

U.G. 3rd Semester Examination - 2020

COMPUTER SCIENCE

[HONOURS]

Generic Elective Course (GE)

Course Code : COM.SC-H-GE-L-101

(Computer Fundamentals & Programming using C)

Full Marks : 40 Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP-A

1. Answer any **five** questions from the following:

2×5=10

- a) What is function prototyping? Explain with an example.
- b) What is the difference between while loop and do-while loop?
- c) What is structure? How it is different from union?
- d) What do you mean by local variable and global variable?
- e) What is the difference between macro and function?

[Turn over]

- f) What is array of structure? Give an example.
- g) What is pointer?

GROUP-B

2. Answer any **two** questions: 5×2=10

- a) What is an operator? Explain the arithmetic, relational, logical, and assignment operator in C language. 1+2+2=5
- b) Write a program in C to display the following pattern: 5

```
      *
     ***
    *****
   *********
  ***********
 *****
  *****
   *****
    *****
     ***
      *
```

- c) What is meant by call by value? Explain how it is different from call by reference. Write a C program to support your answer. 5
- d) Write a C program to remove characters other than alphabets from a given string(Example: input: a@rt\$%* and output: art). 5

GROUP-C

Answer any **two** questions: $10 \times 2 = 20$

3.
 - a) Define program. Write various steps in the development of a program.
 - b) Briefly describe about various file opening modes in C. $5 + 5 = 10$
4.
 - a) What is recursive function?
 - b) What do you mean by library function and user defined function?
 - c) Write a C program using function to calculate the factorial value of an integer entered through the keyboard. $2 + 3 + 5 = 10$
5.
 - a) Write a C program to check whether a number is prime or not.
 - b) Write a C program to pick up the largest number from any 5 row by 5 column matrix. $5 + 5 = 10$
6. Write short note on any **two** of the following: $5 \times 2 = 10$
 - a) Operations on strings
 - b) Storage classes in C
 - c) Operations on pointers