PRN:		Course Code :	PCA201R

000398

FY MCA End Semester Examination Winter 2024

Java Based Application Development

Day and Date: Sat, 30 Nov 2024 Max Marks: **100**

Time : 02:00PM To 05:00PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	What are the main primitive data types in Java, and how are they used in programming?"	08	L3	CLO1
	b)	Write a simple Java program that demonstrates the use of inheritance.	08	L2	CLO1
		OR			
	b)	Design a Java program that utilizes abstraction and encapsulation principles.	08	L2	CLO1
Q.2		**Attempt the following**			
	a)	Write simple Java code example using try-catch-finally to handle exceptions?	08	L2	CLO2
	b)	What is synchronization in the context of multithreading?	08	L2	CLO2
		OR			
	b)	Explain why synchronization is important when working with multiple threads.	08	L2	CLO2
Q.3		**Attempt any two from the following**			
	a)	What are the benefit of using Java Foundation Classes (JFC) over older GUI libraries in Java?	08	L3	CLO3
	b)	What are the benefits of using JTable and JTree components for displaying data in Java Swing applications?	08	L3	CLO3
	c)	How can you implement the Action interface for a JButton to perform a specific action in Java?	08	L3	CLO3
Q.4		**Attempt any two from the following**			
	a)	Evaluate the advantages of using PreparedStatement over Statement in JDBC programming.	08	L3	CLO3
	b)	Analyze the steps involved in implementing transaction management using JDBC API.	08	L3	CLO3
	c)	What is the basic architecture of JDBC, and how does it affect database interactions in Java applications?	08	L4	CLO3

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Q.5		**Attempt any Two of the following**			
	a)	What are the security differences between using cookies and URL rewriting for session management in web applications?	09	L4	CLO4
	b)	Analyze the role of ServletContext and ServletConfig objects in Java servlets.	09	L3	CLO4
	c)	What is the importance of the Filter API in Java Servlets for handling incoming requests and outgoing responses?	09	L4	CLO4
Q.6		**Attempt any Two of the following**			
	a)	How does the request processing lifecycle of JSP differ from that of servlets, and what are the main components involved?	09	L5	CLO4
	b)	Why is proper exception handling important in JSP for the robustness and reliability of web applications?	09	L4	CLO4
	c)	What are the key requirements and design considerations for developing CRUD applications using JSP and servlets?	09	L6	CLO4

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