A5-R4: STRUCTURED SYSTEM ANALYSIS & DESIGN

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 "OMR" answer sheet supplied with the question paper, following instructions therein.** **(1x10)**

1.1 The main objective of feasibility study is:
A) To assess whether it is possible to meet the requirements specifications.
B) To assess if it is possible to meet the requirements specified subject to constraints of budget, human resource and hardware.
C) To assist the management in implementing the desired system.
D) To remove bottlenecks in implementing the desired system.

1.2 Which of the following is a true statement regarding the SDLC phases?
A) The SDLC is not iterative.
B) The life cycle is always a sequentially ordered set of phases.
C) It is not possible to complete some activities in one phase in parallel with those of another phase.
D) The life cycle may be thought of as a circular process in which the end of the useful life of one system leads to the beginning of another project to develop a new version of or replace an existing system.

1.3 Decision tree uses:
A) Pictorial depictation of alternate conditions
B) Nodes and branches
C) Consequences of various depicated alternates
D) All of the above

1.4 This is another name for a working model that demonstrates how part of an information system works.
A) CASE tool
B) Prototype
C) Data flow diagram
D) Decision Tree

1.5 The data base design activity deals with the design of the
A) Logical data base
B) Physical data base
C) Both A) & B)
D) None of the above

1.6 UML used to model the behavior of objects with _____.
A) Use cases
B) Class diagrams
C) Actors diagrams
D) State transition diagrams

1.7 Testing each module alone in an attempt discovering any errors in its code best describes:
A) Module Testing
B) Integration Testing
C) Unit Testing
D) Function Testing

1.8 The coding of data to keep it safe from unauthorized users is called _____.
A) Locking
B) Hiding
C) Masking & Shading
D) Encryption

1.9 Which of the following is important to a successful implementation process for a software project?
A) Commitment to the project
B) Commitment to change
C) Extent of project definition and planning
D) All of the above

1.10 _____ level supply information to strategic tier for the use of top management
A) Operational
B) Environmental
C) Competitive
D) Tactical

2. **Each statement below is either TRUE or FALSE. Choose the most appropriate one and enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein.** **(1x10)**

2.1 System Analysis can be defined as most recent and perhaps the most comprehensive technique for solving computer problems.

2.2 In the development phase of the SDLC, programmers either create software from scratch or purchase commercially available software.

2.3 The data flow Diagram is the basic component of conceptual system.

2.4 The primary objective of system design is to design the programs, databases and test plan.

2.5 An attribute defines specific tasks that an object can perform.

2.6 Actual programming of software code is done during the development and documentation step in the SDLC.

2.7 Feasibility study is carried out by the users of the proposed system.

2.8 System evaluation is carried out after the system has been operational for a reasonable time.

2.9 The code used for the validation purpose is known as group classification code.

2.10 An entity in an ER diagram is basically the same as an entity in a DFD, the only difference being that in the former it stores data and in the latter it processes data.

ROUGH WORK SPACE:

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 "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

	X		Y
3.1	In ER modeling, entities are depicted using	A.	Data Dictionary
3.2	A repository of information about a database that documents data elements of a database	B.	GUI
3.3	An important security feature	C.	DBMS
3.4	A diagram which depicts the flow of data in different elements of the system	D.	LAN
3.5	The name for tools that support high-level program development	E.	Rectangles
3.6	A complete software facility of building, maintaining and generating reports from a database.	F.	CASE
3.7	A display using icons and other graphical images rather than typed lines of text.	G.	Encryption
3.8	The lowest layer of the OSI reference model.	H.	Document
3.9	In SDLC, the stage which refers to the technical specifications for input, output, file and processing that will be applied in implementing the candidate system, is known as	I.	DFD
3.10	Common method for checking transposition errors	J.	Physical Layer
		K.	Tuples
		L.	Batch Processing
		M.	Check Digit

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Choose the most appropriate option, enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

A.	Feedback	B.	System	C.	Interface
D.	Testing	E.	Black box	F.	Data dictionary
G.	Module	H.	DFD	I.	System Analysis
J.	Structured design	K.	Environment	L.	Structure Charts
M.	Data Dictionary				

4.1 A(n) _____ is a set of interacting components that operate within a boundary for some purpose.

4.2 _____ is a process by which the output of a system is measured against a standard and any difference is corrected by altering the input.

4.3 Under the _____ concept, the system is defined in terms of inputs and outputs rather than in terms of how the system effects a transformation.

4.4 The _____ of a system is defined as anything outside the boundary of the system.

4.5 The _____ is the region between the boundaries of system and also the medium for transporting the output from one system to the input of another system.

4.6 The _____ is a listing of all data elements in a database.

4.7 _____ is a method for modeling and understanding complex systems.

4.8 A _____ is the primary tool used in structured system development to graphically depict system.

4.9 Procedural manuals are generally written concurrently with coding and _____.

4.10 _____ is the process of designing the computer programs that will be used in the program.

ROUGH WORK SPACE:

PART TWO
(Answer any FOUR questions)

5. Define the following terms:
a) Management Information System (MIS)
b) System Users
c) Joint application development (JAD)

(5+5+5)

6.
a) What is the difference between system analysis and system synthesis?
b) What role does a repository play in system analysis?
c) What is the object – oriented analysis? How is it similar to, and different from modern structured analysis and information engineering?

(5+3+7)

7.
a) What is model? Describe the difference between the logical model and physical model. Why the data modeling is required? Discuss the usefulness of ER diagrams to represent data modeling.
b) Explain why a system analyst might want to draw logical models of an automated portion of existing information system rather than simply accepting the existing technical information systems documentation, such as systems flow charts and program flowcharts.

(8+7)

8.
a) Define the terms economic feasibility, technical feasibility, operational feasibility and schedule feasibility.
b) What three phases make up the system design?
c) Discuss the relationship between prototyping and JAD.

(8+3+4)

9.
a) Explain the difference between batch and on-line input methods.
b) List the several input data validation techniques.
c) List the five common format styles for graphic outputs.
d) Identify three types of tools that can be used to prototype computer outputs.
e) What is the fastest-growing medium for computer outputs?

(5+3+2+3+2)

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