(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 7 Sub. Code : 6 1 9 7

Exam. Code : 0 9 0 5

B.Engg. 1st Year (1st Semester)

(2122)

PROGRAMMING FOR PROBLEM SOLVING

(Common With CSE, IT, ECE,)

Paper—ESC-X01

Time Allowed : Three Hours] [Maximum Marks : 50

Note :— Attempt *five* questions in all, including Question No. 1, which is compulsory and selecting **two** questions from each unit.

1. (a) Write down the syntax to dynamically create a float array of 10 elements.

(b) Define the role of linker and loader.

(c) What is the utility of command-line-arguments ?

(d) Explain the implicit and explicit type conversion.

(e) How unions are different from structures ? 5×2=10

UNIT—I

2. (a) State with an example the storage, scope and lifetime of static and automatic variables. 5

(b) Write a program in C to print the first n terms of a Fibonacci series. 5

3. (a) Why memory is important in computer system ? Explain RAM and ROM memories. 5

(b) Explain step-by-step mechanism to sort the following list of numbers using bubble sort :

23, 45, 31, 28, 55, 49 5

4. (a) Discuss different types of errors encountered in a C program. In which situations switch statement is to be used ? Explain precedence and associativity of operators. 2+2+2

(b) Explain the user-defined data types. Discuss the in-built string handling functions. 2+2

UNIT—II

5. (a) How structures are more important than arrays ? Create a structure of an employee to include sufficient components and then implement it. 5

(b) Explain the concept of recursion in functions. 5

6. (a) Why parameter passing is important in functions ? How call by value is different from call by reference ? 6

(b) Write a note on enumerations. 4

7. Write short notes on the following :

(a) Applications of pointers

(b) Pointer arithmetic.

(c) Macros.

(d) EOF ( ) $2.5 \times 4 = 10$