

# CBCS SCHEME

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17PCD13/23

## First/Second Semester B.E. Degree Examination, Feb./Mar. 2022 Programming in C and Data Structures

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. What is Pseudocode? Write a Pseudocode to find the area of a circle. (10 Marks)
- b. What is variable? Explain how to declare and initialize a variable. (05 Marks)
- c. What is an operator? Explain different relations operators with example. (05 Marks)

OR

- 2 a. What is an Algorithm? Write an algorithm to compute the area of rectangle. (10 Marks)
- b. Explain the formatted Input/Output functions with its syntax and example. (10 Marks)

### Module-2

- 3 a. What are the different forms of if-standard? Explain any two with syntax, flow chart and example. (12 Marks)
- b. Write a C-program to find the sum of digits of a given integer number. (08 Marks)

OR

- 4 a. Explain switch statement with its syntax, flow chart and example. (08 Marks)
- b. Explain the difference between while and do-while loops. (06 Marks)
- c. Write the difference between break and continue statements. (06 Marks)

### Module-3

- 5 a. What is an ARRAY? Explain the different ways of initializing an one dimensional array with an example. (10 Marks)
- b. What is a function? Write a functional program to find the sum of two numbers. (10 Marks)

OR

- 6 a. With an example program explain different parameter passing techniques to a function. (10 Marks)
- b. What is a string? Explain any five string handling functions? (10 Marks)

### Module-4

- 7 a. What is structure? Write a program using structure to read the employee details such as employee number, name and salary of each employee and display total salary of all the employees. (12 Marks)
- b. Explain any four file handling functions. (08 Marks)

OR

- 8 a. Explain with an example program how to pass structure to a function. (08 Marks)  
b. Explain structure with in a structure with an example. (05 Marks)  
c. What is a file? Explain different modes of file with an example. (07 Marks)

**Module-5**

- 9 a. What is a pointer? Explain how to declare and initialize a pointer variable. (08 Marks)  
b. What is dynamic memory allocation? Explain the different dynamic memory allocation function. (08 Marks)  
c. What is stack? Explain different operations performed on stack. (04 Marks)

OR

- 10 a. What is a Queue? Explain different operations performed on Queue. (04 Marks)  
b. Explain the difference between static memory allocation and dynamic memory allocation. (08 Marks)  
c. What is a macro? Write a program to find the square of a number using macros. (08 Marks)

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