2011

INFORMATION SYSTEM ANALYSIS & DESIGN

Time Allotted : 3 Hours | Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$

i) The scope of a design must be

a) bounder b) unbounded

c) not relevant for design d) none of these.

ii) A zero level DFD describes

a) overview of process, inputs and outputs

b) the fully blown up system design

c) that the system design can't be split further

d) none of these.

iii) Cost benefit analysis

a) compares the cost with the benefits of introducing a computer based system

b) estimates the cost of hardware and software

c) evaluates the tangible and non-tangible factors

d) all of these.

iv) BCNF is a type of

a) indexing b) DFD

c) normalization d) none of these.

v) Which one is not an software life cycle model ?

a) Waterfall model b) Spiral model

c) COCOMO model d) Prototype model.

vi) What technique is used during Rapid Application Development of facilitate data gathering ?

a) SDLC b) SSM

c) RAD d) none of these.

vii) Which of the following isn't strategy for design ?

a) Bottom up b) Top down

c) Embedded design d) Hybrid design.

viii) Example of process model is

a) incremental b) decision table

c) spiral d) none of these.

ix) Use case related with

a) prototype

b) RAD

c) requirements determination

d) none of these.

x) Which is not evolutionary ?

a) Incremental b) Prototype

c) Spiral d) None of these.

GROUP – B
(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Explain feasibility study of a project. What is its use ? 2 + 3

3. Write down the major steps of Documentation. 5

4. What do you mean by coupling and cohesion ? 5

5. What do you mean by incremental model ? Give one example. 4 + 1

6. What is black box testing ? How is it different from white box testing ? 2 + 3

GROUP – C
(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. What is DFD ? What do you mean by physical & logical DFD ? What is context diagram ? Draw a top level DFD of "Purchasing a material from a supplier for college *X* affiliated to university *Y*. 2 + 4 + 2 + 7

8. What are the major responsibilities of a system analyst ? What is model ? List out the different system develop models. What are the various steps of spiral model ? Why is spiral model called meta model ? 4 + 2 + 2 + 4 + 3

9. What do you mean by process description ? Develop a decision tree and decision table for the following : 3 + 6 + 6

   The gatekeeper of an amusement park is given the following instructions for admitting persons to park :

   i) If the person is under three years of age, there is no admission fee.

   ii) If a person is under 16, half the full admission is charged and this admission is reduced to a quarter of full admission if the person is accompanied by an adult. (The reduction applies only if the person is under 12)

iii) Between 16 to 18, half the full admission fee is charged if the person is a student; otherwise the full admission is charged.

iv) Over 18, the full admission fee is charged.

v) A discount of 10% is allowed for a person over 16 if they are in a group of 10 or more.

vi) There are no student concessions during weekends. On weekdays, under 12s get one free ride.

10. Draw the E-R diagram showing the cardinality for the following problems : 5 × 3

a) A bill is sent to a customer. A customer can receive many bills.

b) A clerk works in a bank. The bank has many clerks.

c) A part is used in many products and a product uses many parts.

d) Students apply for seats in colleges. Each student can almost get one seat. A college has many seats. A student can send many applications.

e) A car is owned by a person. The person can own many cars.

11. Write short notes on any *three* of the following : 3 × 5

a) SRS

b) SDLC

c) Cyclomatic complexity

d) Break even analysis

e) Data dictionary.