989	978-81-203-4314-6
3	The Handbook of project management	Trevor L. Young, Kojen page, 1999	13 978 0 7494 4984 1
4	Improving individual performance	Dean R. Spitzer, Educational Technology, Pub, New Jersey, 1986,	10: 0877781974 13: 978-0877781974
5	Development of Generic Skills	S. Baalaraman, M.K. Malke, S. K. Rangari, Central Techno Publications, Nagpur, Revised Edition, 2004	81-89178-00-8
6	Managing Soft Skills for Personality Development	B. N. Ghosh, Tata McGraw Hill Education Pvt Ltd., 2012	978-0-07-107813-9 0-07-107813-4
7	Handbook on Development of Life Skills -I	MSBTE, Mumbai, 2011	

❖ **E-REFERENCES:**

1. <http://smallbusiness.chron.com/ten-steps-carrying-out-swot-analysis-15451.html> , accessed on 14th August, 2016
2. <http://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/swot-analysis/main> , accessed on 14th August, 2016
3. <http://www.helpguide.org/articles/stress/stress-management.htm>, accessed on 14th August, 2016
4. <http://jamesclear.com/motivation>, accessed on 14th August, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Ex Manager	SOTC, Pune
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8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

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GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL & TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS COURSES
COURSE CODE	: TR306E
COURSE TITLE	: Employability Skills
PREREQUISITE	: TR305E
TEACHING SCHEME	: TH: 02; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 00 HRs
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 00 HR

❖ RATIONALE:

This subject is classified under Human sciences subject. It is intended to develop the abilities of the students to work in a group, manage groups, disseminate and discuss required information in the group and manage the task in group effectively and efficiently.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Recognise group and Locate general problems in a group.
2. Recognize benefits of effective communication, listening as interpersonal skill and time management for effective leadership.
3. Recognise causes of conflict & frustration.
4. Create group, arrange group discussion under healthy environment.
5. Organise leadership development program for the groups.
6. Organise World tourism day event.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Groups	1. Create group. 2. Identify group behaviour. 3. Locate problems of group formation.	1.1 Introduction 1.2 Relevance of group 1.3 Group Formation 1.4 Group behavior and pitfalls (drawbacks) 1.5 Group Dynamics	04
2. Communication in Groups	1. Develop communication in a group	2.1 Communication 2.2 Cooperation 2.3 Collaboration 2.4 Teams and How to make them effective	06
3. Leadership and Society	1. Recognize changes in society structure	3.1 Society 3.2 Social Structure 3.3 Changing pattern in Society and their impact on interpersonal Relation	04
4. Interpersonal Skills	1. Identify conflict issues in the group 2. Strategies to resolve conflicts.	4.1 Meaning of conflict 4.2 Resolution of conflict 4.3 Sources of interpersonal conflict interpersonal conflict-Transactional Analysis, Johari window 4.4 Strategies for resolving interpersonal conflict negotiations	06
5. Frustration	Recognize Frustration and its causes	5.1 Meaning of frustration 5.2 Causes of frustration 5.3 Effects of frustration 5.4 Solutions for avoiding frustrations	04
6. Listening Skills	1. Listen to a conversation. 2. Summarize the conversation.	6.1. Taking down notes 6.2. Listening to different points of view in a group 6.3. Relating views of different persons	04
7. Time Management in Group	Prepare a time bound group project.	7.1 Time Management Skills in Group For Completion Of Project 7.2 What factors lead to time loss, How can it be avoided 7.3 Time Matrix 7.4 Urgent Vs Important jobs	04
Total Hrs.			32

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Form groups for tasks.	Groups	6
2	Communicate messages in a group.	Communication in Groups	6
3	Identify recent trends in society structure and its impact on tourism.	Leadership and Society	6
4	Perform role play on conflicts and resolving them.	Interpersonal Skills	8
5	Observe frustration in given situation.	Frustration	6
6	Arrange a group discussion.	Listening Skills	6
7	Prepare a time bound project in a group.	Time Management in Group	6
8	Organize World Tourism Day • Plan • Organize • Execute	All Chapters	20
Total Hrs			64

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Nil

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Nil

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	40	--	Rubrics, Assessment Sheets & Project work done	1, 2, 3, 4,5,6
		Writing		Continuous	10	--	Project Report	1, 2, 3, 4,5,6
				TOTAL	50	20		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	100	40	Rubrics & Project Report and work done	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	20
2	Overall presentation of given assignment	10
3	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	3	3	-	-	3	-	3	3	3	3	3
2	3	3	3	-	-	3	3	3	3	3	3	3
3	3	3	3	-	-	3	3	3	3	3	3	3
4	3	3	3	-	3	3	3	3	3	3	3	3
5	3	3	3	3	3	3	3	3	3	3	3	3
6	3	3	3	3	3	3	-	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1	Learning to Learn	Kenneth a Kiewra, Nelson F. Dubois, 1998, Aliyen & Bacon	0205263194, 9780205263196
2	Basic Managerial Skills for all	E. H. Megrath, 1989, prentice Hall	978-81-203-4314-6
3	The Handbook of project management	Trevor L. Young, 1999, Kojen page	13 978 0 7494 4984 1
4	Improving individual performance	Dean R. Spitzer, 1986, Educational Technology, Pub, New Jersey	10: 0877781974 13: 978-0877781974

❖ **E-REFERENCES:**

- <http://www.uq.edu.au/student-services/learning/stages-group-formation> ,accessed on 14th August, 2016
- <https://www.skillsyouneed.com/interpersonal-skills.html> accessed on 14th August, 2016
- <http://www.positivityblog.com/index.php/2015/06/04/overcome-frustration/>, accessed on 14th August, 2016
- <http://www.edshare.soton.ac.uk/10627/> ,accessed on 14th August, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
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4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
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(Member Secretary PBOS)

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GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ENGINEERING SCIENCES AND TECHNICAL ARTS COURSES
COURSE CODE	: TR307E
COURSE TITLE	: HOTEL OPERATION
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04; TU: 00; PR: 00 (CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: 01 Hr. (Objective Type Online Examination)
PR. TEE	: NIL
PT.	: 15 MINUTES (Objective Type offline Examination)

❖ RATIONALE:

Hotel industry is an integral part of tourism industry. One of the major constituent of tourism, hotel industry contributes a major share in tourism development. Knowing this, the industry can help promotion of tourism in the future.

Since its evolution Hotel & Catering industry has come a long way in its development & in turn in tourism development. The present day scenario of this industry throws a bright light in helping the tourism industry.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Recognize types of hotels, basic hotel facilities and terminology.
2. Recognize operating and non-operating departments in hotel.
3. Identify domestic and international chains of hotels.
4. Widen perspective on tourist accommodation in general in the hospitality industry.
5. Implement various methods of charging room rates [accommodation charges].
6. Locate challenges faced by hotel industry and plan different strategies to overcome common problems.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Hotel & Catering Industry - an Introduction:	1. Evaluate past and present scenario of hotel industry. 2. Recognize hotels by grades.	1.1 Evolution, Importance its development, growth & present day scenario. 1.2 International & National perspective, their types, salient features. 1.3 Hotel & Restaurant gradation & classification. 1.4 National & International bodies responsible for grading & norms for classification. 1.5 Types of hotels in organized sector.	12
2. Hotel organization & Administration:	1. Recognize different department in hotel. 2. Exhibit operating and non operating department. 3. Explore different plans offered by hotels.	2.1 Departments in Hotels: Operating and Non-operating, Revenue producing and non-revenue producing. 2.2 Working knowledge of four operating department: Front Office, House Keeping, Food & Beverage Production, Food & Beverage Service (operations) (Functions and organization structure of each department). 2.3 Role of non-operating department: Personnel, Purchase, Store and Finance, Engineering and security etc. 2.4 Facilities available, types of rooms, meal plans etc. 2.5 Co-ordination of House Keeping and Front office with other departments.	12
3. Hotel Chains in India & Major international chains:	1. Accustom with different categories of hotel. 2. Clarify domestic and international chains of hotels.	3.1 Categorization based on ownership 3.2 Style of operation. 3.3 Names of major national & International hotels. 3.4 Private chains – Domestic and International (MNC). 3.5 Public sector – Central Government, state govt. as well as Public private partnership (PPP) operated hotels.	12

		3.6 Present scenario.	
4. Hotel & Catering industry - Legal aspects & Infrastructure:	1. Enlighten different factors that affect the gradation. 2. Enlighten legal requirement to be fulfilled.	4.1 Provision for gradation of hotels including area, facilities etc. 4.2 Necessary factors, which affects the supply and demand. 4.3 Current trends of accommodation. 4.4 Licenses and permits 4.5 General rules and regulation (brief).	08
5. Room Charges:	1. Explore Different methods of charging and fixing room rates 2. Aware about the role of house count in hotel statistics.	5.1 Basics of room charges. 5.2 Different modes of bill settlement. 5.3 Different methods of fixing room rate. 5.4 Elements affecting room rates. 5.5 House count and Hotel statistics.	12
6. Future trends in the hospitality industry in tourism perspective:	1. Accept challenges faced by hotel industry. 2. Plan different strategies to overcome common problems.	6.1 Required strategic planning 6.2 Future challenges for the hotel for meeting the burgeoning tourism trends. 6.3 Marketing strategies 6.4 Packages Offered 6.5 Joint venture to improve service quality. 6.6 Developing innovative ideas.	08
Total Hrs.			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
NIL			

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Hotel & Catering Industry - an Introduction	04 (00)	06 (00)	02 (00)	12 (00)
02	Hotel organization & Administration	04 (00)	06 (00)	02 (00)	12 (00)
03	Hotel Chains in India & Major international chains:	04 (00)	06 (00)	02 (00)	12 (00)
04	Hotel & Catering industry - Legal aspects & Infrastructure	04 (00)	04 (00)	02 (00)	10 (00)
05	Room Charges	06 (00)	06 (00)	02 (00)	14 (00)
06	Future trends in the hospitality industry in tourism perspective:	02 (00)	06 (00)	02 (00)	10 (00)
	Total	24 (00)	34 (00)	12 (00)	70 (00)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER:

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			Bit 7		
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M
01 To 35	1	R	2	1	R	2	2	R	2	2	R	2	3	R	2	3	R	2	4	R	2
	4	R	2	5	R	2	5	R	2	5	R	2	6	R	2	1	U	2	1	U	2
	1	U	2	2	U	2	2	U	2	2	U	2	3	U	2	3	U	2	3	U	2
	4	U	2	4	U	2	5	U	2	5	U	2	5	U	2	6	U	2	6	U	2
	6	U	2	1	A	2	2	A	2	3	A	2	4	A	2	5	A	2	6	A	2

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3, 4,5,6
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3, 4,5,6
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Online Examination Report	1, 2, 3, 4,5,6
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	--	--	--	--
		Journal Writing		Continuous	--	--	--	--
				TOTAL	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
NIL		

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	-	-	-	-	-	-	3	3	3	3
2	-	3	-	-	-	-	-	-	3	3	3	3
3	-	3	-	-	-	-	-	-	3	3	3	3
4	-	3	-	-	-	-	3	-	3	3	3	3
5	-	3	-	-	-	-	3	-	3	3	3	3
6	-	3	-	-	-	-	3	-	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	An introduction to Travel & Tourism	Foster Dennis L 1994 McGraw Hill	--
2.	Economics for the Hotel & Catering industry	Rogers & Hipps Latest Bavié & Jenking London	--
3.	Front Office Management	S. K Bhatnagar 2002 / 2005 Frank Bros. & Co (publishers) Ltd.	--
4.	Hotel Management	Jagmohan Negi 2005 Himalaya Publishing House	--
5.	Hotel Planning & Design	Walter Rules / Richard Pennex / Whitney 1985 Watson Gupti publication, New York	--
6.	Introduction to Hospitality Operations	Peter Jonnes Cassel Latest London, New York	--
7.	Tourism & Hoteliering worldwide industry	J M S Negi Latest Gitanjali publishing house, New Delhi	--
8.	Tourism Development	A. K. Bhatia, Latest Sterling publisher Ltd. New Delhi	--

❖ **E-REFERENCES:**

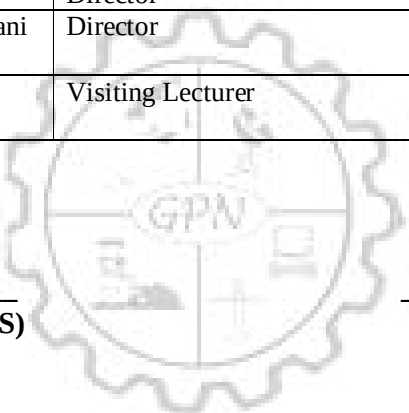
- o <https://en.wikipedia.org/wiki/Hotel> Operations
- o <https://www.youtube.com>

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- Non – programmable commercial calculator.
- 30 cm. Ruler.
- Pen (blue or black only), pencil and eraser.

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
3	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4	Mrs Lakshmi Raman	Ex HoD , Travel and Tourism	Government Polytechnic, Nagpur.
5	Mrs. Sheetal Jagtap	Lecturer	Government Polytechnic, Thane.
6	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
7	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur
8	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.



(Member Secretary PBOS)

(Chairman PBOS)

LEVEL - IV

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR401E
COURSE TITLE	: TRAVEL DOCUMENTATION ^{\$}
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

Tourism involves the movement of people across city, state & national borders. In order for international movement to occur there must be agreements among countries to ensure the rights of travelers. This course covers all the formalities a traveler is required to complete to ensure that the journey undertaken has no obstacles at the same time is not a threat to the country being visited.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify health preventive measures.
2. Enumerate documents and formalities for travel abroad
3. Identify formalities required at the Airport.
4. Prepare Passport, visa cases and health documents.
5. Orient the traveler with the formalities to travel abroad.
6. Prepare checklist for domestic and international airport formalities.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Need for Tourism Regulation	1. Describe various international agreements 2. Describe various organizations. 3. Name/list the different associations related to travel and tourism.	1.1 International agreement 1.2 Chicago, Warsaw 1.3 Freedom of Air 1.4 International Air Transport Association, Pacific Asia Transport Association, World Tourism Organisation, Federation of Hotels and Restaurants Association of India, Travel Agents Association of India	06
2. Travel Documents	1. Describe Requirements for fresh new passport 2. Describe various types of Passport 3. Identify the different types of Passport. 4. State the requirements of passport as per the situation.	2.1 Passport: Definition of passport 2.2 Passport issuing authority 2.3 Contents of a passport 2.4 Types of Indian passport 2.5 Requirements for fresh new passport 2.6 Requirements for different kinds of passport services • Tatkal • Lost passport • Change of name • Change of date or place of Birth • Change of Appearance • Emergency certificate • Miscellaneous service 2.7 Machine readable passport	08
3. VISA	1. Define visa 2. Describe requirements for Visa. 3. Describe various types of Visas. 4. Name/list types of visa 5. Illustrate the importance of special permits for restricted areas. 6. Analyse the job of travel agent in relation to visa formalities.	3.1 Definition of Visa 3.2 Visa issuing authority 3.3 Types of visas • Tourist visa • OCI (Overseas Citizen of India) • Transit visa • Entry visa, etc. 3.4 Requirement for visas 3.5 Job of travel Agent (Checking visa) 3.6 Registration formalities for foreigner's visiting India in long term visa (F.R.R.O. & F.R.O) 3.7 Special permits for restricted	08

		areas 3.8 Documentation required for visa of different countries schengen visa, Singapore, Malaysia, Australia, U. K., South Africa, UAE., USA 3.9 Visa waiver programme 3.10 POE (Protector of emigration) 3.11 Emigration and immigration	
4. Preventive Measures	1. Describe health preventive measures. 2. Describe general preventive measures 3. Suggest general preventive measures pertaining to Food/ water/ drinks/nutrition 4. Describe Vaccinations – Compulsory and Recommended	Health Preventive Measures 4.1 Health 4.2 Health preparation 4.3 Vaccinations – Compulsory and Recommended- yellow fever, Cholera, Malaria. 4.4 Health certificate. 4.5 General preventive measures 4.6 Basic rules 4.7 Food, water, drinks and nutrition	06
5. Custom, Currencies and Legal Aspects	1. Describe Customs and Currency related rules. 2. Describe various laws related to travel and tourism. 3. Suggest the procedure to carry articles made from animal while travelling abroad. 4. Suggest the procedure one should follow to carry Antiques/plant.	5.1 Duty free allowances for tourist Baggage rules • for tourist. • Imports of Indian Currency • Export of Indian Currency/Foreign currency • Restrictions on exports • Antiques/ plants • Articles made from animals etc. 5.2 Law and order regulations • Police and district officials • Laws on cheating • Laws on Antiquities • Shopping mall practices regulations 5.3 Regulation pertaining to food production	12
6. Airport formalities	1. Describe Airport formalities 2. Describe various taxes at the Airport 3. List the various in- flight services provided by Airlines 4. List various taxes applicable pertaining to air travel.	6.1 Check in formalities 6.2 Check out formalities 6.3 In flight services 6.4 Customs and Immigrations 6.5 Web Check In and self check in kiosk Taxes 6.6 Airport Taxes 6.7 Foreign travel tax 6.8 VAT etc	08

	5. State Customs and Immigration 6. Suggest the procedure for boarding an international flight.		
Total Hrs.			48

❖ **LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:**

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Prepare a chart showing various international agreements on travel and tourism.	Need for Tourism Regulation	04
2	Prepare a chart depicting various organizations.		04
3	Fill an online application form for fresh passport.	Travel document	04
4	Prepare cases of requirements for different kinds of passport services * Tatkal * Lost passport * Change of name * Change of date or place of Birth * Change of Appearance * Emergency certificate * Miscellaneous service		04
5	Perform mock drill for the orientation of traveler going to foreign tour		02
6	Prepare checklist of Documentation required for visa of different countries schengen visa, Singapore, Malaysia, Australia, U. K., South Africa	VISA	04
7	Prepare a format describing health preventive measures.	Preventive Measures	04
8	Prepare a format describing general preventive measures		04
9	Prepare a chart describing formalities required at the Airport.	Airport formalities	02
Total Hrs			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Need for Tourism Regulation	04(00)	06(06)	00(00)	10(06)
02	Travel document	04(04)	04(00)	04(04)	12(08)
03	VISA	02(00)	08(04)	02(02)	12(06)
04	Preventive measures	00(00)	04(04)	04(00)	08(04)
05	Custom, Currencies and Legal Aspects	06(06)	06(04)	04(02)	16(12)
06	Airport formalities	04(00)	04(00)	04(04)	12(04)
	Total	20(10)	32(18)	18(12)	70(40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	3	R	2	3	U	2	6	R	2	6	R	2	3	A	2	3	A	2	5/7
	5	A	2																
02	1	R	4	2	R	4	2	U	4	2	R	4	3	U	4				3/5
03	4	U	4	6	U	4	2	A	4	4	U	4	5	U	4				3/5
04	4	A	4	5	A	4	6	A	4	2	A	4	6	A	4				3/5
05	5	R	6	1	U	6	5	R	6										2/3
06	3	U	6	5	U	6	1	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	3	-	-	-	3	3	3	3	3	3
2	-	3	3	-	-	-	3	3	3	3	3	3
3	-	3	3	-	-	-	3	3	3	3	3	3
4	-	3	3	-	-	1	3	3	3	3	3	3
5	-	3	3	-	-	-	3	3	3	3	3	3
6	-	3	3	-	-	-	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Sales and Marketing for Travel and Tourism	P. G. Davidhoff , Doris S Davidhoff Pearson; 2nd Edition, 1994	13: 978-0137865185 10: 013786518X
2.	A Practical Guide to Selling Travel	Gerald P Jung, Prentice-Hall , 1992	10: 0136897045 13: 9780136897040
3.	Tourism Operations and Management	Sunetra Roday, Archana Biwal, Vandana Joshi, Oxford Higher Education,	13: 978-0-19-806001-7 10: 0-19-806001-7

❖ **E-REFERENCES:**

- http://www.vfsglobal.com/spain/india/tourist_faq.html , accessed on 26th August, 2016
- <http://www.vfs-france.co.in/> , accessed on 26th August, 2016
- <http://www.vfsglobal.com/singapore/uae/> , accessed on 26th August, 2016

- <http://www.vfsglobal.com/malaysia/india/> , accessed on 26th August, 2016
- <http://www.vfsglobal.com/australia/india/> , accessed on 26th August, 2016
- <http://www.vfsglobal.co.uk/india/> , accessed on 26th August, 2016
- <http://www.dubaivisa.net/> , accessed on 26th August, 2016
- <http://www.ustraveldocs.com/in/in-steps.asp> , accessed on 26th August, 2016
- <http://www.vfsglobal.com/southafrica/india/> , accessed on 26th August, 2016
- <http://www.mea.gov.in/cpv.htm> , accessed on 26th August, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR402E
COURSE TITLE	: TRAVEL AGENCY OPERATIONS ^{\$}
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

In general not all the travelers / tourists are able to plan and organise their journey and need the help of travel agents. The suppliers of tourism services also depend on these intermediaries for marketing their services. This course will highlight the procedure for setting up a travel agency. The business of operating a professional & efficient travel agency requires a good mix of qualifications & skills.

