08 FEB 2023

M.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022
Third Semester
Computer Science and Engineering (5 Years Integrated)
20CJPC301 - OBJECT ORIENTED PROGRAMMING USING JAVA AND UML
(Regulations 2020)

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks, K-Level, CO
1.	What are the types of use case formats?	2,K1,CO1
2.	What is Generalization?	2,K1,CO1
3.	Differentiate static and a non-static inner class.	2,K2,CO2
4.	Define class in java.	2,K1,CO2
5.	Define Multiplicity in class Diagram with an Example.	2,K1,CO3
6.	Define aggregation and composition.	2,K1,CO3
7.	What are the Common Notations in UML Interaction Diagram?	2,K1,CO5
8.	Define Package. Draw UML notation for Package.	2,K1,CO5
9.	Define design pattern with an example.	2,K1,CO6
10.	List the GRASP pattern.	2,K1,CO6

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11.	a)	Explain use cases and its type. Explain about fully dressed use cases with an example.	13,K2,CO1
		OR	
	b)	Explain with an example, how Use Case Modeling is used to describe the functional requirements. Identify the actors, scenario and Use Case for POS system.	13,K2,CO1
12.	a)	Explain the concept of inheritance and its types.	13,K2,CO2
		OR	
	b)	Develop a java program using local, static, instance variable with proper justification.	13,K4,CO2
13.	a)	Illustrate about Relationships among the classes with an example.	13,K3,CO3
		OR	
	b)	Develop the class diagram for Airline Reservation System. Find and draw the conceptual classes for the same.	13,K4,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **11696**

14. a) Explain about activity diagram with an Example.   *13,K2,CO5*

                                        OR

   b) Illustrate UML sequence diagram notations briefly using an example.   *13,K3,CO5*

15. a) What is GRASP? Describe the design patterns and principles used in it.   *13,K2,CO6*

                                          OR

   b) Explain any five of the GOF Design pattern in detail.   *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Draw a class diagram for Library Information System which comprises   *15,K3,CO4*
the following notations and explain them.
(i) Aggregation (ii) Composition (iii) Association.

                                          OR

   b) For an ATM system, every user has to be validated with a PIN number   *15,K3,CO4*
to make a transaction. A customer is allowed 3 times to validate a card
giving the correct PIN number. Show the Use Case representation for
the same and summarize the "Validate User" Use Case using sequence
diagram. Assess and represent the class.