



Name :

Roll No. :

Invigilator's Signature :

CS/MCA/SEM-2/MCA-202/2012

2012

**INFORMATION SYSTEMS ANALYSIS
AND DESIGN**

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

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

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following questions :
10 × 1 = 10
- i) Software requirement specification (SRS) document does not contain
 - a) Functional requirements
 - b) Non-functional requirements
 - c) Goals of implementation
 - d) Algorithms for software implementation.
 - ii) Which diagram is not included in Unified Modelling Language (UML) ?
 - a) Function hierarchical diagram
 - b) Activity diagram
 - c) Sequence diagram
 - d) Use case diagram.
 - iii) CMM level-4 is
 - a) Managed
 - b) Optimizing
 - c) Repeatable
 - d) Defined.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Explain Capability Maturity Model (CMM) and its levels. 5
3. The discount policy of a manufacturer producing two products :
 - a) Mechanical typewriter
 - b) Electronic typewriter and who has three types of customers Retailers (R), Dealers (D, Institutions (I).

Rules : In case of mechanical typewriter

- (i) If the order is from retailer for amount up to Rs. 5000, 6% discount is allowed.
- (ii) If the order is from dealer for amount up to Rs. 5000, 7.5% discount is allowed.
- (iii) On amount exceeding Rs. 5000 retailer gives 7.5% discount.
- (iv) On amount exceeding Rs. 5000 dealer gives 11% discount.
- (v) In other cases 7.5% discount is given.
- (vi) In case of electronic typewriter discount given is 6% to all.

Develop the decision table for the above problem. 5

4. What are coupling and cohesion ? Give suitable example. 5
5. Discuss smoke and regression testing. 5
6. What do we mean by the term , "The Table is in 3NF" ? Briefly explain.



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. If prototype model is used for software development then is it necessary to build a SRS ? Justify. Name a RAD tool. Explain importance of CASE tools with example. Discuss different feasibility analysis types. How function point analysis helps in producing initial cost estimation ? $3 + 1 + 4 + 3 + 4$
8. Differentiate between error and defect ? What do you mean by total Quality Management ? Explain merits and demerits of ISO certification. Name two ISO standards and their work area. What are six sigma qualities ? $2 + 3 + 5 + 3 + 2$
9. a) What is Normalization ? What are the benefits of a normalized database ?
- b) Explain 2NF with the help of a suitable example.
- c) What is a key ? Differentiate between a candidate key and a super key.
- d) What are the advantages of choosing a key of a relationship ? What is Referential Integrity ? $2 + 3 + 2 + 4 + 4$
10. Why is it necessary to keep quality assurance checks separate from system development ? Describe some common roles used in inspections. What are the roles used in Walk-through ? $5 + 5 + 5$
11. Define Generalization and specialization. What is aggregation ? Illustrate with examples. Draw an ERD of a hospital will all its entity and activities. $4 + 2 + 9$

