

Total No. of Questions—8]

[Total No. of Printed Pages—3

BE-I/11(A)

236199

(New Course)

(Computer Engg.)

COMPUTER PROGRAMMING—COURSE NO. ESC-101

Time Allowed—3 Hours

Maximum Marks—100

Note :— Attempt Five questions in all, selecting at least two questions from each Section. Each question carries equal marks. Use of calculator is allowed.

Section A

1. (a) What do you mean by flowchart and different symbols used in flowcharts. Give an example of flowchart. 10
- (b) What is structured programming ? Explain the relevant constructs using pseudo-code. Highlight the advantages and disadvantages of structured programming. 10
2. (a) Discuss various relational and bitwise operators used in C with suitable example. 10
- (b) Write a program to display sum and product of the digits of a number ? Your code should be adequately commented. 10

[Turn over

3. (a) Explain different Decision-making and Looping Statements with example. 10
- (b) Discuss various storage classes used in C with suitable example. 10
4. (a) Difference between for if-else and switch statements along with examples. 10
- (b) Write a program to print the following series : 10
- $$1 + 11 + 111 + 1111 + \dots + N$$

Section B

5. (a) What are function prototypes ? What is their purpose ? Summarize the rule associated with them different categories of function ? Explain any *two* with example. 6
- (b) Write a program to swap two numbers without using third variable. 6
- (c) How a string is stored in C ? List the important library functions for string manipulations with example for each. 8
6. (a) Distinguish between call by value and call by reference with the help of program. 10
- (b) Write a program to read and print two matrices and also print addition of two matrices. 10

7. (a) What is structure ? Write a program to illustrate the concept of structure and how member variables are accessed. 10
- (b) Write a program to print Fibonacci series using recursive function. 10
8. (a) Explain different methods of dynamic memory allocation with example. 7
- (b) Discuss different disk input and output functions and Console input-output functions used in C. 6
- (c) What is a file ? Explain how the file open and file close functions. 7