Roll No: ☐☐☐☐☐☐☐☐☐☐☐☐☐

MCA
(SEM I) THEORY EXAMINATION 2024-25
PROBLEM SOLVING USING C

TIME: 3 HRS   **M.MARKS: 100**

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2 x 10 = 20**

Q no.	Question	CO	Level
a.	Define keyword and identifier.	1	K1
b.	How Logical error is different from Syntax error?	1	K2
c.	Write a C program to check number is an even number or odd number.	2	K2
d.	Write a program in C language to print al natural numbers from 1 to 100.	2	K2
e.	Define Pointer to Pointer.	3	K2
f.	Why continue statement is required in C programming? Also write an example of continue statement.	3	K2
g.	How can user make an array of pointers to struct in C language.	4	K2
h.	What is the size of the structure pointer in C?	4	K2
i.	What are the ways in which a user interacts with a GUI?	5	K3
j.	In which type of files are library functions stored?	5	K3

SECTION B

2.   **Attempt any *three* of the following:**   **10 x 3 = 30**

a.	Define Flowchart. What are the different properties of Flowchart? Draw a flowchart to check number is prime number or not.	1	K1
b.	Define switch case statement. Write a C program to check character is a vowel or not.	2	K2
c.	Write a Program in C to check either the matrix is a symmetric matrix or not.(assume the order of matrix as 3*3).	3	K2
d.	Differentiate between structure and union in detail.	4	K2
e.	What are the different modes of file opening? Write a C code to count total spaces and lines used in a text file.	5	K2

SECTION C

3.   **Attempt any *one* part of the following:**   **10 x 1 = 10**

a.	Explain the following: (i) Linker & Loader (ii) Interpreter & Assembler (iii) Features of Operating System	1	K1
b.	Explain different data types used in C programming language in detail.	1	K1

4.   **Attempt any *one* part of the following:**   **10 x 1 = 10**

a.	Define recursion. Write a C program to find the GCD of 2 integers using recursive function.	2	K2
b.	What are the different conditional statements used in c programming language? Write a C program to check either the year is a leap year or not.	2	K2

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5.	**Attempt any *one* part of the following:**		**10 x 1 = 10**
a.	Differentiate between string and character. Write a C program to check s A palindrome string or not.	3	K2
b.	What are the different parameter passing techniques? Explain each technique with suitable example.	3	K2

6.	**Attempt any *one* part of the following:**		**10 x 1 = 10**
a.	Compare different types of storage classes with the help of suitable example.	4	K2
b.	Write a C program to store name, mobile number, age, fess deposited of 100 students and print all the records of those students whose age is 25 or above.	4	K3

7.	**Attempt any *one* part of the following:**		**10 x 1 = 10**
a.	Define the different functions used for dynamic memory allocation.	5	K2
b.	How can we use .txt file as command line input in c language? also explain how to pass a file as a command line argument in C?	5	K3