



# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Second Semester, Master of Computer Applications (MCA)

Semester End Examination; October - 2022

Advanced Java Programming

Time: 3 hrs

Max. Marks: 100

## Course Outcomes

The Students will be able to:

CO1: Choose the Servlet Technology for server side web application.

CO2: Identify the JSP technology for server side web application.

CO3: Create packages and interfaces.

CO4: Describe Develop application using JDBC.

CO5: Develop Enterprise Java Bean Applications.

**Note: I)** Answer any **FIVE** full questions, selecting **ONE** full question from each unit.

**II)** Any **THREE** units will have internal choice and remaining **TWO** unit questions are compulsory.

**III)** Each unit carries 20 marks.

Q. No.	Questions	Marks	BLs	COs	POs
<b>UNIT - I</b>		<b>20</b>			
1 a.	Explain the basic structure of servlet and its life-cycle with an example and a neat diagram.	10	L1,2	CO1	PO1,2,3
b.	List out the classes and interfaces present in Javax.servlet and Javax.servlet.HTTP package.	10	L1	CO1	PO1,2,3
<b>UNIT - II</b>		<b>20</b>			
2 a.	Define JSP. Explain the stages of JSP life cycle.	8	L2	CO2	PO2
b.	Discuss the advantages of JSP over servlet.	4	L2	CO2	PO2
c.	Explain the types of JSP tags with syntax.	8	L1	CO2	PO2
<b>UNIT - III</b>		<b>20</b>			
3 a.	Develop a JSP program to implement all attributes of page directive tag.	10	L2	CO3	PO1,2
b.	Differentiate <jsp:include> action tag and include direction.	4	L2	CO3	PO1,2
c.	Write a JSP Program to perform addition of two numbers.	6	L2	CO3	PO1
<b>OR</b>					
3 d.	Mention the classes of Java Bean package with description.	10	L2	CO2	PO2
e.	Explain the Introspector and property Descriptor in Java Bean.	10	L2	CO2	PO2
<b>UNIT - IV</b>		<b>20</b>			
4 a.	What are Annotations? Explain the types of annotations with example.	10	L2	CO4	PO1,2
b.	What is JDBC? What are the main components of JDBC?	10	L3	CO4	PO1,2

**OR**

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|--|----|----|-----|-------|
| 4 d. Explain the types of JDBC drivers. List its advantages and disadvantages. | 10 | L2 | CO4 | PO1,2 |
| e. Identify the various steps of JDBC process.                                 | 10 | L2 | CO4 | PO1,2 |

**UNIT - V****20**

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|--|----|----|-----|-----|
| 5 a. What is EJB? Explain the features of EJB. | 10 | L2 | CO5 | PO2 |
| b. Explain the life cycle of session Bean.     | 10 | L2 | CO5 | PO2 |

**OR**

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|--|----|----|-----|-----|
| 5 d. What is entity bean? Explain the java persistence bean. | 10 | L2 | CO5 | PO2 |
| e. Explain the life cycle of MDB.                            | 10 | L2 | CO5 | PO2 |

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