Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/BCA/SEM-2/BCA-202/2013

2013

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 alternat ves for the following : $10 \times 1 = 10$

i) SRS stands for

a) Software Requirement Specification

b Software Requirement Solutions

c) System Requirement Specification

d) None of these.

ii) Waterfall Model is not suitable for

a) Small Projects

b) Accomodating Changes

c) Complex projects

d) None of these.

iii) RAD stands for

a) Rapid Application Development

b) Relative Application Development

c) Ready Application Development

d) Repeated Application Development.

iv) If requirements are easily understandable nd defined, which model is to be selected ?

a) Waterfall Model

b) Prototyping Model

c) Spiral Model

d) None of these.

v) If user participation is available, which model is to be chosen ?

a) Waterfall Model

b) Iterative Enhancement Model

c) Spiral Model

d) RAD Model.

vi) Which Model is most popular for student's small projects ?

a) Waterfall Model

b) Spiral Model

c) Quick and fix Model

d) Prototyping Model.

vii) Project Risk Factor is considered in

a) Waterfall Model

b) Spiral Model

c) Quick and fix Model

d) Prototyping Model.

viii) SDLC has

a) 8 phases

b) 9 phases

c) 10 phases

d) none of these.

ix) Which phase is not available in Software Life Cycle ?

a) Coding

b) Testing

c) Maintenance

d) Abstraction.

x) Statistically, the maximum percentage of errors belong which of the following phases of SDLC ?

a) Coding

b) Design

c) Specifications

d) Installation and Maintenance.

GROUP – B

(Short Answer Type Questions)

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

2. What is System Analysis ? What are the roles of the system analyst ? 2 + 3

3. Write the advantages and disadvantages of prototype model.

4. What do you mean by clean decomposition & neat arrangement in modular design approach ?

5. What is black box testing ? How does it differ from white box testing ? 3 + 2

6. What is normalization ? Why do we need it ? 2 + 3

GROUP – C

(Long Answer Type Questions)

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

7. a) What is DFD ? Discuss different symbols used in DFD.

   b) Differentiate between Logical DFD & Physical DFD.

   c) Draw the E-R diagram showing the cardinality for the following problem :

   A store has different counters managed by different employees. A counter has different items but no two counters have common items. Customer buys from different counters. Bills are prepared from bill counter only.

   d) Explain deneralizati n and Specialization.

   3 + 2 + 6 + 4

8. a) Draw and explain waterfall model.

   b) How is risk handled in spiral model ?

   c) Explain COCOMO.

   d) Assume that the size of an organic type software product has been estimated to 40,000 lines of source code. Determine effort and time of development of the product. 5 + 2 + 4 + 4

9. a) Explain Risk management.

   b) Write a short note on data dictionary.

   c) Differentiate between white box and black box testing.

   d) Justify the importance of debugging. 5 + 3 + 4 + 3

10. a) Distinguish between Software verification and Software validation.

   b) The discount policy has following conditions for the customers. If orders for 6 or more copies per book title.

   If customer is from 'Libraries and individual' :

   5% allowed on order of 6 - 19 copies per book title

   10% on orders for 20 copies per book title and

   15% on orders for 50 copies per book title.

   Develop a process description in —

   i) Structured English

   ii) Decision Table

   iii) Decision Tree. 6 + (3 + 3 + 3)

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

a) WBS

b) System testing

c) Decision table & decision tree

d) UML diagram

e) Cohesion and coupling.