

## COMP 4 – 5 (RC)

### S.E. (Computer) (Semester – IV) (RC) Examination, Nov./Dec. 2015 SYSTEM ANALYSIS AND DESIGN

Duration : 3 Hours

Total Marks : 100

**Instructions:** 1) Answer **any five** questions, atleast **one** from **each** Module.  
2) Make **suitable** assumptions, if necessary.

#### MODULE – I

1. a) Explain the characteristics of an open system with respect of a College Management System. 8
- b) Differentiate between initial investigation and feasibility study. 3
- c) List and explain the key steps in Scientific Management proposed by Fredrik Taylor. 4
- d) What is meant by the analyst/user interface ? Explain the problems involved. 5
2. a) Discuss the reasons for project termination and software failure. 6
- b) Explain the multifaceted role of a systems analyst. 8
- c) Where do ideas for a proposed system originate ? How does the analyst assist in this regard ? 6

#### MODULE – II

3. a) What are the strategies adopted by users while defining their requirements ? 6
  - b) State the advantages and disadvantages of interviews and questionnaires. 8
  - c) Draw a DFD for the following employee management system : 6
- A list of employees with their basic pay is sent to a clerk. He calculates the gross pay using standard allowances which are known for each pay slab. Deduction statements such as loan repayment, subscription to association etc. are also sent to another clerk who matches these slips with the slips of gross pay and calculates net pay. This slip is used by a third clerk to write out pay cheques for each employee and sent to respective employees. The total pay bills paid are also computed.

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4. a) Rs. 35,000 is to be invested to purchase a computerized system for a MIS department of a private company. The average annual benefit is estimated at Rs. 15,000 for the 5 year life of the system. Using 10% interest rate, calculate the net present value for the system. 7
- b) Explain the elements and the rules to be followed while drawing a DFD. 6
- c) Explain the contents of feasibility report. 7

### MODULE – III

5. a) Write short notes on : 6
- i) Technical feasibility
  - ii) Behavioural feasibility
  - iii) Economic feasibility
- b) Briefly explain the types of cost and benefit considered in a cost benefit analysis. 5
- c) Define system performance and explain the steps involved. 5
- d) What is decision table ? Explain the elements of a decision table. 4
6. a) What are the different input media and devices used for inputting source data ? 6
- b) What do you mean by normalization ? Explain the steps involved. 6
- c) What is HIPO ? Explain the element of a HIPO package and what are the various steps in generating a HIPO diagram. 8

### MODULE – IV

7. a) What are the advantages of top down design ? Differentiate between coupling and cohesion. 4
- b) Explain the role of database administrator. 6
- c) Elaborate on the following in the context of form layout : 4
- i) Data classification and zoning
  - ii) Paper selection
- d) Discuss the three major approaches to online data entry. Give examples of each. 6
8. a) What are the various types of maintenance and what are the problems associated with maintenance ? 7
- b) List and explain the steps involved in preparation of a disaster/recovery plan. 6
- c) Explain alpha and beta testing. 3
- d) Explain the different types of errors encountered during programming with a suitable example. 4