

GOVERNMENT POLYTECHNIC, NAGPUR

(An Autonomous Institute of Govt. of Maharashtra)

Continuing Education Programme

“Advance Technologies in Software Development [A]” Through C and C++

Duration: 02 and 1/2 Months

Course Fee: 7,500/-

Batch: Morning (7:30am to 10:00am), Evening (06:00pm to 08:30pm)

Module I

- ♣ Data types and variables.
- ♣ Sequence, decision, repetitive case control instructions.
- ♣ Functions call by value, call by reference recursive functions. Exploring user defined and library functions.
- ♣ Storage classes, preprocessor directives types of integers, floats, char.
- ♣ Arrays, single dimensional, double dimensional, three-dimensional and multi dimensional.
- ♣ Strings, string functions etc.
- ♣ Structures, its uses in real life programs.
- ♣ Union and its uses in real life programs.
- ♣ Bit wise operators and its uses.
- ♣ File handling, binary file handling & ASCII files.

Module II

- ♣ Encrypting/Decrypting files.
- ♣ File copy utilities.
- ♣ Command line arguments.

Module III

- ♣ Booting of computer as regards to C, C++.
- ♣ Memory organization.
- ♣ Physical and logical structure of disk.
- ♣ Boot record, FAT, Directory, Data space.
- ♣ Hardware and software interrupts.
- ♣ CPU registers.
- ♣ VDU memory.
- ♣ ASCII values and scan codes.

Module IV

- ♣ Graphics in C and C++.
- ♣ Display monitors and Display Adapters
- ♣ Color generation.
- ♣ Drawing regular shapes.
- ♣ Pattern and fill styles.

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- ♣ Freehand drawing using mouse.

Module V

- ♣ Writing vaccines and removing viruses.

Module VI

- ♣ Writing text to VDU.
 - ♣ Changing file attributes.
 - ♣ Issuing interrupts.
 - ♣ Data structures linked list.
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C++ (All concept of OPP)

- ♣ OOP Methodology
- ♣ Classes and Objects.
- ♣ Function and Operator overloading.
- ♣ Inheritance and Polymorphism.
- ♣ Static and Dynamic binding.
- ♣ Virtual, pure virtual and friend functions, Upcasting.
- ♣ Template and Exception handling.
- ♣ Collection classes.
- ♣ File handling, Binary and ASCII files