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**GIET UNIVERSITY, GUNUPUR – 765022**  
 B. Tech. (Third Semester - Regular) Examinations, December – 2022  
**21BCSES23001- Object Oriented Programming Using JAVA**

(Biotech / Chemical / ECE / EE/ EEE /Mechanical Engg.)

Time: 3 hrs

Maximum: 70 Marks

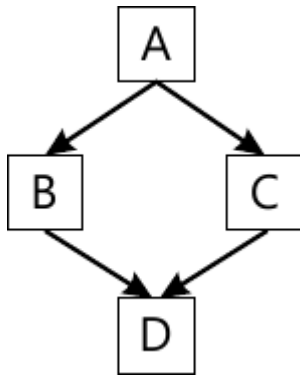
**Answer ALL questions**  
 (The figures in the right hand margin indicate marks)

**PART – A****(2 x 5 = 10 Marks)**Q.1. Answer *ALL* questions

	CO #	Blooms Level
a. Why java called write once, run anywhere language?	CO1	1
b. Describe the syntax of any one of the following loops – while, do...while, for loop	CO2	1
c. Predict the exception does the program throw? Public class test { Public static void main(String args[]) { String s="abc"; System.out.println("char at",s.charAt[3]); } }	CO3	3
d. Explain about event delegation?	CO4	2
e. Define constructor. How do we invoke constructor in JAVA?	CO2	2

**PART – B****(15 x 4 = 60 Marks)**Answer ALL questions

	Marks	CO #	Blooms Level
2. a. Describe JVM and explain the Architecture of JVM.	8	CO1	2
b. Write a Java program to define Scanner class which reads the int, string and double value as an input	7	CO1	4
(OR)			
c. Define object-orientation and specify the characteristics of object oriented approach.	8	CO1	3
d. Write a java program to print maximum between 3 positive number using conditional operator.	7	CO1	4
3.a. Differentiate between class and interface with suitable example.	8	CO2	2
b. Write a Java program to implement Polymorphism. (Note: Consider a scenario, Bank is a class that provides method to get the rate of interest. But, rate of interest may differ according to banks. For example, SBI, ICICI and AXIS banks are providing 8.4%, 7.3% and 9.7% rate of interest.	7	CO2	4
(OR)			
c. Write a program to demonstrate the multipath inheritance for the classes having relations as shown in the figure below	8	CO2	5



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|------|---|---|-----|---|
| d.   | Differentiate between auto boxing and unboxing.   | 7 | CO2 | 2 |
| 4.a. | Explain about thread? Describe the complete life cycle of thread with example.  | 8 | CO3 | 3 |
| b.   | Compose a program to create two threads, one thread will print odd numbers and second thread will print even numbers between 1 to 20 numbers. | 7 | CO3 | 4 |
| (OR) |   |   |     |   |
| c.   | How do we set priorities for threads? Explain with an example.  | 8 | CO3 | 3 |
| d.   | What is exception? Explain try, throw and catch with a suitable example.  | 7 | CO3 | 5 |
| 5.a. | Write a Java program of event handling by implementing Action Listener?   | 8 | CO4 | 5 |
| b.   | What is an Applet? Explain the life cycle of Applet by a neat diagram.  | 7 | CO4 | 4 |
| (OR) |   |   |     |   |
| c.   | Write a Java program to implement Mouse Motion Adapter.   | 8 | CO4 | 4 |
| d.   | Design an applet having a circle which is moving from left to right and reflected back from right to left continuously.                       | 7 | CO4 | 5 |

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