

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - III COMPUTER SCIENCE & ENGINEERING : SUMMER : 2024
SUBJECT: ITC-I: OBJECT ORIENTED METHODOLOGY

Day : Thursday
Date : 16/05/2024

S-25314-2024

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of **CALCULATOR** is allowed.
- 4) Draw neat and labeled diagrams **WHEREVER** necessary.

- Q.1** Compare and contrast JAVA, C and C++. (10)
OR
Draw and explain JVM architecture diagram in detail. (10)
- Q.2** Explain the concept of encapsulation in object-oriented programming. Also, write program that create a class circle with instance variable for the radius. Initialize and display its variable. (10)
OR
Define class and Object? How to create Class and Object in JAVA. Explain it with suitable example. (10)
- Q.3** How does string class differ from the string Buffer class? Write a program which will read a text and count all occurrences of particular word. (10)
OR
Describe the concept of constructor overloading and its benefits in JAVA programming. Discuss how constructor overloading allows multiple constructors with different parameters list to be defined within a class, enabling flexibility in object initialization. Provide examples demonstrating the usage of constructor overloading to create objects with varying initial states (10)
- Q.4** Define inheritance and also explain types of inheritance with suitable example in JAVA. (10)
OR
Discuss the role of interfaces in achieving abstraction and decoupling in JAVA programs. Describe how interfaces supports polymorphism and interface-based programming paradigms. Provide examples demonstrating the benefits of using interfaces in JAVA programming. (10)
- Q.5** Define concept of threading in JAVA and write program for it. (10)
OR
How exception handling is important in JAVA? Distinguish between checked and Unchecked exceptions. (10)
- Q.6** Explain how to add menu to window using AWT components in JAVA. Discuss the steps involved in creating menus, menu items and handling user interactions with menu components. Provide examples demonstrating the creation of menus using AWT components. (10)
OR
Define Applet and its uses. Also, explain applet life cycle. (10)

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