B.Sc. (Hons. Math) (Semester – 1st)
FORTRAN PROGRAMMING
Subject Code: BCAP1101
Paper ID: [18131205]

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) What are external procedures?
   b) Explain the basic data types in FORTRAN.
   c) Define modules.
   d) Explain the syntax of IF statement with the help of suitable example.
   e) What is static library?
   f) Differentiate between function and subroutine in FORTRAN.
   g) Explain arrays in FORTRAN with the help of suitable example.
   h) Difference between Windows and Linux.
   i) Explain the various intrinsic functions in FORTRAN.
   j) What are FORTRAN I/O files?

Section – B   (5 marks each)
Q2. What are mask array? Explain the different operations that can be performed on arrays.
Q3. Explain step by step procedure to link Fortan program to GNU plot graphic library.
Q4. Define recursion with the help of example.
Q5. Explain different types of decision making statements with the help of example.
Q6. Write a program that reads a number and checks if it odd or even.

Section – C   (10 marks each)
Q7. (a)Explain the various LOOP control statements in FORTRAN along with example.
(b) Write a program to print prime numbers between 1 to 50 using   LOOP control statement.
Q8. What are files? Explain various file I/O statements. Also explain what are the various ways to open and close a file in   FORTRAN with the help of suitable example.
Q9. Define functions. Write a program to find factorial of a number using function.