Reg. No: _____

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, MAY/JUNE 2024

Department of Computer Science and Engineering
Semester V
CS6110 Object Oriented Analysis and Design
(R 2018)

Time: 3 hrs | Max. Marks: 100

CO 1	To capture the requirements specifications of an intended software system
CO 2	To design software with static and dynamic UML diagrams
CO 3	To map the design properly to code
CO 4	To improve the software design with design patterns
CO 5	To test the software against its requirements specifications

BL – Bloom's Taxonomy Levels
(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analyzing, L5 - Evaluating, L6 - Creating)

PART- A (10x2=20Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Define UML.	2	CO1	L1
2	Why design is important?	2	CO2	L6
3	Which phase is important for receiving business requirements in UP? Why?	2	CO2	L2
4	Compare Aggregation and Composition with example.	2	CO2	L1
5	What is meant by layered software design?	2	CO4	L4
6	Summarize the benefits of sequence diagram over collaboration diagram.	2	CO2	L1
7	Name the three perspectives of applying UML.	2	CO1	L1
8	How factory method facilitates assigning responsibility to objects?	2	CO4	L4
9	Mention the role of polymorphism pattern in sales tax calculation process.	2	CO4	L3
10	Write the impact of object orientation on testing.	2	CO5	L1

PART- B (8x8=64 Marks)

(Answer any 8 questions)

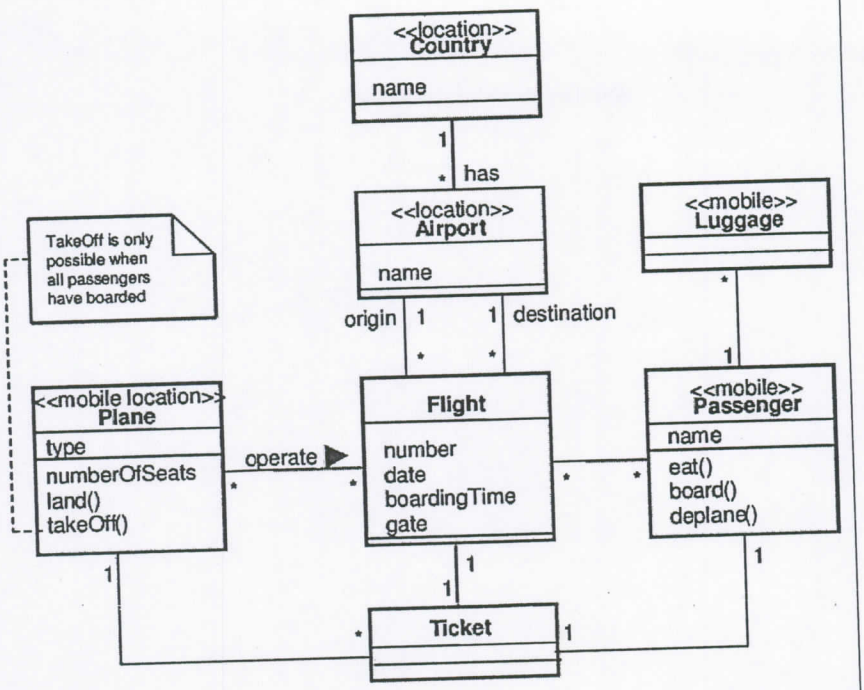
Q. No	Questions	Marks	CO	BL
11.	What is a Unified Process model? Discuss its phases in detail.	8	CO1	L1
12.	Elaborate on the guidelines for identifying use cases for a Point of Sales system.	8	CO2	L3
13.	Consider a software that implements e-commerce scenario where the customer is allowed to browse the catalog, place the purchase order and cancel the order. The supplier is responsible for	8	CO2	L6

	conforming the shipment based on the purchase orders received. After the delivery of item the customer must be able to pay the bill using some kind of bank System. For this, draw an activity diagram with necessary UML notations.			
14.	List and discuss various methods used to identify the Conceptual and Descriptive classes from a given problem statement.	**8**	CO2	L2
15.	With a neat diagram, explain how the Domain model inspires the Class model.	**8**	CO2	L3
16.	List out the UML notations used in sequence diagram. Draw the sequence diagram for e-post office system for sending and receiving money.	**8**	CO2	L6
17.	Elaborate on Component and Deployment Diagrams with examples.	**8**	CO2	L2
18.	Draw and discuss about State machine diagram notations with your example.	**8**	CO2	L6
19.	Elaborate on the Package organization guidelines.	**8**	CO4	L2
20.	Identify and apply any five GRASP design patterns for online banking system.	**8**	CO5	L4
21.	With an example, explain the Adapter, Factory, Strategy, Façade and Publish-Subscribe patterns of GoF.	**8**	CO5	L3
22.	Discuss in detail about Software quality assurance activities followed during software development.	**8**	CO5	L1

PART- C (2x8=16Marks)

(Both are compulsory)

Q. No	Questions	Marks	CO	BL
23.	A bank has many branches. In each zone, one branch is designated as the zonal head office that supervises the other branches in that zone. Each branch can have multiple accounts and loans. An account may be either a savings account or a current account. A customer may open both a savings account and a current account. However, a customer must not have more than one savings account or current account. A customer may also procure loans from the bank. Draw the corresponding class diagram with necessary UML notations.	**8**	CO2	L6

24.	 Convert the given design to code.	8	CO3	L6