

M. Tech. Computer Science & Engineering (CBCS Pattern) Semester-I  
**PCSS13 - Object Oriented Software Engineering**

P. Pages : 1

Time : Three Hours



**GUG/W/24/10942**

Max. Marks : 70

- Notes :
1. All questions carry equal marks.
  2. Due credit will be given to neatness and adequate dimensions.
  3. Assume suitable data wherever necessary.
  4. Illustrate your answers wherever necessary with the help of neat sketches.
  5. Solve **any five** questions.

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|----|-----|--|---|
| 1. | a)  | Explain (with example) dynamic and shared inheritance.                                       | 7 |
|    | b)  | Differentiate between composition and aggregation.   | 7 |
| 2. | a)  | Draw and explain neat sketch of all UML Diagrams of banking system.                          | 7 |
|    | b)  | Write a program in C++/Java for the concepts of encapsulation, polymorphism and inheritance. | 7 |
| 3. | a)  | Draw class diagram and Interaction diagram for the following activities                      | 8 |
|    | i)  | Withdrawing amount from automatic teller machine.  |   |
|    | ii) | Read message of a voice mail system.   |   |
|    | b)  | Explain the pipe and filter architectural pattern.   | 6 |
| 4. | a)  | Draw the sequence diagram for a library management system and explain it.                    | 7 |
|    | b)  | Write brief note on object constraint language.  | 7 |
| 5. | a)  | Write short notes on domain analysis document for household alarm system.                    | 7 |
|    | b)  | Explain different architectural patterns.  | 7 |
| 6. | a)  | Discuss a technique for making good design decisions.  | 7 |
|    | b)  | Describe related use cases that have to do with opening a file in an application.            | 7 |
| 7. | a)  | What are activity diagrams? Give a suitable example.   | 7 |
|    | b)  | What is cohesion? Give short definition of different types of cohesion.                      | 7 |
| 8. | a)  | How to find degrees in ordinary algorithm.   | 7 |
|    | b)  | Differentiate testing and inspecting.  | 7 |

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