This course focuses on the managerial skills & application of various concepts and functions of management in this business.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify the travel agent, tour operator and qualities of travel personnel.
2. Identify overall as well as departmental functioning of travel agency.
3. Compile booking procedures, vouchers and liaison with various agencies.
4. Collect data of various travel agencies, Indian Railways.
5. Draft various forms and documents to facilitate tourist details.
6. Execute mock travel agency.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. The Travel agent	1. Distinguish between Travel Agent and Tour Operator. 2. Identify the qualities of travel personnel. 3. Describe the types of Travel Agencies.	1.1 Meaning of Travel agent, travel consultant & tour operator 1.2 Meaning and definition of travel agency 1.3 Qualities of a travel personnel 1.4 Types of travel agency. • Retail travel agency • Wholesale travel agency • Corporate travel agency • Implant travel agency	6
2. Functions & services of a travel agency	1. Identify the functions of a Travel Agency. 2. Describe the functions of a Travel Agency.	2.1 Product knowledge 2.2 Planning of itinerary 2.3 Tour costing and booking 2.4 Reservations of domestic and international airlines 2.5 Hotel booking 2.6 Railway reservations 2.7 Cruise booking 2.8 Car rentals, coaches 2.9 Passport, Visa processing 2.10 Travel insurance 2.11 Foreign exchange 2.12 Settlement of accounts. 2.13 Planning and Handling special events	9
3. Departments of Travel agency and its functioning	1. Identify the departments of Travel Agency. 2. Describe the functioning of various departments of Travel Agency. 3. Differentiate between Sales and Marketing 4. Suggest the departments that must be included while starting an outbound Travel Agency.	3.1 Documentation section (Passport, Visa, Insurance, Foreign exchange) 3.2 Reservation section- Air Ticketing, Hotel, Car Rental 3.3 Packages – Domestic and International 3.4 Sales and Marketing 3.5 Accounts	8
4. Booking Procedures	1. Describe booking procedures of various services. 2. Describe various	4.1 Airline booking 4.2 Hotel reservation (booking a hotel room and cancellation) 4.3 Railway reservation (Reservation and	12

	conditions, schedule and policy while selling travel product. 3. State the procedure of hotel reservation. 4. Prepare various forms regarding reservation/bookings.	cancellation) 4.4 Tour reservations • Reservation procedures • Tour booking conditions included and excluded tour features • Deposit and payment schedule • Cancellation and refund policy	
5. Travel Vouchers And Sources of Income	1. Describe travel vouchers. 2. Describe the procedure of issuing the travel vouchers. 3. Describe various sources of income available for a travel agent. 4. List the different sources of income of a travel agent. 5. Prepare a voucher on the basis of given information	5.1 Travel Vouchers Sources of Income 5.2 Commission 5.3 Incentives 5.4 Service charges 5.5 Mark Up 5.6 Representation Fee	6
6. Setting up a travel agency	1. Describe the infrastructure and financial requirements for setting up a travel agency. 2. Identify the linkages with other segments of the industry 3. List the approvals required by a travel agency/List the approving authorities for travel agencies.	6.1 Infrastructure and financial requirements 6.2 Approvals by concerned organizations • IATA • DOT 6.3 Linkages with other segments of the industry • Hotels • Airlines • Cruise • Car rentals • Destination Management Companies	6
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Collect the details of five travel agencies and mention their specializations.	The Travel agent	02
2	Brief different types of package tours.	Tour Packages	02
3	Prepare a chart showing functions of a travel agency.	Functions and Services of a travel agency	02
4	Prepare a report on a Travel Agency visit.	Departments of Travel agency and its functioning	04
5	Prepare Hotel reservation form.	Booking Procedures	02
6	Prepare various types of vouchers.	Travel Vouchers And Sources of Income	02
7	Fill various booking formats.	Booking Procedures	
8	Present any one booking procedure.		02
9	Book and cancel Railway tickets.		02
10	Prepare a Case study of one travel agency. (History of the agency, type of management, various departments, and services provided, etc.)	Setting up a travel agency	04
11	Setup a mock travel agency.		08
Total Hrs			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	The Travel agent	04(02)	06(04)	00(00)	10(06)
02	Functions & services of a travel agency	04(00)	10(08)	00(00)	14(08)
03	Departments of Travel agency and its functioning	02(00)	10(06)	00(00)	12(06)
04	Booking Procedures	06(00)	06(04)	04(04)	16(08)
05	Travel Vouchers And Sources of Income	00(06)	04(00)	04(00)	08(06)
06	Setting up a travel agency	04(00)	00(00)	06(06)	10(06)
	Total	20(08)	36(22)	14 (10)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	1	R	2	3	R	2	3	U	2	4	U	2	1	R	2	5/7
	3	U	2																
02	2	R	4	6	R	4	2	U	4	1	U	4	2	U	4				3/5
03	3	U	4	3	U	4	4	U	4	2	U	4	3	U	4				3/5
04	5	U	4	4	A	4	5	A	4	4	U	4	4	A	4				3/5
05	4	R	6	1	U	6	5	R	6										2/3
06	2	U	6	6	A	6	6	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	3	-	-	-	-	3	3	3	3	3
2	-	3	3	-	-	-	-	3	3	3	3	3
3	-	3	3	-	-	-	-	3	3	3	3	3
4	-	3	3	-	-	-	2	3	3	3	3	3
5	-	3	3	-	-	-	2	3	3	3	3	3
6	-	3	3	-	-	-	2	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Travel Agency and Tour Operation Concepts & Principles	Jagmohan Negi, Kanishka Publishers, Distributors, Second Edition, 2008	81-7391-171-1
2.	Tourism Operations and Management	Sunetra Roday, Archana Biwal, Vandana Joshi, Oxford Higher Education, 2009	13: 978-0-19-806001-7 10: 0-19-806001-7
3.	International Tourism Fundamentals and Practices	A. K. Bhatia, Sterling Publishers Private Ltd., 1991	81 207 1520 9

❖ **E-REFERENCES:**

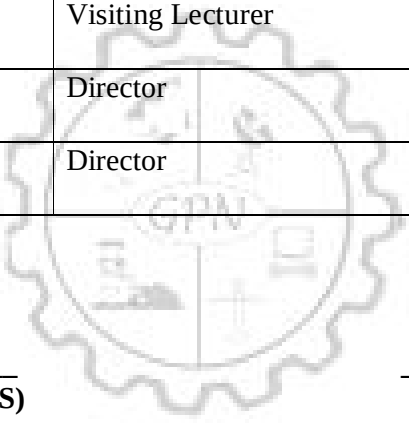
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- www.thomascook.in , accessed on 11th August, 2016
- www.coxandkings.com , accessed on 11th August, 2016
- www.ezeego1.co.in , accessed on 11th August, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur



 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR403E
COURSE TITLE	: TOUR OPERATIONS ^s
PREREQUISITE	: TR402E
TEACHING SCHEME	: TH: 03; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

To help students become professional travel consultants and to develop an insight to the various types of tours, emphasis on special package tours that are increasingly in demand benefit both the clients and the operators. This course explores the important strategies of tours and key information to manage tour programmes. This course also highlights planning of tour itineraries and preparation of tour brochures.

It also focuses on the managerial skills and application of various concepts and functions of management in this business.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Categories types of tours and tour operators.
2. Interpret various types of tour packages.
3. Classify brochures.
4. Design Itinerary.
5. Generate various checklists and briefing for guides and escorts.
6. Design a tour brochure.

❖ **COURSE DETAILS:****a. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Definition, History & Types of tours	1. Define tour. 2. Identify types of tours 3. Describe types of tours 4. Describe the terms FIT and GIT	1.1 Definition of Tour 1.2 History of Tour 1.3 Types of Tours 1.4 Custom – Designed 1.5 Independent, Hosted, escorted Common interest tours 1.6 Terms – FIT & GIT	6
2. The Tour Operator	1. Define Tour Operator. 2. Identify the types of tour operator. 3. Describe various types of tour operators.	2.1 Meaning and definition 2.2 Types of tour operator a) (i) Inbound tour operator (ii) Outbound tour operator (iv) Domestic tour operator (v) Ground tour operator. b) On the basis of their work (i) mass market tour operator (ii) Specialist tour operator – Inclusive tour for particular destination. – Inclusive tour for specific generating area. – Inclusive tour for specific transport. – Inclusive tour for special interest (Sports, Safari, cruising, business etc.)	6
3. Itineraries	1. Define Itinerary. 2. State the constituents of an Itinerary. 3. Prepare route maps for itineraries. 4. Prepare Itinerary of varying duration and interests 5. Costing of Itinerary.	3.1 Definition of itinerary. 3.2 Planning of Itineraries – Preference, duration, Budget, mode of transport, route map etc. 3.3 Reservations – Hotel/airline/train – Transport – cars, coaches – Cruises. 3.4 Costing of itineraries 3.5 Special interest itineraries	12
4. Managing Tour Operation	1. Prepare a travel voucher. 2. Describe the procedure of issuing vouchers. 3. Describe the preparation required for arrival and receiving of guests 4. Describe the steps to be	4.1 Preparing travel Voucher 4.2 Issuing travel vouchers 4.3 Advantages 4.4 Briefing Escorts and Guides 4.5 Preparing various checklists 4.6 Preparations required for arrival and receiving of guests 4.7 Lost or Damaged Baggage 4.8 Arrival and Departure assistance	12

	taken in case of various situations (Lost or Damaged Baggage) 5. Prepare briefing for Escorts and Guides. 6. Prepare various checklists.	4.9 Locating Missing passengers and handling emergency situations	
5. Tour Packages and Selling tours	1. Define Package Tour. 2. Identify the Components of a tour package 3. Describe various types of tour packages. 4. Describe advantages and disadvantages of tour packages. 5. Describe basic selling techniques. 6. Describe advantages and disadvantages of selling techniques. 7. Compare various selling techniques	5.1 Meaning / definition of package tour 5.2 Destination package tours • Single country tour • Area tour • Two city tour • Single city tour 5.3 Special interest packages tours cultural, rail tour, adventure, sports, incentive convention, charter tour 5.4 Components of a tour package • Travel arrangements • Ground arrangements 5.5 Types of tour packages • Independent • Inclusive • Escorted • Business 5.6 Advantages and disadvantages of tour packages. 5.7 Basic selling techniques 5.8 Advantages and disadvantages.	6
6. Tour Brochures	1. Identify types of brochures. 2. Describe key aspects and checklist for brochure. 3. Design a tour brochure.	6.1 Definition 6.2 Types of brochures 6.3 Key aspects & checklist 6.4 Tour Brochures Designing 6.5 Pricing	6
Total Hrs.			48

❖ LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Prepare route maps for itineraries.	Itineraries	04
2	Prepare Itinerary – different duration, circuits and interests		04
3	Estimate Costing of Itinerary		04
4	Prepare a travel voucher.	Managing Tour Operation	04
5	Prepare briefing for Escorts and Guides.		04
6	Prepare various checklists		04
7	Collect and display various types of brochures	Tour Brochures	04
8	Design a tour brochure		04
Total Hrs			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Definition, History & Types of Tours	06(06)	04(00)	00(00)	10 (06)
02	The Tour Operator	04(02)	06(04)	00(00)	10 (06)
03	Itineraries	02(00)	06(04)	04(04)	12 (08)
04	Managing Tour Operation	02(00)	04(04)	08(04)	14 (08)
05	Tour Packages & Selling Tours	04(00)	06(08)	04(00)	14 (08)
06	Tour Brochures	00(00)	10(04)	00(00)	10 (04)
	Total	18(08)	36(24)	16 (08)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	5	R	2	5	R	2	4	R	2	3	R	2	6	U	2	5	U	2	5/7
	2	R	2																
02	1	U	4	2	R	4	6	U	4	2	U	4	3	U	4				3/5
03	4	U	4	4	A	4	4	A	4	4	A	4	4	U	4				3/5
04	6	U	4	5	A	4	3	A	4	3	A	4	6	U	4				3/5
05	3	U	6	5	U	6	5	U	6										2/3
06	1	R	6	2	U	6	1	R	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	3	3	-	-	-	-	3	3	3	3	3
2	3	3	3	-	-	-	-	3	3	3	3	3
3	3	3	3	-	-	-	-	3	3	3	3	3
4	3	3	3	-	-	-	-	3	3	3	3	3
5	3	3	3	-	-	2	2	3	3	3	3	3
6	3	3	3	-	-	2	2	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Travel Agency and Tour Operation Concepts & Principles	Jagmohan Negi, Kanishka Publishers, Distributors, Second Edition, 2008	81-7391-171-1
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3.	International Tourism Fundamentals and Practices	A. K. Bhatia, Sterling Publishers Private Ltd., 1991	81 207 1520 9

❖ **E-REFERENCES:**

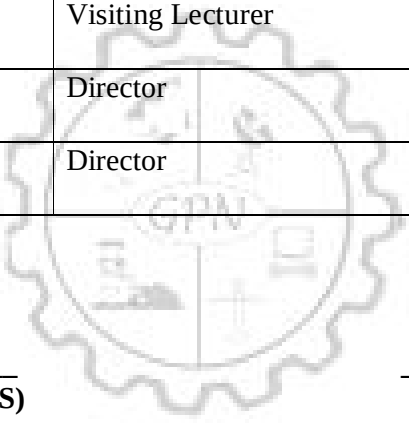
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- ❖ www.thomascook.in , accessed on 11th August, 2016
- ❖ www.coxandkings.com , accessed on 11th August, 2016
- ❖ www.ezeego1.co.in , accessed on 11th August, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

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3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
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GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR404E
COURSE TITLE	: MARKETING AND SALES TECHNIQUES
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

Marketing is a backbone of any business. Understanding principles, procedure, tools of marketing along with their advantages and limitations (if any) would be essential part of education. It will help students to differentiate Market and Marketing, locate Market segmentation and impact of consumer behavior on buying process for consumer satisfaction and retention. This course imparts systematic and in-depth knowledge of Market Research, Statistical and analytical methods to help students in appropriate and timely decisions. It also helps in Forecasting demand and carries out selling process by executing different strategies.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Follow Characteristics of service marketing segmentation and correlate buyer's behavior with buying process.
2. Report marketing research and elaborate product and pricing strategies.
3. Elaborate promotion and distribution strategies and forecast sale.
4. Locate Market segmentation. Predict consumer behavior and its impact on buying process.
5. Carry out different strategies about Product, Pricing, Distribution & Promotion.
6. Execute essential steps for sales forecasting & carry out analytical techniques for decision making.

❖ **COURSE DETAILS:****A. THEORY:**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Concept of marketing	2. Identify functions, concepts of marketing and approaches. 3. Differentiate between Marketing and selling 4. List characteristics and elements of service marketing	1.1 Definitions, Scope, concepts, Functions of Marketing. Approaches to study marketing. Difference between marketing and selling. 1.2 Characteristics & elements of service marketing mix • Product/service mix. • Price mix. • Promotion mix. • Place/distribution mix. • People. • Physical Evidence & presentation. • Process.	08
2. Market segmentation & Consumer Behaviour	1. Interpret approaches and benefits of segmentation. 2. Locate segments. 3. Elaborate tourist behaviour and its impact on buying.	2.1 Meaning, approaches, variables of segment & segmentation. Benefits of segmentation. 2.2 Types of segmentation. • Geographic. • Demographic. • Psychographic. • Behavioral. • Price. 2.3 Understanding behaviour of tourism user. 2.4 Buyer's characteristics affecting consumer behaviour. 2.5 Target marketing. 2.6 Customer satisfaction & retention.	12
3. Marketing Research	1. Recognize concept, functions & benefits of marketing research. 2. State characteristics of data and its types.	3.1 Meaning, benefits & Types of research. Relationship between marketing and market research. 3.2 Data Collection: meaning & types.	08
4. Product and Pricing Strategy	1. Describe components of product and product development process. 2. Identify pricing objectives. 3. Elaborate product and pricing strategies. 4. Illustrate role of PLC on product development and pricing strategy.	4.1 Product strategy – Component of Tourism products, Product life cycle [PLC]. New product development process, Modification of the product, launching of a new Product. Formation of product mix. 4.2 Pricing Strategy - Pricing objectives, pricing strategies during different product life stages, pricing methods with merits and demerits (suitability).	10

5 Distribution and Promotional Strategy	1. Identify components of distribution channels. 2. Describe importance of promotion. 3. Elaborate promotion and Distribution strategies. 4. Predict impact of PLC on promotion budget.	5.1 Distribution Strategy- Distribution policy, Chain of distribution, Distribution system & Importance. Components & tasks of E-marketing and Web marketing. Benefits of web marketing to the seller, consumer & market. Limitations and problems of web marketing. 5.2 Promotional Strategy- Promotion as a communication, Steps in development of effective communication, Types of promotion with merits and demerits. Formation of Promotion Mix. Roll of budget in promotion.	12
6 Sales forecasting & Selling process	1. Interpret sales forecasting, steps and factors involved. 2. Recognize steps in selling process.	6.1 Meaning, objectives and importance of sales forecasting. Factors influencing sales forecasting and limitations. Various methods of sales forecasting. 6.2 Simple problems on measures of central tendencies. Interpolation and extrapolation. Time series analysis. CVP analysis [Break even analysis]. 6.3 Steps in selling process – Prospecting to follow-up.	14
Total Hrs.			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Unit	Hrs.
1	Identify market, marketing and marketing mix. Identify Market segmentation and target marketing. Predict consumer behavior and its impact on buying process. Illustrate Market behavior and its impact on sales and selling process.	1. Concept of marketing 2. Market segmentation & Consumer Behaviour	06
2	Frame and Apply different strategies. a. Product strategies. b. Pricing Strategies.	4 Product and Pricing Strategy	06
3	Interpret Promotional activities and Locate channels of distribution a. Distribution Strategies. b. Promotional Strategies.	5 Distribution and Promotional Strategy	06
4	Carry out analytical techniques and take appropriate decisions with the help of statistical methods. a. Techniques of sales forecasting. b. Measures of central tendencies. c. Interpolation and extrapolation. d. Time series analysis. e. CVP analysis [Break even analysis].	3. Marketing Research 6 Sales forecasting & Selling process	14
Total Hrs.			32

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Unit No.	Unit Title	Levels from cognition process			Total marks
		R	U	A	
01	Concept of marketing	02(04)	06(00)	00(00)	08(04)
02	Market segmentation & Consumer Behaviour	04(04)	08(06)	00(00)	12(10)
03	Marketing Research	02(04)	08(00)	00(00)	10(04)
04	Product and Pricing Strategy	06(04)	06(04)	00(00)	12(08)
05	Distribution and Promotional Strategy	06(02)	06(04)	00(00)	12(06)
06	Sales forecasting & Selling process	04(02)	06(00)	06(06)	16(08)
Total		24(20)	40(14)	06(06)	70(40)

R – Remember

U – Understand

A – Analyze / Apply

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Que.	Bit 1			Bit 2			Bit3			Bit 4			Bit 5			Bit 6			Option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	3	R	2	4	R	2	5	R	2	5	U	2	5	R	2	5/7
	6	R	2																
02	2	R	4	2	U	4	2	U	4	1	R	4	2	R	4				3/5
03	3	U	4	3	U	4	4	R	4	3	R	4	4	U	4				3/5
04	5	R	4	6	R	4	5	U	4	4	R	4	5	U	4				3/5
05	1	U	6	4	U	6	2	U	6										2/3
06	6	U	6	6	A	6	6	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	20
2	Report writing	10
3	Viva-Voc	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1.	-	3	3	-	3	3	3	3	3	3	3	3
2.	-	3	3	-	3	3	3	3	3	3	3	3
3.	-	3	3	-	3	3	3	3	3	3	3	3
4.	-	3	3	-	3	3	3	3	3	3	3	3
5.	-	3	3	-	3	3	3	3	3	3	3	3
6.	-	3	3	-	3	3	3	3	3	3	3	3

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	A framework for Marketing Management	Philip Kotler, Pearson Education Asia, 2002	
2.	Marketing Management (Concepts and Cases)	S. A. Sherlekar, R. Krishnamoorthy, Dr. K.S. Bose, Dr. K.V.V. Murali Someswara Rao, Himalaya Publishing House, 2015	978-93-5202-857-3
3.	Marketing of Hospitality and Tourism Services	Prasanna Kumar, McGraw Hill Education, 2017	10: 0070670579 13: 978-0070670570
4.	Marketing Research	Suja R. Nair, Himalaya Publishing House, Second Edition, 2017	978-93-5142-776-6
5.	Research Methodology and Statistical Techniques	Santosh Gupta, Deep and Deep Publications Pvt. Ltd. New Delhi, 2010	ASIN: B0096N4WWY
6.	Service Marketing Concept and Cases	M. K. Rampal, S. L. Gupta, Galgotia Publishing Company, 2006	9788185989563

7.	Tourism Marketing	Manjula Chaudhari , Oxford Higher Education [Press], First 2010	9780198066309
8.	Tourism Marketing	Ravindra Verma, Centrum Press New Delhi, First Edition, 2010	10: 9380540051 13: 978-9380540054

❖ **E-REFERENCES:**

- [https://www.slideshare.net/artistramakrishna/ugc-nettourismch-06-tourism-marketing:](https://www.slideshare.net/artistramakrishna/ugc-nettourismch-06-tourism-marketing) , accessed on 20th October, 2017.
- <https://opentextbc.ca/introtourism/chapter/chapter-8-services-marketing/> , accessed on 20th October, 2017
- <http://www.smartinsights.com/digital-marketing-strategy/customer-segmentation-targeting/segmentation-targeting-and-positioning/> , accessed on 20th October, 2017
- <https://accountlearning.com/?s=consumer+behaviour> , accessed on 20th October, 2017
- <http://www.tourismcouncilwa.com.au/tourism-distribution> , accessed on 20th October, 2017

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- NIL

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel and Tourism	Government Polytechnic, Nagpur.
5.	Mrs. Sheetal Jagtap	Lecturer	Government Polytechnic, Thane.
6	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
7	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur
8	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR405E
COURSE TITLE	: INTERNATIONAL TRAVEL GEOGRAPHY
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 1PR CREDIT = 2CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 01 HR

❖ RATIONALE:

Travel professionals use Travel geography every day. It comprises a survey of the countries of the world from a tourism perspective. It focuses on the political and physical aspect of the world geography. For this, knowledge of the location of countries & region wise division is essential. In this course the students will acquire the basic knowledge required to provide timely & accurate service to the customers.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify the importance and types of geographies and study of maps.
2. Identify world Time Zones and climate zones.
3. Identify Political and Physical divisions of the world.
4. Read and analyze various maps.
5. Locate various places of tourist importance on a map.
6. Calculate Travel time and Flying Times.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Introduction to Travel Geography	1. State the importance of geography to a travel agent 2. Locate the important longitudes and latitudes on the map.	1.1. Importance of Geography in tourism, 1.2. Concept and types of Geography 1.3. Earth as a planet and movements of earth 1.4. Longitudes and Latitudes 1.5. Continents and Oceans	06
2. World Climate Zones	1. Identify places as per climate zones of the world 2. Interpret weather reports	2.1 Tropical 2.2 Dry 2.3 Mesothermal & Microthermal 2.4 Polar. 2.5 Understanding weather reports 2.6 Impact of weather and climate on Tourist destinations	12
3. World time zones & Travel time	1. Convert 24 Hour Clock and AM/PM 2. Recognise world Time Zones 3. Calculate elapsed travel times and Flying Time	3.1 World time zone & Travel time , Standard Time & Daylight Saving Time. 3.2 24 hrs. time clock VS Am Pm Clock 3.3 Definition and usage International date line 3.4 Calculating Elapsed travel Time between selected destinations	10
4. World Political Divisions	1. Locate the capital of important countries on map 2. Locate the key Cities and countries 3. Identify Major Airlines of the world and codes 4. Identify the important currencies of the world.	4.1 Countries of the world with 2 letter codes 4.2 Capitals , Important cities and airport codes 4.3 Currencies and codes 4.4 Major Airlines of the world and codes	08
5. World Physiographic Regions	1. Define various terms related to World Physiographic Regions 2. Identify the location of various physiographic regions of the world	5.1 Definitions with Examples 5.2 Oceans, Seas , Rivers and lakes 5.3 Mountains , Glaciers and plateaus 5.4 Deserts and plains 5.5 Waterfalls and Glaciers 5.6 Forests , deltas	14

		5.7 Islands	
6. Understanding Maps	1. Use various types of maps 2. Plot political regions of the world 3. Identify important IATA codes for important cities	6.1 Map reading 6.2 Types of maps 6.3 Map Plotting of the political regions of the world 6.4 Countries and cities of tourist importance. 6.5 Map Plotting of the Physical regions of the world	14
Total Hrs.			64

LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Locate a place on the map using the Longitudes and latitudes to	Introduction to travel Geography	3
2	Read and Analyze Weather maps from the Internet	World Climate Zones	3
3	Calculate Travel time and Flying Times	World Time Zones	3
4	Prepare a list of the Best Airlines of the world with their taglines	Major Political Divisions	3
5	Plot on the world map Important Countries and capitals		3
6	Use Internet to convert the Various currencies to Indian Rupees		2
7	Plot on the map the Important Physical features of the world	World Physiographic Regions	3
8	Prepare a Chart with the Highest , Biggest , largest Mountains , Rivers ,Lakes ,Deserts , lake .		3
9	Plot the important cities of tourist Interest on world map and use separate maps for all the Continents.	Understanding Maps	5
10	Prepare a Presentation on the natural and manmade wonders of the world.		4
Total Hrs			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Introduction to Travel Geography	02 (00)	04(04)	04(00)	10(04)
02	World Climate Zones	04 (00)	04(04)	00(04)	08(08)
03	World time zones	04(04)	02(00)	06(00)	12(04)
04	World Political Divisions	06 (02)	02(00)	04(06)	12(08)
05	World Physiographic Regions	10(04)	06(04)	00(00)	16(08)
06	Understanding Maps	00(02)	06(06)	06(00)	12(08)
	Total	26(12)	24(18)	20 (10)	70 (40)

