

SYIT/SEM IV/REG/JAVA PROGRAMMING(CORE JAVA)

Time: 2½ hrs.

Marks:75

- Note:**
1. All questions are compulsory with internal choice.
 2. Draw neat diagrams wherever necessary.
 3. Figures to the right indicate full marks.

Q.1 Answer the following (any three) (15)

- (a) What is constructor? Explain constructor overloading with example.
- (b) Describe concept of type casting and explain its types with proper syntax and example.
- (c) What is meant by instance variable and static variable? Describe with example.
- (d) List out features of Java and explain any four features.
- (e) Write a Java program to find area and perimeter of Rectangle.
- (f) Write a Java program to find sum of first n natural numbers.

Q.2 Answer the following (any three) (15)

- (a) What is Interface? Describe syntax, feature and need of an interface.
- (b) Compare Method Overriding and Method Overloading.
- (c) What is Inheritance? How different types of Inheritance are implemented in Java?
- (d) What is the significance of using super when dealing with method overriding and inheritance?
- (e) Write a Java program to create a class called "Person" with a name and age attribute. Create two instances of the "Person" class, set their attributes using the constructor, and print their name and age.
- (f) Write a Java program to create Interface called "Animal" with a method called speak () that takes no arguments and returns void. Create a Dog class that implements Animal and provides implementation for the speak () method to print "Dog is barking".

Q.3 Answer the following (any three) (15)

- (a) Explain the following terms with respect to exception handling.
 - i. try
 - ii. catch
 - iii. throw
 - iv. finally
- (b) What is custom exception? Explain with example.
- (c) Describe steps to create and access user defined packages.
- (d) Describe life cycle of thread with suitable diagram.
- (e) Write a program to create two threads, one thread will print odd numbers and second thread will print even numbers between 1 to 20 numbers.
- (f) Write a Java program that takes two numbers as input and performs division. Ensure that the program handles the scenario where the denominator is zero by catching the ArithmeticException and displaying an appropriate error message.

Q.4 Answer the following (any three) (15)

- (a) Explain different key features of the Java Foundation Classes (JFC).
- (b) Explain Grid Layout with example.
- (c) What is the Event Delegation Model in Java, and how does it work in handling events?
- (d) Write a note on JRadioButton.
- (e) Write a program that displays a button labeled "Click Me." When the button is clicked, a message "All The Best!!!" should be shown in a dialog box.
- (f) Write a Java program that creates a GUI window with a button. When the button is clicked, the window's title should change to 'Button Clicked!'

Q.5 Answer the following (any three) (15)

- (a) Write a note on the different types of JDBC drivers
- (b) What is a ResultSet in JDBC? Explain any five methods of it.

- (c) Explain JList with example.
- (d) Explain prepared statement object.
- (e) Write a JDBC program to display records from a table.
[Assume Table – Student with fields: rn(int), s_name(varchar)]
- (f) Write a JDBC program to delete all records from Student table.

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