

(3 HOURS)

[Total Marks: 80]

- N.B.: (1) Question no. 1 is compulsory.
 (2) Attempt any three questions from remaining.
 (3) Assume suitable data wherever necessary.

- Q1. (a) What is UML? Explain role of different UML diagrams in system design. (10)
 (b) Explain DFD (up to two levels) with suitable example. (10)
- Q2. (a) Explain different requirement gathering techniques used in system analysis. (10)
 (b) Explain software development life cycle used for system analysis. (10)
- Q3. (a) What is cost benefit analysis? Illustrate any one model of cost benefit analysis. (10)
 (b) Explain Zachman's framework for software system design. (10)
- Q4.(a) Draw the use case diagram of a library management system with extend, include and generalize relations between use cases. (10)
 (b) What are characteristics of good graphical user interface? Draw GUI for online course registration system. (10)
- Q5.(a) Assume that the hospital management system is deployed using 3 tier architecture, explain its various components and its deployment with the help of diagrams. (10)
 (b) Draw the sequence diagram for login procedure to a system. Include all possible scenarios and draw its activity diagram also. (10)
- Q6. (a) Define cohesion and coupling in system design? High cohesion and low coupling is recommended for good system design. Justify. (10)
 (b) Your college wishes to prepare and maintain the database system to track progress of the students who were recruited through college training and placement cell. Prepare the proposal to design above system. (10)

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