❖ R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			Option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	4	R	2	5	R	2	3	U	2	4	U	2	4	R	2	5/7
	6	R	2																
02	2	R	4	3	R	4	4	R	4	5	R	4	1	U	4				3/5
03	5	R	2	5	R	2	1	U	4	3	R	4	2	U	4				3/5
04	2	U	4	1	A	4	4	A	4	5	U	4	2	A	4				3/5
05	5	U	6	6	U	6	6	U	6										2/3
06	3	A	6	6	A	6	4	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
5	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	3	-	3	3	-	-	-	-	-	3	-	3
2	3	-	3	3	-	-	-	-	-	3	3	3
3	3	-	3	3	-	-	-	-	1	3	3	3
4	3	-	3	3	-	-	-	-	-	3	3	-
5	3	-	3	3	-	-	-	-	-	3	3	3
6	3	-	3	3	-	-	-	-	-	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Travel Geography	Dr Rosemary Burton , Pearson Education , 2 nd Edition, 1994	10: 0273602039 13: 9780273602033
2.	Geography of Travel and Tourism	Boniface, B.G., Cooper, Butterworth Heinemann, 2 nd Edition 1994	0750616709
3.	World Geography of Travel and Tourism: A Regional Approach	Alan Lew, C. Michael Hall, Dallen J. Timothy, Oxford , 1 st Edition, 2008	13: 978-0-7506- 7978-7 10: 0-7506-7978-6
4.	Geography and Air Transport	Brian Graham, Wiley, 1 st Edition, 1995	10: 0471957577 13: 978- 0471957577

❖ **E-REFERENCES:**

- <http://travel.nationalgeographic.com/travel/> , accessed on 28th June, 2016
- <http://www.worldatlas.com/> , accessed on 28th June, 2016
- <http://www.geography.learnontheinternet.co.uk/topics/climatezones.html> , accessed on 28th June, 2016
- <https://www.google.com/earth/> , accessed on 28th June, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. World Political map
2. World Physical map
3. Globe
4. Computers with Internet
5. LED projector
6. OAG Extracts
7. World Clock

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
4.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
5.	Mrs Lakshmi Raman	Ex HoD, Travel & Tourism	Government Polytechnic, Nagpur.
6	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

 (Member Secretary PBOS)

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GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR406E
COURSE TITLE	: INTERNATIONAL DESTINATIONS – AMERICA & EUROPE ^S
PREREQUISITE	: TR405E
TEACHING SCHEME	: TH: 03 TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

Travel professionals use destination geography every day. It comprises a survey of the countries of the world from a tourism perspective. Knowledge of the location of countries & region wise division is essential. In this course the students will acquire the basic knowledge required to provide timely & accurate service to the customers.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify different tourist transport in the countries covered.
2. Identify the major natural and manmade Attractions of North and South America and Europe.
3. Identify the major tourism boards of North and South America and Europe and their functions.
4. Locate important Cities of North and South America and Europe.
5. Present Cuisine, Sports and Fairs and Festivals in North and South America and Europe.
6. Present a Project on any one tourism board from the course.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1 Modes of Transportation	1. Identify Types of air transport 2. Identify types of rail transport 3. Identify type of road transport 4. Identify type of water transport	1.1 Air , Rail and Water and Road Transportation in America and Europe 1.2 Major Tourist and luxury trains 1.3 Trans continental railways 1.4 Cruises and ferries	8
2 Major Tourist Destination of North America	1. Locate important Cities of North America on the map 2. State Cuisine ,Sports and Fairs and Festivals of North America 3. Identify the major natural and manmade Attractions of North America	Tourist Destination in USA , Canada, and Mexico 2.1 Location in World 2.2 Capital 2.3 Major City, Airports and Airlines and Codes 2.4 Cuisine 2.5 Major Sports 2.6 Fairs and festivals 2.7 Natural And Manmade Tourist Attractions	12
3 Major Tourist Destinations of South America	1. Locate important Cities of South America on world map 2. State Cuisine ,Sports and Fairs and Festivals in South America 3. Identify the major natural Attractions of in South America 4. Identify the major manmade Attractions of in South America	Tourist Destination in Brazil , Argentina , and Chile 3.1 Location in World 3.2 Capital 3.3 Major Airports and Airlines and Codes 3.4 Cuisine 3.5 Major Sports 3.6 Fairs and festivals 3.7 Natural and Manmade Tourist Attractions	12
4 Major Tourist Destination of Western Europe	1. Locate important Cities of Western Europe on world map 2. State Cuisine ,Sports and Fairs and Festivals in Western Europe 3. Identify the major natural Attractions of in Western Europe 4. Identify the major manmade Attractions of in Western Europe	Tourist Destination in Austria, Scandinavian countries , France, Germany, UK, Greece, Turkey, Italy, Netherlands, Spain, and Switzerland 4.1 Location in World 4.2 Capital 4.3 Major Airports and Airlines and Codes 4.4 Cuisine 4.5 Major Sports 4.6 Fairs and festivals 4.7 Natural Tourist Attractions 4.8 Manmade Tourist Attractions	12

5 Major Tourist Destination of eastern Europe	1. Locate important Cities of Western Europe on world map 2. State Cuisine ,Sports and Fairs and Festivals in Western Europe 3. Identify the major natural Attractions of in Western Europe 4. Identify the major manmade Attractions of in Western Europe	Tourist Destination in Russia, Czech Republic, Hungary, and Croatia. 5.1 Location in World 5.2 Capital 5.3 Major Airports and Airlines and Codes 5.4 Cuisine 5.5 Major Sports 5.6 Fairs and festivals 5.7 Natural Tourist Attractions 5.8 Manmade Tourist Attractions	12
6 Study of Tourism Boards	1. Name The Tourism Boards 2. Identify the taglines of the Tourism Boards	Tourism boards and Tagline of 6.1 USA 6.2 Canada 6.3 Switzerland 6.4 UK 6.5 Croatia	8
Total Hrs.			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Prepare Charts/Power Point Presentation of Popular tourist destinations of the region, wonders of continents under study	Modes of Transportation	04
2.	Locate Countries (N ,C and South America , Europe) on the world Map	Major Tourist Destination of North America,	04
3.	Locate important cities of tourist importance (N ,C and South America , Europe) on the world Map	Major Tourist Destinations of South America	04
5	Prepare Charts on the popular Cuisines of the region under study	Major Tourist Destination of Western Europe	04
6	Prepare a presentation on the famous fairs and festivals of the regions under study	Major Tourist Destination of eastern Europe	04
7	Identify the taglines of the tourism boards	Study of Tourism Boards	04
8	Identify five best airlines and Airports of the Current year	-	04
Total Hrs.			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Major Transportation	00(00)	06(06)	04(00)	10(06)
02	Major Tourist Destination of North America	06(00)	00(04)	04(00)	10(04)
03	Major Tourist Destination of South America	04(00)	04(02)	04(04)	12(06)
04	Major Tourist Destination of Western Europe	06(06)	06(00)	04 (04)	16(10)
05	Major Tourist Destination of eastern Europe	06 (04)	06(04)	00 (00)	12(08)
06	Study of Tourism Boards	00(00)	10(06)	04(00)	10(06)
	Total	22(10)	32(22)	20 (08)	70 (40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	5	R	2	4	U	2	5	U	2	6	U	2	6	U	2	3	U	2	5/7
	1	U	2																
02	3	R	4	5	R	4	3	U	4	5	R	4	1	U	4				3/5
03	4	U	4	5	U	4	1	A	4	2	U	4	5	U	4				3/5
04	2	A	4	3	A	4	4	A	4	3	A	4	4	A	4				3/5
05	2	R	6	4	R	6	4	R	6										2/3
06	1	U	6	6	U	6	6	U	6										2/3

T= Unit/Topic Number L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Overall presentation of given assignment	10
3	Viva voce	20
4	Activity	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)									
	1	2	3	4	5	6	7	8	9	10
1	3	1	-	-	3	3	3	-	-	3
2	3	-	-	-	3	3	3	2	3	3
3	3	-	3	-	3	-	-	-	3	3
4	3	-	3	-	3	3	3	-	3	3
5	3	-	3	-	3	3	3	-	3	3
6	3	-	3	-	-	3	-	2	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Travel geography	Dr Rosemary Burton , Pearson Education , 2 nd Edition, 1994	10: 0273602039 13: 9780273602033
2.	'Geography of Travel and Tourism',	Boniface, B.G. and Cooper, Butterworth Heinemann , 2 nd Edition, 1994 ,	0750616709
3.	World Geography of Travel and Tourism: A Regional Approach	Alan Lew, C. Michael Hall, Dallen J. Timothy ,Oxford , 1 st Edition, 2008	13: 978-0-7506-7978-7; 10: 0-7506-7978-6
4.	Geography and Air Transport',	Graham, John Wiley & Sons Ltd, 1 st Edition, November 1995	0471957577

❖ **E-REFERENCES:**

- <http://www.gousa.in/> , accessed on 30th August, 2016
- <http://www.worldtravelguide.net/destinations> , accessed on 30th August, 2016
- <http://www.visiteurope.com/en> , accessed on 30th August, 2016
- <https://www.visitbritain.com/in/en> , accessed on 30th August, 2016
- <http://www.myswitzerland.com/en-in/home.html> , accessed on 30th August, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
4.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
5.	Mrs Lakshmi Raman	Ex HOD, Travel & Tourism	Government Polytechnic, Nagpur.
6	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
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GOVERNMENT POLYTECHNIC, NAGPUR.

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COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR407E
COURSE TITLE	: WORLD TOURISM–AFRICA & AUSTRALASIA
PREREQUISITE	: TR406E
TEACHING SCHEME	: TH: 03 TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 04 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ **RATIONALE:**

Travel professionals use destination geography every day. It comprises a survey of the countries of the world from a tourism perspective. Knowledge of the location of countries & region wise division is essential. In this course the students will acquire the basic knowledge required to provide timely & accurate service to the customers.

❖ **COURSE OUTCOMES:**

After completing this course students will be able to–

1. Identify different tourist transport in the countries covered.
2. Identify the major natural and manmade Attractions of in Africa, Asia and Australia.
3. Identify the tourism boards of Africa, Asia and Australia and their functions.
4. Locate important Cities of Africa, Asia and Australia.
5. Present Cuisine, Sports and Fairs and Festivals in Africa, Asia and Australia.
6. Present a Project on any one tourism board from the course.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1 Major Transportation	1. Identify Types of air tourist transport 2. Identify types of rail tourist transport 3. Identify type of road tourist transport 4. Identify type of water transport	1.1 Air , Rail, Water and Road Transportation in Africa, Asia and Australia 1.2 Major Tourist trains and Cruises of the region 1.3 Trans continental railways, 1.4 Luxury trains	8
2 Major Tourist Destination of Africa	1. Locate important Cities of Africa on world map 2. Describe Cuisine ,Sports and Fairs and Festivals in Africa 3. Identify the major natural Attractions of in Africa 4. Identify the major manmade Attractions of in Africa	Tourist Destinations in Egypt, Mauritius, Kenya, Seychelles, South Africa, Tanzania, and Morocco. 2.1 Location in World 2.2 Capital 2.3 Major City ,Airports, Airlines Codes 2.4 Cuisine 2.5 Major Sports 2.6 Fairs and festivals 2.7 Natural Tourist Attractions 2.8 Manmade Tourist Attractions	12
3 Major Tourist Destination of Middle East	1. Locate important Cities of middle East on world map 2. Describe Cuisine ,Sports and Fairs and Festivals Middle East 3. Identify the major natural Attractions of in Middle East 4. Identify the major manmade Attractions of in Middle East	Tourist Destinations in UAE, Oman , Jordan and Saudi Arabia 3.1 Location in World 3.2 Capital 3.3 Major City ,Airports , Airlines Codes 3.4 Cuisine 3.5 Major Sports 3.6 Fairs and festivals 3.7 Natural Tourist Attractions 3.8 Manmade Tourist Attractions	12
4 Major Tourist Destination of Asia	1. Locate important Cities of Asia on world map 2. Describe Cuisine ,Sports and Fairs and Festivals in Asia 3. Identify the major natural Attractions of in Asia 4. Identify the major manmade Attractions of in Asia	Tourist Destinations in China, Thailand , Malaysia , Japan, Nepal, Singapore, Bhutan, Sri Lanka, Cambodia, Vietnam, and Indonesia 4.1 Location in World 4.2 Capital 4.3 Major city ,Airports , Airlines Codes 4.4 Cuisine 4.5 Major Sports 4.6 Fairs and festivals 4.7 Natural Tourist Attractions	12

		4.8 Manmade Tourist Attractions	
5 Major Tourist Destination of Australia -	1. Locate important Cities of Australia on world map 2. Describe Cuisine , Sports and Fairs and Festivals in Australia 3. Identify the major natural Attractions of in Australia 4. Identify the major manmade Attractions of in Australia	Tourist Destinations in Australia, New Zealand , Papua New Guinea, Fiji , Philippines. 5.1 Location in World 5.2 Capital 5.3 Major city Airports , Airlines Codes 5.4 Cuisine 5.5 Major Sports 5.6 Fairs and festivals 5.7 Natural Tourist Attractions 5.8 Manmade Tourist Attractions	12
6 Study of Tourism Boards	1. Name The Tourism Boards 2. Identify the taglines of the Tourism Boards	Tourism boards and Tagline of 6.1 South Africa 6.2 UAE 6.3 Australia 6.4 Singapore 6.5 Thailand	8
Total Hrs.			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify and Explore new popular forms of Tourist Transport from the Internet	Major Transportation	04
2.	Locate Countries Africa on the Map of Africa	Major Tourist Destination of Africa	04
3.	Locate important cities of tourist importance Asia & Middle East on the Map of Africa	Major Tourist Destination of Asia & Middle East	04
4	Prepare charts / or Power Point Presentation on World heritage site of the countries under study charts or PPT	Major Tourist Destination of Africa, Major Tourist Destination of Asia & Middle East.	04
5	Prepare Charts / PowerPoint presentation on the popular Cuisines of the region under study		06
6	Make a presentation on the famous fairs and festivals of the regions under study		06
7	Use the Internet to find out the 5 best airlines and Airports of the Current year		02
8	Enlist the taglines of the tourism boards	Study of Tourism Boards	02
Total Hrs.			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Major Transportation	00(00)	06(06)	04(00)	10(06)
02	Major Tourist Destination of Africa	06(00)	00(04)	04(00)	10(04)
03	Major Tourist Destination of Middle East	04(00)	04(02)	04(04)	12(06)
04	Major Tourist Destination of Asia	06(06)	06(00)	04 (04)	16(10)
05	Major Tourist Destination of Australia	06 (04)	06(04)	00 (00)	12(08)
06	Study of Tourism Boards	00(00)	10(06)	04(00)	10(06)
	Total	22(10)	32(22)	20 (08)	70 (40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	5	R	2	4	U	2	5	U	2	6	U	2	6	U	2	3	U	2	5/7
	1	U	2																
02	3	R	4	5	R	4	3	U	4	5	R	4	1	U	4				3/5
03	4	U	4	5	U	4	1	A	4	2	U	4	5	U	4				3/5
04	2	A	4	3	A	4	4	A	4	3	A	4	4	A	4				3/5
05	2	R	6	4	R	6	4	R	6										2/3
06	1	U	6	6	U	6	6	U	6										2/3

T= Unit/Topic Number L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)									
	1	2	3	4	5	6	7	8	9	10
1	3	1	-	-	3	3	3	-	-	3
2	3	-	-	-	3	3	3	2	3	3
3	3	-	3	-	3	-	-	-	3	3
4	3	-	3	-	3	3	3	-	3	3
5	3	-	3	-	3	3	3	-	3	3
6	3	-	3	-	-	3	-	2	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Travel geography	Dr Rosemary Burton , Pearson Education , 2 nd Edition, 1994	10: 0273602039 13: 9780273602033
2.	'Geography of Travel and Tourism',	Boniface, B.G. and Cooper, Butterworth Heinemann , 2 nd Edition, 1994 ,	0750616709
3.	World Geography of Travel and Tourism: A Regional Approach	Alan Lew, C. Michael Hall, Dallen J. Timothy ,Oxford ,1 st Edition, 2008	13: 978-0-7506-7978-7; 10: 0-7506-7978-6
4.	Geography and Air Transport',	Graham, John Wiley & Sons Ltd, 1 st Edition, November 1995	0471957577

❖ **E-REFERENCES:**

- <http://www.worldtravelguide.net/destinations> dated 30 August 2016
- <https://www.lonelyplanet.com/africa> dated 30 August 2016
- <http://www.australia.com/en-in> dated 30 August 2016
- <https://www.stb.gov.sg/> dated 30 August 2016
- <http://www.visitdubai.com/en-in/> dated 30 August 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
2.	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
6.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
7.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
8.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR408E
COURSE TITLE	: BASIC AIRFARE AND TICKETING ^{\$}
PREREQUISITE	: TR405E
TEACHING SCHEME	: TH: 04; TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

This subject facilitates the understanding of air transport essentials and the reservation procedures. The subject also lays emphasis with familiarization of CRS (Central reservation systems) and study of airfare and ticketing, which forms an important part of travel and tourism business. Airfare and ticketing is the key area in the tourism industry and introduces the students to the basic travel construction, principles and general ticketing rules. Students will appreciate how an international agreement between airlines gives passengers the best routing.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify commonly used airline codes for booking ancillary services.
2. Interpret airline schedules to guide and assist passenger about flight schedule, class of service.
3. Analyze the area and subarea to identify the global indicator and trip type accordingly.
4. Prepare SSR and OSI messages using recognized abbreviations and codes.
5. Select proper fare based on global indicator, class and predominant carrier.
6. Check flight schedule and availability of seats on the CRS.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Industry codes terminology and definition	1. Use and interpret message codes used by airlines. 2. Identify and name a selection of commonly used terms and definitions 3. Write messages using recognized abbreviations	1.1 Sending information to airlines 1.2 Special services codes (SSR message) 1.3 Industry terminology and definitions 1.4 Abbreviations	10
2. Flight schedule	1. Use OAG flight guide and web based time table 2. Describe procedures involved in booking flight reservation for itineraries 3. Check MCT for international flights	2.1 The OAG flight guide 2.2 Reading of city to city schedule in an OAG and Web based time table 2.3 Minimum connecting time (MCT) 2.4 Booking flight and reservations.	10
3. Ancillary Services & Baggage	1. Define ancillary services and explain the benefits to passenger 2. Define baggage, distinguish between checked, unchecked baggage, adult, children and infants 3. Describe baggage allowance for specific carrier 4. Describe procedure for transportation of pets as accompanied baggage 5. List restriction for transport of prohibited items	3.1 Meaning of ancillary services 3.2 Definition of baggage and rules 3.3 Baggage concept 3.4 Checked baggage and allowances 3.5 Un checked baggage and allowances, carrier specific 3.6 Checked baggage for children and infant 3.7 Pets and live animals 3.8 Free carry on items. 3.9 Prohibited items, dangerous goods	06
4. The airport and the flight	1. Describe airport terminals for departure 2. Describe codes and features of different classes of service 3. Interpret seating plans 4. List in flight services and products 5. Recognize features of aircraft types	4.1 Airport areas – landside facilities, airside facilities. 4.2 Aircraft types 4.3 Airport terminals 4.4 Seating 4.5 Classes of service 4.6 In flight service	06
5. IATA Geography	1. Define IATA areas and sub areas 2. Locate cities and countries 3. Identify various global indicators and direction codes based on the routing	5.1 Passenger air tariff (PAT) 5.2 TC1, TC2, TC3 and Sub areas. 5.3 Global Indicator 5.4 The journey concept 5.5 Fare Selection Criteria 5.6 Currency conversion, point to	22

	4. Use PAT to locate fare rules, rate of exchange supporting fare construction 5. Identify and define common fare construction terms, identify types of journey 6. Differentiate between normal and special fare , restricted and unrestricted normal fare 7. Identify significant carrier for international journey 8. Apply appropriate currency conversion procedure and differentiate between two types of rounding procedure	point fare construction	
6. Introduction to CRS	1. List types of CRS 2. Identify city, airlines, country, aircraft codes 3. Check flight schedule on CRS and check flight availability	6.1 Types of CRS 6.2 Sign in Sign Off, work areas, encode city, airlines, country, aircraft, decode city, airlines, country, aircraft 6.3 Check flight schedule and check seat availability 6.4 Currency conversion	10
Total Hrs.			64

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Prepare messages using recognized abbreviations	Industry codes terminology and definition	04
2	Use OAF flight guide to find and interpret airline schedules	Flight schedule	06
3	Locate cities and countries in each IATA area and sub area. • Indicate correct global indicator. • Identify and describe anatomy of a journey and differentiate types of journey. • Interpret and select proper fare based on class of service travelled, fare level, global indicator and significant carrier • Show the normal procedure for currency conversion from NUC to LCF • Rounding local currency fares	IATA Geography	12
4	Identify city, airlines, country, aircraft codes Check flight schedule on CRS and check flight availability	Introduction to CRS	10
Total Hrs			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Industry codes terminology and definition	02(02)	04(04)	00(00)	06(06)
02	Flight schedule	00(00)	04(04)	06(00)	10(04)
03	Ancillary Services & Baggage	00(00)	04(00)	06(06)	10(06)
04	The airport and the flight	04(02)	06(04)	00(00)	10(06)
05	IATA Geography	06(00)	12(08)	04(04)	22(12)
06	Introduction to CRS	06(06)	06(00)	00(00)	12(06)
	Total	18(10)	36(20)	16 (10)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	5	U	2	2	A	2	5	U	2	6	U	2	1	R	2	5/7
	4	R	2																
02	4	R	4	1	U	4	2	U	4	1	U	4	2	U	4				3/5
03	3	U	4	5	U	4	5	U	4	5	U	4	5	U	4				3/5
04	6	U	4	2	A	4	5	A	4	4	U	4	5	A	4				3/5
05	5	R	6	6	R	6	6	R	6										2/3
06	4	U	6	3	A	6	3	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	-		-	-	-	-	3	3	3	3
2	-	3	-	3	-	-	-	-	3	3	3	3
3	-	3	-	3	-	-	3	-	3	3	3	3
4	-	3	2	3	-	-	3	-	3	3	3	3
5	-	3	2	3	-	-	3	1	3	3	3	3
6	-	3	2	3	-	-	-	-	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	World Airways Guide (The complete guide to air travel) Blue Book (A-M)	OAG World wide, Latest	--
2.	Air Tariffs (AT)	--	--
3.	IATA Manuals	--	--

❖ **E-REFERENCES:**

- http://www.aai.aero/public_notices/aaisite_test/main_new.jsp accessed on 31.08.2016
- <http://www.oag.com/> accessed on 31.08.2016
- https://en.wikipedia.org/wiki/List_of_airports_by_IATA_code accessed on 31.08.2016
- <https://airlineworld.wordpress.com/category/gds/> accessed on 31.08.2016
- <http://www.amadeus.in/> accessed on 31.08.2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- Desktop Computers latest version

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HOD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR409E
COURSE TITLE	: BUSINESS AND INCENTIVE TRAVEL ^s
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 04 TU: 00; PR: 02(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT= 2 CLOCK HR.)
TH. TEE EXAM	: 03HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

The Travel and Tourism industry involves a complex set of interrelated business that all serve the tourist in one way or another. A variety of tourism related business benefits from domestic and international tourism such as Airline, Auto rental companies, Hotels and Restaurants, Convention Centre , Attractions and Retail outlets. All these business have a number of suppliers and the supply chain.

