



Name :

Roll No. :

Invigilator's Signature :

**CS/BCA/SEM-2/BCA-202/2011
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)

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- 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.