



ABES Engineering College, Ghaziabad
B. Tech Even Semester Sessional Test-3

Printed Pages: 1
Session: 2023-24

Semester: 4th

Course Code: BCS 403

Course Name: Object Oriented Programming with Java

Maximum Marks: 40

Instructions:

1. Attempt all sections.
2. If require any missing data, then choose suitably.

Roll No.:

Time: 1 Hr 30 Mins

Q. No.	Question	Marks	CO	KL	PI
Section-A		Total Marks : 20			
1	Attempt ANY ONE part from the following				
a)	Explain why we use Collections instead of Arrays.	5	CO4	K2	1.4.1
b)	Explain the sorting algorithms used in Java Collections Framework.	5	CO4	K2	1.4.1
2	Attempt ANY ONE part from the following				
a)	Explain Iterator Interface and its methods with example.	5	CO4	K2	1.4.1
b)	Differentiate between List and Set.	5	CO4	K2	1.4.1
3	Attempt ANY ONE part from the following				
a)	Write a program to create an ArrayList of 5 numbers and print the elements in sorted order using sort method.	10	CO4	K3	2.1.2
b)	Write a program in Java to implement push, pop, peek, empty and search methods of Stack class.	2+2+2+2+2	CO4	K3	2.1.2
Section-B		Total Marks : 20			
4	Attempt ANY ONE part from the following				
a)	Explain the concept of Bean scope and its type. [Company Specific]	5	CO5	K2	1.4.1
b)	Explain REST API with a suitable example. [Company Specific]	5	CO5	K2	1.4.1
5	Attempt ANY ONE part from the following				
a)	Explain Spring Boot Architecture with a suitable diagram.	5	CO5	K2	1.4.1
b)	Explain about Life Cycle Call backs with a neat diagram.	5	CO5	K2	1.4.1
6	Attempt ANY ONE part from the following				
a)	Explain Dependency Injection (DI) and its types. Write all the steps and syntax to implement DI using setter method	5+5	CO5	K2	2.1.2
b)	Explain Spring Boot and its advantages. Write all the steps to create a spring boot application.	5+5	CO5	K2	2.1.2

CO Course Outcomes mapped with respective question

KL Bloom's knowledge Level (K1, K2, K3, K4, K5, K6)

K1-Remember, K2-Understand, K3-Apply, K4-Analyze, K5- Evaluate, K6-Create