This course highlights various aspects of Business & Incentive travel. This course also introduces the students with the Meeting, Incentives, Conventions, and Exhibitions (MICE) Industry.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Locate requirements of a business traveler
2. Summarize the need for and importance of Meeting, Incentives, Conventions, and Exhibitions (MICE)
3. Illustrate the requirements for organizing conference and other events.
4. Select suitable Convention and conference centres
5. Address and resolve service problems of customers
6. Plan meet & greet services

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1 Business Travel	1. Define MICE Tourism. 2. Describe Evolution of Business Travel 3. List the different reasons for Business Travel 4. Differentiate Business and Leisure travel	1.1 Definition of MICE Tourism , Meeting, Incentives, Convention, Exhibitions. 1.2 Evolution of Business Travel 1.3 Reasons for developing business travel 1.4 Difference between Business and Leisure Travel	12
2 Introduction to MICE-Meeting	1. State a reliable relationship Between Business Travel and Travel Agency 2 List the types of Meetings 3 Describe the facilities in India for MICE. 4 Describe the importance of MICE 5 Suggest facilities/ infrastructure required for MICE tourism in India	2.1 Business Travel and Travel agency relationship 2.2 Types of Meetings- Clinic, Forum, Seminar, Symposium, Workshop., Annul meeting, Board Meeting, Professional or Technical Meeting, Corporate Meeting , Convention , Exposition SMERF, Incentives Meeting, Association Meeting, 2.3 Facilities in India – Ground facilities , Star category hotels, Conference halls 2.4 Importance –need of the MICE tourism in India	12
3 Conferences and Conventions	1. Describe the procedure of Site Selection for Conferences and Conventions 2. List the types of Convention Centers 3. Prepare Planning for a Conference	3.1 Definition of Conferences and Convention 3.2 Site Selection- Procedure /steps 3.3 Convention centre location 3.4 Types of centers-Executive centre, Corporate centre, University campus, Resort conference, Hotel Conference 3.5 IACC guidelines for Conference 3.6 Planning a Conferences and Convention – procedure and steps	10
4 Incentive Travel	1. Define Incentive Travel 2. List the different types of Incentive Travel 3. Describe procedure to plan a Incentive Travel 4. State the importance of Motivation 5. Prepare Planning for Incentive Travel	4.1 Definition of Incentive Travel 4.2 Types-three types of service organizations by Dexter. L. Choy and James c. Maken. 4.3 Planning - Procedure and Steps	10

5 Events	1. Define Events 2. List the different types of Events 3. Define procedure to plan a Incentive Travel 4. Prepare Planning for an Events	5.1Definition of Events 5.2Types- Business dinners, Golf Tournaments, Networking events, Product launches, Award ceremonies, Holiday parties, Customer appreciation parties, Board Meetings, Happy hours, Seminars, Shareholder Meetings, Charity functions, Press Conferences, Trade Shows , VIP Events 5.3Planning- Procedure and Steps	10
6 Exhibitions	1. Definition of Exhibitions 2. Describe the types Exhibitions 3. List the different types of Exhibitions 4. Prepare Planning for an Exhibition	6.1Definition of Exhibitions 6.2Types- Tread fair , fashion show, expos, tread shows, product launches, Company or educational open days 6.3Planning- procedure and steps	10
Total Hrs.			64

B LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identity requirements of Business Traveller and prepare a report on visit to Convention and Conference centre .	Conferences and Conventions	06
2.	Prepare a report on visit to an Exhibition.	Exhibitions	04
3.	Resolve service problems of customers /Prepare checklist for Incentive Tour.	Incentive Travel	04
4.	Prepare a mock demonstration for MICE with special reference to seating and other related arrangements.	Introduction to MICE-Meeting	04
5	Prepare a report on a popular MICE destination.	Introduction to MICE-Meeting	04
6	Report on a visit to a Local Convention / Conference Centre.	Conferences and Conventions	04
7	Plan and prepare for Meet & Greet Services.	Introduction to MICE-Meeting	04
Skill Test			02
Total Hrs.			32

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Business Travel	04(02)	08(04)	00(00)	12(06)
02	Introduction to MICE-Meeting	04(02)	08(06)	04(00)	16(08)
03	Conferences and Conventions	04(00)	04(00)	04(08)	12(08)
04	Incentive Travel	04(00)	04(00)	04(06)	12(06)
05	Events	00(00)	06(04)	00(00)	06(04)
06	Exhibitions	00(04)	06(04)	06(00)	12(08)
	Total	16(08)	36(18)	18(14)	70(40)

R – Remember

U – Understand

A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	U	2	2	U	2	3	U	2	3	U	2	5	U	2	1	R	2	5/7
	2	R	2																
02	1	R	4	2	R	4	3	R	4	6	R	4	1	U	4				3/5
03	4	R	4	4	U	4	5	U	4	6	U	4	5	U	4				3/5
04	2	A	4	3	A	4	4	A	4	3	A	4	3	A	4				3/5
05	1	U	6	2	U	6	2	U	6										2/3
06	6	U	6	6	A	6	4	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	3	-	3	3	3	3	3	3	3	3
2	-	3	3	-	3	3	3	3	3	3	3	3
3	-	3	3	-	3	3	3	3	3	3	3	3
4	-	3	3	-	3	3	3	3	3	3	3	3
5	-	3	3	-	3	3	3	3	3	3	3	3
6	-	3	3	-	3	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	International Tourism Management	A.K. Bhatia ,Sterling publishers Private limited,2001	978 81 207 2408 2(HB) 978 81 207 2412 9(PB)
2.	Tourism Concepts and Practices	John R. Walker, Josielyn T. Walker, Dorling Kindersley (India)Pvt.Ltd.2011	978-81-317-6105-2

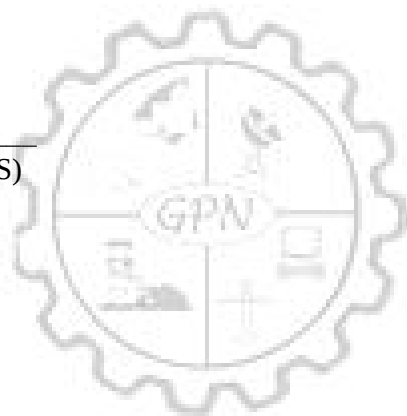
❖ **E-REFERENCES:**

- <http://www.inc.com/guides/2010/04/handling-customer-complaints.html> , assessed on 8thSeptember, 2016
- <https://en.wikipedia.org/wiki/Exhibition> . , assessed on 8thSeptember, 2016
- https://en.wikipedia.org/wiki/Meetings,_incentives,_conferencing,_exhibitions , assessed on 8thSeptember, 2016
- <http://www.incentivemag.com/Strategy/Five-Tips-for-Planning-a-Successful-Incentive-Travel-Program/> , assessed on 8thSeptember, 2016
- <http://www.ereleases.com/pr-fuel/15-types-of-events-your-business-can-host/> , assessed on 8thSeptember, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)



(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: ID404E ^S
COURSE TITLE	: INDUSTRIAL TRAINING
PREREQUISITE	: MIN. 100 CREDITS
TEACHING SCHEME	: TH: 10; TU: 00;PR: 36(CLOCK Hrs.)
TOTAL CREDITS	: 28(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: NIL
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: NIL

❖ RATIONALE:

Industrial training course is the manifestation of technical knowledge acquired by the student during their course of work. This course provides an opportunity to the students to identify and solve real life problem of the industries /research organization / society. Students also get opportunity to provide innovative, economic and technological viable solution to the world of work.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

- 1 Carryout travel market survey /Literature survey
- 2 Select training/seminar/project.
- 3 Prepare plan for training/seminar/project.
- 4 Perform training/seminar/project work.
- 5 Prepare training/seminar/project report
- 6 Present training/seminar/project work

❖ COURSE DETAILS:

A. THEORY :

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
Nil			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Perform introductory Task - Select project as per area of interest - Select topic / industrial problem / work by consulting the guide from following list The topics chosen should be based on the core operational areas or allied areas viz. - Travel Agency Management - Tourist Destination - Tourist Attraction - Marketing and Sales - Eco Tourism - Tour Operations - Fairs and Festivals - MICE - Documentation - VISA - E-Travel Agency - Agro Tourism - Adventure Tourism - Medical Tourism - Any allied topic Perform Literature Survey - Refer various Periodicals, Journals, Books, Internet literature related to project topic - Note down findings - Prepare database of collected literature on the basis of title, area of work, methodology used, type of work - Analyze industrial need - Prepare brief report	Introductory Task and Literature Survey	2
2	Plan project - Prepare Synopsis in standard format which includes following. Title Page: Project Title, Purpose of submission, Institute logo, Students Name, Guide Name, Department and Institute Name - Use Latex for preparing synopsis. - Submit the Synopsis to guide. - Approve synopsis from guide - Prepare action plan of project activities - Submit the action plan to guide. - Approve action plan from guide	Planning	4
3	Perform Project work Prepare a questionnaire,	Project Work	4

	- Collect data relevant to the chosen topic, - Analyse the data, - Make conclusions and suggestions		
4	Analyse Project work	Analysis	6
5	Prepare training/seminar/project report in standard format, which includes following. - Title Page which includes: Project Title, Purpose of submission, Institute logo, Students Name, Guide Name, Department and Institute Name - Certificates: Student declaration, Certificate from guide - Acknowledgement - Table of contents - List of Tables - List of Figures - List of abbreviations and acronyms (if any) - Text 1. Introduction, objectives 2. Literature Survey 3. Methodology/Materials/Methods/Estimate. 4. Results 5. Summary/Conclusion. 6. References Use Latex for preparing report. Perform plagiarism check from free internet site. - Submit report of plagiarism check to the guide with project report	Project Writing	4
6	Present project work - Prepare power point presentation of work done. - Prepare yourself to handle examiner questions after presentation. - Practice group presentation. - Present before guide.	Presentation	6
7	Carry out the work in assigned department at the industrial training place and Maintain the daily diary provided. Record the following aspects point wise: - Observations - Work carried out in particular department - Unique learning experience (handling situations)	Job Performance and Recording	46/week

❖ SPECIFICATION TABLE FOR THEORY PAPER: NIL

❖ QUESTION PAPER PROFILE FOR THEORY PAPER: NIL

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	40	--	Rubrics & Assessment Sheets	1,2,3,4,5,6
		Journal Writing		Continuous	10	--	Diary	1,2,3,4,5,6
				TOTAL	50	20		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	450	180	Rubrics & Training/ Seminar/ Project Report, Viva and Performance Appraisal	1,2,3,4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION OF PROJECT REPORT:**

S.N.	Description	Max. Marks
1	Selection of topic	10
2	Literature survey	10
3	Project planning and implementation	10
4	Work done, Feasibility of work, Results	50
5	Report writing	10
6	Presentation of work	10
Total (Project Report)(External)		100

❖ **SCHEME OF PRACTICAL EVALUATION OF TRAINING REPORT:**

S.N.	Description	Max. Marks
1	Recording and presentation of information	20
2	Ability to collect relevant data as per outline given	20
3	Accuracy in technical observations	10
4	Formats	10
5	Unique situation reported	10
6	Aesthetic appearance	05
TOTAL		075

❖ **SCHEME OF PRACTICAL EVALUATION OF DIARY:**

S.N.	Description	Max. Marks
1	Ability to collect relevant data as per outline given	15
2	Accuracy in technical observations	15
3	Entries recorded and signed daily	10
4	Aesthetic appearance – Neatness, Presentation, format	10
Total		050

❖ **SCHEME OF PRACTICAL EVALUATION OF SEMINAR:**

S.N.	Description	Max. Marks
1	Grooming	10
2	Communication Skills	20
3	Presentation	40
4	Content Analysis	30
Total		100

❖ **SCHEME OF PRACTICAL EVALUATION OF VIVA:**

S.N.	Description	Max. Marks
1	Grooming	10
2	Communication Skills	20
3	Presentation	40
4	Content Analysis	30
Total		100

PERFORMANCE APPRAISAL (FROM INDUSTRY)	050
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The industry will assess the student's performance at the end of the training period in the appraisal forms provided by the institute.

1. Attendance
2. Grooming
3. Communication skills
4. Attitude towards job
5. Attitude towards people
6. Job performance
7. Job knowledge and efficiency
8. Tidiness at work
9. Initiative
10. Overall remarks

GRAND TOTAL	500
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❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (Cos)	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	2	2	2	-	-	3	3	3	-	-
2	-	3	2	2	2	-	-	3	3	3	-	-
3	-	3	-	-	-	-	-	3	3	3	-	-
4	-	3	-	-	-	-	3	3	3	3	-	-
5	-	3	-	-	-	-	3	3	3	3	-	-
6	-	3	-	-	-	-	3	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Research Methodology and Statistical Techniques	Santosh Gupta, Deep and Deep Publications Pvt. Ltd., 2002	13: 978-81-7100-501-7, 81-7100-501-2
2.	Travel Agency and Tour Operation Concepts & Principles	Jagmohan Negi, Kanishka Publishers, Distributors, Second Edition, 2008	81-7391-171-1
3.	Tourism Operations and Management	Sunetra Roday, Archana Biwal, Vandana Joshi, Oxford Higher Education,	13: 978-0-19-806001-7 10: 0-19-806001-7
4.	Sales and Marketing for Travel and Tourism	Doris S. Davidoff , Philip G. Davidoff, Pearson, 2 nd Edition, January 1994	13: 978-0137865185 10: 013786518X
5.	A Practical Guide to Selling Travel	Gerald P Jung, Prentice-Hall , 1992	10: 0136897045 13: 9780136897040
6.	Tourism Marketing	Manjula Chaudhari, Oxford Higher Education [Press], First Edition, 2010	10: 0198066309 13: 978-0198066309

❖ **E-REFERENCES:**

- <http://www.mea.gov.in/cpv.htm> accessed on 26th August 2016
- www.makemytrip.com , accessed on 11th August 2016
- www.yatra.com accessed on 11th August 2016
- <http://www.mohfw.nic.in> , accessed on 26th August 2016
- <https://www.imtj.com/marketplace/medical-tourism-agencies/> , accessed on 26th August 2016
- <http://www.slideshare.net/artistramakrishna/ugc-nettourismch-06-tourism-marketing> accessed on 2nd November, 2016
- https://www.youtube.com/watch?v=UO40A_AEE0c accessed on 2nd November, 2016
- <https://www.youtube.com/watch?v=QXT0ul7xUnA> accessed on 2nd November, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7.	Ms Erika Kar	Director	Pegasus Institute, Nagpur
8.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur
9	Dr. S.W.Rajurkar	In-Charge, Curriculum Development Cell	Government Polytechnic, Nagpur.
10	Mr. G.V.Gotmare	In-Charge, Curriculum Development Cell	Government Polytechnic, Nagpur.

(Member Secretary PBOS)

(Chairman PBOS)

LEVEL - V

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: PROFESSIONAL COURSES
COURSE CODE	: TR501E
COURSE TITLE	: ADVANCED AIRFARE AND TICKETING
PREREQUISITE	: TR408E
TEACHING SCHEME	: TH: 03; TU: 00; PR:04 (CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

This course will facilitate to understand and compute normal and promotional airfares using the mileage principle. Students will also be able to interpret and have a first hand practical experience on computer reservations to create a booking file.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify types of air fares related to types of travel
2. Identify parts of an E-Ticket..
3. Interpret and analyse Billing & Settlement Plan operations and identify the sales process of an air ticket.
4. Compute One Way Through fare with the fare construction steps.
5. Compute the fare for Round Trip & Circle Trip applying Higher Intermediate Point and Circle Trip minimum check.
6. Create a booking on Computer Reservation System (Galileo)

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1. Fare Construction - Normal fares	1.State the meaning of various terms related to normal fare 2. Compute one way through fares on mileage principle 3. Construct the fare for round and circle trip as per fare construction steps applying HIP using fare checks.	1.1 Normal Fare One way Fare, Maximum Permitted Mileage, Ticketed Point Mileage, Extra Mileage Allowance, Excess Mileage Surcharge, Higher Intermediate Point 1.2 Round trip journey 1.3 Circle Trip journey with Circle Trip Minimum check	12
2. Fare Construction - Special Fare	1. Identify different types of special fares related to individual travel. 2. Construct round trip, circle trip special fares by interpreting proper rules and selecting the right fare.	2.1 Definition and types of special Fares, 2.2 Fare Rules and Standard conditions. 2.3 Interpreting 2.4 Maximum & Minimum stay 2.5 Seasonality, day of the week 2.6 Stopover & Transfer.	10
3. E-Tickets & EMD	1. Identify the coupons, entries on an e-ticket. 2. Interpret a multiple purpose document.	3.1 Electronic Multiple Purpose Document 3.2 Loyalty programmes 3.3 Air Alliance	06
4. Billing & Settlement Plan	1. Identify the aims and general set up of BSP 2. Interpret and analyse BSP operations and procedures in issuance of standard traffic documents. 3. Describe functions of BSP.	4.1 Aims, Background 4.2 Advantages of Billing and Settlement Plan (BSP) operations 4.3 Billing and Settlement Plan Agent/Aniline Relation 4.4 Reporting Dates 4.5 Consequence of Default 4.6 Billing and Settlement Plan Link	06
5. Consolidators	1. State advantages and disadvantages of consolidators. 2. Analyse the importance of consolidator fares. 3. Describe the advantages of such fares to airlines and agents. 4. Find out consolidator (Net) fare.	5.1 Introduction, Background, 5.2 Procedure 5.3 Advantages & Disadvantages 5.4 Consolidator - Definition & role	04
6. PNR Creation	1. Identify the elements for creating PNR. 2. Create bookings on the	6.1 Phone 6.2 Reference 6.3 Itinerary	10

	CRS.	6.4 Name 6.5 Ticketing time limit.	
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Practice One Way Fare Construction.	Fare Construction- Normal fares	12
2	Practice Round Trip and Circle Trip with Circle Trip Minimum Check with plus up.		14
3	Identify and interpret fare rules SC100 for a given itinerary.	Fare Construction - Special Fare	04
4	Interpret an international Air Ticket.		06
5	Issue a ticket using online portal.	PNR Creation	12
6	Create a booking on CRS for self.		16
Total Hrs			64



❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Fare construction- Normal fares	06(00)	06(06)	08(04)	20(10)
02	Fare Construction - Special Fare	04(04)	06(00)	06(04)	16(08)
03	E-Tickets & MPD	04(00)	06(06)	00(00)	10(06)
04	Billing & Settlement Plan	00(04)	08(02)	00(00)	08(06)
05	Consolidators	02(00)	04(04)	00(00)	06(04)
06	PNR Creation	04(02)	00(00)	06(04)	10(06)
	Total	20(10)	30(18)	20 (12)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	5	R	2	1	U	2	5	U	2	5	U	2	6	R	2	5/7
	4	U	2																
02	1	R	4	2	R	4	3	R	4	2	R	4	4	R	4				3/5
03	4	U	4	6	R	4	1	U	4	5	U	4	1	A	4				3/5
04	1	U	4	4	U	4	6	A	4	2	A	4	6	A	4				3/5
05	2	U	6	3	U	6	1	U	6										2/3
06	2	A	6	6	A	6	3	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	-	-	-	-	-	-	-	3	3	3
2	-	3	-	-	-	-	-	-	-	3	3	3
3	-	3	-	-	-	-	-	-	-	3	3	3
4	-	3	3	3	-	3	3	3	3	3	3	3
5	-	3	3	3	-	3	3	3	3	3	3	3
6	-	3	3	3	2	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Passenger Air Tariff	IATA & SITA, Netherlands	--
2.	Air Tariffs (AT)	OAG Worldwide, UK, Latest	--
3.	IATA Manuals	--	--

❖ **E-REFERENCES:**

- <http://www.oag.com/> accessed on 13.10.2016
- https://en.wikipedia.org/wiki/List_of_airports_by_IATA_code accessed on 13.10.2016
- <https://airlineworld.wordpress.com/category/gds/> accessed on 13.10.2016
- <http://www.amadeus.in/> accessed on 13.10.2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Amadeus/Galileo System training version

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Ms Erika Kar	Director	Pegasus Institute, Nagpur.
2.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
3.	Mrs Lakshmi Raman	Ex HOD , Travel & Tourism	Government Polytechnic, Nagpur.
4	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
5	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
6	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
7	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
8	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

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GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: TR502E
COURSE TITLE	: BASIC GUIDE TRAINING
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03 TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

Tourist guides job is important for the tourism industry. They serve as a public relation representative for his/her particular site, city, region and country. They guide tours to different places for tourist groups, and tell tourist about the different museums, heritage sites, archeological and religious sites, art galleries.

