Roll No:

MCA-IN ،
(SEM I) THEORY EXAMINATION 2021-22
PROGRAMMING IN C

Time: 3 Hours   *Total Marks: 70*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt *all* questions in brief.**   2*7 = 14

a.	Briefly differentiate between While and do-While loop.
b.	Differentiate between local and global variable.
c.	Explain type conversion in C. ؟
d.	Mention any two advantages of using functions in C.
e.	Discuss the advantages of algorithm.
f.	Compare and contrast between compiler and interpreter.
g.	Mention the rules for variable naming in C.

SECTION B

2. **Attempt any *three* of the following:**   7*3 = 21

a.	Draw a flowchart and write the algorithm for finding GCD of two numbers.
b.	Write a program in C to calculate the sum of digits of a 3 digit number using arithmetic operators. (Note: No loop should be used)

c.	Write a Program to print the following pattern.
	
	     *
	    ***
	   *****
	  *******

d.	Write a program in C to print all Armstrong numbers from 1 to 500.
e.	Explain the call-by-value mechanism by using suitable example.

SECTION C

3. **Attempt any *one* part of the following:**   7*1 = 7

a.	What is a Computer? Draw a block diagram of a Computer and explain each of its components.
b.	Describe the various problem solving techniques.

4. **Attempt any *one* part of the following:**   7*1 = 7

a.	What are various data types used in C language? Illustrate their declaration and usage.
b.	Explain the standard input/output functions in C.

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5. **Attempt any *one* part of the following:** 7*1 = 7

a.	Explain the role of precedence and associativity of an operator? Solve the expression based on operator precedence: 1+2*3/6-4
b.	Explain logical operators with examples.

6. **Attempt any *one* part of the following:** 7*1 = 7

a.	Write a C program to find the roots of a quadratic equation using switch statement.
b.	Write a C program which reads 2 integer numbers and an operator and finds their sum, difference, multiplication and division separately based on the value of operator entered.

7. **Attempt any *one* part of the following:** 7*1 = 7

a.	Write a C program using a function **prime_check()**, to check whether a given number is prime. The function returns 1 if the number is prime or 0 otherwise.
b.	Explain the purpose of storage classes? Explain all storage classes with suitable examples.