CS/BCA/SEM-2/BCA-202/2012

2012
INFORMATION SYSTEM ANALYSIS AND 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 alternative for the following :

                                                                   $10 \times 1 = 10$

   i)   The major goal of requirement determination phase of information system development is

      a)   Determine whether information is needed by an organisation

      b)   Determne what information is needed by an organisation

      c)   Determine how information needed by an organisation can be provided

      d)   Determine when information is to be given.

   ii)   The role of a system analyst drawing up a requirement specification is similar to

      a)   architect designing a building

      b)   a structural engineer designing a building

      c)   a contractor constructing a building

      d)   the workers who construct a building.

iii) A rectangle in a DFD represents

    a)   a process   b)   a data store

    c)   an external entity   d)   an input unit.

iv) Normalization is a process restructuring a relation to

    a)   Minimize duplication of data in a database

    b)   Maximize duplication of data to ensure reliability

    c)   Make it of uniform size

    d)   Allow addition of data.

v) Data inputs which require coding are

    a)   fields which specify prices

    b)   key fields

    c)   name fields such as product name

    d)   fields which are of variable length.

vi) A data dictionary has info mation about

    a)   Every data element in a dataflow

    b)   Only key data element in a dataflow

    c)   Only the important data elements in a dataflow

    d)   Only the numeric data elements in dataflow.

vii) When a system interfaces with other types of systems then that ime the testing that will be required is

    a)   v lume testing

    b)   configuration testing

    c)   compatibility testing

    d)   only numeric data elements in a dataflow.

viii) A decision table

    a)   has a structured English equivalent representation

    b)   cannot be represented using structured English

    c)   does not have equivalent algorithmic representation

    d)   cannot be used to represent processes in a DFD.

ix) Code review for a model is carried out

    a) as soon as skeletal code written

    b) before the module is successfully compiled

    c) after the module is successfully compiled and all the syntax errors are eliminated

    d) before the module is successfully compiled and the syntax errors are eliminated.

x) Prototype means

    a) a small dummy of the actual system

    b) a step in SDLC

    c) both of these

    d) none of these,

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. Sketch a neat diagram of Spiral Model of Software Life Cycle.

3. Define Prototype. Explain Top-down and Bottom-up approaches of Prototype Model.

4. Write the differences between Waterfall Approach and Prototype Approach.

5. Explain the various operations of Feasibility Study Phase and System Design Phase of SDLC.

6. Write the advantages and disadvantages of Prototype Model.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

7. a) List out several reasons why Software Project becomes 'failure'.

    b) If any Software Project does not follow the SDLC, then what are the problems will be faced by that Project ?

                                                                8 + 7

8. a) Explain the various types of Design methods ? Write the disadvantages of Software Design Phase of SDLC.

    b) Write various types of "COHESION".

    c) List out the reasons for why Software Project becomes successful.   5 + 5 + 5

9. a) Discuss the selection process parameters for a Life Cycle Model.

    b) Explain "Iterative Model" in detail.   9 + 6

10. a) Define Database, DBMS, En ity, Primary Key, Candidate Key, Alternate Key and Super Key.

    b) Write the advantages of Data Dictionary and types of Data Dictionary.

    c) List out various responsibilities of DBA.

    d) Write vari us properties of Primary key Why do we choose Re ational Model among other Models ?

                                                            6 + 3 + 3 + 3

11. a) Def ne Normalization. Explain 1NF to 3NF through an example.

    b) Define Partial Functional Dependency and Transitive Functional Dependency

    c) What is the difference between the following ?

        (i)   Alpha Testing

        (ii) Development and Regression testing

        (iii) Functional and Structural Resting.   7 + 2 + 6