Code: DC06 **Subject: ANALYSIS AND DESIGN OF INFORMATION SYSTE**
Time: 3 Hours **Max. Marks: 10**

JUNE 2011

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 Choose the correct or the best alternative in the following: **(2×10)**

a. The basic objective of System analysis is to:-

(A) Understand computer hardware by opening the system unit.
(B) Understand a complex system and modify it in some way.
(C) Run simulation programs.
(D) Train managers in mathematical analysis.

b. System analyst is:-

(A) Agent of change. **(B)** Communicator.
(C) Problem solver. **(D)** All of the above.

c. To ensure system quality**:**

(A) Unless user needs and software requirements specifications are reviewed, system design should not be initiated.
(B) Inspection should be carried out at pre-specified milestones.
(C)A proper test plan should be prepared and followed.
(D) All of the above.

d. Which is the most critical phase of SDLC?

(A) Feasibility study **(B)** System analysis.
(C) Systems design **(D)** All of the above**.**

e. Prototype is a:-

(A) Mini model of the existing system.
(B) Working model of the existing system.
(C) Mini model of the proposed system.
(D) None of the above.

f. In the implementation phase of SASD following are included:-

(A) Parallel run
(B) Sizing
(C) Specification Freeze
(D) All of the above.

g. The main advantage of normalized relations in relational DBMS is that they:-

(A) Are highly secure.
(B) Do not suffer from anomalies during delete and update operations.
(C) Occupy minimal storage.
(D) All of the above.

h. A major principle of modularization is:

(A) Each module should have a high degree of cohesion
(B) The number of modules should be as low as possible.
(C) The number of modules should be as high as possible.
(D) The cohesion of each module should be low and coupling between modules should be strong.

i. Structured analysis and design uses:-

(A) Documentation produced on word processors.
(B) Trained programmers only in all phases.
(C) Diagrams like DFDs
(D) Prototypes generated using object oriented methods.

j Which of the following is not a data security measure?

(A) Using password for access.
(B) Using retention periods for all files.
(C) Allowing only EDP personnel to access any file.
(D) None of these.

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. Explain system development process strategies and its basic principles. **(8)**

b. What is MIS (Management Information System)? Explain. **(8)**

Q.3 a. Explain requirement gathering process with its types. **(10)**

b. Describe role of a system analyst as a: **(6)**
(i) Change agent (ii) Investigator or Motivator.

Q.4 a. What is Data Modeling? Also mention about Conceptual data modeli... support your answer with one example.

b. Draw a DFD for an airline reservation system. Also explain it. **(10)**

Q.5 a. What is "Cost Benefit Analysis"? Give a mathematical approach to it. **(8)**

b. Explain the categories of feasibility in analysis. **(8)**

Q.6 a. What is Prototyping? Give necessary example & diagrams. **(10)**

b. Give a short note on relational databases. **(6)**

Q.7 a. What is 'Object Oriented' approach in System designing, how it is different from modular oriented approach? Also describe the design of an 'Object Oriented' System with a suitable example. **(8)**

b. Describe these terminologies:

(i) Payback analysis
(ii) Program directive.
(iii) Object Reusability.
(iv) Subschema. **(8)**

Q.8 a. Write short note on:

(i) Portability
(ii) Modularity
(iii) Decision Trees
(iv) Entropy **(8)**

b. What is system testing? State its importance; also describe in brief steps the system testing. **(8)**

Q.9 Write notes on the following citing suitable examples:

(i) GUI Design Principles
(ii) Object Oriented Testing
(iii) System Re-engineering
(iv) System Audit **(4×4)**