# FACULTY OF ENGINEERING & INFORMATICS
**B.E. I – Year (Backlog) Examination, May / June 2017**

### Subject : Programming in C & C++

**Time : 3 Hours**                                         **Max. Marks: 75**

*Note: Answer all questions from Part-A and answer any five questions from Part-B.*

### PART – A (25 Marks)

1   Define Assembler. How is it different from a compiler?                                         2
2   Differentiate break and continue statement                                                       3
3   What do you mean by library function and user defined function? Name
    two library functions.                                                                                         2
4   Write a function to find the factorial of a given number.                                    3
5   List the different ways of creating constants in C.                                            2
6   Write a function in 'C' that compares two files and returns true if the files are
    identical and false if their contents vary.                                                          3
7   How friend function differs from the member function of a class.?                      2
8   List the different access specifiers that can be used in a class and their effect.   3
9   What is virtual function ?give example.                                                            3
10  How dynamic memory allocation and deallocation is done in c++.                       2

### PART – B (50 Marks)

11. (a) What is an operating system? Explain the various types of operating systems with examples for each.
    (b) The total distance traveled by vehicle in $t$ seconds is given by distance = $ut + 1/2\ at^2$ where $u$ and $a$ are the initial velocity (m/sec.) and acceleration (m/sec$^2$). Write C program to find the **distancetraveled at regular intervals** of time given the values of $u$ and $a$. The program should provide the flexibility to the user to select his own time intervals and repeat the calculations for different values of ' $u$' and ' $a$'.

12 (a) Explain the pointer arithmetic with example.
    (b) In a quiz competition there are 'n' teams. The teams got different point. For announcing the first and the second winners the points need to be sorted. Apply any one of the sorting algorithms and identify the first and the second winners.

13 (a) Write a program to display the contents of file in reverse order.
    (b) Define a structure of employees of an organization with the following fields: Empno, Empname, Date_of_joining, Salary, Department. Write a program which accepts information of ten employees and print the information of employee in the sorted of salary .

14 (a) Define a class to represent a bank account. Include the following data members and member functions.
    Data member     : Depositor name,  A/C no , Type of A/C,  Balance Amount ,
    Member function :InitialBalance,  Deposit,  Withdraw.
    Display name & balance of account holder who is having highest balance.
    (b) Explain overloading binary operator as a member function of a class and as friend function of a class with example.

..2

15 (a) Write a template function for Sorting   values present in an array. Use this function in main() for int, double and char type of values.
   (b) Explain  exception handling with multiple catch statements with example.

16 (a) Write a program to display prime numbers present in a Fibonacci series.
   (b) What are the various C pre-processor directives  explain them with example.

17 Write short notes on
   (a) Function overloading
   (b) Unions
   (c) Constructors

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