B1.5-R3: 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. **(1 x 10)**

1.1   To reconstruct a system, which key element must be considered?
A)   Output and Input
B)   Control
C)   Feedback
D)   All of the above

1.2   Which step of SDLC performs cost/benefit analysis?
A)   Feasibility Study
B)   Analysis
C)   Design
D)   None of the above

1.3   The analyst may be viewed as an agent of change because
A)   He may select various styles to introduce change to the user organization.
B)   He reaches people, interprets their thoughts and assesses their behavior and draw conclusion from these interactions.
C)   He deals logically with difficult problems and copes with new situations.
D)   He prepares long-range plans for system projects.

1.4   Which device translates the special fonts printed in magnetic ink on checks into direct computer input?
A)   Punch card
B)   Cathode ray tube
C)   MICR
D)   Mark sensing readers

1.5   The relationships among elements within a module is called:
A)   Modular coupling
B)   Modular cohesion
C)   Modularization
D)   None of the above

1.6   System maintenance is necessary because:
A)   Human never gets it right the first time.
B)   The deployment may change over time.
C)   The user's needs may change over time.
D)   All of the above.

1.7   A routine designed to allow the analyst, user to verify a process or an area in the new system is called:
A)   Audit trail
B)   Processing control
C)   Data validation
D)   Documentation Control

1.8   Encryption is a technique:
A)   To safeguard data transmission
B)   To identify the needs of system
C)   To hide the data
D)   None of the above

1.9   A person-machine system and a highly integrated grouping of information-processing functions designed to provide management with a comprehensive picture of specific operation is called:
A)   DSS
B)   MIS
C)   IIS
D)   All of the above

1.10   The parts of the organization or computer system depend on one another is called:
A)   Interaction
B)   Interdependence
C)   Integration
D)   All of the above

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.** **(1 x 10)**

2.1 Structured English uses physical constructs and imperative sentences designed to carry out instructions for action.

2.2 Data analysis is a prerequisite to cost/benefit analysis.

2.3 Turnaround time is the elapsed time between the receipt of the input and the availability of processing unit.

2.4 The structured approach for a questionnaire allows respondents to answer freely in their own words.

2.5 A system is an orderly grouping of mutually independent components linked together according to a plan to achieve a specific behavior.

2.6 A couple is represented by an arrow with a circular tail.

2.7 The disaster/recovery team should include system designers, users, and computer operators.

2.8 System analysis and design may not be organized as project-oriented, pool-oriented or functional.

2.9 The MIS organization structure encompasses supervisory level, authority relationships, and the general pattern of activities carried out by employees at each level.

2.10 Data collection is necessary for Design phase of the system.

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.** **(1 x 10)**

X		Y	
3.1	Key element of MIS	**A.**	HIPO chart
3.2	A detailed study of various operations performed by a system	**B.**	System Analyst
3.3	A person having main contribution in quality documentation and is brought in when the candidate system is near completion	**C.**	Data base
3.4	It is the first step in the initial investigation	**D.**	Stress testing
3.5	It consists of the hierarchy chart plus the input/process/output chart	**E.**	Form
3.6	The purpose of this testing is to prove that the candidate system does not malfunction under peak loads	**F.**	Fact-finding
3.7	This can be classified as flat, snapout, fanfold, NCR and preprinted	**G.**	Analysis
3.8	The traditional methodology used to develop, maintain and replace information systems	**H.**	IPO chart
3.9	An effective way to protect a system from external security breaches and internal fraud or embezzlement	**I.**	Data dictionary
3.10	A structured depository of data about data	**J.**	Audit Control
		K.	Technical Writer
		L.	String testing
		M.	SDLC
		N.	Encryption

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.** **(1 x 10)**

A.	Risk analysis	B.	Maintenance	C.	OOA
D.	Parallel run	E.	Strategic system planning	F.	Boundaries
G.	DFD	H.	Punch card	I.	Implementation
J.	MICR	K.	Decision Tree		

4.1 The limits that identify a system's components, processes, and interrelationships when it interfaces with another system are called _____.

4.2 _____ means establishing relationships between the organization plan and the plan for a candidate system.

4.3 A(n) _____ describes *what* data flow(logical) rather than how they are processed.

4.4 _____ is useful to verify logic and in problems that involve a few complex decisions.

4.5 _____ is a method where the new system runs simultaneously with the old system.

4.6 _____ is the process of converting a new system design into operation.

4.7 _____ translates the special fonts printed in magnetic ink on checks into direct computer input.

4.8 The goal of _____ is to identify the threat that results in the greatest monetary losses and provide protection to the appropriate degree.

4.9 _____ can be classified as corrective, adaptive or perfective.

4.10 _____ involves studying of system entities as objects.

PART TWO
(Answer any **four** Questions)

5.
a) What do you mean by system analysis and design? Discuss.
b) Describe the type of system. What are the characteristics of a system? What are the elements of system? Explain in detail.

(5+10)

6.
a) Explain the role of system analyst. The system analyst is known as "An agent of change" Why?
b) Discuss the concept of MIS and DSS. How they are related and differ?
c) Distinguish between open and closed systems.

(6+6+3)

7.
a) What do you mean by SDLC? Describe the different phases of SDLC?
b) Define the various tools of structured analysis? How is DFD different from flow chart?

(8+7)

8.
a) What is cost and benefit Analysis? Explain the procedure of benefit/cost determination.
b) Write a short note on "Modular Coupling".

(10+5)

9.
a) "Testing is vital to the success of the system", discuss. Draw activity networks for system testing and explain the activities contain there in. Differentiate between unit testing and program testing.
b) Write a short note on "Quality Assurance".
c) What do you mean by HIPO chart? Explain.

(7+4+4)