

Reg. No: _____

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV/DEC 2021

Department of Computer Science and Engineering
Semester V

CS6110 Object Oriented Analysis and Design
(RUSA)

Time:3hrs

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	<u>CO1</u>	<u>L1</u>
2	“The domain model is called a visual dictionary”- Justify with an example.	2	<u>CO2</u>	<u>L6</u>
3	Which phase is important for receiving business requirements in UP? Why?	2	<u>CO2</u>	<u>L2</u>
4	Differentiate Aggregation and Composition. Give example.	2	<u>CO2</u>	<u>L1</u>
5	Mention the benefits of using layers in software design.	2	<u>CO4</u>	<u>L4</u>
6	For the following code snippet, draw the class diagram. public class ABC { private XYZ c1; private int a; public void setvalue(int i) { a=15; } }	2	<u>CO3</u>	<u>L5</u>
7	List the perspectives of applying UML.	2	<u>CO1</u>	<u>L1</u>
8	How factory method facilitates to assign responsibility to objects?	2	<u>CO4</u>	<u>L4</u>
9	Mention the role of polymorphism pattern for sales tax calculation.	2	<u>CO4</u>	<u>L3</u>
10	What is the impact of object orientation on testing?	2	<u>CO5</u>	<u>L1</u>

PART- B(8x8=64 Marks)
(Answer any 8 questions)

Q. No	Questions	Marks	CO	BL
11.	Discuss the different phases of Unified Process model.	8	<u>CO1</u>	<u>L1</u>

12.	Detail the guidelines for identifying use cases with your own example.	8	<u>CO2</u>	<u>L3</u>
13.	Consider a software that implements e-commerce scenario where the customer is allowed to browse the catalog and place the purchase order. The supplier is responsible for conforming the shipment based on the purchase orders received. After the delivery of item customer must be able to pay the bill using some kind of bank System. Draw a sequence diagram with corresponding UML notations.	8	<u>CO2</u>	<u>L6</u>
14.	Detail the various types of Conceptual classes with an example.	8	<u>CO3</u>	<u>L2</u>
15.	Explain, how the Domain model inspires Class model. Depict it with an example.	8	<u>CO2</u>	<u>L3</u>
16.	Discuss about the ways the object models are mapped to Code by highlighting how the associations mapping and object model to table is performed	8	<u>CO3</u>	<u>L2</u>
17.	Design a smart guide system for the visually impaired people to reach the destination safely. The system is supported with smart driverless vehicle which has been designed specifically for this purpose. The system should also support self-diagnosis, petrol filling (check petrol status and identify the nearest petrol station). Draw collaboration diagram.	8	<u>CO2</u>	<u>L3</u>
18.	Draw and discuss about State machine diagram notations with your example.	8	<u>CO2</u>	<u>L6</u>
19.	Elaborate on the Package organization guidelines.	8	<u>CO4</u>	<u>L2</u>
20.	Identify and apply any five GRASP design patterns for online hospital management system.	8	<u>CO5</u>	<u>L4</u>
21.	Apply Gang of Four design patterns for Software Digital Rights Management System.	8	<u>CO5</u>	<u>L3</u>
22.	Discuss in detail about Software quality assurance during software development.	8	<u>CO5</u>	<u>L1</u>

PART- C(2x8=16Marks)
(Both are compulsory)

Q. N o	Questions	Marks	C O	BL
23.	For a cell phone simulation application, (i) Draw Class diagram with all attributes, methods, associations and cardinality (ii) Draw an activity diagram for saving and updating contact details.	4 + 4	<u>C</u> <u>O2</u>	<u>L6</u>
24.	For the below given scenario write the test case and provide the actual result. Scenario id :TS01 Scenario: Login to Employee Portal and validate the Home Page.	8	<u>C</u> <u>O3</u>	<u>L5</u>