B1.5-R4: STRUCTURED SYSTEM ANALYSIS AND DESIGN

NOTE:

1. There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.

2. **PART ONE** is to be answered in the **TEAR-OFF ANSWER SHEET** only, attached to the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book.

3. Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates, who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE**.

TOTAL TIME: 3 HOURS **TOTAL MARKS: 100**

(PART ONE – 40; PART TWO – 60)

PART ONE
(Answer all the questions)

1. Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

1.1 Running the system under a live environment using Live data in order to find errors is known as
A) Beta Testing
B) Alpha Testing
C) Acceptance Testing
D) System Testing

1.2 The components that make up any system is known as system
A) Boundary
B) Environment
C) Description
D) None of the above

1.3 Which of the following is tactical decision?
A) Diversification
B) Workshop Location
C) Budget Allocation
D) None of the above

1.4 In considering the total cost associated with desired information, cost of data collection, data input and computer processing costs are
A) One time
B) Temporary
C) Permanent
D) Recurring

1.5 A Design concept which is natural extension of the information hiding concept and is defined as the strength of different elements within a module is known as
A) Coupling
B) Cohesion
C) Abstraction
D) Problem Partitioning

1.6 The main advantage of normalized relations in RDBMS is that they
A) Are highly secure
B) Do not suffer from anomalies during delete and update operations
C) Occupy minimal storage
D) All of the above

1.7 Which phase of Waterfall model decides whether the system is worthwhile or not?
A) Requirement Analysis
B) Feasibility Analysis
C) Coding
D) System Design

1.8 Pseudo code is
A) False logic
B) Programming aid
C) Both A) and B)
D) Neither A) nor B)

1.9 Entities, attributes and relationship are associated with
A) Logical concepts of data
B) Physical concepts of data
C) Persons of an organization
D) None of the above

1.10 Which of the following tool of structured Analysis uses narrative statements to describe a procedure?
A) Data Dictionary
B) Warnier–Orr Diagrams
C) Structure Chart
D) Structured English

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "tear-off" sheet attached to the question paper, following instructions therein. (1x10)

2.1 A decision support system need not necessarily use computer graphics.
2.2 Systems approach involves studying each element of system deeply and assuming that the interaction between elements is weak.
2.3 It is necessary to specify output requirements before determining the content of the output.
2.4 Module coupling refers to the relationship among elements within a module.
2.5 The procurement process for hardware starts after system analysis.
2.6 Each data flow in the DFD has a corresponding entry in the data dictionary.
2.7 In decision tables, for each rule, there can be more than one condition being true.
2.8 Program specifications should be prepared after the system is accepted and implemented.
2.9 A cost benefit analysis calculates the break even point.
2.10 A data structure is a set of data items that are related to one another.

3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

X		Y	
3.1	Password	**A.**	DBMS
3.2	Payback period	**B.**	Real Time System Design
3.3	DDL	**C.**	Key to address transformation
3.4	Display Layout Chart	**D.**	A File of all updates
3.5	System Log	**E.**	Output design
3.6	State transition diagram	**F.**	Access control
3.7	Structure Chart	**G.**	Profitability Analysis
3.8	Magnetic Ink Character Reader	**H.**	Modularization
3.9	Relative File	**I.**	Cheque Processing
3.10	Primary Key	**J.**	File Indexing
		K.	Segmentation
		L.	Input Design
		M.	File Auditing

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the "tear-off" answer sheet attached to the question paper, following instructions therein. (1x10)

A.	Subroutine	**B.**	Linking	**C.**	Analysis
D.	Bar	**E.**	Direct File	**F.**	Three
G.	Blocking	**H.**	Programming	**I.**	Interviews
J.	Index	**K.**	Indexed File	**L.**	Logical DFD
M.	Module				

4.1 Virtual reality is a computer generated interactive _____ dimensional environment, in which a person is immersed.

4.2 Database management packages may set up an _____ to control the sequence in which records are presented in a report.

4.3 The modular concept is applicable to system design as well as _____.

4.4 Key to address conversion is frequently found in _____ organization method.

4.5 Brainstorming and _____ may be used to elicit information regarding the user's requirements.

4.6 The grouping together of two or more logical records for working on magnetic tape is called _____.

4.7 A Portion of a program that performs a specific program function is called a _____.

4.8 A Gantt chart is fundamentally a _____ chart.

4.9 Chaining and _____ are frequently used techniques in respect of storage of records in files.

4.10 The next major step before system design and after feasibility study is _____ activity.

PART TWO

(Answer any **FOUR** questions)

5.

a) What is SRS document? What are the major characteristics of SRS?

b) What are the objectives of input design? Discuss the different methods, which are used for Input verification and Control?

(7+8)

6.

a) Discuss the various levels of security on Local Area Networks.

b) Write short notes on contents of Feasibility Analysis reports and project requests contents.

(7+8)

7.

a) Enumerate the steps of structured Design Methodology.

b) List and illustrate the primary uses and elements of a decision table with rules which should be followed in constructing decision tables.

c) What is the role of the audit control trail in conversion? Who performs it? Explain.

(5+5+5)

8.

a) Elaborate the concepts of Coupling and Cohesion with reference to modular design approach.

b) Elaborate the technical and interpersonal skills required in a System Analyst.

c) What is a form? Summarize the characteristics of action, memory and report forms.

(5+5+5)

9. Write short notes on the following:

a) Delphi Method and Brain storming

b) Dichotomous and multiple choice questions

c) BPR (Business Process Reengineering)

d) Pay back method of evaluation

e) Object oriented approach v/s Module oriented approach

(3x5)