Roll No…….. **Total No. of Printed Pages: [01]**

Total No. of Questions: [09]

B.Sc. (Hons Math) (Semester – 2nd)

FUNDAMENTALS OF COMPUTERS AND C++ PROGRAMMING

Subject Code: BCAP1-203

Paper ID: [18131210]

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1. Attempt the following:

a. Can relational operations be performed on a string? Explain.
b. What is the null character and what it is used for, in the context of the strings?
c. What are variables in C language? Write rules for naming any identifier.
d. WAP to remove all the characters of a string except alphabets.
e. What are various bitwise operators available in C? How are they different from logical operators?
f. Define Compiler?
g. How operating systems work?
h. What is the need of function prototype?
i. What is Software Development Life Cycle (SDLC)?
j. Describe the advantage using pointer?

Section – B **(5 marks each)**

Q2. Explain the functioning of each unit of computer with the help of block diagram.

Q3. Write a program that compares two given dates. To store a date use a structure that contains three members namely date, month and year. If dates are equal then display the message “EQUAL” otherwise “UNEQUAL”.

Q4. Write a program to generate Fibonacci series up to n (i.e. given number) using while loop as well as do- while loop.

Q5. Find and store transpose of a non-square matrix (i) into a new matrix,(ii) into itself without using any extra array/matrix. Display the result as row-wise matrix.

Q6. Differentiate between break and continue statement with suitable example of each.

Section – C **(10 marks each)**

Q7. Write a modular program to find sum of 2 matrices. Matrices could be non-square and orders should be read in main. Make separate functions for:

a. reading a matrix
b. adding two matrices
c. displaying a matrix

Q8. Write a program in C to find out largest number in an array of 10 numbers.

Q9. What is a string? Write down a program to find length of a string.