



Government Polytechnic, Nagpur

Diploma in Electrical Engineering

NEP 2020 Align Curriculum 2026 Program Structure



Semester: First

Sem Duration: 16 Weeks

NCrF Entry Level: 3.0

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)						Total Marks
														CL		TL/LL		SL		
							CL	TL	LL	SL	NLH			Cr	SA	FA	SA	FA	SA	
1	MH101K	Basic Mathematics		Nil	DSC	4	4	2	-	2	8	(120)	4	70 %	30	-	25	25 %	150	
2	PH101K	Applied Physics		Nil	DSC	2	4	-	2	2	8	(120)	4	70 %	30	25	25	25 %	175	
3	ME153K	ENGINEERING GRAPHICS (ELECTRICAL)		Nil	DSC	-	2	-	4	-	6	(90)	3	-	-	50	50	-	100	
4	EN101K	Communication Skills		Nil	AEC	-	3	-	2	1	6	(90)	3	70 %	30	25	25	25 %	175	
5	WS152K	Workshop Practice (Electrical)		Nil	SEC	-	-	-	4	-	4	(60)	2	-	-	50	50	-	100	
6	CM151K	Basics of Computer		Nil	SEC	-	-	-	2	2	4	(60)	2	-	-	25	25	25 %	75	
7	VE151K	Integrated Personality Development		Nil	VEC	-	-	-	2	2	4	(60)	2	-	-	25	25	25 %	75	
					Total	6	13	2	16	9	40	(600)	20	210	90	200	225	125	850	

Abbreviations:

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Symbols: Classroom Learning Summative Assessment: ** Objective Type Online 1 Hour Duration, *@ 3 Hour Duration, *# 4 Hour Duration, + Laboratory Learning Summative Assessment: + External Examiner, % Internal Examiner Only . ₹ Course for Award of Diploma, \$ Online Mode

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Electrical Engineering

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Member Secretary PBOS
Electrical Engineering



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Diploma in Electrical Engineering

NEP 2020 Align Curriculum 2026 Program Structure



Semester: Second

Sem Duration: 16 Weeks

NCrF Entry Level: 3.0

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)					Total Marks	
														CL		TL/LL		SL		
							CL	TL	LL	SL	NLH	Cr	SA	FA	SA	FA	SA			
1	MH103K	Applied Mathematics		Nil	DSC	4	4	2	-	2	8	(120)	4	70 %	@	30	-	25	25 %	150
2	CH101K	Applied Chemistry		Nil	DSC	2	4	-	2	2	8	(120)	4	70 %	@	30	25	25 %	175	
3	EE101K	Fundamentals of Electrical Engineering		Nil	DSC	-	3	-	2	1	6	(90)	3	70 %	@	30	25	25 %	175	
4	EC102K	Basic Electronics		Nil	DSC	-	3	-	2	1	6	(90)	3	70 %	@	30	25	25 %	175	
5	EN151K	Business Communication		Nil	AEC	-	2	-	2	-	4	(60)	2	-		-	25	25 %	50	
6	EE151K	Electrical & Electronics Workshop		Nil	SEC	-	-	-	4	-	4	(60)	2	-		-	50	50 %	100	
7	VE152K	Environmental Sustainability		Nil	VEC	10	-	-	2	2	4	(60)	2	-		-	25	25 %	75	
					Total	16	16	2	14	8	40	(600)	20	280		120	175	200	125	900

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NEP 2020 Align Curriculum 2026 Program Structure



Scheme: First Year Exit

Duration: 4 Weeks

NCrF Entry Level: 3.5

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)						Total Marks
														CL		TL/LL		SL		
							CL	TL	LL	SL	NLH		Cr	SA	FA	SA	FA	SA		
1	IN151K	Internship (Basic Skills)		40 Cr	INP	-	-	-	-	8	8	(120)	4	-	-	-	-	50 +	50	
					Total	0	0	0	0	8	8	(120)	4	0	0	0	0	50	50	

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NEP 2020 Align Curriculum 2026 Program Structure



