

B.Sc.(IT) Semester - 1 (CBCS) Examination
Feb/Mar. -2021 (OLD COURSE)

PROBLEM SOLVING METHODOLOGIES AND PROGRAMMING IN C (CORE)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

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| Q.1(A) | Answer the following. | (04) |
| | <ol style="list-style-type: none">1. Define variable.2. What is datatype?3. What is the meaning of typecasting a variable?4. C is developed by _____ | |
| Q.1(B) | Attempt any one. | (02) |
| | <ol style="list-style-type: none">1. What is type conversion? Explain giving example.2. What is constant? How it is useful in programming. | |
| Q.1(C) | Attempt any one. | (03) |
| | <ol style="list-style-type: none">1. Explain with example: PRE-PROCESSORS.2. List various logical operators. Explain any one. | |
| Q.1(D) | Attempt any one. | (05) |
| | <ol style="list-style-type: none">1. State the differences between traditional C and modern C.2. What is a dry run? Explain its usefulness. | |
| Q.2(A) | Answer the following. | (04) |
| | <ol style="list-style-type: none">1. Give one example of entry controlled loop.2. What is nesting of loops?3. Give syntax of simple if – else statement.4. When do we use loop in our program? | |
| Q.2(B) | Attempt any one. | (02) |
| | <ol style="list-style-type: none">1. Explain with syntax : goto statement.2. What is the use of jumping statement in loop? | |
| Q.2(C) | Attempt any one. | (03) |
| | <ol style="list-style-type: none">1. Explain if-else if ladder with example.2. List various looping control structures. Explain any one. | |
| Q.2(D) | Attempt any one. | (05) |
| | <ol style="list-style-type: none">1. Write a program to decide maximum value out of 2 entered values using conditional ternary operator.2. Write a program of your choice to show the use of switch-case structure. | |
| Q.3(A) | Answer the following. | (04) |
| | <ol style="list-style-type: none">1. Which function is used to count the number of characters in a string?2. What is the extension of a C library file?3. What does a memory allocation function do?4. Write any two I/O formatting functions. | |
| Q.3(B) | Attempt any one. | (02) |
| | <ol style="list-style-type: none">1. Explain the function using which we can clear the output screen.2. What are library files? What is their use? | |
| Q.3(C) | Attempt any one. | (03) |
| | <ol style="list-style-type: none">1. List various storage classes. Explain any one.2. Explain with example any one string function. | |

- Q.3(D) Attempt any one. (05)
1. Differentiate between : function call by value and function call by reference.
 2. Write a program that takes up two non – zero, positive numbers. Raise first number to the power of the second number. Use appropriate mathematical library functions.
- Q.4(A) Answer the following. (04)
1. What is the use of single dimensional array?
 2. What is a ‘structure’?
 3. Write syntax/example of initializing a one dimensional float array at the time of declaration.
 4. What is a string?
- Q.4(B) Attempt any one. (02)
1. What is a union? What is its basic use?
 2. What is array of structures? Where it is useful?
- Q.4(C) Attempt any one. (03)
1. Explain with syntax and example : two – dimensional array.
 2. State differences between structure and union.
- Q.4(D) Attempt any one. (05)
1. Write a program that shows the use of nested structures. (for example, name and roll number in outer structure and birth date in inner structure)
 2. Write a program that takes up two different strings and concatenate them using programming logic.
- Q.5(A) Answer the following. (04)
1. Define pointer to pointer.
 2. Which function is used to check whether the file pointer has reached to the end of file?
 3. Write syntax of fclose() as used in programming.
 4. What is the use of a data file?
- Q.5(B) Attempt any one. (02)
1. What is file handling? List main functions used with files.
 2. Explain with syntax : freopen()
- Q.5 (C) Attempt any one. (03)
1. What are command line arguments? Explain briefly.
 2. Explain with example : pointer to array.
- Q.5 (D) Attempt any one. (05)
1. Write a program to open a file in read – only mode. Read and display its content.
 2. Write a program that shows the concept of pointer to structure.
