**R19**

**SET - 1**

# PROGRAMMING FOR PROBLEM SOLVING USING C
(**Com. to CE, CSE, IT, Agri E**)

Time: 3 hours                                                                                    Max. Marks: 75

**Answer any five Questions one Question from Each Unit**
**All Questions Carry Equal Marks**
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| 1. | a) | What is meant by scope and lifetime of a variable Explain about various storage classes supported by C. | (7M) |
| | b) | Give the structure of a C program. Explain the executive of a C Program through command Line arguments. | (8M) |

**Or**

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| 2. | a) | What is a binary number system.How do Integers and real numbers stored in binary format. | (8M) |
| | b) | How precedence and associative rules help in evaluating arithmetic expressions.Give relevant examples. | (7M) |

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| 3. | a) | What is a nested loop? Can we have conditional statements within a loop? Give explanation. | (8M) |
| | b) | Differentiate between logical and bitwise operators with suitable examples. | (7M) |

**Or**

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| 4. | a) | Write a C program illustrating conditional and multi-way selection statements. | (8M) |
| | b) | Write a program to find the smallest of three integers using functions. | (7M) |

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| 5. | a) | What is an array.How is a two-dimensional array represented in memory. | (6M) |
| | b) | Write a C program to find the transpose of a 3×3×3 matrix. | (9M) |

**Or**

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| 6. | a) | Explain the different functions used to perform string operations. | (8M) |
| | b) | Write in detail about enum and typedef. | (7M) |

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| 7. | a) | Briefly discuss dynamic memory allocation schemes in C language. | (8M) |
| | b) | Write a short note on pointer arithmetic. | (7M) |

**Or**

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| 8. | a) | How can you have array of function pointers. Illustrate with an example. | (8M) |
| | b) | Using a C program, explain how pointer variables can be used to access strings. | (7M) |

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| 9. | a) | Write a C program to demonstrate the working of fseek()  and ftell() functions. | (8M) |
| | b) | Is it possible to compare two files (Contents of the file). Illustrate using an example. | (7M) |

**Or**

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| 10. | a) | What do you understand by formatted input and formatted output. | (7M) |
| | b) | Write a short note on (i) fgets( )   (ii) fputs( )  (iii) fread( )  (iv) fwrite( ) | (8M) |

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