

**DIPLOMA - VIEP - COMPUTER SCIENCE AND
ENGINEERING (DCSVI)**

00062

Term-End Examination

June, 2016

BICS-032 : SYSTEM ANALYSIS AND DESIGN

Time : 2 hours

Maximum Marks : 70

*Note : All questions are to be answered in English language only. Attempt **five** questions in all. Question no. 1 is **compulsory**. All questions carry equal marks.*

1. Choose the correct answer.

7×2=14

- (a) Which of the following methods identifies system requirement through interviewing?
- (i) Traditional method
 - (ii) Modern method
 - (iii) Radical method
 - (iv) None of the above
- (b) Which of the following testing, involves testing of the entire system cumulatively?
- (i) Integration testing
 - (ii) Unit testing
 - (iii) Modular testing
 - (iv) None of the above

- (c) In ER model, Generalization and Specialization concept relates to
- (i) A kind of relation
 - (ii) A part of relation
 - (iii) Both (i) and (ii)
 - (iv) None of the above
- (d) Which of the following components of DFD (Data Flow Diagram) maps to the tables in database ?
- (i) Entities
 - (ii) Data flow
 - (iii) Data stores
 - (iv) Processes
- (e) Which of the following models supports versioning aspect of software development ?
- (i) Spiral Model
 - (ii) Waterfall Model
 - (iii) Rapid Action Development Model
 - (iv) All of the above
- (f) _____ maintenance refers to changes made to a system to evolve its functionality for changing business needs or technology.
- (i) Adaptive
 - (ii) Preventive
 - (iii) Perfective
 - (iv) Corrective

(g) _____ diagram is drawn for dynamic modeling of the system.

- (i) Class
- (ii) Data flow
- (iii) State
- (iv) None of the above

2. (a) Write short notes on any *two* of the following : 7

- (i) Elements of System
- (ii) Characteristics of System
- (iii) Types of System

(b) Enlist the phases of System Development Life Cycle (SDLC) and discuss each phase of SDLC in detail. 7

3. (a) Briefly discuss the Radical Method for determining the system requirements. 5

(b) Compare and contrast, Process Modeling, Logic Modeling and Conceptual Data Modeling. Draw appropriate diagram and use suitable examples to answer this question. 9

4. (a) Write short notes on any *two* of the following : 7

- (i) Adaptive Maintenance
- (ii) Preventive Maintenance
- (iii) Perfective Maintenance
- (iv) Corrective Maintenance

(b) Discuss the role of training and support services, in maintaining the information system of an organization. Does the activity of training and support reduce the maintenance cost ? Justify your answer. 7

5. (a) What do you understand by Rapid Action Development (RAD) ? Discuss the components of RAD. Give the advantages and disadvantages of RAD approach. 7

(b) Differentiate between the following : $2 \times 3 \frac{1}{2} = 7$

(i) System Analysis and System Design

(ii) Object Oriented Analysis and Design (OOAD) and Structured Analysis and Design (SAD)

6. Discuss all the notations, used to draw the following diagrams : $4 \times 3 \frac{1}{2} = 14$

(a) Class diagram

(b) State diagram

(c) Use case diagram

(d) Data flow diagram

7. (a) What do you understand by Unified Modeling Language (UML) ? Discuss the relevance of UML in Object Oriented Analysis and Design (OOAD). 7

(b) Draw ERD for the following statement :

“Various employees work on various projects in a company. The company is registered to NASSCOM.”

You are required to use attributes of your own choice. Discuss tools of ERD used to draw the diagram. 7

8. Write short notes on the following :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Prototyping
 - (b) Spiral Model
 - (c) Waterfall Model
 - (d) Feasibility Study
-