MCA (Revised) / BCA (Revised)

Term-End Examination

07313

December, 2018

MCS-014(S) : 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 advantages and disadvantages of the following software development models :   *9*

    (i) Waterfall

    (ii) Prototype

    (iii) Spiral

   (b) What are the advantages of DFDs ? Draw DFDs of level-0 and level-1 for *online examination system* in which examinations are conducted using multiple choice questions and true/false questions. Make necessary assumptions.   *10*

(c) Explain why a system analyst should be familiar with technical skills. Also list any five technical skills which may be used by a system analyst. 6

(d) Explain data coupling with the help of an example. 5

(e) What is an expert system ? Explain its two advantages and two disadvantages. 5

(f) What is MIS ? Explain any two functions of MIS in a business organization. 5

2. (a) Explain various roles of a system analyst in modern business. 8

(b) Explain the need of feasibility study for the development of an enterprise application system. Explain various issues involved in operational feasibility. 8

(c) What is risk analysis ? Explain quantitative risk analysis. 4

3. **(a)** What is software re-engineering ? How is it different from software reverse-engineering ? Explain the advantages of both. **10**

(b) Draw ER Diagram for the following situation : **10**

An account is a relationship between Customer and Bank. A customer may have multiple accounts of different types (but only one account of one type). Each customer belongs to a branch of bank. Different types of accounts require different minimum balances. A customer may transfer money from one account to another account owned by him/her. Make necessary assumptions.

4. **(a)** Explain the following with an example of each : **2×5=10**

(i) Use case diagram

(ii) Class diagram

(b) What is a CASE tool ? How are CASE tools useful in different aspects of software engineering projects ? Also briefly explain any two disadvantages of CASE tools. **10**

5. Write short notes on the following :   *4×5=20*

    (a) Software Maintenance

    (b) User Interface Design

    (c) Real Time Systems

    (d) Software Documentation