



COMP 4 – 5 (RC)

S.E. (Comp.) (Sem. – IV) (Revised Course) Examination, Nov./Dec. 2012 SYSTEM ANALYSIS AND DESIGN

Duration : 3 Hours

Total Marks : 100

Instructions : i) Answer 5 questions, at least **one** from **each** Module.
ii) Make suitable assumptions **if necessary**.

MODULE – I

1. a) What are the elements of a system ? Can you have a viable system without feedback ? Explain. 8
- b) What are the characteristics of an open system ? Illustrate with an example. 8
- c) Explain the role of a system analyst as a "change agent". 4
2. a) What are the academic qualifications and personal attributes required to be a "good" system analyst ? 9
- b) Differentiate clearly between DSS and MIS. 6
- c) Discuss the job profile and importance of a technical writer in a MIS system. 5

MODULE – II

3. a) Explain the different types of :
 - i) Interviews
 - ii) Questionnaires. 6
- b) State and explain the different types of observation methods. 8
- c) With an example explain the description of a data element in a Data Dictionary. 6
4. a) Differentiate between Net Benefit Analysis and Present Value Analysis methods. 6
- b) Calculate the net present value for the following system :

Rs. 30,000 is invested to purchase computer for a new MIS system. The average annual benefit is estimated at Rs. 15,000 for the 5 year life of the system using 10% interest rate. 8
- c) Differentiate between the following :
 - i) Brainstorming and Delphi methods
 - ii) Strategic and Operational planning. 6

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MODULE – III

5. a) What is the goal of input design and output design ? 6
b) With a neat diagram explain the structured design method. 6
c) Differentiate between the following :
i) Module cohesion and module coupling
ii) Logical and physical design
iii) Rules and captions
iv) Ballot Box design and Check-Off design. 8
6. a) Explain the following file organization methods :
i) Indexed – sequential
ii) Inverted list. 8
b) What features does a relational DBMS offer ? 6
c) What is normalization ? Normalize the foll. table into 3 NF.
Employee (Name, emp_code, dept, salary, dept_head, project_no,
project_end_date, project_cost) 6

MODULE – IV

7. a) What is a Gantt chart ? How does it differ from PERT chart ? Explain. 8
b) What design specifications are considered in preparing a test plan ? 8
c) List and explain the factors that affect the quality of a system. 4
8. a) State and explain the factors that contribute to the quality of a system. 6
b) What is post-implementation review ? Which are the areas addressed by the review plan ? 6
c) Differentiate between the following : 8
i) System security V/s System integrity
ii) Data privacy V/s Data confidentiality
iii) Logical failure V/s Structural failure
iv) Access control V/s Audit control.