

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

(ii) Questions : 9 Sub. Code : 

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Exam. Code : 

1	2	1	9
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**PGDCA 1<sup>st</sup> Semester**

**(2125)**

**COMPUTER PROGRAMMING USING C**

**Paper : PGD-1102**

**Time Allowed : Three Hours] [Maximum Marks : 60**

**Note :-** Attempt **FIVE** questions in all, including Q.No. 9 in Section-E, which is compulsory and taking **ONE** each from Section-A to Section-D.

**SECTION—A**

1. (a) Define the following terms with an example:
  - (i) Algorithm
  - (ii) Decision Table
  - (iii) Pseudo code.
- (b) Describe the structure of a 'C' program with an example.  
What are header files in 'C'? 6,6
2. (a) Explain the use of *scanf()* and *printf()* I/O functions to read and print values of variables of different data types taking suitable examples.

- (b) Differentiate among automatic, register, static, and extern as four types of storage classes in C by taking examples. 6,6

### SECTION—B

3. (a) Define function in 'C'. Develop a C program to add two integers using a function.
- (b) Distinguish between call by value and call by reference mechanism for passing parameters in functions. Give examples. 6,6
4. (a) How is a two-dimensional array represented in memory? Explain with a suitable example.
- (b) Implement multiplication of two matrices A and B and validate the rules of matrix multiplication in 'C'. 6,6

### SECTION—C

5. Define String in 'C'. Explain any 4 string manipulation functions in 'C' with a suitable example for each of the functions. 12
6. Define and differentiate the following in 'C' with examples:
- (a) Array and Structure
- (b) Union and Structure 6,6

## SECTION—D

7. Differentiate between formatted and unformatted I/O functions in 'C' programming. Give two examples of each. 12
8. What is a file in 'C'? How does 'C' handle file-related operations? Explain with examples. 12

## SECTION—E

### (Compulsory Question)

9. (a) Explain various types of operators available in 'C' language and their order of execution.
- (b) What are the various arithmetic operations that can be performed on pointer variables? Give examples.
- (c) Define the concept of an array of pointers in 'C' with an example.
- (d) Explain the use of gets() and puts() functions in 'C'.

3,3,3,3