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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR  
(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations July-2021

PROGRAMMING FOR PROBLEM SOLVING

(Common to ECE, CSE &amp; CSIT)

Time: 3 hours

Max. Marks: 60

**PART-A**

(Answer all the Questions 5 x 2 = 10 Marks)

- |   |   |   |    |
|---|---|---|----|
| 1 | a | What is format specifier?                 | 2M |
|   | b | Differentiate between break and continue. | 2M |
|   | c | What is recursion?                        | 2M |
|   | d | What is pointer arithmetic?               | 2M |
|   | e | Define Union.                             | 2M |

**PART-B**

(Answer all Five Units 5 x 10 = 50 Marks)

**UNIT-I**

- |   |   |  |    |
|---|---|--|----|
| 2 | a | Define algorithm. Write algorithm for finding factorial of a number. | 5M |
|   | b | What is flowchart? Explain different symbols used for flowchart.     | 5M |

**OR**

- |   |   |  |    |
|---|---|--|----|
| 3 | a | What is constant? Explain different constants in C.        | 5M |
|   | b | What is variable? Give the rules for variable declaration. | 5M |

**UNIT-II**

- |   |   |  |    |
|---|---|--|----|
| 4 | a | Write and explain about switch statement.                      | 5M |
|   | b | Write a Program to perform arithmetic operations using switch. | 5M |

**OR**

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|---|---|---|----|
| 5 | a | Write a program to find sum of the individual digits of a given number. | 5M |
|   | b | How does nested if-else works? Explain with an example.                 | 5M |

**UNIT-III**

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|---|---|--|----|
| 6 | a | Discuss about the different categories of functions.                       | 5M |
|   | b | Write a C program to illustrate call-by-value parameter passing technique. | 5M |

**OR**

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|---|---|---|----|
| 7 | a | How to declare and initialize a Two-dimensional array? Discuss with examples. | 6M |
|   | b | Write a C program to print the sum of diagonal elements of 2-D matrix.        | 4M |

**UNIT-IV**

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|---|---|--|----|
| 8 | a | What are the features of pointers? Write a C program to print address of a variable. | 6M |
|   | b | Write a C program to show that pointer of any data type occupies same space.         | 4M |

**OR**

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|---|---|--|----|
| 9 | a | Explain declaration and initialization of array of strings.            | 5M |
|   | b | Write a C program to find whether a given string is palindrome or not. | 5M |

**UNIT-V**

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|----|---|--|----|
| 10 | a | Define Structure and write the general syntax for declaring and accessing members. | 5M |
|    | b | How to copy and compare structure variables? Illustrate with example.              | 5M |

**OR**

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|----|--|-----|
| 11 |  | 10M |
|----|--|-----|

\*\*\*END\*\*\*