Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 65171

5 Year M.Sc. DEGREE EXAMINATION, MAY/JUNE 2013.

Second Semester

Software Engineering

ESE 023 — PROGRAMMING IN C

(Regulation 2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define algorithm.

2. What does the following fragment print?

```
for (int i=0; i < 10; i++)
{
        if (!(i%2))
        continue;
        printf("%d\t", i);
}
```

3. What are the uses of comma and conditional operators?

4. The result of the expression (10 / 3) * 3 + 5 % 3 is ————————.

5. Write a program to convert kilograms into grams.

6. Why is the break statement essential in the switch statement?

7. Bring out the major differences between structure and union.

8. What are pointers? Why are they important?

9. What will be the output of the following program?

```
# define N 5
# define say printf
void main( )
{
        int k;
        clrscr( );
        for(k=1; k<= N; k++)
        say("%d", k);
}
```

10. List out the advantages of using linked list in C.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the guidelines for preparing flowcharts, advantages and limitations of flowcharts. (8)

(ii) Write a program to find the number of sum of all integers greater than 100 and less than 200 those are divisible by 7. (8)

Or

(b) (i) Write an algorithm to generate Fibonacci series upto *n* numbers. (8)

(ii) Give the rules for writing a 'C' program. (8)

12. (a) (i) Describe the four basic data types in C. How would we extend the range of values they represent? (8)

(ii) List out the operators in C and explain any two with example. (8)

Or

(b) (i) Give three values, write a program to read values from keyboard and printout the largest of them without using if statement. (10)

(ii) Write down the rules for evaluation of expression. (6)

13. (a) (i) What are formatted functions? Explain. (8)

(ii) Write a program to print the following output using for loops : (8)

```
1
2  2
3  3  3
4  4  4  4
5  5  5  5  5
```

Or

(b) With flowcharts, explain the different types of decision making "if statements" with suitable C code for each. (16)

14. (a) Write a menu driven program to implement string manipulations (length, copy, compare, concatenation and reverse) without library function. (16)

Or

(b) Explain the different categories of functions available in C with suitable C code for each. (16)

15. (a) Explain, with suitable examples, dynamic memory allocation functions. (16)

Or

(b) (i) Write a C program that compares two files and returns '0' if they are equal and '1' if they are not. (8)

(ii) Write a program to create a single linked list and also perform the deletion operation. (8)

———————