Semester: Third

Sem Duration: 16 Weeks

NCrF Entry Level: 3.5

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)						Total Marks		
														CL		TL/LL		SL				
							CL	TL	LL	SL	NLH		Cr	SA	FA	SA	FA	SA				
1	EE201K	Electrical Power Generation		EE101K	DSC	-	3	-	2	1	6	(90)	3	70	*@	30	25	%	25	25	%	175
2	EE202K	Electrical Circuit & Network		EE101K	DSC	-	4	-	2	-	6	(90)	3	70	*@	30	25	+	25	-		150
3	EE203K	Electrical Measurments & Instrumentation		EE101K	DSC	-	4	-	2	2	8	(120)	4	70	*@	30	25	+	25	%	175	
4	EE204K	DC Machines & Transformers		EE101K	DSC	-	4	-	2	2	8	(120)	4	70	*@	30	25	+	25	%	175	
5	ME212K	Basics of Mechanical Engineering		Nil	DSC	-	2	-	2	-	4	(60)	2	70	**	30	25	%	25	-		150
6	EE251K	Electrical Materials & Wiring		EE151K	SEC	-	2	-	4	-	6	(90)	3	-		-	50	%	50	-		100
7	VE252K	Yog & Meditation		Nil	VEC	30	-	-	2	-	2	(30)	1	-		-	25	%	25	-		50
					Total	30	19	0	16	5	40	(600)	20	350		150	200		200	75		975

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NEP 2020 Align Curriculum 2026 Program Structure



Semester: Fourth

Sem Duration: 16 Weeks

NCrF Entry Level: 3.5

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)						Total Marks
														CL		TL/LL		SL		
							CL	TL	LL	SL	NLH			Cr	SA	FA	SA	FA	SA	
1	EE206K	AC Machines	₹	EE101K	DSC	-	4	-	2	2	8	(120)	4	70 *@	30	25 +	25	25 %	175	
2	EE207K	Electrical Power Transmission & Distribution	₹	EE101K	DSC	-	3	-	2	1	6	(90)	3	70 *@	30	25 +	25	25 %	175	
3	EE208K	Power Electronics		EC102k	DSC	-	3	-	2	1	6	(90)	3	70 *@	30	25 %	25	25 %	175	
4	EEXXXK	Discipline Specific Elective I		-	DSE	-	3	-	2	1	6	(90)	3	70 *@	30	25 +	25	25 %	175	
5	EE252K	Repairs of Electrical Machines		EE151K	SEC	-	-	-	4	-	4	(60)	2	-	-	50 +	50	-	100	
6	##291K	Open Elective		Nil	OE	-	2	-	2	-	4	(60)	2	70 **	30	25 %	25	-	150	
7	IN251K	Entrepreneurship & Startup		Nil	INP	-	2	-	2	-	4	(60)	2	-	-	25 %	25	-	50	
8	VE251K	Indian Constitution		Nil	VEC	-	1	-	-	1	2	(30)	1	-	-	-	-	50	50	
					Total	0	18	0	16	6	40	(600)	20	350	150	200	200	150	1050	

List of Discipline Specific Elective I

1	EE209K	Renewable Energy Technologies	EE101K
2	EE210K	Electric Vehicle Technologies	EE101K
3	EE211K	Solar PV Technologies & Maintenance	EE101K

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NEP 2020 Align Curriculum 2026 Program Structure



Scheme: Second Year Exit

Duration: 4 Weeks

NCrF Entry Level: 4.0

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)						Total Marks
														CL		TL/LL		SL		
							CL	TL	LL	SL	NLH		Cr	SA	FA	SA	FA	SA		
1	IN252K	Internship (Vocational Skills)		80 Cr	INP	-	-	-	-	8	8	(120)	4	-	-	-	-	50 +	50	
					Total	0	0	0	0	8	8	(120)	4	0	0	0	0	50	50	

