U.S.N (An Autonomous Institution affiliated to VTU, Belagavi) Second Semester, Master of Computer Applications (MCA) Semester End Examination (October - 2023) Object-Oriented Modelling and Design Patterns Time: 3 hrs Course Outcomes The Students will be able to: Course Outcomes Course Outcomes The Students will be able to: Course Outcomes Course Outcomes Course Outcomes Course Outcomes Course Students will be ables to: Course Outcomes Course Outcomes Course Students will duagram and interaction diagram for the real time problems. Colspan="2">Course Students with example on Class diagram, State duagram on the problems. Colspan="2">Course Students with example an	P22MCA263 Page No 1										
Mathematication of the properties of the problems. Max. Marks: 100 Direct Oriented Modelling and Design Patterns Time: 3 hrs Max. Marks: 100 Course Outcomes The Students will be able to: Course Outcomes Course Outcomes Course Outcomes Course Outcomes Course Outcomes CO: Understand the fundamentals of object oriented concepts. CO: Understand the fundamentals of object oriented concepts. CO: Discuss standard suitable patterns for the particular problems. CO: Discuss standard suitable patterns for the particular problems. Note: On Amsee any FUE; Full questions, of system design and class design. CO: Discuss standard suitable patterns for the particular problems. Note: On Amsee any FUE; Full questions, steech diagram from each unit. II) Pack unit carries 20 marks. Questions Marks BLs COs POs INIT - 1 20 1a. Define the following terms with example and UML notation: i) Multiplicity ii) Qualified Associatio		U.S.N]				
Course Outcomes The Students will be able to: CO1: Understand the fundamentals of object oriented concepts. CO2: Illustrate the importance of object oriented modelling and object oriented system is developed based on unified modelling language (UML). CO2: Illustrate the importance of object oriented modelling and object oriented system is developed based on unified modelling language (UML). CO3: Design class diagram, state diagram and interaction diagram for the real time problems. CO3: Discuss standard suitable patterns for the particular problems. Note: I) Answer any FIVE full questions, selecting ONE full question from each unit. III) Each unit carries 20 marks. Questions Marks Define the following terms with example and UML notation: i) Multiplicity ii) Qualified Association 12 L1 CO1 PO1,2,3 iii) Association Classes iv) Links and Associations b. What is aggregation and composition? Give their respective UML notation with an example. 8 L2 CO1 PO1,2,3 Define Event and explain the three types of events with example. 10 L2<	(An Autonomous Institution affiliated to VTU, Belagavi) Second Semester, Master of Computer Applications (MCA) Semester End Examination; October - 2023 Object-Oriented Modelling and Design Patterns										
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UNIT - I201 a. Define the following terms with example and UML notation: i) Multiplicity ii) Qualified Association12L1C01P01,2,3iii) Association Classes iv) Links and Associations12L1C01P01,2,3b. What is aggregation and composition? Give their respective UML notation with an example.8L2C01P01,2,3UNIT - II2a. Define Event and explain the three types of events with example.10L2C02P01,2,3,4b. Justify the need for nested state diagrams. With help of an example, explain how nested state diagram can be represented in UML?10L5C02P01,2,3,43 a. Outline three Use Case relationships. Design the Use Case diagram with two relationships for Stock Brokerage System.10L2,6C03P01,2,3,4ORd. Extend with neat diagram, Iterative Development Life Cycle.10L2C03P01,2,3,4											
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OR d. Extend with neat diagram, Iterative Development Life Cycle. 10 L2 CO3 PO1,2,3,4	b.		10	L2	CO3	PO1,2.3	3,4,5				
d. Extend with neat diagram, Iterative Development Life Cycle. 10 L2 CO3 PO1,2,3,4						,)-					
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	e.		10	L2							

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	UNIT - IV	20	
4 a.	List and explain creating reusable new things in System Design.	10	L2 CO4 PO1,2,3,4,5
b.	List and discuss the External software control strategy.	10	L1,6 CO4 PO1,2,3,4,5
	OR		
d.	Explain with neat diagram, Combining layers and Partitions in System Design.	10	L2 CO4 PO1,2,3,4,5
e.	Outline the Batch Transformation and Continuous Transformation of Architectural styles of System Design.	10	L2 CO4 PO1,2,3,4,5
	UNIT - V	20	
5 a.	What is pattern? Discuss the Categories Architectural pattern, Design Pattern, Idioms in detail.	10	L1,6 CO5 PO1,2,3,4,5
b.	Elaborate with diagram Forwarder-Receiver pattern.	10	L6 CO5 PO1,2,3,5
	OR		
d.	Discuss the Concept of Architectural Pattern.	10	L6 CO5 PO1,2,3,4,5
e.	Explain with neat diagram Client-Dispatcher-Server Design Pattern.	10	L2 CO5 PO1,2,3,4,5

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