This course highlights various aspects of guide and their role and responsibilities, and also introduced how to become a perfect tourist guide.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify the roles and responsibilities of guide.
2. Resolve service problems of customer requirements
3. Apply the historical knowledge while guiding.
4. Meet & greet customers.
5. Develop and maintain positive relationships with tourist
6. Deliver a commentary to tour group

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1 Tourist Guide	1. Define a Tourist Guide 2. Classify tourist guides 3. State the importance of Behavior of tourist guide	1.1 Definition of Tour Guide 1.2 Categories –Regional tourist guide, State –level Tourist guide, Monument tourist guide. 1.3 Classification /Types of Tour Guides-, Museum guide, wildlife Guide, City Guide. 1.4 Behavior of tourist guide	06
2 Handling Customers	1. Prepare Customer information form 2. List the type of customer complaints. 3. Describe how to handle customers 4. Identify and solve the problems of customers.	2.1 Inquiry of the customer 2.2 Handling Customer complaints-related health , security ,safety, loss and damage baggage. 2.3 Giving solutions of problems	06
3 Role and Responsibilities of a tourist guide.	1. Identify the role and responsibilities of tourist Guide 2. Describe the Skills required for tourist guide 3. Determine formal dress codes for Guides. 4. State Responsibilities, Qualities and Ethics of ideal tourist Guide. 5. Describe the importance of a tourist guide. 6. Justify the selection of tour Guiding as a Profession,.	3.1 Roles of Tour Guide-good communication with tourist, knowledge of art and architecture. 3.2 skills required- Leadership, Factual Knowledge, Presentation Skills, and Grooming. 3.2 Tourist Guide Personality, Competencies, 3.3 Responsibilities of Tour Guide 3.4 Qualities of an Ideal Tour Guide 3.5 Tour Guiding as a Profession 3.6 Ethics of a Tourist Guide	08
4 Preparing for a tour Guide	1. Identify types of commentary 2. Plan Commentary for a special tourist. 3. Describe importance of good vocabulary. 4. Name Techniques of Tour Guiding	4.1 Requirements to become a tour guide 4.2 The preparations of the Commentary-Introduction, site information, background of the place, summaries the commentary and highlight the special features. 4.3 Delivery of Commentary – clear communication, use of simple vocabulary, giving examples if required. 4.4 Techniques of Tour Guiding-	08

		maintaining good relationship with tourist , 4.5 Handling Guest's Properly-caring, responsible, and helpful.	
5 History and architecture of Maharashtra	1. Name the types of Architecture. 2. Identify Cuisines, 5 Fairs and Festivals of Maharashtra 3. Distinguish between architectural styles of Ajanta and Ellora. 4. Describe types of Architecture in Maharashtra.	5.1 History – of Maharashtra, the background of each tourist place. 5.2 Types Architecture – Hindu Architecture, Buddhist architecture, Jaina Architecture, Islamic Architecture 5.3 Art -Himroo shawls, Bidri work, Paithani, 5.4 Cuisines- varhadi cuisine Saoji ,Kolhapuri and Kokan cuisine 5.5 Fairs and Festivals – Ganesh chaturthy, Diwali , Dassera, Marbat , Pateti, Dahi Handi.	06
6. Visits	1. State the history of caves, Pilgrimage and Archeological sites. 2. Describe tourist places related to caves, pilgrimage and archeological sites.	6.1 Caves- Visit any one World Heritage site eg. Ajanta , Ellora, Elephanta etc. 6.2 Pilgrimage- Ramtek,, Ashtavinayaks, Heritage Walk in an around Nagpur.. 6.3 Archeological sites – Mansar, Markanda , Nagardhan Fort.	14
• Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical's	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Perform mock demonstration to Change in behavior according to the nature of the tourist.	Handling Customers	08
2.	Deliver a commentary to senior citizen/school Students / according to the nature of the tourist	Role and Responsibilities of a tourist guide.	08
3.	Meet and greet customers. Develop and maintain positive relationships.	Preparing for a tour Guide	08
4.	Prepare PPT in Art and Architecture.	History and architecture of Maharashtra	08
5	Prepare visit report to any Architectural site		16
6	Perform guide role by visiting to Pilgrimage place or write a report on any pilgrimage place.	Visits	16
		Total	64

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Introduction to a Tourist Guide	04(04)	06(02)	00(00)	10(06)
02	Handling Customers	02(02)	02(04)	06(00)	10(06)
03	Role and Responsibilities of a tourist guide.	04(04)	10(04)	00(04)	14(12)
04	Preparing for a tour Guide	04(00)	06(04)	04(00)	14(04)
05	History and architecture of Maharashtra	04(00)	06(00)	04(06)	14(06)
06	Visits	00(00)	04(06)	04(00)	08(06)
	Total	18(10)	34(20)	18(10)	70(40)

❖ R – Remember U – Understand A – Analyze / Application

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	1	R	2	2	R	2	2	U	2	1	U	2	1	U	2	5/7
	2	R	2																
02	1	U	4	3	R	4	3	U	4	3	U	4	3	R	4				3/5
03	4	R	4	5	R	4	6	U	4	1	R	4	4	U	4				3/5
04	4	A	4	5	A	4	6	A	4	2	U	4	3	A	4				3/5
05	4	U	6	5	U	6	5	A	6										2/3
06	2	A	6	3	U	6	6	U	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	-	-	-	-	-	-	3	3	3	3
2	-	3	-	-	-	-	-	-	3	3	3	3
3	-	3	-	-	-	-	-	-	3	3	3	3
4	-	3	3	-	3	3	3	3	3	3	3	3
5	-	3	3	-	3	3	3	3	3	3	3	3
6	-	3	3	-	3	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Travel India: A Complete Guide to Tourists Paperback – 15 Jan 2007	Dr. Chitra Garg, Lotus press, 15 January 2007	81-8382-084-0
2.	Tourism Operations and management	Sunetra Roday, Archana Biwal, Vandana Joshi.	13 978-0-19-806001-7 10-0-19-806001-7
3.	Tourist Guides and Tour Operations	Yashwantrao Chavan Maharashtra Open University	-
4.	Incredible India – Tourist and Travel Guide	Dr. R.P.Arya, Jitendra Arya, Dr. Gayatri Arya, Anshuman Arya, Published by Indian Map Services(IMS)	-

❖ **E-REFERENCES:**

- <http://www.inc.com/guides/2010/04/handling-customer-complaints.html> , accessed on 08th September, 2016
- <http://anandasanyal.blogspot.in/2010/02/tour-guide-and-their-role.html> , accessed on 08th September, 2016
- http://www.victorianartinbritain.co.uk/The_Responsibilities_of_a_Tour_Guide, accessed on 08th September, 2016
- <https://cultural.maharashtra.gov.in/english/gazetteer/aurangabad/chap19/STYLES%20%20OF%20ARCHITECTURE.htm>, accessed on 08th September, 2016
- <http://www.maharashtratourism.net/architecture/index.html>, accessed on 08th September, 2016
- http://www.vetres.net.au/product_files/5374PromoBW.pdf, accessed on 08th September, 2016
- www.rezdy.com/blog/how-to-manage-customer-complaints-a-guide-for-tour-operators/, accessed on 08th September, 2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Ms. Sheetal Jagtap Shinde	Lecturer in Travel and Tourism	Government Polytechnic, Nagpur.
2.	Mr. R.P. Pund	Lecturer in Travel and Tourism	Government Polytechnic, Nagpur.
3	Ms. Rupinder Nanda	Visiting Lecturer in Travel and Tourism	Government Polytechnic, Nagpur.
4	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
5	Mrs Lakshmi Raman	Ex HoD & Visiting Lecturer	Government Polytechnic, Nagpur.
6	Miss. Erika Kar	Visiting Lecturer	Government Polytechnic, Nagpur.
7.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur
8.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: TR503E
COURSE TITLE	: MEDICAL TOURISM
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 05 (1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

Tourism has been expanding its wings in various areas of life. Medical Tourism is comparatively a new such area which is growing in very rapid pace in India. This course intends to introduce the students this new wing of tourism and to understand the scope of this field in near future.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify medical tourism product in India.
2. Analyze formal procedures in medical and health tourism.
3. Identify the successful medical tourism destinations.
4. Design ideal health/medical tourism.
5. Prepare packages for promotion of medical tourism in India
6. Prepare a model business plan in Medical Tourism.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
1.Introduction to Medical Tourism	1. Define Medical Tourism. 2. Describe potential of medical tourism in India.	1.1 Meaning 1.2 Nature 1.3 Scope 1.4 Factors responsible for growth of health and medical tourism	07
2.Medical Tourism Product	1. State and describe advantages and disadvantages for India in Global Medical Tourism Market 2. Describe the medical tourism market. 3. Suggest the measures to improve India's position in global medical tourism market.	2.1 Health and medical tourism product 2.2 Health and medical tourism market at global level 2.3 Advantages and disadvantages for India in Global Medical Tourism Market	07
3.Health and Medical Tourism	1. Define the status of medical tourism in India 2. Describe Traditional Health Care systems in India. 3. Justify the importance of traditional health care systems in India.	3.1 Health and medical tourism in India 3.2 Role of private sector in health and medical tourism in India 3.3 Traditional Health Care systems in India 3.4 Wellness tourism with destination 3.5 Government incentives for health and medical tourism in India 3.6 Role of Yoga, Ayurveda and Naturopathy	10
4. Domestic potential of Medical tourism	1. Describe the role of Government and NGOs in medical tourism. 2. Justify the potential of Maharashtra in medical and Health sector 3. Describe the importance of Medical and Health Insurance policies	4.1 Government and Private initiatives in rural health sector 4.2 Potential of Maharashtra in medical and Health sector 4.3 Medical and Health Insurance policies.	07
5. Rules and Regulations in Medical Tourism	1. State and describe the prevailing rules and regulations in Indian medical tourism 2. Prepare a model business plan in Medical Tourism	5.1 Certification and Accreditation in health and medical tourism 5.2 Ethical, legal, economic and environmental issues in health and medical Tourism	08

6. Case study	1. Describe the key issues in successful medical tourism destinations in India.	Case study of successful medical tourism at: 6.1 Kerala 6.2 Miraj 6.3 Hyderabad 6.4 Mumbai 6.5 Ahmedabad 6.6 Nagpur	09
Total Hrs.			48

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify hospitals which offer special medical treatment or packages to foreign patients	3. Health and Medical Tourism	02
2	Identify the holistic treatment centres in India with cost comparisons with developed countries	2. Medical Tourism Product	04
3	Find out and list the tour operators who provide packages for medical treatment	3. Health and Medical Tourism	04
4	Find out online different medical treatment packages available in renowned hospitals (Appollo, Fortis, Ruby Hall Clinic, Lilavati Hospital, Seven Hills Hospital, etc.)	2. Medical Tourism Product	08
5	Prepare packages for promotion of medical tourism in India	3. Health and Medical Tourism	08
6	Present a statistical cost comparison between India and other developed countries regarding medical treatments	2. Medical Tourism Product	06
7	Prepare Project on any one renowned hospital in India. It will cover History, Facilities, Brand and medical Treatment packages)	3. Health and Medical Tourism	18
8	Follow /practice the instructions of the Lecture cum demonstration on Yoga therapy		06
9	Prepare a report on visit to an alternative treatment centre.		06
10	Design an ideal health/medical insurance for a traveller after attending a guest lecture on health/medical insurance	4. Domestic potential of medical tourism	02
Total Hrs			64

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Introduction to Medical Tourism	04(04)	04(00)	00(00)	08(04)
02	Medical Tourism Product	02(00)	10(06)	04(04)	16(10)
03	Health and Medical Tourism	06(02)	04(00)	06(06)	16(08)
04	Domestic Potential of Medical Tourism	00(00)	06(04)	06(04)	12(08)
05	Rules and Regulations in Medical Tourism	04(04)	04(02)	04(00)	12(06)
06	Case study	00(00)	06(04)	00(00)	06(04)
	Total	16(10)	34(16)	20 (14)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	2	R	2	2	U	2	2	U	2	2	U	2	3	R	2	3	R	2	5/7
	5	U	2																
02	1	R	4	3	R	4	5	R	4	1	R	4	5	R	4				3/5
03	1	U	4	2	U	4	2	A	4	4	U	4	6	U	4				3/5
04	3	U	4	5	U	4	5	A	4	2	A	4	4	A	4				3/5
05	2	U	6	4	U	6	2	U	6										2/3
06	6	U	6	4	A	6	3	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	-	-	-	-	-	-	3	3	3	3
2	-	3	-	-	-	-	-	-	3	3	3	3
3	-	3	-	-	-	-	-	-	3	3	3	3
4	-	3	3	-	3	3	3	3	3	3	3	3
5	-	3	3	-	3	3	3	3	3	3	3	3
6	-	3	3	-	3	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Health Tourism: Social Welfare Through International Trade	David Reisman, Edward Elgar Publishing Ltd, UK, 2010	978 1 84844 892 6
2.	Health Tourism In India	Sarngdharan M. & Sunanda V. S., Prentice Hall, New Jersey, Latest	
3.	Medical Tourism: On The Growth Track In India	Gupta Ambuj & Sharma Vinay, Latest	10: 364082721X13: 978-640827213
4.	Medical Tourism Facilitator's Handbook	Todd, Maria, CRC Press, 2011	9781439812839
5.	Medical Tourism In India (Management & Promotion)	R. Kumar, Deep & Deep Publication, Delhi, 2008	978-81-8450-085-1

❖ **E-REFERENCES:**

- <http://www.indushealthplus.com> accessed on 26th August, 2016
- <http://www.mohfw.nic.in> accessed on 26th August, 2016
- <https://www.imtj.com/marketplace/medical-tourism-agencies/> accessed on 26th August, 2016
- <http://www.samrattours.com> accessed on 26th August, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Personal Computer with Internet

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6.	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7.	Ms Erika Kar	Director	Pegasus Institute, Nagpur
8.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN TRAVEL AND TOURISM
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: TR504E
COURSE TITLE	: ADVENTURE TOURISM
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 03; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 05(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: 03 HRs
PR. TEE EXAM	: 02 HRs (External)
PT. EXAM	: 01 HR

❖ RATIONALE:

India has immense potential for most diverse kind of adventure pursuits which has to be effectively tailored to inspire the special interest tourists of new millennium. There are some constraints too, which should be understood and removed.

The course helps in understanding the resource potential for adventure tourism in India and the existing popular destinations and activities. It also elucidates the major constraints on way to adventure tourism development and the possible strategies to offset the same.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify adventure tourism activities.
2. Analyze nature and scope of adventure tourism.
3. Adopt measures for safe adventure tourism.
4. Recognize suitable topography for adventure tourism.
5. Prepare adventure tourism packages.
6. Prepare custom made adventure tourism itineraries .

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
1. Adventure Tourism	1. Define Adventure Tourism 2. Describe nature & scope of Adventure Tourism 3. List motivations behind adventure tourism	1.1 Definition of Adventure Tourism 1.2 Nature and Scope of Adventure Tourism 1.3 Motivation behind adventure tourism 1.4 Adventure in the present context, contemporary trends in adventure tourism 1.5 Existing and potential adventure tourism in India	06
2. Land Based Activities	1. List preferable destinations for adventure activities in India 2. Identify necessary equipments for adventure activities 3. Describe dos and don'ts for tourists while undergoing adventure activities 4. Suggest the relevant measures to maintain and enhance Energy level and physical fitness of Tourist	Mountaineering, Trekking, Rock Climbing, Skiing 2.1 Preferable destinations for adventure activities in India 2.2 Necessary equipments for adventure activities 2.3 Energy level and physical fitness of Tourist 2.4 Dos and don'ts for tourists while undergoing adventure activities	10
3. Water Based Activities	1. List preferable destinations for adventure activities in India 2. Identify Necessary equipments for adventure activities 3. Describe dos and don'ts for tourists while undergoing adventure activities 4. Suggest the relevant measures to maintain and enhance Energy level and physical fitness of Tourist	Rafting, Kayaking, Canoeing, Yachting, Water Scooter, Hovercraft, Surfing, Scuba diving 3.1 Water Resources of India – Rivers, Seas and Lakes 3.2 Preferable destinations for adventure activities in India 3.3 Necessary equipments for adventure Activities 3.4 Energy level and physical fitness of Tourist 3.5 Dos and don'ts for tourists while undergoing adventure activities	10
4. Air Based Activities	1. List preferable destinations for adventure activities in India 2. Identify Necessary equipments for adventure	Hang gliding, Hot Ballooning, Para Jumping, Parasailing, Sky diving 4.1 Preferable destinations for adventure activities in India	10

	activities 3. Describe dos and don'ts for tourists while undergoing adventure activities 4. Suggest the relevant measures to maintain and enhance Energy level and physical fitness of Tourist	4.2 Necessary equipments for adventure Activities 4.3 Energy level and physical fitness of Tourist 4.4 Dos and don'ts for tourists while undergoing adventure activities	
5. Wildlife Tourism	1. List Popular National Parks and Wildlife Sanctuaries 2. Describe dos and don'ts for tourists while undergoing adventure activities	5.1 Popular National Parks and Wildlife Sanctuaries 5.2 Camel Safari 5.3 Horse Riding 5.4 Elephant Safari 5.5 Dos and Don'ts for tourists	06
6. Regulations and Associations	1. Describe the Acts and legislations related to adventure sports/tourism 2. List International Associations in adventure sports 3. List Indian Associations and organisations in adventure sports	6.1 Legislation for adventure activities 6.2 International Associations in adventure sports 6.3 Indian Associations and organisations in adventure sports	08
Total Hrs.			48

❖ LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Practice High hill trekking destinations	Land Based Adventure Activities	04
2	Practice Rock Climbing		06
3	Follow the expert instructions of Parasailing/Hang gliding expert.	Air Based Activities	04
4	Prepare an observation based key learning points in Kayaking/Water Scooter	Water Based Activities	04
5	Prepare Presentation on Wildlife Safari after visit to a wildlife sanctuary	Wildlife Tourism	24
6	Prepare an adventure tourism package.	• Land Based Adventure Activities • Water Based Activities • Air Based Activities	02
7	Prepare a Presentation on any one adventure sports activity		02
8	Prepare and present in brochure format list of equipments required for adventure tourism.		02
9	Design an advertisement/promotional campaign for any one adventure activity.		02
10	Perform the task given by expert guide/lecturer on adventure activities.		02
11	Prepare visit report to an adventure camp site.		12
Total Hrs			64

❖ SPECIFICATION TABLE FOR THEORY PAPER:

Unit No.	Units	Levels from Cognition Process Dimension			Total Marks
		R	U	A	
01	Adventure Tourism	08(06)	02(00)	00(00)	10 (06)
02	Land Based Activities	04(04)	06(02)	04(04)	14 (10)
03	Water Based Activities	04(00)	04(04)	06(04)	14 (08)
04	Air Based Activities	04(02)	04(00)	06(06)	14 (08)
05	Wildlife Tourism	04(00)	04(04)	00(00)	08 (04)
06	Regulations and Associations	04(00)	06(04)	00(00)	10 (04)
	Total	28(12)	26(14)	16 (14)	70 (40)

R – Remember

U – Understand

A – Analyze / Apply

❖ QUESTION PAPER PROFILE FOR THEORY PAPER

Q. No	Bit 1			Bit 2			Bit 3			Bit 4			Bit 5			Bit 6			option
	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	T	L	M	
01	1	R	2	1	R	2	2	R	2	2	R	2	1	U	2	4	R	2	5/7
	2	U	2																
02	1	R	4	3	R	4	4	R	4	2	R	4	3	U	4				3/5
03	5	R	4	6	R	4	5	U	4	5	U	4	6	U	4				3/5
04	3	U	4	4	U	4	2	A	4	2	A	4	3	A	4				3/5
05	6	U	6	2	U	6	1	R	6										2/3
06	3	A	6	4	A	6	4	A	6										2/3

T= Unit/Topic Number

L= Level of Question

M= Marks

R-Remember

U-Understand

A-Analyze/ Apply

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	20	--	Test Answer Sheets	1, 2, 3
		Assignments		Continuous	10	--	Assignment Book / Sheet	1, 2, 3
	TEE (Term End Examination)	End Exam	Students	End Of the Course	70	28	Theory Answer Sheets	1, 2, 3
				Total	100	40		
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	4,5,6
		Journal Writing		Continuous	05	--	Journal	4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Practical Answer Sheets	4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Performance	10
2	Use of resources	10
3	Presentation	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (COs)	Program Outcomes (POs)										PSO	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	3	-	-	-	-	-	-	3	3	3	3
2	-	3	-	-	-	-	-	-	3	3	3	3
3	-	3	-	-	-	-	-	-	3	3	3	3
4	-	3	3	-	3	3	3	3	3	3	3	3
5	-	3	3	-	3	3	3	3	3	3	3	3
6	-	3	3	-	3	3	3	3	3	3	3	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Adventure Tourism	R. Buckley, CABI, 2006	1845931238, 978184593123
2.	Wild Life Tourism and Development	Ramesh Chawla, Mohit Publication, 2006	10: 817445358X 13: 9788174453587
3.	Adventure Tourism: The New Frontier Hardcover	Rakesh Kumar Sah, Random Publications , July 2014	10: 9351113256 13: 978-9351113256

❖ **E-REFERENCES:**

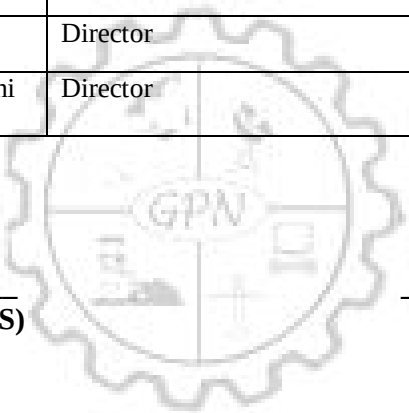
- <http://goatourism.gov.in> accessed on 29th October, 2016
- <http://Indianairforce.nic.in> accessed on 29th October, 2016
- www.niws.nic.in accessed on 29th October, 2016
- www.jawaharinstitutepahalgam.com accessed on 29th October, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr Rajesh Pund	Lecturer	Government Polytechnic, Nagpur.
2.	Ms Sheetal Jagtap	Lecturer	Government Polytechnic, Nagpur.
3.	Mrs Amita Tandon	I/c Principal	Women's Technical College (LAD), Nagpur
4.	Mrs Lakshmi Raman	Ex HoD , Travel & Tourism	Government Polytechnic, Nagpur.
5.	Mr Sandeep Bapat	Visiting Lecturer	Government Polytechnic, Nagpur.
6	Ms Rupinder Nanda	Visiting Lecturer	Government Polytechnic, Nagpur.
7.	Ms Erika Kar	Director	Pegasus Institute, Nagpur
8.	Ms Pushpa Khubchandani	Director	Uniglobe Pawansut Travels, Nagpur



 (Member Secretary PBOS)

 (Chairman PBOS)

FREE ELECTIVES

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/EC/CM/IT/MT/PK/AE/TX/TR
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FS501E
COURSE TITLE	: FINISHING SCHOOL
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK Hrs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: NIL
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: NIL

❖ RATIONALE:

Polytechnic Diploma pass outs who are not readily employable in the desired target jobs, need further grooming. Diploma engineers are not fit for relevant jobs in related work areas in corporate due to lack of required skills like communication, team work, arithmetic, public speaking, attitude building, ethics, business etiquettes etc. This 'disconnects' between the desired jobs and the qualifications obtained needs to be addressed by institutes. This course helps in bridging the gap between Formal education and Industry requirements. Industries and Institutes have a role to play. A pre-employment training programme in which curriculum is developed for students to prepare them for requirements of industries. It aims to provide soft skills to student to facilitate their employability and play a part in the supply side issues (of talent) of the industry. Students then can adapt themselves to the industrial scenario.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

- 1 Perform SWOT analysis
- 2 Demonstrate soft skills.
- 3 Enhance employability skills.
- 4 Adapt ethics and values.
- 5 Practice interpersonal skills.
- 6 Refine communication skills.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes(Cognitive Domain)	Topics and subtopics	Hrs
Nil			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	- Identify Strengths and Weaknesses of Self - Observe Opportunities and Threats in Self - Exhibit different interpersonal skills in given situations.	A. Soft Skills Understanding self & others a. SWOT Analysis b. Interpersonal Skills	4
2	- Practise face to face communication in formal/informal groups. - Observe Body Language of others and note the changes in different persons. - Construct and demonstrate short public speech of five minutes on a topic of interest. - Identify signs and signals as a means of communication and list them.	A. Soft Skills Communication Skills a. Verbal & Non Verbal Communication b. Body Language c. Sixth sense Intuition d. Public Speaking	8
3	- Identify factors in self esteem. - Produce a list of behavioural elements of concentration. - Practise tongue twister to enhance power of concentration.	A. Soft Skills Self Confidence a. Strength of Conviction b. Power of Concentration c. Self Esteem	4
4	- Practise three different dress combinations for professional presentation. - Demonstrate three social manners and etiquettes in a group task	A. Soft Skills Presenting Self a. Fine Grooming b. Dress Sense c. Manners & Etiquettes	4
5	- Set career goals for next five years and list activities to achieve these goals. - Prepare a chart of daily routine activities with Important, Very important, Urgent and Very urgent	A. Soft Skills Effective Self Management a. Goal Setting b. Time Management c. Emotional Quotient d. Motivating self and	6

	classification. - Identify assertive behavioural aspects of persons in your surrounding - Identify factors/elements related to emotional balance in given situations.	Others e. Positive Thinking & Assertiveness	
6	- Practise yoga /meditation. - Prepare a habit plan and list steps for action plan. - Construct diet chart for self.	A. Soft Skills Personality Development a. Physical & Mental Health b. Habit formation- Do's & Don'ts c. Diet Pyramid	6
7	Exhibit attitude as response to various situations (case studies).	B. Employability Skills Attitudes	2
8	Demonstrate technical skills of different subjects.	B. Employability Skills Technical Skills	6
9	Observe the weakness domain of the individuals in given situations.	B. Employability Skills Adaptability	4
10	- Compose creative essay. - Suggest creative solutions to various given situations.	B. Employability Skills Creativity and Innovation	4
11	Exhibit team spirit and leadership qualities while working in a team.	B. Employability Skills Interpersonal Skills a. Working in Team b. Leadership	4
12	Practise Role play in group to exhibit corporate culture.	B. Employability Skills Corporate culture	4
13	- Prepare Resume. - Practise Group Discussions. - Demonstrate interview techniques through mock interview.	B. Employability Skills Job Selection Process a. Resume Writing b. Group Discussions c. Personal Interview	8
Total Hrs.			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Not Applicable