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Semester: Fourth

List of Open Elective Courses

SN	Course Code	Course Title
1	CE291K	Civil Engineering Practise
2	ME291K	Elements of Mechanical Engineering
3	EC291K	Microcontroller And Applications
4	IT291K	Python Programming
5	MT291K	Foundry Technology
6	TX291K	General Textile Technology
7	AE291K	Basics of Automobile
8	PK291K	Basics of Packaging Technology
9	CM291K	Web Development
10	MK291K	Basic Mechatronics
11	AI291K	Basics of Artificial Intelligence
12	TR291K	Adventure Tourism
13	NP291K	Any one NPTEL Course of more than 8 week duration

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NEP 2020 Align Curriculum 2026 Program Structure

Semester: Fifth

Sem Duration: 16 Weeks

NCrF Entry Level: 4.0

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)						Total Marks
														CL		TL/LL		SL		
							CL	TL	LL	SL	NLH			Cr	SA	FA	SA	FA	SA	
1	EE301K	Switchgear & Protection	₹	EE206K	DSC	-	4		2	2	8	(120)	4	70 %	@	30	25 +	25	25 %	175
2	EE302K	Electrical Estimating & Contracting	₹	EE251K	DSC	-	3	-	2	1	6	(90)	3	70 %	@	30	25 +	25	25 %	175
3	EE303K	Electrical Utilization & Traction	₹	EE206K	DSC	-	3	-	2	1	6	(90)	3	70 %	@	30	25 +	25	25 %	175
4	EE304K	Energy Conservation & Audit	₹	EE203K	DSC	-	3	-	2	1	6	(90)	3	70 %	@	30	25 +	25	25 %	175
5	EEXXXK	Discipline Specific Elective II	₹	-	DSE	-	4	-	2	-	6	(90)	3	70 %	@	30	25 %	25	-	150
6	EE351K	Capstone Project	₹	40 Cr	SEC	-	-	-	4	-	4	(60)	2	-		-	75 +	75	-	150
7	EE352K	Electrical Software & CAD	₹	EE101K	SEC	-	-	-	4	-	4	(60)	2	-		-	50 +	50	-	100
					Total	0	17	0	18	5	40	(600)	20	350		150	250	250	100	1100

List of Discipline Specific Elective II

1	EE305K	Digital Electronics & Microcontroller	EC102K
2	EE306K	PLC & SCADA	EE203K
3	EE307K	Electrical Drives & Control	EE208K

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NEP 2020 Align Curriculum 2026 Program Structure



Semester: Sixth

Sem Duration: 16 Weeks

NCrF Entry Level: 4.0

SN	Course Code	Course Title		Pre-requisite Course/ Credits	Course Category	Total IKS Hours	Learning Scheme (Hours/Week)				Notional Hours/ Week (Total Notional Hours)		Credits	Assessment Scheme (Marks)					Total Marks
														CL		TL/LL		SL	
							CL	TL	LL	SL	NLH		Cr	SA	FA	SA	FA	SA	
1	IN351K	Internship (16 Weeks)	₹	50 Cr	INP	-	-	-	2	30	32	(480)	16	-	-	100 +	-	100 %	200
2	SE351K	Seminar	₹	50 Cr	AEC	-	-	-	2	2	4	(60)	2	-	-	50 %	-	50 %	100
3	IN301K	Industrial Management	\$	Nil	INP	1	4	-	-	-	4	(60)	2	70 **	30	-	-	-	100
					Total	1	4	0	4	32	40	(600)	20	70	30	150	0	150	400

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List of Courses for Award of Diploma in Engineering



SN	Semester	Course Code	Course Title	Credits	Total Marks
1	Fourth	EE206K	AC Machines	4	175
2	Fourth	EE207K	Electrical Power Transmission & Distribution	3	175
3	Fifth	EE301K	Switchgear & Protection	4	175
4	Fifth	EE302K	Electrical Estimating & Contracting	3	175
5	Fifth	EE303K	Electrical Utilization & Traction	3	175
6	Fifth	EE304K	Energy Conservation & Audit	3	175
7	Fifth	EEXXXK	Discipline Specific Elective II	3	150
8	Fifth	EE351K	Capstone Project	2	150
9	Fifth	EE352K	Electrical Software & CAD	2	100
10	Sixth	IN351K	Internship (16 Weeks)	16	200
11	Sixth	SE351K	Seminar	2	100
			Total	45	1750

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