

9. (a) Write a program to check if an entered string is a palindrome or not. 7
- (b) Define function. Discuss "Call by value" and "Call by reference" using example. 8
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Roll No.

3012

**B. Tech. (Common for All Branches
Except CSE, ECE, IT, CS & IT and EEE)
1st Semester Examination – December, 2018**

PROGRAMMING FOR PROBLEM SOLVING

Paper : ESC-CSE-102-G

Time : Three Hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

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

1. (a) Define CPU. 6 × 2.5 = 15
- (b) List the basic input and output devices used with computer.
- (c) Discuss the basic symbols used in flow-charts.

- (d) What are the key words used in C language ?
- (e) State and explain the 'for' loop used in C language.
- (f) What do you understand by strings ?

UNIT – I

2. Perform the following : $5 \times 3 = 15$

- (i) $(89)_{10} \rightarrow (?)_2$
- (ii) $(0.1101)_2 \rightarrow (?)_{10}$
- (iii) $(1110101)_2 + (1011111)_2 = (?)_2$
- (iv) $(1110111.11011)_2 \rightarrow (?)_8$
- (v) $(11011)_2 + (10100)_2 = (?)_2$

3. Discuss with a neat and clean diagram, in detail the basic functional units of a Computer. 15

UNIT – II

4. Differentiate between a flow-chart and an Algorithm. Write an algorithm to calculate simple Interest, also draw its flow chart. 15

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5. Write short note on : $5 \times 3 = 15$

- (i) Basic Input and Output functions
- (ii) Key words
- (iii) Syntax and Logical Errors

UNIT – III

6. (a) What do you understand by loops ? Discuss for loop and its syntax with example. 8
- (b) Write a program that reads a number and determines if the numbers is zero, positive or negative. 7
7. (a) Differentiate between 'while' and 'do while' loop with example. 8
- (b) Write a program to check if a number is even or odd. 7

UNIT – IV

8. (a) Define Array. How it is declared and initialized ? Explain using an example. 8
- (b) What are recursive functions ? Write a program to find the factorial of a number using recursion. 7

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P. T. O.