

**M.C.M. Semester—I Examination**  
**PROGRAMMING METHODOLOGY**  
**Paper-1MCM2**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :—** (1) All questions are compulsory.

(2) Due credit will be given to neatness.

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|----|-------------------------------------------------------------|---|
| 1. | (a) What is Variable ? Explain rules for creating variable. | 6 |
|    | (b) Explain formatted output with example.                  | 6 |
|    | (c) What is C ? Explain its structure.                      | 4 |

**OR**

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|----|------------------------------------------------------------------------------------|----|
| 2. | (a) Explain various data types available in C.                                     | 6  |
|    | (b) What is formatted input ? Explain with example.                                | 6  |
|    | (c) Explain relational and logical operator.                                       | 4  |
| 3. | (a) Explain the following :<br>(1) Simple if<br>(2) If ..... else<br>(3) For loop. | 12 |
|    | (b) Write a program to calculate area of circle.                                   | 4  |

**OR**

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|----|-------------------------------------------------------------------|---|
| 4. | (a) Explain different looping statements in C.                    | 8 |
|    | (b) Write a program to perform all arithmetic operation (switch). | 8 |
| 5. | (a) What is array ? Explain one dimensional array with example.   | 8 |
|    | (b) Explain with example :<br>(1) Strlen ( )<br>(2) Strupr ( ).   | 8 |

**OR**

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|----|---------------------------------------------------------------------------------------|---|
| 6. | (a) Write a program to print transpose of matrix.                                     | 6 |
|    | (b) Explain two dimensional array with example.                                       | 6 |
|    | (c) What is String ? How to declare and initialize string variable ?                  | 4 |
| 7. | (a) What is Function ? Explain function with no argument and no return type (simple). | 6 |
|    | (b) What is Structure ? Explain with example.                                         | 6 |
|    | (c) Write a program to print factorial using recursion.                               | 4 |

**OR**

8. (a) Explain the concept structure within structure with example. 6  
(b) Explain call by value and call by reference. 6  
(c) What is Union ? 4
9. (a) What is Pointer ? How to declare and initialize pointer variable ? Explain with example. 8  
(b) Explain :  
(1) getch ( )  
(2) puts ( )  
(3) getw ( )  
(4) putw ( ). 4  
(c) Write a program array of pointer. 4

**OR**

10. (a) What is File ? How to open and close file with example ? 8  
(b) Explain :  
(1) Pointer to Pointer  
(2) Pointer arithmetic. 8