

FACULTY OF ENGINEERING**B.E. I - Semester (Main) Examination, December 2016****Subject : Computer Programming and Problem Solving****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions from Part-A and answer any five questions from Part-B.****PART – A (20 Marks)**

- 1 Convert the given Binary number into its equivalent Octal and Hexadecimal number systems. (i) 1110101 (ii) 11.100101 (2)
- 2 What is the output for the program in given below? (2)

```
#include<stdio.h>
void main ( )
{
double ans = 10.0+2.0/3.0-2.0*2.0;
printf{“%d”,ans);
printf(“%’,ans);
}
```
- 3 What is the use of break in switch statement? Explain with an example. (2)
- 4 Explain ternary operator with an example. (2)
- 5 Write a C function to return the factorial of the given number. (2)
- 6 Declare a two dimensional array of size 3 and 2. Write C-statements to initialize and print the elements of that two dimensional array. (2)
- 7 List the valid operations that can be performed on pointers. (2)
- 8 Briefly explain about the command line arguments. (2)
- 9 Differentiate between an array and a structure. (2)
- 10 Write a C fragment to check whether the file already exists. (2)

PART – B (50 Marks)

- 11 (a) Write an algorithm to extract and print the rightmost digit of the integral portion of afloat. (5)
(b) Write down the process through which a program in a source code is converted to executable code. (5)
- 12 (a) Write a C program that reverses a number that is entered by the user by making use of do-while loop. How is this looping technique different from while loop? (5)
(b) Write a C program to find the maximum number among ‘n’ numbers using for loop and without using arrays. (5)
- 13 (a) Write a C program to sort ‘n’ number using Bubble sort technique. (5)
(b) Explain the pre-processor commands. (5)
- 14 (a) Write a C program to sort the strings in the alphabetical order. (5)
(b) What is a recursive function? What is the advantage of using recursive function? (5)
- 15 (a) Write a C function that returns emp_number having highest salary.
Imagine that the following details of the employee are available
{emp_number, name, salary, address} and the main program reads all the data. (5)
(b) Differentiate between a structure and a union with suitable examples. (5)
- 16 (a) Draw a flowchart to find if a given number is a prime number or not. (4)
(b) Differentiate the different parameter passing techniques with suitable examples. (6)
- 17 (a) Write a C-program to find the number of characters, spaces, lines in a given file. (6)
(b) How structure elements can be accessed through. (4)
(i) a structure variable (ii) a pointer to a structure. Explain with examples.
