

DiplETE – CS (OLD SCHEME)

Code: DC06
Time: 3 Hours

Subject: ANALYSIS AND DESIGN OF INFORMATION SYSTEMS
Max. Marks: 100

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 modeling, support your answer with one example. (6)
- 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)