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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)



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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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