

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(First Semester)

Branch - COMPUTER SCIENCE

PROBLEM SOLVING USING C PROGRAMMING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

| Module No. | Question No. | Question | K Level | CO |
|------------|--------------|---|---------|-----|
| 1 | 1 | What does a diamond symbol represent in a flowchart? a) Input/Output b) Decision c) Process d) Start/Stop | K1 | CO1 |
| | 2 | The role of the compiler in C Programming is to. a) Converts C code into machine code b) Executes the program c) Links files together d) Edits the source code | K2 | CO1 |
| 2 | 3 | Which of the following is a derived data type in C. a) int b) float c) array d) double | K1 | CO2 |
| | 4 | Which control statement is used for decision-making in C? a) for b) if c) while d) do-while | K2 | CO2 |
| 3 | 5 | What is the correct way to access the third name of an array called names? a) names[3]; b) names(3); c) names[2]; d) names.3; | K1 | CO3 |
| | 6 | Recursion in C programming is defined as a) A loop inside a function b) A function calling itself c) A pointer to a function d) A function without parameters | K2 | CO3 |
| 4 | 7 | How do you declare a variable of a structure type? a) struct student; b) struct student s1; c) student s1; d) new struct student s1; | K1 | CO4 |
| | 8 | The size of a union is determined by the size of the a) Sum of the sizes of all members b) Average of all member sizes c) Size of the largest member d) Always 4 bytes | K2 | CO4 |
| 5 | 9 | What happens if you open a file in "w" mode and it already exists? a) It will append data b) It will delete the existing data c) It will throw an error d) It will read from it | K1 | CO5 |
| | 10 | What is preprocessor directive in C? a) A command that is executed at runtime b) A command processed before the compilation of the program c) A function definition d) A compiler error | K2 | CO5 |

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

| Module No. | Question No. | Question | K Level | CO |
|------------|--------------|--|---------|-----|
| 1 | 11.a. | Describe how claims assertions and statements are used to solve the problem. | K3 | CO1 |
| | | (OR) | | |
| | 11.b. | Describe critical thinking approach to solve a problem. | | |
| 2 | 12.a. | List out and explain various types of operators with example programs. | K4 | CO2 |
| | | (OR) | | |
| | 12.b. | Classify various Data input and output functions in C Programming. | | |
| 3 | 13.a. | Discuss about multi-dimensional arrays with examples. | K4 | CO3 |
| | | (OR) | | |
| | 13.b. | Compare the behavior of storage classes with examples. | | |
| 4 | 14.a. | Write a c-program using structures to read, write, compute average - marks and display the scoring for N students. | K2 | CO4 |
| | | (OR) | | |
| | 14.b. | Summarize the concept of Array of Structures with examples. | | |
| 5 | 15.a. | Construct a c program to implement fread, fwrite, fscanf, fprintf statements. | K3 | CO5 |
| | | (OR) | | |
| | 15.b. | Describe the various preprocessor directives with examples. | | |

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

| Module No. | Question No. | Question | K Level | CO |
|------------|--------------|--|---------|-----|
| 1 | 16 | Describe the steps in execution of a program in C Language. | K4 | CO1 |
| 2 | 17 | Compare while and do-while statements with example programs. | K4 | CO2 |
| 3 | 18 | List out and explain different classifications of user defined functions based on parameter passing and return type with examples. | K4 | CO3 |
| 4 | 19 | Explain in detail about string I/O in Files. | K4 | CO4 |
| 5 | 20 | Develop a c program to read the student information from one file named as F1.txt and print it to another file named as F2.txt. | K4 | CO5 |

Z-Z-Z

END