MCA (Revised)

Term-End Examination

December, 2006

MCS-014 : SYSTEMS ANALYSIS AND DESIGN

Time : 3 hours

Maximum Marks : 100
(Weightage 75%)

Note : Question number 1 is **compulsory**. Attempt any **three** questions from the rest.

1. (a) Explain the phases of SDLC in detail. Also explain the role of feasibility analysis with an example. **10**

   (b) Prepare ERD for a library management system. Also explain the details related to keys, fields, relationships etc. **10**

   (c) List and explain the basic skills of a system analyst. **5**

   (d) Explain all types of coupling and cohesion in detail. Which type of coupling and cohesion is best ? Justify your answer. **10**

   (e) Build a context and first level DFD for a student registration system of a college. **5**

2. (a) Give various types of documentation required in system development. Explain in detail with the help of suitable examples. **8**

(b) Explain the following terms with an example : 4×3=12

(i) System Testing

(ii) Structure Chart

(iii) Inheritance Diagram

3. (a) Explain the following with the help of an example :

3×2=6

(i) Primary key

(ii) Secondary key

(iii) Referential integrity

(b) Prepare a database schema for a hospital management system and elaborate its components. 10

(c) Explain the role of a DBA. 4

4. (a) List and explain various components of a CASE tool. Draw suitable diagram to elaborate your answer. 6

(b) List any four basic requirements for designing a project report. 2

(c) Explain the use and function of the following with suitable diagram for each : 4×3=12

(i) TPS

(ii) Expert system

(iii) DSS

5. (a) Explain any four types of testing techniques with an example of each. 10

(b) Explain the differences between reverse and forward engineering. Give a suitable example for each. 5

(c) Explain how the inference engine provides the reasoning capability to the expert system. 5