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# PRESIDENCY UNIVERSITY BENGALURU

**Course Code :** CSE3082

# SCHOOL OF ENGINEERING

**MAKE UP EXAMINATION JULY 2024**

**Date :** 19-JULY-2024

**Time :** 09.30AM to 12.30PM

**Course Name :** Object Oriented Analysis and Design

**Program :** B.Tech.

**Max Marks :** 100

**Weightage :** 50%

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

**PART A**

**ANSWER ALL THE QUESTIONS (10 X 2 = 20M)**

* 1. Define object persistence.
  2. What is static and dynamic model? Give an example for each
  3. What are the Guidelines for developing effective documentation?
  4. Difference between Interaction coupling and Inheritence coupling
  5. List out the five rules to identify the bad design of a software.
  6. List the different types of component Interfaces.
  7. What is the use of Corollary 1 and Corollary 2?
  8. Write the conceptual objects with respect to Graphical user interface
  9. What is Object-Oriented Analysis and Design?

(CO4) [Knowledge] (CO1) [Knowledge] (CO2) [Knowledge] (CO3) [Knowledge] (CO3) [Knowledge] (CO4) [Knowledge] (CO3) [Knowledge] (CO2) [Knowledge] (CO1) [Knowledge]

* 1. List the notation used in deployment diagram

(CO4) [Knowledge]

**PART B**

**ANSWER ALL THE QUESTIONS (5 X 10 = 50M)**

* 1. Draw the Activity diagram for Hospital Management System.

(CO3) [Comprehension]

* 1. Consider a library management system, in which books are stacked and segregated according to different stream and different subjects. Every book has got its own information like book reference number and number of copies available. A borrower can be student or faculty, every borrower will get a time limit after that borrower cannot keep the book with him, and he has to return it. The operations such as borrowing and returning will be documented as a record. Write the CRC cards for the classes Library, Borrower, Librarian and Lendable (Available books) from the above case study.

(CO2) [Comprehension]

* 1. Explain different views to describe object-oriented design using Booch Methodology.

(CO1) [Comprehension]

* 1. Model a state transition diagram for a microwave oven for the following scenario: (a) The oven is initially in idle state with door open when light is turned on. (b) When the door is closed it is in idle state and light is turned off.
     1. If the button is pressed it moves to initial cooking stage where the timer is set and lights are on and heating starts.
     2. At any moment the door may be opened, the cooking is interrupted, the timer is cleared and heating stops.
     3. Also while coking another button can be pushed and extended cooking state starts where the timer gets more minutes. At any moment door can be opened here also.
     4. If the timer times out, cooking is complete, heating stops, lights are off, it sounds a beep.
     5. When the door is open, again the oven is in idle state with the door open.
  2. Draw the Collaboration Diagram for a video CD / DVD shopping system.

(CO3) [Comprehension] (CO4) [Comprehension]

**PART C**

**ANSWER ALL THE QUESTIONS (2 X 15 = 30M)**

* 1. Consider an elevator that has the basic functions such as moving up and down and open and close doors and pick up passengers. The elevator is supposed to be used in a building having floors numbered from 1 to n. There are call buttons in the elevator corresponding to each floor. For every floor except floors 1 and n, there are two floor call buttons for the passengers to call elevator for going up and down. There is only one down call button at floor n and 1 up call button in floor 1. Then the car stops at a floor, the doors are opened and the elevator light indicating the current direction the elevator is going is illuminated so that the passengers can get to know the current moving direction of the elevator. When the elevator is moving music is audio is played inside the elevator. Draw Interaction diagram, State diagram, Activity diagram and for designing this system.

(CO3) [Application]

* 1. Draw the Deployment Diagram for E-Commerce System.

(CO4) [Application]