



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

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester B.E. - Information Science and Engineering

Semester End Examination; August - 2023

Object Oriented System Development

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Describe the object oriented modeling concepts and class model.

CO2: Apply state model and interaction model with UML notations to solve problems.

CO3: Analyze to build domain and application model.

CO4: Design the solutions for real world problems.

CO5: Apply design patterns to solve real world problems.

Note: I) PART - A is compulsory. **Two** marks for each question.

II) PART - B: Answer any **TWO** sub questions (from a, b, c) for Maximum of **18** marks from each unit.

Q. No.	Questions	Marks	BLs	COs	POs
I : PART - A		10			
1 a.	Distinguish between classes and object.	2	L2	CO1	PO1
b.	List any two guidelines for use case models.	2	L3	CO2	PO1
c.	What are three kinds of requirements in preparing a problem statement?	2	L1	CO3	PO1
d.	List any four qualities of good class libraries.	2	L1	CO4	PO1
e.	What is view–handle pattern?	2	L1	CO5	PO1
II : PART - B		90			
UNIT - I		18			
2 a.	Explain the following Object Oriented Themes:				
	i) Abstraction	9	L2	CO1	PO1
	ii) Encapsulation				
	iii) Combining data and behavior				
b.	Discuss the following with suitable example:				
	i) Links and association	9	L2	CO1	PO1
	ii) Association classes				
	iii) Qualified Association				
c.	Describe the n–arry association and multiple inheritance with examples.	9	L2	CO1	PO1
UNIT - II		18			
3 a.	Summarize the basic notation for state diagram and show the state diagram for a chess game.	9	L2	CO2	PO1
b.	What is sequence diagram? Write and explain the sequence diagram for a session with an online stock broker.	9	L2	CO2	PO1
c.	Distinguish ‘include’ relationship and ‘extend’ relationship with an example.	9	L2	CO2	PO1

UNIT - III		18			
4 a.	Distinguish the high level questions to elaborate the conception of an ATM.	9	L2	CO3	PO1
b.	Distinguish between keeping the right classes and keeping the right association with an example.	9	L2	CO3	PO1
c.	Explain the steps involved in construction of an application class model.	9	L2	CO3	PO1
UNIT - IV		18			
5 a.	List and explain any four discussions in the system design.	9	L2	CO4	PO1
b.	Describe the steps involved in adjustment of class and operation to increase inheritance.	9	L2	CO4	PO1
c.	Explain the following with respect to common architectural styles:				
	i) Batch transformation	9	L2	CO4	PO1
	ii) Continuous transformation				
	iii) Interactive interface				
UNIT - V		18			
6 a.	What is the Client–Dispatch–Server design? List out the steps involved in the implementation of the design pattern.	9	L2	CO5	PO1
b.	Describe the steps involved in the towards receiver design pattern.	9	L2	CO5	PO1
c.	Show the four phases of view handle creating a new view.	9	L2	CO5	PO1

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