COMP 4 – 5 (RC)

S.E. (Comp.) (Semester – IV) Examination, May/June 2010
SYSTEM ANALYSIS AND DESIGN

Duration : 3 Hours Total Marks : 100

Instruction : *Attempt **five** questions by taking atleast **one** question from **each** Module.*

MODULE – 1

1. a) From your understanding of "System concepts and the information systems environment", do you need a computer to do systems analysis ? Discuss. 5

   b) What categories of information are relevant to decision making in business ? Relate each category to the managerial level and an information system. 8

   c) There are several considerations in deciding on a candidate system. What are they ? Why are they important ? Be specific. 7

2. a) What were the main contributions of Taylor, Maslow and McGregor to systems analysis ? 5

   b) What is meant by the analyst/user interface ? Why is it a problem ? 5

   c) Why is a system proposal so crucial for system design ? Explain. 5

   d) Explain system development life cycle with neat diagram. 5

MODULE – 2

3. a) Distinguish between the following :
      1) Brainstorming and Delphi method.
      2) Validity and reliability.
      3) Strategic and operational planning.
      4) Decision table and structure chart. 8

   b) What are data flow diagrams ? How do they differ from structure charts ? 4

   c) What categories of information are available for analysis ? How would one decide on the category for a given project ? 4

   d) Summarize the advantages and limitations of interviews and questionnaires. 4

P.T.O.

4. a) Draw an overall data flow diagram for the following application :
   1) A travel agency making round-trip reservations for two to Sri Lanka.
   2) Ordering supplies for a barber shop. 6

   b) Define the following terms :
   1) Data set
   2) Aggregates
   3) Segments
   4) Data structure. 4

   c) Distinguish between the following :
   1) Opportunity and sunk costs.
   2) Direct and indirect costs.
   3) Fixed and tangible costs.
   4) Tangible and intangible benefits. 10

MODULE – 3

5. a) Explain the major development activities during structured design. 4

   b) Explain the role of a database administrator. 4

   c) Distinguish between the following :
   1) Snapout and funfold forms.
   2) Rule and caption.
   3) Ballot box and check-off design. 6

   d) Explain and illustrate the key elements of a structure chart. 6

6. a) Design a structure chart using the following information :
   1) Calling module : RECORD STUDENT GRADES
   2) Called module : GET ACADEMIC RECORD
   GET VALID GRADES
   ADD NEW GRADES
   REPORT ERRORS
   CHECK FOR PROBATION
   CHECK FOR DEAN'S LIST

3) Include the required input and output couples, showing the direction and meaning.

4) In the same chart, show CHECK FOR PROBATION as a calling module and factor a called module called CALCULATE GPA. Show input and output couples. **10**

b) Write short notes on the following :

i) Data classification and zoning.

ii) Hierarchical structuring. **4**

c) Explain the elements of a HIPO package format. What are the various steps involved in generating a HIPO diagram ? **6**

MODULE – 4

7. a) What is quality assurance ? Discuss the various levels of quality assurance. **4**

b) Distinguish between the following :

i) Logical and structure failure.

ii) RFP and vendor proposal.

iii) String and system testing. **6**

c) What is implementation ? How does it differ from conversion ? Elaborate. **5**

d) What is involved in converting files ? Be specific. **5**

8. a) List and explain the various factors that determine the quality of a system. **5**

b) Explain the various types of training aids available for user training. **5**

c) What software criteria are considered for selection ? Summarize. **5**

d) Distinguish between :

i) Gantt and PERT

ii) Event and milestone

iii) Task and activity

iv) Precedence and successor relationships.

v) Data security and integrity. **5**