

Code: 13A05101

B.Tech I Year (R13) Supplementary Examinations June 2016

PROBLEM SOLVING & COMPUTER PROGRAMMING

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define a variable.
 - (b) What is a Flowchart? Why it is used?
 - (c) What is Type Conversion?
 - (d) What is the difference between while and do-while loops?
 - (e) What are the applications of Factorial Computation Method?
 - (f) Write some examples for Standard Functions.
 - (g) How strings are stored in C?
 - (h) What are enumerated data types?
 - (i) Define Pointer.
 - (j) List the different Memory Allocation Functions.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

- 2 (a) List and explain briefly about the different computer languages.
(b) What are the requirements for solving problems by Computer? Discuss.

OR

- 3 (a) What is an Identifier? Explain the rules to define an Identifier.
(b) List the Qualities and Capabilities of Good Algorithms.

UNIT - II

- 4 (a) Illustrate the importance of Precedence and Associativity in Evaluating Expressions.
(b) Design an Algorithm for computing the factorial of a given number.

OR

- 5 With Suitable C programs, describe Two Way Selection and Multiway Selection. Explain the differences between them.

UNIT - III

- 6 What is an Array? With a suitable example, explain Binary Search method using arrays.

OR

- 7 (a) Write an algorithm to find the GCD of given two non-zero integers.
(b) Describe in detail about the user defined functions.

UNIT - IV

- 8 (a) Illustrate different String Input/output functions.
(b) With a suitable example, explain the difference between Structure and Unions.

OR

- 9 (a) Define String? What are the various string manipulation functions available in C? Explain.
(b) Discuss in detail about the Shift operators in C with examples.

UNIT - V

- 10 (a) Write a C program to illustrate passing an array to a function.
(b) Explain how to insert a node at beginning of a Single Linked list with example.

OR

- 11 (a) Describe briefly about the pointer arithmetic.
(b) Discuss in detail about the Standard Library Functions for Files.