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Not Applicable

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Report writing	20
2	Presentation Skills	20
3	Viva voce	10
Total		50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes (Cos)	Program Outcomes (Pos)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	2	-	-	-	3	-	3	-	-
2	-	-	3	-	3	-	3	3	3	3	-	-
3	-	-	-	2	3	-	3	3	3	3	-	-
4	-	-	-	-	3	2	3	3	3	3	-	-
5	-	-	3	-	3	2	3	3	3	3	-	-
6	-	-	3	-	3	2	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	How to win friends and Influence people	Dale Carnegie, Fingerprint Edition 2016	10: 8175993480 13: 978-8175993488
2.	The SWOT Analysis	Lawrence G. Fine, Createspace Edition 2009	10: 1449546757 13: 978-1449546755
3.	Body Language	Allan Pease, Manjul Publishing House Pvt. Ltd., Edition 2014	10: 8183224105 13: 978-8183224109
4.	The Spark is Within You	Jagdish Bali, Authorspress, Edition 2016	10: 9352072332 13: 978-9352072330
5.	How to Read a Person Like a Book	Rupa Publications India, Edition 2012	10: 8129119188 13: 978-8129119186

6.	Believe in Yourself	Dr. Joseph Murphy, Manjul Publishing House Pvt. Ltd., 1 st Edition 2014	10: 8183225098 13: 978183225090
7.	Think and Grow Rich	Napoleon Hill, Jaico Publishing House; First edition 2007	10: 817992792X 13: 9788179927922
8.	Communication Skills	Sanjay kumar, Oxford Edition 2011	10: 0198069324 13: 9780198069324
9.	The Power of your Sub conscious Mind	Dr. Joseph Murphy, Amazing Reads Edition 2015	10: 8192910962 13: 9788192910963
10.	The Power of Positive Thinking	Norman Vincent Peale,	10: 0091906385 13: 9780091906382
11.	The Ace of Soft Skills: Attitude, Communication and Etiquette for Success	Gopalaswamy Ramesh	10: 8131732851 13: 978-8131732854

❖ E-REFERENCES:

- https://en.wikipedia.org/wiki/Soft_skills accessed on 20th September, 2016
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- <http://innovationexcellence.com/blog/2012/08/04/whats-the-difference-between-creativity-and-innovation/> accessed on 10th October 2016
- <http://study.com/academy/lesson/self-understanding-and-self-concept.html> accessed on 20th October, 2016
- <http://www.skillsyouneed.com/ips/understanding-others.html> accessed on 20th October, 2016
- <http://articles.bplans.com/how-to-perform-swot-analysis/> accessed on 19th September, 2016
- <http://www.skillsyouneed.com/ips/body-language.html> accessed on 19th September, 2016
- <https://www.mindtools.com/CommSkll/PublicSpeaking.htm> accessed on 19th September 2016
- https://www.mindtools.com/pages/article/newHTE_90.htm accessed on 20th October 2016

❖ LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr. D.S. Kulkarni	HOD, Textile Manufacture	Government Polytechnic, Nagpur.
2.	Dr. Surendra Gole	Corporate HR Trainer, Former Principal,	Nagpur Institute of Technology, Nagpur
3.	Mr. Ashish Khole	Divisional Manager	TAL - Areospace Business Unit – (Tata Group of company) Nagpur
4.	Dr. Rozina Rana	Director	ELAN Finishing School, Priyadarshini Group of Institutions
5.	Mr. Sarang Sawangikar	Asstt. Vice President(HR)	Vidarbha Power Ltd., Butibori
6.	Ms. M.M.Machale	Lecturer in English	Government Polytechnic, Nagpur
7.	Dr. S.W.Rajurkar	In-Charge, Curriculum Development Cell	Government Polytechnic, Nagpur.
8.	Mr. G.V.Gotmare	In-Charge, Curriculum Development Cell	Government Polytechnic, Nagpur.

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN ME/EE/EC/CM/IT/ TX/MT/PK
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE501E
COURSE TITLE	: BASIC BUILDING DRAWING
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04 (CLOCK HRs.)
TOTAL CREDITS	: 02 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR)
TH.TEE	: NIL
PR.TEE	: 02 HRs (Internal)
PT	: NIL

❖ RATIONALE:

Various agencies involved in engineering works use drawings as effective medium of communication. Engineering professionals of fields, other than civil engineering like mechanical, electrical, chemical, polymer mining, metallurgy etc. are required to interpret the space in the given building to assess whether their installations can be housed in the building or to specify the space requirements of their machineries, assemblies and installations. Moreover as an individual everyone of any profession wants to visualize his/her home before it is build, therefore these professionals need to study basic of building drawings such as plan, elevation and sections etc. This curriculum is designed to develop the basic skills of drawing building plan, elevation and section.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify different types of lines and symbols used in working drawings.
2. Prepare line plans of buildings for different orientations and with different scales.
3. Prepare plan, elevation and section of an existing building by taking measurements.
4. Develop working drawing duly considering rules, regulations and byelaws of sanctioning authority.
5. Identify the units and their sizes required in a building for serving a given purpose.
6. Interpret plan, elevation and section of building.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Draw different types of lines, common notations/symbols used in civil engineering and also symbols used in their field to be shown in the plan (A1size sheet).	Basics of Civil Drawing	10
2	Prepare line plans of small residential building (1BHK) for different plot orientation and with different scale on graph paper (A1size).	Drawing line plans	10
3	Prepare line plans of Public building like (Primary school building and Primary Health Centre) specifying names and sizes of different units. Prepare a separate report giving units, their sizes and justification for sizes.		10
4	Prepare a Measured drawing of institutional workshop/any small building. Show placement of machines/electrical fixtures etc.	Measured drawing	12
5	Develop a working drawing of any one of the building drawn in Practical no.2 considering rules, regulations and bye laws of local /other sanctioning authority.	working drawing	12
6	Draw plan and sectional elevation of Bifurcated/ Dog legged staircase.		06
7	Interpret dimensions and sizes of various units in the given building drawing.	Interpretation	04
Total			64

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
	Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6
End Of Course		End Of The Course	Questionnaires					

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Draw to the suitable scale a detailed plan of two room building.	20
2	Dimensioning	10
3	Neatness	10
4	Viva -Voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	-	-	-	-	-	3	-	3	-	-
2	-	-	3	3	-	-	-	3	3	3	-	-
3	-	-	3	3	-	-	-	3	3	3	-	-
4	-	-	3	3	2	2	2	3	3	3	-	-
5	-	-	-	-	-	-	-	3	-	3	-	-
6	-	-	-	-	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Building Drawing: With an Integrated Approach to Built Environment	M.G. Shah, C.M.Kale and V. Y.Patki Tata McGraw-Hill Publishing Company Ltd. 4 th edition, 2002	10:0074638769
2.	Building Planning and Drawing	Dr.Kumara Swamy and A. Kameshwara Rao , Charotar Publications , 8th edition, 2015	13:9789385039126
3.	Civil Engineering Drawing and House planning	B.P.Verma, Khanna Publications, 11 th Edition,1986	13:9788174091688
4.	Civil Engineering Drawing	Gurucharan Singh, Standard Publications, 2009	13:9788180140044
5.	Civil Engineering Drawing	R. S. Malik,G.S. Meo, Computech Publications ltd./ New Asian Publications, 5 th edition, 2015	13:9788173180026

❖ **E-REFERENCES:**

1. <http://bie.telangana.gov.in/Pdf/civilenggdrawing.pdf>, accessed on 3rd September, 2016
2. <http://www.iar.unicamp.br/lab/luz/ld/Arquitetural/livros/interior%20design%20student%20handbook.pdf>, accessed on 3rd September, 2016.
3. <https://law.resource.org/pub/in/bis/S03/is.962.1989.pdf> accessed on 3rd September, 2016
4. http://civilengineering-notes.weebly.com/uploads/1/1/7/5/11750056/building_bye_laws.pdf accessed on 3rd September, 2016
5. <http://civil.emu.edu.tr/courses/civ1103/Tutorial%205.pdf> accessed on 3rd September, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

Nil

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr. R. N. Giradkar	Head of Civil Engineering Deptt.	Government Polytechnic, Nagpur.
2.	Dr. D. N. Kongre	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
3.	Mr. S. R. Kukadapwar	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
4.	Mr. M. K. Panchwate	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
5	Dr. S. J. Nikam	Lecturer in Civil Engineering	Government Polytechnic, Nagpur.
6	Mr. M. R. Shelote	Consultant Engineer	M. R. Associates, Nagpur.
7	Dr. R. N. Khapre	Associate Professor	Ramdeobaba College of Engineering and Management, Nagpur
8.	Mr. A. J. Fulzele	Assistant Secretary (Technical)	MSBTE, Regional Office, Nagpur.

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/EE/EC/CM/IT/MT/PK/AE/TR/TX
LEVEL NAME	: FREE ELECTIVES
COURSE CODE	: FE502E
COURSE TITLE	: RAC MAINTENANCE
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: NIL
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: NIL

❖ RATIONALE :

The knowledge of repair and maintenance of domestic refrigerator and air conditioner is helpful in daily life. One should acquire skills in carrying out basic repairs and maintenance of refrigeration and air conditioning.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify various components of refrigeration and air conditioner.
2. Handle various tools
3. Test and find faults in refrigerator and air conditioner
4. Diagnosis fault of refrigerator and air conditioner.
5. Practice maintenance procedure
6. Practice safety procedure.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practical No.	Specific Learning Outcomes (Psychomotor Domain)	Topics	Hrs.
1.	Identify the components of domestic refrigerator and write report. Report includes- -Basic concept of refrigeration -Vapor Compression Refrigeration system -COP, Ton of refrigeration	Introduction to Refrigerator	10
2.	Identify the hand tools required for maintenance of domestic refrigerator. Use tools for various applications and write report. -Specification of tools	Hand Tools	04
3.	Dismantle compressor, identify various components in compressor and write report. Report includes – -Hermitically sealed compressor - various components of compressor	Compressor	08
4.	Test Electric circuit and electrical controls used in refrigerator and report writing. Report writing includes – -Electric circuit diagram -Various controls and its function	Electric circuit of refrigerator	04
5.	Identify various faults and write report Report includes – -Various faults - Remedies	Fault finding and maintenance of refrigerator	08
6.	Run water cooler test rig and Write report. Report writing includes- -Working of water cooler -various components of water cooler	Water cooler	04
7	Identify the components of air conditioning system and write report. Report includes- -Basic concept of air conditioning -Various air conditioning systems like summer AC, winter AC, comfort AC.	Air conditioning system	08
8	Identify of various faults and write report Report includes – -Various faults - Remedies	Fault finding of air conditioner	08
9	Test Electric circuit and electrical controls used in AC and report writing.	Electric circuit of air conditioner	04

	Report writing includes – -Electric circuit diagram -Various controls and its function		
10	Identify the components of car air conditioning system and write report. Report includes- -Basic concept of car air conditioning -function of various components of car AC	Car Air Conditioning system	04
Skill Assessment			02
Total Hrs.			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

NIL

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

NIL



❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Drawing of Sketch, selection of equipment's, procedure etc.	20
2	Performance	10
3	Conclusion	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	-	-	-	-	3	3	-	-	-
2	-	-	3	3	-	-	-	3	-	3	-	-
3	-	-	3	3	-	-	-	3	3	3	-	-
4	-	-	3	3	1	-	-	3	3	3	-	-
5	-	-	3	3	-	-	-	3	3	3	-	-
6	-	-	3	3	1	-	-	3	3	3	-	-

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Refrigeration and air conditioning servicing	S. Kumar, New Heights Publication New Delhi	--
2.	Refrigeration and Air Conditioning	R.S. Khurmi, S.Chand and Co.	81-219-1687-9
3.	Refrigeration and Air Conditioning	C.P. Arrora, Tata Mc-Graw Hill,	0-07-451515-2
4.	Refrigeration and Air Conditioning	Manohar Prasad, New Age Publications.	13: 9788122414295
5.	Refrigeration and Air Conditioning	P.N. Ananthanarayanan; Tata McGraw Hill	0074620088

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Air conditioning trainer kit
2. Water cooler trainer kit
3. Ice plant trainer kit
4. Window Air conditioner
5. Split air conditioner
6. Domestic Refrigerator
7. Car air conditioning trainer kit

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1	Prof. O. V. Sarode	Head, Mechanical Engineering	Government Polytechnic, Nagpur
2	Dr. S. W. Rajurkar	Lecturer, Mechanical Engineering	Government Polytechnic, Nagpur.
3	Prof. D. J. Ghode	Lecturer, Mechanical Engineering	Government Polytechnic, Nagpur.
4	Prof. K. S. Thekedar	Lecturer, Mechanical Engineering	Government Polytechnic, Nagpur.
5	Er. A.M.Onkar	Chief Executive Officer	Onkar Furnitures, MIDC, Nagpur
6	Shri. G.F.Potbhare	Principal	NIT, Polytechnic, Nagpur
7	Dr.S.S.Baraskar	Lecturer in Mechanical Engineering	Govt. Polytechnic, Arvi

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/AE/PK/MT/EC/IT/CM /TX
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE503E
COURSE TITLE	: ELECTRICAL MAINTENANCE
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 1PR CREDIT =2CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

Electricity is a basic need of human beings. All are dealings with the different electrical gadgets as well as electrical installations in day to day life. Therefore, the knowledge of electrical maintenance is must for all the peoples. One should have ability to acquire skills in carrying out repairs of electrical gadgets with accuracy and maintain the electrical installations. This course imparts the practical skills of electrical maintenance.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Use electrical maintenance tools and equipment's.
2. Use fire-fighting equipment on different types of fires.
3. Test, Repair and maintain the domestic appliances.
4. Locate and repair the faults in electrical installation.
5. Identify the faults.
6. Follow safety precautions.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
Nil			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify electrical measuring instruments, sources, ICDP/ICTP, switches, loads, wires and execute safety precautions in laboratory.	Electrical Safety	4
2	Use firefighting equipment on different fire.		4
3	Identify different electrical maintenance tools and electrical accessories.	Maintenance Tools	4
4	Test single phase and three phase supply using test lamp and identify phase and neutral using test lamp.		4
5	Perform continuity, open circuit, short circuit and earth fault test using series test board.		4
6	Test and find fault in an automatic/ semiautomatic/ steam electric iron/toaster/room heater/hot plate	Domestic Appliances	4
7	Test, find faults and repair ceiling fan.		4
8	Test, find faults and repair electric mixer.		4
9	Identify different wiring systems in the premises & prepare list of accessories required for each.	Electrical Installation	4
10	Test & measure insulation resistance of Electrical lab wiring installation by using megger.		4
11	Measure the earth resistance of earth electrode by using earth tester.		4
12	Connect single phase and three phase energy meter to load and note the reading.		4
13	Prepare a wiring of two lamp controlled by two one way switch by using conduit wiring.		6
14	Fix ICDP/M CB/ DB/ELCB on wiring board & connect it to supply.		4
15	Locate the fault in electrical installation		4
Skill Assessment			2
Total Hrs			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Not Applicable

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Not Applicable

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Drawing circuit diagram/selection of equipment's/writing procedure etc.	10
2	Performance	20
3	Result	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	3	3	-	-	3	3	3	-	-
2	-	-	3	3	3	-	-	3	3	3	-	-
3	-	-	3	3	3	-	-	3	3	3	-	-
4	-	-	3	3	3	-	-	3	3	3	-	-
5	-	-	3	3	3	-	-	3	-	3	-	-
6	-	-	-	-	3	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Electrical Design Estimating and Costing	K.B. Raina and Dr. S.K. Bhattacharya, New Age International (P) Ltd. (2010)	10: 8122403638 13: 978-8122403633
2.	Study of Home Appliances	K. B. Bhatiya, Khanna Publication 2010 Edition.	1234567146703
3.	Home Appliances Servicing	E.P. Anderson, Audels	030114

❖ **E-REFERENCES:**

- <http://nptel.ac.in/courses/108108076/1> , assessed on 18th January 2016
- <http://www.electrical4u.com> , assessed on 18th January 2016
- <https://www.youtube.com/watch?v=A9KSGAnjo2U>, assessed on 18th January 2016
- <http://www.electricaltechnology.org/2015/09> assessed on 30 Jan 2016
- www.slideshare.net/bawaparam/made-by-param assessed on 30 Jan 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Electrical Maintenance Tool Kit.
2. Megger 500V Hand driven
3. Earth tester 3 spike.
4. Digital Multi-meter

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr. C.S.Thorat	Principal	Government Polytechnic, Nagpur.
2.	K.M.Gaidhane	I/C, Head of Electrical Engineering	Government Polytechnic, Nagpur.
3.	R.I.Kamble	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
4.	S.P.Thote	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
5.	Dr. R.S.Surjuse	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
6	G.V.Gotmare	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
7	H,N.Kharkar	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
8	N.H.Adkine	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
9	A.P. Gandhi	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
10	Bhashkar Bale	Dy. Executive Engineer,	MSTCL, Nagpur
11	R.Y.Ghormade	Head of Electrical Engineering	Dharampeth Polytechnic, Nagpur
12	DR. S.S.Bharatkar	Lecturer in Electrical Engineering	Government Polytechnic, Amaravati.

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/EE/ME/CM/IT/PK/AE/TX/TR
LEVEL NAME	: PROFESSIONAL ELECTIVE
COURSE CODE	: FE504E
COURSE TITLE	: HOBBY ELECTRONICS
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE EXAM	: NIL
PR. TEE EXAM	: 02 HRs
PT. EXAM	: NIL

❖ **RATIONALE:**

Some students may be interested in interdisciplinary approach therefore it is felt that diploma holder those who have interest in "Hobby Electronics Circuits" must have minimum competency and knowledge of it, so later on some student may take up it as business. Therefore this course has been kept as one of free elective interdisciplinary course in the curriculum.

❖ **COURSE OUTCOMES:**

After completing this course students will be able to–

- 1 Identify different electronics components.
- 2 Handle electronics circuit development tools & test and measuring equipments.
- 3 Select the hobby electronics circuits as per requirements.
- 4 Test the electronics components and circuits.
- 5 Develop the simple electronics hobby project.
- 6 Present electronics project.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Hrs.
1	Identify and understand different electronics components. -like. resistor, capacitor, inductor, diode, transistor, relay etc.	04
2	Observe and draw Symbols and unit of measurement for electronics parameters like voltage, current, resistor, capacitor, inductor etc.	04
3	Identify the applications of basic electronics test and measuring equipments. Like multimeter LCR meter, Cathode Ray Oscilloscope, Function generator etc.	08
3	Perform the basic handling skill of electronics circuit development tools like soldering gun, de-soldering pump etc	04
4	Test different electronics components like resistor, capacitor, inductor, diode, relay etc.	08
5	Identify simple electronics Hobby circuits by referring journals, websites, and hobby electronics manuals.	04
6	Arrange electronics component and PCB (general purpose) for selected circuit and their testing.	08
7	Prepare component layout of selected electronics circuit.	04
8	Mount and solder electronics components on PCB (general purpose)	08
9	Perform Testing, fault finding, rectification of fault. of circuit.(Test the circuit for performance and rectify the fault)	06
10	Perform the final testing of circuit & packaging.	04
Skill Assessment		02
Total Hrs		64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

NIL

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER**

NIL

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
2	Performance–Demonstration of project work	25
5	Viva voce	25
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-			-	-		3	-	3	-	-
2	-	-	3	3	-	-	3	3	-	3	-	-
3	-	-			-	-	3	3	-	3	-	-
4	-	-	3	3	-	-		3	-	3	-	-
5	-	-	3	3	-	-	3	3	-	3	-	-
6	-	-	3	3	-	-		3	1	-	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Electronic For You	Journal	--
2.	Electronics Material And Components	Dr. MadhuriA. Joshi, , Shroff Publisher & Dist. Pvt. Ltd. 3 rd Edition,	10: 8173669007 13: 9788173669002
3.	Data Books Of Electronic Components & Devices	Business Promotion Bureau	--

❖ **E-REFERENCES:**

- ❖ Websites www.electronicprojects.com , assessed on 4th May 2016
- ❖ Websites www.circuittoday.com assessed on 4th May 2016
- ❖ Websites www.electroschematics.com assessed on 4th May 2016
- ❖ Websites www.hobbyelectronics.in assessed on 4th May 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Digital Multi-meter
2. LCR-Q meter
3. Cathode Ray Oscilloscope
4. Soldering Gun.
5. De-soldering Pump.
6. Nose Plier

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	S.S.Tadas	HOD, Electronics Telecomm. Engg.	Government Polytechnic, Nagpur.
2.	A.A.Ali	Lecturer (Selection Gr.) Electronics Telecomm. Engg.	Government Polytechnic, Nagpur.
3.	D.A.Brahmankar	Lecturer (Selection Gr.) Electronics Telecomm. Engg.	Government Polytechnic, Nagpur.
4.	U.M.Ramteke	Lecturer (Selection Gr.) Electronics Telecomm. Engg.	Government Polytechnic, Nagpur.
5.	Mr. Sandip V Darwhekar	Director	Beta Computronics Pvt Ltd , Nagpur
6.	Mrs. Gazzala Ali	Head Electronics	Anjuman Polytechnic , Nagpur
7.	Mr S M Kale	Lecturer Electronics	Government Polytechnic, Gadchiroli.

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 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/EC/IT/CM/AE/MT/TX
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE505E
COURSE TITLE	: BASIC PACKAGING TECHNOLOGY
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 1PR CREDIT =2CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ **RATIONALE:**

Packaging is the need of every manufactured commodity. Safe delivery of product to end user through package has got many expectations. Packaging has a various functions and aspects. Packaging process starts as soon as finished product is ready. The package with the product is subjected to various situational hazards. The success of packaging largely depends on how these hazards have been considered and taken care of. This all requires a panoramic or holistic view about the field of packaging.

The concept & technology of packaging has taken years together to develop to where it is today, through evolution of technology, market and business. In spite of being a value to the business and developing economy, packaging by virtue of consuming resources, creating solid waste and pollution, is posing a grave threat to the environment.

