Exam.Code:0906
Sub. Code: 33303

2056

B.E., Second Semester

ESC-X01: Programming Fundamentals

(Common with MEC, CIV, BIO)

Time allowed: 3 Hours Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

1. Attempt the following:-
   a) What is the significance of arrays and structures in C language? Write their syntax also.
   b) Discuss the various features of storage classes: automatic and static.
   c) Explain the different modes in which a file can be opened.
   d) Solve the expression x=8/4*2+8%2
   e) Write C code to find greatest of given three numbers. (5x2)

UNIT - I

2. a) Differentiate among primary and secondary memory? Discuss PROM and EPROM.
   b) Write a C program using an else-if ladder to assign grades based on given marks:
   90 and above → Grade A
   75–89 → Grade B
   50–74 → Grade C
   Below 50 → Fail (2x5)

3. a) Describe the step-by-step working of selection sort algorithm.
   b) Differentiate and explain the functions strlen(), strcmp(), strcat(), and strcpy() using appropriate example. (2x5)

4. a) What are the various built-in data types of C language? Discuss their types.
   b) Write a program to find the largest and smallest element in an array. (2x5)

UNIT - II

5. a) Differentiate structure and union. Discuss their storage allocation.
   b) How recursion is different from the normal functions. Write C program to find factorial of a number using recursive function. (4,6)

6. Write a C program to store and display details of 10 employees (ID, name, salary) using structures. (10)

7. Write note on the following:-
   a) Passing array to function
   b) call by reference
   c) break and continue
   d) file handling operations (4x2½)

x-x-x