

B. Tech. 2nd Semester (G-Scheme)
(Common for All Branches Except CSE, ECE,
CSE-AI & MLE, Data Science, CSE-ITCSE, IT, CS &
IT, CS & T and EEE)
Examination, May-2023
PROGRAMMING FOR PROBLEM SOLVING

Paper Code : ESC-CSE-102-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt any five questions in all, selecting at least one question from each unit. Question no. 1 is compulsory. All questions carry equal marks.

1. (a) Explain the arithmetic operations on number system.
- (b) Differentiate between syntax and logical error.
- (c) Explain Algorithm with suitable example.
- (d) Define Pseudo code with example.
- (e) Explain various conditional statements.
- (f) Define functions and why functions are used in the program. 6×2.5=15

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Unit-I

2. (a) Convert $(765)_{10}$ into $()_2, ()_8, ()_{16}$ 5
- (b) Convert $(1010101)_2$ into $()_8$ 5
- (c) Convert $(CA5)_{16}$ into $()_2$ 5
3. Define Computer and discuss its functional units in detail with neat and clean diagram. 15

Unit-II

4. (a) What is a flowchart? Draw a flowchart to check the number is positive or negative. 8
- (b) Write an algorithm to check the number is even or odd. 7
5. (a) Header files 4
- (b) Keywords and variables 4
- (c) Arithmetic expressions and its precedence 7

Unit-III

6. (a) What are conditional statements? Write a program to calculate the roots of a quadratic equation. 8
- (b) Write a program to find the number is prime or not. 7

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7. (a) Differentiate between if and if-else using example. 7
- (b) Write a program to check the string is palindrome or not. 8

Unit-IV

8. What is function? Differentiate between call by value and call by reference by using suitable example. 15
9. (a) What is Recursion? Write a program for Fibonacci series using recursion? 7
- (b) Write a program to find the factorial of a number. 8

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