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17CS42

Fourth Semester B.E. Degree Examination, Jan./Feb. 2021
Object Oriented Concepts

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. List out the differences between Procedure Oriented Language and Object Oriented Language. **(06 Marks)**
   b. What is friend function in C++? List out the rules to declare the friend function in C++. **(06 Marks)**
   c. What is function overloading? Write a C++ program to define three overloaded functions area( ) to find area of circle, triangle and rectangle. **(08 Marks)**

OR

2 a. Explain the various features of OOC. **(06 Marks)**
   b. What is a constructor? Mention its types. Explain copy constructor with suitable code. **(08 Marks)**
   c. What is an inline function? Write a C++ function to find the factorial of a given number using inline function. **(06 Marks)**

Module-2

3 a. List and explain the Java Buzzwords. **(08 Marks)**
   b. Why Java Language is Platform Independent Language? Justify your answer. **(06 Marks)**
   c. Write a Java program to find the average and sum of following array elements {4, 8, 12, 16, 20} using foreach in Java. **(06 Marks)**

OR

4 a. List the different types of operators. Explain any three. **(08 Marks)**
   b. What is an array? Write a Java program to print sum of each row of two dimensional array.

   For example : $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$

   O/p should be $\begin{bmatrix} 6 \\ 15 \\ 24 \end{bmatrix}$ **(08 Marks)**

   c. Explain switch case with an example. **(04 Marks)**

Module-3

5 a. What is an exception? Explain exception handling in Java. **(10 Marks)**
   b. What is package in Java? How package is created and imported, explain with an example program (including Execution steps). **(10 Marks)**

OR

6   a.   What is an interface? Explain how an interface can be implemented with suitable code.
                                                                                    (06 Marks)
    b.   What is Inheritance? Differentiate method overloading and method overloading with suitable code.   **(06 Marks)**
    c.   Explain any four Built-in exception classes with an example program.   **(08 Marks)**

Module-4

7   a.   What are threads? Explain two ways of creation of threads with suitable code.   **(10 Marks)**
    b.   What is synchronization in Java? Explain synchronization can be implemented with producer-consumer example program.   **(10 Marks)**

OR

8   a.   What is meant by deadlock? How to avoid deadlock? Give example.   **(10 Marks)**
    b.   What is Event handling in Java? Write a Java program to demonstrate Mouse Events handling.   **(10 Marks)**

Module-5

9   a.   What is an applet? Explain the life cycle of an applet?   **(10 Marks)**
    b.   Explain passing parameters in Applets with suitable code.   **(10 Marks)**

OR

10   Explain the following with a suitable code:
        (i)   JLabel
        (ii)   JTextField
        (iii) JList
        (iv)   JTable   **(20 Marks)**

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