Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer FIVE questions.   **5×12=60**

1(a) What are the basic elements involved in OOS? Discuss in detail about OOA, OOD, and OOP.   6

 (b) What are the common attributes of complex systems?. Explain why software becomes inherently complex.   6

2(a) Define importance, benefits and elements of design. Explain object as a machine.   4+2

 (b) What is class diagram and why is it needed? Explain with a suitable example.   6

3(a) Is UML a programming language? Is it process dependent or independent? Distinguish between state diagram and sequence diagram.   2+4

 (b) Draw the interaction diagram for an ATM used for card-based banking system. Also mention the assumptions and limitations that you have made in your design.   6

4. What is a domain model? List out different steps to construct a domain class model. Explain steps of constructing application interaction model.   2+3+7

5. Define Common features of agents and its representation. Describe Agent Oriented Programming and Object oriented programming. Also explain AOP framework.   2+3+7

6(a) Compare software quality and metrices. Explain Principles of Object Oriented Design.   5

 (b) What are Verification & Validation? Explain Object Oriented Approach for software development.   3+4

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