❖ **COURSE OUTCOMES:**

After completing this course students will be able to -

1. Collect various primary and secondary packages.
2. Identify the packaging materials and appreciate their properties.
3. Identify product characteristics of a packaged product.
4. Estimate the hazards to the package along with its contents.
5. Record by testing/ measurement/ observation various parameters of a package.
6. Search web resources on environmental issues related with packaging.

❖ **COURSE DETAILS:****A. THEORY :**

Unit Number and Name	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
Nil			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Introduction to Packaging. - Form suitable number of groups of students. - Collect 05 empty packages/ containers of different products. (Primary & Secondary packages) Products may be assigned by the course teacher. - Prepare a list of the packages and the products they contained. - Submit the list along with the collection.	Introduction	02
2.	Assort the collection of various packages by the class into primary and secondary packaging. - Classify the collected packages into Primary, Secondary & Primary as well as Secondary packaging. - Classify the collected packages into Rigid, semi-rigid and flexible packaging. - Note down the classification. - Identify the material/ materials of the packages. - Measure the physical parameters/ characteristics of the packages/ packaging material such as dimensions, weight, thickness, size, etc. - Prepare a power point presentation on it. - Attach the print out of above presentation in the Journal.	Packaging Materials	12
3.	Identify the product properties/ characteristics and estimate packaging functions. - Select appropriate number of products from the collection. - Identify various physical/ physiochemical properties of the products influencing its packaging. - Predict the functions of the packaging material and the package. - Classify predicted functions into Technical/ Primary and Commercial/ Secondary functions of packaging. - Prepare a brief report on it and attach in the Journal.	Product Characteristics	10
4.	Identify the fitness for use of the product contain by its packaging.		

	• Collect at least one package each of – one Perishable food and one Pharmaceutical Product. • Examine the date of manufacture, expiry/best before. • Note down above information and collect the information on usage of unfit products.	Packaging Communication	04
5.	Judge the hazards of handling, warehousing and transportation. • Observe the printed communication on the package and find out the manufacturer and its geographical location. • Trace out the method of handling, warehousing and transportation. • Outline the distribution channel. • Estimate the hazards to the products and packaging due to of handling, warehousing and transportation. • Interpret material handling instructions as printed on the packaging. • Write a report.	Packaging Hazards	12
6.	Carryout following tests on packaging materials and dummy packages. • Drop test. [IS : 7028 (Part 4) – 1987] • Puncture resistance test. (T 803 om-88) • Rolling test [IS : 7028 (Part 5) – 1987] • Vibration test. IS : 7028 (Part 2) - 2002 • Box compression test. (T 804 om-89) • Analyse the test results.	Package Testing	10
7.	Conduct a Survey/ Case study on environmental burdens caused by Packaging. • Select a Packaging Industry. • Visit to the industry or search information through web resources. • Gather information on different operations performed by the industry. • Study the impact of those operations on environment. • Appreciate 3-R concept (Reduce, Reuse and Recycle) • Prepare presentation.	Survey	12
Skill Assessment			02
Total			64

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
	Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6
End Of Course		End Of The Course	Questionnaires					

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Identification	10
2	Drawing / flowchart/schematics/symbols	10
3	Procedure/involvement/performance	10
4	Viva voce	20
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	-	-	-	-	3	3	3	-	-
2	-	-	-	-	-	-	-	3	3	3	-	-
3	-	-	-	-	-	-	-	3	3	3	-	-
4	-	-	3	-	-	-	-	3	3	3	-	-
5	-	-	3	2	-	-	2	3	3	3	-	-
6	-	-	-	-	1	1	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Fundamentals Of Packaging	F.A. Paine, Newnes-Butterworth, 1973	13: 9780408001076
2.	Packaging users Handbook	F.A. Paine, Springer; 1991	13: 9780751401516
3.	The Packaging Media	F.A. Paine, Blackie Academic & Professional, 1977	13: 9780216901919
4.	Packaging In The Environment	edited by Geoffrey M. Levy	13: 9780751400915
5.	The Wiley Encyclopedia of Packaging Technology.	Marilyn Bakker, John Wiley & Sons Inc. Canada	0471-80940-3
6.	Fundamentals of Packaging Technology	S. Natrajan, M. Govindrajan, B. Kumar, 2E, PHI LPL, Delhi, 2014	978-81-203-5054-0

❖ **E-REFERENCES:**

1. <http://www.iip-in.com/site/default.aspx>
2. <https://books.google.co.in/books?isbn=0470541385>
3. <http://pkt.jinakarn.com/ept.pdf>
4. <http://www.boschpackaging.com/en/pa/homepage/homepage.html>
5. <https://www.youtube.com/watch?v=LbxXpP9ysjo>

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Bursting Strength tester
2. Box compression strength tester
3. Drop tester
4. Universal testing machine
5. Puncture testing machine
6. Edge compression tester

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Prof. R.S.Raool	I/C, Head of Packaging Technology	Government Polytechnic, Nagpur.
2.	Prof. A.S.Bhagat	Lecturer in Packaging Technology	Government Polytechnic, Nagpur.
3.	Prof. Imran K.Syed	Lecturer in Packaging Technology	Government Polytechnic, Nagpur.
4.	Prof. A.P.Pardey	Lecturer in Paper and pulp	Government Polytechnic, Nagpur.
5.	Prof. S.N.Madhugiri	Academician, Ex Principal & Retired Head of	Dharmapeth Polytechnic Nagpur & Dept. Packaging Technology G.P.Nagpur
6.	Prof. P.P Sargaonkar	Consultant & Retired Lecturer in Packaging Technology	Government Polytechnic, Nagpur.
7.	Prof. M.S.Deshpande	BTE Repetitive & Lecturer in Mechanical Engineering	Government Polytechnic, Bramhapuri.
8.	Shri. Suresh Thakur	Industry Expert, Managing Director,	Palekar Food Products, MIDC, Amravati.

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME : DIPLOMA IN CE/ME/EE/EC/CM/IT/AE/PK/TX

LEVEL NAME : ELECTIVE COURSES

COURSE CODE : FE506E

COURSE TITLE : INDUSTRIAL METALLURGICAL PRACTICES

PREREQUISITE : NIL

TEACHING SCHEME : TH: 00; TU: 00; PR: 04(CLOCK HRS.)

TOTAL CREDITS : 02(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)

TH. TEE EXAM : NIL

PR. TEE EXAM : 02 HRS (Internal)

PT. EXAM : NIL

❖ **RATIONALE:**

A technician comes across the various problems in metallurgical industries. Also, at the work place, it is always necessary, to tackle the problem so that the sound metallurgical product can be obtained by application of suitable metallurgical engineering techniques. Hence, the basic knowledge of various industrial metallurgical practices is necessary for a technician. This course helps to impart the basic knowledge to technician for increasing the productivity and a sound metallurgical product.

❖ **COURSE OUTCOMES:**

After completing this course students will be able to–

1. Draw sketches of different tools/machines in metallurgical shops/labs
2. Use of tools and machinery in different metallurgical labs/shops.
3. Operate different equipments/machineries used in basic Metallurgical labs/shops
4. Perform inspection and testing of metallurgical products.
5. Prepare sample for microscopic examination.
6. Choose proper tool for different metallurgical processes.

❖ **COURSE DETAILS:**

A. THEORY :

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Observe the demonstration of hand tools, machine Tools and equipments used in pattern making and mouldings shops and draw the sketches and write specifications, details, applications of above tools.	Pattern making and Moulding	02
2.	Prepare sand mould by using any one pattern (mould to be prepared by group of 2 to 4 students depending on volume of work)		08
3.	Observe the demonstration of hand tools, machine Tools and equipments used in casting shop and draw the sketches and write specifications, details, applications of above tools.	Casting	02
4.	Prepare one casting related to mould prepared. (any one type of casting to be prepared by group of 2 to 4 students depending on volume of work)		08
5.	Observe the demonstration of hand tools, machine Tools and equipments used in metal working operations (rolling, wire drawing, etc) and draw the sketches and write specifications, details, applications of above tools.	Metal working	02
6.	Perform practical related to any one metal working operations		08
7.	Observe the demonstration of hand tools, machine Tools and equipments used in heat treatment Shop and draw the sketches and write specifications, details, applications of above tools.	Heat treatment	2
8	Prepare sample for Performing heat treatment operation and conduct any one heat treatment to steel/cast iron sample		8
9	Observe the demonstration of hand tools and equipments used in testing and inspection lab and draw the sketches and write specifications, details, and applications of above tools.	Testing and inspection	2
10	Carry out various necessary testing and write the test report for any one metallurgical product.		8
11	Observe the demonstration of hand tools, machine Tools and equipments used in metallographic lab and draw the sketches and write specifications, details, applications of above tools.	Metallography	2
12.	Prepare one sample for metallographic examination and examine the sample under metallurgical microscope and draw the structure.		8
Skill Assessment			4
Total Hrs.			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Nil

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Nil

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
	Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6
End Of Course		End Of The Course	Questionnaires					

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Drawing diagram/ selection of equipment's/ writing procedure etc.	10
2	Performance	20
3	Calculation/Result/ Drawing Graphs(if any)	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	-	3	-	-	-	3	-	3	-	-
2	-	-	3	3	-	-	-	3	3	3	-	-
3	-	-	3	3	-	-	-	3	3	3	-	-
4	-	-	3	3	-	-	-	3	3	3	-	-
5	-	-	3	3	-	-	-	3	3	3	-	-
6	-	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Principles of metal castings	Dr. P.C. Mukharjee	81-20300716-X
2.	Foundry Engineering	Shrinivasan	81-7409-026-6
3.	Introduction to Physical Metallurgy	Sidney H. Avner McGraw-Hill international edition, 2 nd edition	0-07-085018-6
4.	Testing of materials by	Prof. A.V.K. Suryanarayana.	81-20300716-X
5	The Testing & Inspection of Engineering materials,	H. E. Davis, G. E. Troxell, McGraw Hill	81-7409-026-6
6	Mechanical Metallurgy	George Dieter, McGraw Hill,	0-07-084453-4
7	Heat treatment Principles and techniques	T.V. Rajan , C.P. Sharma, Prentice Hall of India Pvt. Ltd, 12 th edition	81-20300716-X

❖ **E-REFERENCES:**

<http://books.google.co.in/books/isbn=9380026757> , assessed on

17th March 2016

<http://www.youtube.com/watch?v=101M1kaZIFg> , assessed on 27th April 2016

http://www.youtube.com/watch?v=1HuxDVpy_iv , assessed on 27th April 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Patterns
2. Foundry tools
3. Welding Transformer (Oil Cooled) Three Phase
4. Pit type furnace
5. Mould boxes
6. Crucibles
7. Muffle furnace
8. Mould shaking machine
9. Draw bench
10. Rolling mill
11. Grinder
12. Polishing machine
13. Hardness tester
14. Microscopes
15. NDT equipments

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	K.L.Meshram	Head of the Dept Department of metallurgical Engineering	Government Polytechnic, Nagpur.
2.	Ms. V.C. Humney	Lecturer in Metallurgical Engineering	Government Polytechnic, Nagpur.
3	S.M.Waikar	Lecturer Metallurgical Engineering	Government Polytechnic, Nagpur
4.	Y.Y. Mahajan	Assist. Professor , Metallurgy & Material Science	VNIT Nagpur
5	S.B.Varadpande	Managing director	Orange city alloys Pvt. Ltd Nagpur
6	Y. K. Gaiky	Lecturer Mechanical Engineering	Government Polytechnic, Sakoli

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/EC/AE/MT/PK/TX
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE507E
COURSE TITLE	: COMPUTER NETWORK
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(TH/TU CREDIT = 00 CLOCK HR., 1PR CREDIT = 2 CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

The world in the information era has become network centric. A Computer networks has been growing with rapid technological progress. Computer communication through networking becomes essential part of our life. We can manage many application like Air Line Reservation, Railway Reservation, E-banking, E-Governance, On-Line shopping, E-learning etc. by clicking mouse button from our own place. Because of this, world become the global village. By considering importance of networking towards all aspects of our life, we here introduce basic concept of networks, network classification, network topologies, network devices, Transmission media, Network reference models, concept of TCP/IP.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Identify network and network topologies.
2. Connect and handle different networking devices.
3. Identify network architecture and physical media used to connect computers in network.
4. Identify E-Commerce and E-Governance website on the internet.
5. Use and share Network Recourses.
6. Use various Internet and Intranet Applications

❖ **COURSE DETAILS:****A. THEORY: NIL**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify different types of network.	1.Introduction to Computer network and topologies	2
2.	Identify different network topologies.		2
3.	Connect and identify different Transmission Media.		4
4.	Connect and identify different network controlling devices like hub, switches etc.		4
5.	Connect computers in star topology by using wired media and with any network device (eg. Hub)		4
6.	Install and configure LAN card.	2.Local Area Network	4
7.	Prepare a Straight Cable and Network Cross over Cable and test by Line Tester.		4
8.	Share different devices like printer, scanner etc. over LAN network.	3.Applications & Uses of Computer network	2
9.	Share a printer on a network & print a document on it from a different computer on a network		2
10.	Share files and directories from one computer to other computer on the network.		2
11.	Install Win Messenger on LAN network.		2
12.	Create ID on Win messenger.		2
13.	Communicate through Win Messenger over LAN network.		4
14.	Connect through WAN network	4.Wide Area Network	4
15.	Create Email-ID on any WAN software like Gmail, Rediff, Yahoo etc.		4
16.	Communicate through any WAN software.		4
17.	Search information on the internet.		2
18.	Identify different E-commerce website on the internet like amazon.com, ebay.com etc.	5.Concepts of E-Commerce	2
19.	Connect through any E-commerce website on the internet and learn the procedure to buy books.		2
20.	Identify different E-Governance website on the internet like irtc.co.in etc.	6. Introduction to E-Governance	2
21.	Connect through E-governance railway website on the internet and learn the procedure for online railway reservation.		2
Skill Assessment			4
Total Hrs.			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:NIL**❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:NIL**

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Selection, writing steps, installation etc.	10
2	Connection and configuration.	10
3	Performance	20
5	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	-	-	-	-	3	3	3	-	-
2	-	-	3	3	-	-	-	3	3	3	-	-
3	-	-	3	3	-	-	-	3	3	3	-	-
4	-	-	3	-	-	-	-	3	3	3	-	-
5	-	-	3	3	-	-	-	3	3	3	-	-
6	-	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Computer Networks	Andrew S Tannenbaum, Tata McGraw-Hill Edition, 2012	9780132126953
2.	Fundamentals of computer	E Balaguruswamy, Tata McGraw-Hill Education Pvt. Ltd., 2009	9780070141605
3.	Computer Basics	Micheal Miller, Tata McGraw-Hill Edition, 2012	0789734206
4.	Complete Reference Networking	Craig Zacker, Tata McGraw-Hill Edition	0132126958

❖ **E-REFERENCES:**

<http://www.pcworld.com/article/116583/article.html> , assessed on 20th April 2016

<http://www.computerstepbystep.com/computer-maintenance.html> , assessed on 20th April 2016

<https://www.youtube.com/watch?v=a0rEXzyX0-8>, assessed on 20th April 2016

❖ **LIST OF MAJOR COMPONENTS/DEVICES WITH THEIR SPECIFICATION.**

1. Operating System(Windows 98/2000/XP/7/8/8.1/10)
2. CPU Intel core i3/i5/i7
3. Hub(4 port USB hub, TB-226)
4. Switches
5. Connectors(RJ45/BNC/AUI/FIBER)
6. Printers(INK JET/LASER)
7. Scanner(FLAT BED)
8. Crimps, Strips and cut tools(HT-200R, HT-2008R)

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1	Mr. S.P. Lambhade	Head of Computer Engineering	Government Polytechnic, Nagpur.
2	Dr. Mrs. A.R. Mahajan	Head of Information Technology	Government Polytechnic, Nagpur.
3.	Ms. Shifa S. Sayyed	Lecturer in Information Technology	Government Polytechnic, Nagpur.
4.	Mrs. V A Raje	System Analyst(Lecturer in Computer Engineering)	Government Polytechnic, Nagpur.
5.	Ms. Gayatri B. Chavan	Lecturer in Computer Engineering	Government Polytechnic, Nagpur.
6.	Shri. Atul Upadhyay	COE	Vista computers, Ramnagar, Nagpur
7.	Shri N. V Chaudhri	Asst. Professor (CSE)	DBACEO ,Wanadongri, Nagpur
8.	Shri Manoj Jethawa	HOD, Computer Science	Shri DattaMeghe Polytechnic, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA INCE/ME/EE/EC/PK /TR/AE/TX/MT
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE508E
COURSE TITLE	: PC ARCHITECTURE AND MAINTENANCE
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 1PR CREDIT = 02 CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

As computers are heavily used for most of the activities like office automation, database management etc, the repair and maintenance of computer and its peripheral devices is becoming an essential part of the information technology. This course will enable the student to assemble different types of computer system and maintenance of different supporting equipments like printer, scanner, etc.

❖ COURSE OUTCOMES:

After completing this course students will be able to –

1. Assemble and de-assemble computer system.
2. Perform different setting on various types of printers.
3. Install various types of software's.
4. Install operating system and device drivers in system.
5. Handle computer system hardware.
6. Maintain peripheral devices.

❖ **COURSE DETAILS:****A. THEORY:**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Identify all the peripheral devices.	1. Pc Motherboard And Its Components	2
2.	Identify all components mounted on motherboard.		2
3.	Perform Basic Input/output System (BIOS) setting and configuration setup using Complementary Metal Oxide Semiconductor (CMOS).		4
4.	Install CDRom drive to system.	2. Storage Devices And Interfacing	2
5.	Copy data on CD, DVD		2
6.	Install different types of cards such as Video Graphics Array (VGA) or Super Video Graphics Array (SVGA) display ,sound card ,LAN card, multimedia cards etc.	3.Display Devices And Interfacing	2
10.	Perform different printer settings on different types of printers. Write down the function of each switch.	4. Input And Output Devices	4
11.	Format, partition and install a Hard Disk Drive (HDD).		4
12.	Identify components of Hard Disk Drive (HDD) as a storage device.		2
13.	Connect scanner, scan documents and pictures on the scanner available in your lab. Sample printout be attached		4
14.	Install Internal and External Modem		4
16.	Per form Internet installation.		2
17.	Connect Switched Mode Power Supply (SMPS) and identify different parts of SMPS.	5. Power Supplies	4
18.	Connect Uninterrupted Power Supply (UPS) and write down function of it.		2
19.	Connect speakers and microphones to system.		2
20.	Assemble, de-assemble computer system.	6.Troubleshooting And Tools	4
21.	Identify installed computer peripherals and test their working using diagnostic software		4
22.	Find faults related to Monitor, CPU, Hard disk, Printer and other peripherals.		4
23.	Form a pico based net using Bluetooth devices and transfer data.		4
24.	Create bootable CD and Install an operating system		2
Skill Assessment			4
Total hours			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:NIL**❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:NIL**

❖ ASSESSMENT AND EVALUATION SCHEME:

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
	Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6
End Of Course		End Of The Course	Questionnaires					

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Writing steps, selection, procedure	10
2	Performance	20
3	knowledge/block diagram/connection	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	3	-	-	-	3	3	3	-	-
2	-	-	3	3	-	-	-	3	3	3	-	-
3	-	-	3	3	-	-	-	3	3	3	-	-
4	-	-	3	3	-	-	-	3	3	3	-	-
5	-	-	3	3	-	-	-	3	3	3	-	-
6	-	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Upgrading and repairs PCS	Pearson, Scott Mueller, 20 th Edition, 2012	13: 9780789747103
2.	Troubleshooting Your PC	Mr. David Stone & Alfred Poor, Prentice Hall India, 2000	13: 9780735614901
3.	A+ Complete	David Groth, BPB Publication, 2006	13: 9780782128024
4.	Computer Installation and Servicing	Balasubramaniam, Tata McGraw Hill Education Pvt. Ltd, Reprint, 2011	13: 9781259082467

❖ **E-REFERENCES:**

<http://www.pcworld.com/article/116583/article.html> , assessed on 26th April 2016

<http://www.computerstepbystep.com/computer-maintenance.html> , assessed on 26th April 2016

<https://www.youtube.com/watch?v=a0rEXzyX0-8>, assessed on 26th April 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Operating System(Windows 98/2000/XP/7/8/8.1/10)
2. CPU Intel core i3/i5/i7
3. Fiber optics cable(LSFH Polymer)
4. Unshielded Twisted pairs cable(CAT 1 to CAT5)
5. Connectors(RJ45/BNC/AUI/FIBER)
6. Printers(INK JET/LASER)
7. Scanner(FLAT BED)
8. Crimps, Strips and cut tools(HT-200R, HT-2008R)

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1	Dr. Mrs. A.R. Mahajan	Head of Information Technology	Government Polytechnic, Nagpur.
2	Mr. S.P. Lambhade	Head of Computer Engineering	Government Polytechnic, Nagpur.
1.	Ms.I.G.Lokhande	Lecturer in Information Technology	Government Polytechnic, Nagpur.
2.	Mrs.V.A.Raje	Lecturer in Computer Engg.	Government Polytechnic, Nagpur.
3.	Mrs.D.P.Chanmanwar	Lecturer in Information Technology	Government Polytechnic, Nagpur.
4.	Shri. Atulupadhyay	COE	Vista computers, Ramnagar, Nagpur
5.	Shri N. V Chaudhri	Asst. Professor (CSE)	DBACEO ,Wanadongri, Nagpur
6	Shri Manoj Jethawa	HOD, Computer Science	Shri Datta Meghe Polytechnic, Nagpur

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/AE/PK/MT/EC/IT/CM /TR
LEVEL NAME	: FREE ELECTIVE COURSES
COURSE CODE	: FE509E
COURSE TITLE	: FABRIC SELECTION AND CARE
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 2 PR CREDIT = 1 CLOCK HR.)
TH. TEE EXAM	: NIL
PR. TEE EXAM	: 02 HRs (Internal)
PT. EXAM	: 01 HR

❖ RATIONALE:

Clothes are as important as food and shelter. You use them for covering, protecting and even decorating yourself. You must be having different types of clothes for different occasions like your casual attire, office wear, party dresses, and your night suit and so on. In this course technology and science behind selection of right fabric and its care is illustrated.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Judge the fibres by means of a physical test.
2. Select the yarn and fabric.
3. Illustrate and draw care labels in Textiles.
4. Identify the different methods for different stain removal from textiles.
5. Perform stain removal on fabric.
6. Suggest precaution for storage of textiles.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs
NIL			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practic als	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Prepare textile fibre classification chart.	Fibre	4
2.	Detect the fibre type by means of physical test.		6
3.	Select the different types of yarn and fabric	Yarn	4
4.	Prepare chart of classification of yarn with their end uses.		6
5.	Identify different fabric formation methods.	Fabric	4
6.	Draw the plain and twill weaves on graph paper.		6
7.	Judge quality of textiles based on fibre, yarn and weave.	Selection of Textiles	4
8.	Prepare a chart of removal of different types of stain in a fabric and		6
9.	Perform stain removal on a given fabric.	Care of Textiles	4
10.	Draw care label symbols with instructions for fabrics.		6
11.	Collect 10 garment samples and note the care labels instructions	Maintenance of textiles	4
12.	Prepare the list of precautions necessary for storage of textiles.		6
Skill Assessment			4
Total Hrs.			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Nil

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Nil

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF JOB EVALUATION:**

S.N.	Description	Max. Marks
1	Chart preparation	10
2	Analysis of fabric samples	20
3	Draw symbols/diagrams / sketches	10
4	Viva voce	10
Total		50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	3	-	-	-	3	3	3	-	-
2	-	-	3	3	-	-	-	3	3	3	-	-
3	-	-	3	3	1	-	-	3	3	3	-	-
4	-	-	3	3	-	-	-	3	3	3	-	-
5	-	-	3	3	-	-	-	3	3	3	-	-
6	-	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1	Textile Fabrics:: Their Selection And Care From The Standpoint Of Use, Wear, And Launder ability,	George Henry Johnson : Harper & Brothers (1927)	B000863N32
2	Textiles	Sara J. Kadolph, Pearson Prentice Hall, 2007	0131187694, 9780131187696
3	Fabric Care	Noemia, D Souza : New Age international, 1998	978-81-224-1143-0
4	Fundamentals of Textile and their care	Sushila Dantiyagi : Orient Longman private limited, 2006	8125010270

❖ **E-REFERENCES:**

1. <http://www.textileassociationindia.org/> assessed on 20/9/2016
2. <http://www.fiber2fashion.org/>
3. <http://www.nift.ac.in/>
4. www.itamma.org/
5. <http://www.fabriclink.com/> assessed on 20/9/2016
6. <http://download.nos.org/srsec321newE/321-E-Lesson-22.pdf> assessed on 20/9/2016
7. <http://download.nos.org/srsec321newE/321-E-Lesson-26.pdf> assessed on 20/9/2016

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Mr. D. S. Kulkarni	Head of Textile Department	Government Polytechnic, Nagpur.
2.	Dr. S. B. Muttagi	Lecturer in Textile Technology	Government Polytechnic, Nagpur.
3.	Mr. S. G. Gaikwad	Lecturer in Textile Technology	Government Polytechnic, Nagpur
4.	Dr. C. P. Kapse	Lecturer in Textile Technology	Government Polytechnic, Nagpur.
5.	Mrs. L. S. Chakraborty	Lecturer in Textile Technology	Government Polytechnic, Nagpur.
6.	Prof. G.S. Kakad	Head of Textile Department	JDIT, Yavatmal
7.	Mr. R.N.Yadav	President	RSR Mohota Spinning and Weaving Mill

 (Member Secretary PBOS)

 (Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

(An Autonomous Institute of Govt. of Maharashtra)

COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/EE/EC/CM/TX/MT/PK/IT/TR
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE510E
COURSE TITLE	: TWO AND FOUR WHEELER TECHNOLOGY
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02 (1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

Today majority of people using a vehicle and it becomes a common need of daily life. Therefore, it is felt that one must have knowledge about the various systems and their functional importance and working in the context of automobile and its maintenance. The course aims to impart basic skills and understanding of two and four -wheeler systems basic components their working principle and basic maintenance procedure. Hence, this course has been offered for student of various diploma programme as one of the Allied Courses as “Credit Non-Exam Course”

❖ COURSE OUTCOMES:

After completing this course students will be able to–

- Identify various systems of two wheeler.
- Identify various systems of four wheeler.
- Use different tools required for preliminary maintenance of vehicle.
- Practice to drive two and four wheeler vehicle or simulator.
- Practice various technique and procedure for finding general fault and repair them
- Prepare a report on Motor Vehicle Rules, Road Signals safety and precautions etc.

