



CAMBRIDGE INSTITUTE OF TECHNOLOGY
K.R. Puram Bengaluru - 36



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Principles of Programming using C – BPOPS203

Semester: 2

Section: P1, P2, P3

MODULE- 5 QUESTION BANK

C123.4 Explore user-defined data structures like structures, unions and pointers in implementing solutions

Questions:

| <i>Q.No</i> | <i>Questions</i> | <i>RBT</i> | <i>CO: C123</i> |
|--------------------|---|-------------------|------------------------|
| 1 | Explain Structure definition and declaration of structures with suitable example. | 2 | 4 |
| 2 | Explain typedef in structures. | 2 | 4 |
| 3 | Explain the following in structures: i) Initialization ii) Accessing the members of the structure iii) Copying and Comparing Structures iv) sizeof operator in structures | 2 | 4 |
| 4 | Explain nested structures. | 2 | 4 |
| 5 | Explain array of structures. | 2 | 4 |
| 6 | Use structures with suitable fields and one field called marks and print the names of students who have got more than 75. | 3 | 4 |
| 7 | Explain the three ways in which a function can access the members of the structure. | 3 | 4 |
| 8 | What is self-referential structures? | 1 | 4 |
| 9 | Explain the declaration, initialization and accessing members of union. | 2 | 4 |
| 10 | Explain unions in structures with an example program. | 3 | 4 |

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| 11 | Explain enumerated datatype in detail | 2 | 4 |
| 12. | Differentiate arrays and structures. | 2 | 4 |
| 13. | Differentiate structures and unions | 2 | 4 |
| 14. | Write a C program to store and print name, USN, Subject and IA marks of students using structure. | 3 | 4 |
| 15. | Write a C program to implement structures to read and write Book-Title. Book-Author and Book-id of n books. | 3 | 4 |
| 16. | Explain reading and writing in file in detail. | 2 | 4 |
| 17. | What is a file and its types? Explain the steps to use a file in C language. | 3 | 4 |
| 18. | How to detect end of file in C language? | 3 | 4 |

Lab Programs

| <i>Q.No</i> | <i>Questions</i> | <i>RBT</i> | <i>CO: C123</i> |
|--------------------|--|-------------------|------------------------|
| 1 | Implement structures to read, write and compute average- marks of the students, list the students scoring above and below the average marks for a class of N students. | 3 | 4 |
| 2 | Develop a program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of N real numbers. | 3 | 4 |
| 3 | Write a C program to copy a text file to another, read both the input file name and target file name. | 3 | 4 |