

CBCS SCHEME

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15CS45

Fourth Semester B.E. Degree Examination, July/August 2022 Object Oriented Concepts

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Compare the procedure oriented programming with object oriented programming. Explain three object oriented features. (06 Marks)
- b. What is function polymorphism? Write a program in C++ using overloaded function AREA to calculate area of circle, triangle and rectangle. (06 Marks)
- c. What are constructors and destructors? When are they called? What is their utility? Explain with example. (04 Marks)

OR

- 2 a. Explain nested classes with examples. (04 Marks)
- b. Explain friend data members and member friend classes with examples. (06 Marks)
- c. What is this pointer? Where and why compiler insert it implicitly? (06 Marks)

Module-2

- 3 a. Explain the features of JAVA. (06 Marks)
- b. Write and demonstrate a Java program to initialize and display different types of integer and floating point variables. (04 Marks)
- c. Define type casting. Explain with an example. (06 Marks)

OR

- 4 a. How arrays are defined in Java? Explain with an example. (08 Marks)
- b. What is jump statements? Explain three jump statements with examples. (08 Marks)
- c. Explain : i) >>> ii) short circuit logical operators iii) for each.

Module-3

- 5 a. With an example, explain the use of super and this in Java inheritance. (06 Marks)
- b. Explain the role of interfaces while implementing multiple inheritance in Java. (06 Marks)
- c. Create a try block that is likely to generate 2 types of exceptions and incorporate necessary catch block to catch and handle them. (04 Marks)

OR

- 6 a. Write a program in Java to implement stack that can hold 10 integer values. (06 Marks)
- b. Explain Java's built-in exceptions. (05 Marks)
- c. Define package. What are the steps involved in creating user defined package with an example. (05 Marks)

Module-4

- 7 a. Why is "main" thread important? Write a Java program that creates multiple child threads and also ensure that main thread stops at last. (06 Marks)
- b. What is meant by thread priority? How to assign and get thread priority? (06 Marks)
- c. With syntax explain the use of isAlive() and join() methods. (04 Marks)

OR

- 8 a. Explain delegation event model used to handle events in Java. What are events, event listeners and event sources? Explain. (08 Marks)
- b. With a Java program explain handling mouse events. (08 Marks)

Module-5

- 9 a. Explain Applet architecture and demonstrate how to pass parameters for font size, font name and type conversions in applets. (08 Marks)
- b. Write an applet program to display the message "VTU, BELGAUM" set the back ground color to cyan and foreground color to red. (08 Marks)

OR

- 10 a. What are the deficiencies of AWT that are overcome by swings? Explain the two key features of swings. (06 Marks)
- b. Explain with syntax the following :
- i) JLabel
 - ii) JTextField
 - iii) JButton
 - iv) JCheckBox.
- (06 Marks)
- c. Describe the different types of swing buttons. (04 Marks)