❖ COURSE DETAILS:

❖ A. THEORY :

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
NIL			

❖ **B. PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:**

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1	Identify the various systems of two wheeler and write report. Report includes- -Classification of two wheeler -Block diagram of various system of two wheeler -function of various systems.	Introduction to Automobile	04
2	Identify the various systems of four wheeler and write report. Report includes- -Classification of four wheeler -Block diagram of various system of four wheeler -function of various systems.		06
3	Use off hand tools and special tools required for maintenance of two and four wheeler vehicle.		06
4	Prepare a report on Motor Vehicle act and traffic signs. Reports includes- -Various motor act. -Driving license requirement. -Traffic signs. -Insurance of vehicle.	Motor Vehicle Act	10
5	Practice four wheeler driving training on simulator.		20
6	Identify below mention faults in two wheeler and repair them. 1) Starting Problem. 2) Mileage Problem. 3) Pick-up Problem. 4) Abnormal sound from Engine and Transmission System.	Fault finding and maintenance of Automobile	08
7	Identify below mention faults in Four wheeler and repair them. 5) Starting Problem. 6) Mileage Problem. 7) Pick-up Problem. 8) Abnormal sound from Engine and Transmission System.		08
Skill Assessment			02
Total hours			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:NIL**❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:NIL**

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form			1, 2, 3, 4,5,6
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Drawing of Sketch, selection of equipment's, procedure etc.	20
2	Performance	10
3	Conclusion	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	-	-	-	-	-	3	3	3	-	-
2	-	-	-	-	-	-	-	3	3	3	-	-
3	-	-	-	3	3	-	-	3	3	3	-	-
4	-	-	3	3	3	-	3	3	3	3	-	-
5	-	-	3	3	3	3	-	3	3	3	-	-
6	-	-	-	-	3	3	3	3	3	3	-	-

1-Slight (Low) 2-Moderate (Medium) 3 –Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Automobile Engineering Vol.I	Dr. Kripal Singh, Standard Publishers Distributors, 13th Edition, 2013	97881801419669
2	Automotive Mechanics	S. Srinivisan, Tata McGraw – HILL, 2nd Edition, 2003	9780070494916
3.	Basic Automobile Engineering	Nakra CP , Dhanpat Rai Publishing Company (P) Limited, 2009	9788187433224
4.	Automotive Mechanics	S. Srinivisan, Tata McGraw – Hill, 2 nd Edition, 2003	9780070494916
5	The Motor vehicle Act	Government Publication, 1989.	Government Publication

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS**

- ❖ Air compressor-1 HP 3 phase, Max Pressure: 4, 95 kg/cm², 70 ltr.
- ❖ Engine Crane –Hydraulic, 2 ton Capacity.
- ❖ Bottle/Floor/Scissor Jacks- 3 ton Capacity.
- ❖ Two Post Lift- Capacity 3.5 Ton, Max Lifting ht - 1830 mm, Min Lowering height - 110 mm, Post height - 3700 mm Lifting time - 55 Secs, Width between posts : 2800 mm, with 1 HP / 2 HP power pack 1 or 3 phase
- ❖ Air hydraulic press - Capacity: 30 Ton. Air pressure: 100-140 PSI. 2 Press plates included (designs may vary) Air inlet fitting: 1/4" NPT
- ❖ Socket/ Impact wrenches- 1/4", 3/8", 1/2" and 3/4"
- ❖ Torque wrenches- 3/8", 1/2" and 3 NM, Ratcheting type/Click-type.
- ❖ Driving simulator.
- ❖ Road signs.
- ❖ Vehicle with two paddle control.

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr.K.S.Dixit	I/C, Head of Automobile Engineering	Government Polytechnic, Nagpur.
2.	Mr. S.D.Thakre	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur.
3.	Mr. R.B.Tirpude	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur.
4.	Mr. Syed J.M.	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur.
5.	Mr. V.S.Kumbhar	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur.
6	Mr. A.R.Yadgire	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur.

(Member Secretary PBOS)

(Chairman PBOS)

GOVERNMENT POLYTECHNIC, NAGPUR.

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COURSE CURRICULUM

PROGRAMME : DIPLOMA IN CE/ME/AE/PK/MT/EC/IT/CM /TX
LEVEL NAME : FREE ELECTIVES
COURSE CODE : FE511E
COURSE TITLE : ENERGY CONSERVATION AND MANAGEMENT
PREREQUISITE : NIL
TEACHING SCHEME : TH: 00; TU: 00; PR: 04(CLOCK HRS.)
TOTAL CREDITS : 02(1 TH/TU CREDIT = 1 CLOCK HR., 1 PR CREDIT = 2 CLOCK HR.)
TH. TEE : NIL
PR. TEE : 02 HRS (Internal)
PT. : NIL

❖ RATIONALE:

Energy conservation is a scientific and basic tool to make balance in different forms of energies. This course imparts the awareness, knowledge and practical skills/ techniques of energy conservation in various sectors. After completion of this course diploma engineering students must use various techniques and methods of energy conservation. Also they should be able to perform energy audit and its implementation.

COURSE OUTCOMES:

After completing this course students will be able to–

1. Determine losses in Mechanical System
2. Use different methods of energy conservation
3. Collect information related to star rating equipment
4. Use energy conservation equipment for energy audit
5. Design efficient illumination scheme for energy conservation
6. Prepare energy audit report.

❖ COURSE DETAILS:

THEORY:

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
Nil			

A. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs
1.	Use different dynamometers and tachometer for measurement of power of rotating shaft.	Mechanical Measurement	4
2	Use RDT PT100 thermal sensor and its module for measurement of temperature at different stages in IC engine.		2
3	Use anemometer and measure quantity of air supplied to IC Engine.		2
4	Determine Volumetric and overall efficiency of two stage reciprocating compressor by conducting trial on test rig.	Mechanical Performance Measurement	4
5	Determine overall efficiency of centrifugal pump and plot operating characteristics by using centrifugal test rig.		4
6	Calculate coefficient of performance by conducting trial on vapour compression refrigeration test rig.		4
7	Collect performance information of 5 stars and 2 stars, same brand split AC and compare the results in terms of energy consumption.	Basic of Energy Conservation	2
8	Calculate electric bill for electric water heating system. Compare it with cost of solar water heating system and calculate payback period of solar water heating system.		2
9	Connect voltmeter, ammeter and wattmeter in electric circuit to measure voltage, current and power required for energy audit.		2
10	Determine losses of single phase Transformer at No load, Half load and Full load by conducting load test.		2
11	Use power guard meter for measurement of different electrical quantities		2
12	Calculate payback period of energy efficient motor. Compare losses of energy efficient motor with similar capacity conventional motor.	Energy Conservation Methods	4
13	Calculate energy saving by using energy efficient equipments like automatic Star – Delta starter for three phase induction motor		4
14	Calculate energy saving in lighting system by retrofitting tube lights with LED lamps. Also calculate payback period.		4
15	Measure illumination level of different places with the help of Digital Lux Meter		4
16	Design illumination Scheme for any one of the following by using energy efficient luminaries; a) Flat b) Bungalow c) Independent House		4
17	Mini project Prepare Energy audit report of any institute/Industry/Hospital/Residence/small workshop.		4

18	Prepare report on visit to cogeneration system.		4
19	Prepare detail report and give presentation in the class on any one of the following topics , i) Energy conservation and Environmental issues ii) Market survey on energy efficient luminaries iii) Market survey on energy efficient motors and transformers. iv) Energy tariff system in India v) Energy conservation equipments vi) Energy Management vii) Energy Audit viii) Energy conservation act 2003		4
Skill Assessment			2
Total Hrs			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Not Applicable

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Not Applicable



❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6	
	End Of Course			End Of The Course	Questionnaires			

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Drawing circuit diagram, selection of equipments, writing procedure etc.	10
2	Performance	20
3	Calculation, Result, Drawing Graphs (if any)	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	3	-	3	3	-	3	-	3	-	-
2	-	-	3	-	3	3	-	3	-	3	-	-
3	-	-	-	-	-	3	-	3	3	3	-	-
4	-	-	3	2	3	-	-	3	3	3	-	-
5	-	-	3	-	-	-	-	3	-	3	-	-
6	-	-	3	-	3	3	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
1.	Generation and Utilization of Electrical Energy	D.Srilatha S.Sivnagraju M.Balasubbareddy Pearson , New Delhi	8131798771, 9788131798775
2.	India – The Energy Sector	P.H. Hederson, University Press,	
3.	Energy management Handbook	W.CTurner, Wiley Press	10: 142008870X
4.	Efficient Use and management of electricity in industry.	B.G. Desai, J.S.Rana, A.V. Dinesh, R. Paraman, Devki Energy Consultancy PVT Ltd	
5.	Renewable Energy Technologies- A Practical guide for beginners	Chetan Singh Solanki, Prentice-Hall of India PVT. Ltd., First, 2008.	978-81-203-3434-2
6	Chetan Singh Solanki, Prentice-Hall of India PVT. Ltd., First, 2008.	Renewable Energy Technologies- A Practical guide for beginners	-978-81-203-3434-2-

7	Non-Conventional Energy Resources	D.S.Chauhan, S.K.Srivastava, New Age International (P) Ltd. Publishers, Second 2011.	13:978-81-224-1768-5
8	Renewable Energy Sources & Conversion Technology	N.K. Bansal, Kleemann, Meliss	0074600230, 9780074600238.
9	Illuminating Engineering	Kamlesh Roy, Laxmi Publication, 2006	9789380386553

❖ **E-REFERENCES:**

1. www.bee.india.nic.in , accessed on 11th November, 2016
2. www.mnes.nic.in , accessed on 11th November, 2016
3. www.energymanagertraining.com , accessed on 11th November, 2016
4. www.greenbusiness.com , accessed on 11th November, 2016
5. www.worldenergy.com , accessed on 11th November, 2016
6. www.mahaurja.com , accessed on 11th November, 2016

❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

1. Lux meter
2. Ammeter MI 0-5-10 A
3. Voltmeter MI 0-150-300 V
4. Wattmeter 0-3000 W
5. Digital Multi-meter
6. Rheostat assorted sizes
7. PV Solar panel
8. Energy efficient motors
9. Energy efficient transformer
10. Energy efficient luminaries
11. Energy efficient Equipments /Devices
12. Power Guard Meter (For measurement of V, I, W, VA, PF, KWh)

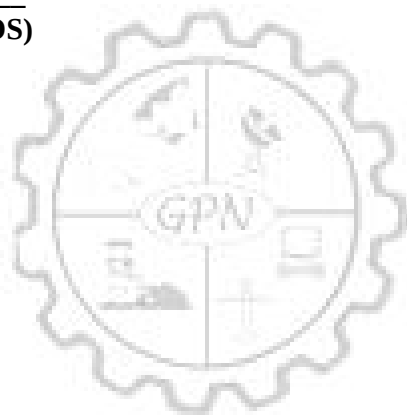
❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr. C.S.Thorat	Principal	Government Polytechnic, Nagpur.
2.	Mr. O. V. Sarode	I/C, Head of Mechanical Engineering	Government Polytechnic, Nagpur
3.	Mrs. K.M.Gaidhane	I/C, Head of Electrical Engineering	Government Polytechnic, Nagpur.
4.	Mr. A.R. Shaikh	Lecturer in Mechanical Engineering	Government Polytechnic, Nagpur.

4.	Mrs.S.P.Thote	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
5.	Dr. R.S.Surjuse	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
6	Mr.G.V.Gotmare	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
7	Mr.N.H.Adikine	Lecturer in Electrical Engineering	Government Polytechnic, Nagpur.
8	Bhashkar Bale	Dy. Executive Engineer,	MSTCL, Nagpur
9	R.Y.Ghormade	Head of Electrical Engineering	Dharampeth Polytechnic, Nagpur
10	DR. S.S.Bharatkar	Lecturer in Electrical Engineering	Government Polytechnic, Amaravati.

(Member Secretary PBOS)

(Chairman PBOS)



GOVERNMENT POLYTECHNIC, NAGPUR.

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COURSE CURRICULUM

PROGRAMME	: DIPLOMA IN CE/ME/AE/PK/MT/EC/IT/CM /TX/TR
LEVEL NAME	: ELECTIVE COURSES
COURSE CODE	: FE512E
COURSE TITLE	: LEARNING ABILITY DEVELOPMENT
PREREQUISITE	: NIL
TEACHING SCHEME	: TH: 00; TU: 00; PR: 04(CLOCK HRs.)
TOTAL CREDITS	: 02(1 TH/TU CREDIT = 1 CLOCK HR., 1PR CREDIT =2CLOCK HR.)
TH. TEE	: NIL
PR. TEE	: 02 HRs (Internal)
PT.	: NIL

❖ RATIONALE:

Learning ability of an engineer or professional is essential through the level at which he/she has developed and persuades his/her hobby. It enhances the creativity. Hobby is integral and important part of human personality. Hobby is best for recreation which rejuvenates a person. To obtain maximum benefits from hobby the overall understanding and competency in performance is utmost important.

❖ COURSE OUTCOMES:

After completing this course students will be able to–

1. Develop learning ability through hobby.
2. Appreciate importance of hobby in developing learning ability.
3. Choose related equipments, consumables and gears.
4. Maintain related equipments.
5. Carry out setting of equipment.
6. Exhibit learning through performance.

❖ **COURSE DETAILS:****A. THEORY :**

Units	Specific Learning Outcomes (Cognitive Domain)	Topics and subtopics	Hrs.
Nil			

B. LIST OF PRACTICALS/LABORATORY EXPERIENCES/ASSIGNMENTS:

Practicals	Specific Learning Outcomes (Psychomotor Domain)	Units	Hrs.
1.	Present following: Learning ability development through hobby.	Introduction	4
2	Collect information about present scenario of related field – Experts in India, Experts in your city	Awareness Development	4
3	Demonstrate different related equipments.	Demonstration	4
4	Demonstrate Performance.		4
5	Practice setting up related instruments	Practice	4
6	Practice performance –level I		20
7	Practice performance –level II		16
8	Practice tuning and preliminary maintenance of related instruments.		4
Skill Assessment			4
Total Hrs			64

❖ **SPECIFICATION TABLE FOR THEORY PAPER:**

Not Applicable

❖ **QUESTION PAPER PROFILE FOR THEORY PAPER:**

Not Applicable

❖ **ASSESSMENT AND EVALUATION SCHEME:**

	What		To Whom	Frequency	Max Marks	Min Marks	Evidence Collected	Course Outcomes
Direct Assessment Theory	CA (Continuous Assessment)	Progressive Test (PT)	Students	Two PT (average of two tests will be computed)	--	--	--	--
		Assignments		Continuous	--	--	--	--
	TEE (Term End Examination)	End Exam	Students	End Of the Course	--	--	--	--
				Total	--	--	--	--
Direct Assessment Practical	CA (Continuous Assessment)	Skill Assessment	Students	Continuous	20	--	Rubrics & Assessment Sheets	1, 2, 3, 4,5,6
		Journal Writing		Continuous	05	--	Journal	1, 2, 3, 4,5,6
				TOTAL	25	10		
	TEE (Term End Examination)	End Exam	Students	End Of the Course	50	20	Rubrics & Printouts	1, 2, 3, 4,5,6
	Indirect Assessment	Student Feedback on course		Students	After First Progressive Test	Student Feedback Form		1, 2, 3, 4,5,6
End Of Course		End Of The Course	Questionnaires					

❖ **SCHEME OF PRACTICAL EVALUATION:**

S.N.	Description	Max. Marks
1	Practical on setting up / tuning related instruments	10
2	Performance –level I	20
3	Performance –level II	10
4	Viva voce	10
	TOTAL	50

❖ **MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES:**

Course Outcomes	Program Outcomes (POs)										PSOs	
	1	2	3	4	5	6	7	8	9	10	1	2
1	-	-	-	-	-	-	-	-	-	3	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	3	3	-	3	-	3	3	3	-	-
4	-	-	3	3	-	3	-	3	3	3	-	-
5	-	-	3	3	-	3	-	3	3	3	-	-
6	-	-	3	3	-	-	-	3	3	3	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

❖ **REFERENCE & TEXT BOOKS:**

S.N.	Title	Author, Publisher, Edition and Year Of publication	ISBN Number
NIL			

❖ **E-REFERENCES:**

- ❖ <https://en.wikipedia.org/wiki/Hobby>
- ❖ www.justdial.com/Nagpur/Hobby
- ❖ nagpur.quikr.com

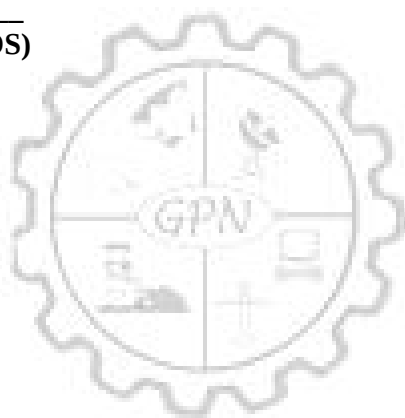
❖ **LIST OF MAJOR EQUIPMENTS/INSTRUMENTS WITH SPECIFICATION**

- ❖ As per requirement of related field.

❖ **LIST OF EXPERTS & TEACHERS WHO CONTRIBUTED FOR THIS CURRICULUM:**

S.N.	Name	Designation	Institute / Industry
1.	Dr. C.S.Thorat	Principal	Government Polytechnic, Nagpur.
2.	Dr. K.S.Dixit	Head of Automobile Engineering	Government Polytechnic, Nagpur.
3.	Mr. S.A.Telang	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur.
4.	Mr. R.B.Tirpude	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur
5.	Mr. J.M.Syed	Lecturer in Automobile Engineering	Government Polytechnic, Nagpur

(Member Secretary PBOS)



(Chairman PBOS)

Vision of the Travel and Tourism Program

To become a centre of excellence in imparting skill based Travel & Tourism Education.

Mission of the Travel and Tourism Program

- M1:** To impart high quality travel & tourism education and professional ethics to students.
- M2:** To adopt the best pedagogical methods in order to maximize knowledge transfer.
- M3:** To have adequate mechanisms to enhance understanding of implementation of theoretical concepts in practical scenarios.
- M4:** To provide the best facility, infrastructure, and environment to the students and Faculty members, creating an ambience conducive for excellence in travel & tourism education.

Program Educational Objectives - PEOs

- PEO1** : To acquire a strong background in basics of travel, technical arts and ability to use these tools in travel and tourism.
- PEO2** : To develop the ability to demonstrate technical competence in the fields of travel & tourism and develop solutions to the problems in various areas of travel and tourism.
- PEO3** : To develop professional skills by using modern tools in travel & tourism.
- PEO4** : To attain the qualities of professional leadership and excellence through life-long learning and produce professionals who ensure ethical and moral behavior.
- PEO5** : To produce travel professionals who ensures social responsibility and environmental concern.

Program Specific Outcomes - PSOs

- PSO1** : Plan, organize, market, sell and execute tours.
- PSO2** : Assist people make their travel easier and convenient.

Program Outcomes

- PO1 : Basic Knowledge:** Ability to apply knowledge of basic Mathematics, Science and Engineering to solve the engineering problems.
- PO2 : Discipline Knowledge:** Ability to discipline specific knowledge to solve core and/or applied engineering problems.
- PO3 : Experiments and Practice:** Ability to plan and perform experiments and practices and use the results to solve engineering problems.
- PO4 : Engineering Tools:** Apply appropriate technologies and tools with understandings of limitations.
- PO5 : The Engineer and Society:** Demonstrate knowledge to assess the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice.
- PO6 : Environment and Sustainability:** Understand the impact of engineering solutions in societal and environmental context, and demonstrate knowledge and need for sustainable development.
- PO7 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- PO8 : Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.
- PO9 : Communication:** An ability to communicate effectively.
- PO10: Life-long learning:** Recognise the need for, and have preparation and the ability to engage in independent and life-long learning in context of technological changes.



GOVERNMENT POLYTECHNIC

Opp. Mangalwari Bazar, Sadar, Nagpur-440001

(0712) 2564483 Fax : (0712) 2562741

Website : <http://www.gpnagpur.ac.in>

Email : info@gpnagpur.ac.in.