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Fourth Semester B.E. Degree Examination, Jan./Feb. 2023
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. List out difference between C and C++. **(04 Marks)**
   b. What is constructor? How is a constructor different from member function? Illustrate with example. **(06 Marks)**
   c. What are static data members? Explain with an example, what is the use of static data member? **(06 Marks)**

OR

2 a. What is friend function? Explain what are the rules to be used while using a friend function. **(04 Marks)**
   b. Explain following OOP features:
      i)   Class
      ii) Inheritance
      iii) Polymorphism. **(06 Marks)**
   c. Demonstrate following with C++ program
      i)   Passing object to functions
      ii) Returning object from function. **(06 Marks)**

Module-2

3 a. Explain the process of compiling and running the JAVA application, with the help of program. **(05 Marks)**
   b. How arrays are defined in JAVA? Explain with an example. **(05 Marks)**
   c. Explain: i) >>>   ii) >> =   iii) ?: **(06 Marks)**

OR

4 a. Explain how JAVA is robust and architecture neutral. **(05 Marks)**
   b. Define type casting. Explain with an example. **(05 Marks)**
   c. Differentiate the usage of Access specifiers in JAVA and their scope. **(06 Marks)**

Module-3

5 a. What is an exception? Explain the different exception handling mechanism, with an example. **(06 Marks)**
   b. Explain how multiple inheritances are implemented in JAVA using interfaces. **(05 Marks)**
   c. Explain method overriding with example. **(05 Marks)**

OR

6 a. What is Inheritance? Explain different forms of inheritance with example. **(06 Marks)**
   b. What is package? How do we add a class or an interface to package? **(05 Marks)**
   c. What is finally block? When and how is it used? Give a suitable example. **(05 Marks)**

Module-4

7   a.   What is deadlock scenario in multithread communication? Explain with an example.
         (06 Marks)
    b.   What is Thread? Explain two ways of creating thread with an example.   **(05 Marks)**
    c.   List and explain EventListener interface.   **(05 Marks)**

OR

8   a.   Explain Modern way of suspending, resuming and stopping thread with an example.
         (06 Marks)
    b.   What is Interthread communication? Explain with an example.   **(05 Marks)**
    c.   Explain Anonymous Inner class with example.   **(05 Marks)**

Module-5

9   a.   What is applet? Explain how to initialize and terminate applet.   **(06 Marks)**
    b.   Write an applet program to display the message "VTU BELAGAVI". Set the background colour to cyan and foreground colour to red.   **(06 Marks)**
    c.   Name and explain different types of swing buttons with syntax.   **(05 Marks)**

OR

10 a.   Explain and demonstrate passing parameters to applet.   **(05 Marks)**
    b.   Create a swing application having two buttons named "alpha" and "beta". When either of buttons pressed, it should display "Alpha is pressed" and "Beta is pressed" respectively.
         (06 Marks)
    c.   Explain components and containers in swing.   **(05 Marks)**

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