

NOTE:

IMPORTANT INSTRUCTIONS:

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 **OMR ANSWER SHEET** only, supplied with 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 “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 decision structure you should use when the sequence of conditions and actions is critical?
 - A) a decision tree
 - B) a decision table
 - C) a structured English
 - D) all of the above
 - 1.3 Decision tree uses:
 - A) Pictorial depiction of alternate conditions
 - B) Nodes and branches
 - C) Consequences of various depicted alternates
 - D) All of the above
 - 1.4 A process that has no output is called a _____ process.
 - A) spontaneous generation
 - B) black hole
 - C) grey hole
 - D) negative data flow
 - 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 is 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 to discover 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?
- 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 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 UML notation (0...*) means zero and only zero.

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	A code used for the Validation Purpose	A.	Rectangles
3.2	In DFD external entities are represented by	B.	Triangles
3.3	An appraisal, of a system’s performance after it has been installed.	C.	HIPO
3.4	An example of a hierarchical data structure is	D.	Documentation
3.5	A hierarchical partitioning of the program	E.	self-Checking code
3.6	It is use to organize and summarize the results of their problem analysis.	F.	Structure Chart
3.7	Error report is an example of	G.	Review
3.8	It is a good example of deterministic system.	H.	Performance specification
3.9	The document prepared after the study phase is known as	I.	Tree
3.10	The process in which existing data is loaded into a new system is referred to as:	J.	Computer Program
		K.	Batch Process
		L.	Data Conversion
		M.	Output process

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

A.	Tactical	B.	Tightly Coupled	C.	System development life cycle
D.	Hiding	E.	System Analysis	F.	Attribute
G.	Module	H.	Structured Design	I.	Strategic
J.	Program documentation	K.	Logical	L.	Sub Testing
M.	Data Dictionary				

- 4.1 If modules are _____ one module refers to internal logic contained in another module.
- 4.2 _____ level supply information to strategic tier for the use of top management.
- 4.3 _____ can be defined as most recent and perhaps the most comprehensive technique for solving computer problems.
- 4.4 The Data flow diagram is a basic component of _____ system.
- 4.5 A _____ is a/an outline of a process that helps develop successful information systems.
- 4.6 A (n) _____ initiates a use case by requesting the system to perform a function or process.
- 4.7 _____ is the process of bringing together of the entire program that a system comprises for testing purposes.
- 4.8 A formal step-by-step approach to the system development life cycle that moves logically from one phase to the next is called _____.
- 4.9 The coding of data to keep it safe from unauthorized users is called _____.
- 4.10 The inputs, outputs, and processing logic for all program modules are found in _____.

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

- 5.**
- a) What are the objectives of software design? How do we transform a broad design into detail design?
 - b) Discuss the various strategies of design. Which design strategy is most popular and practical?
 - c) List the steps of a simplified design process .

(5+5+5)

- 6.**
- a) Why does the software design improve when we use Object-Oriented Concepts?
 - b) Explain the following with the help of an example:
 - i) Common Coupling
 - ii) Communication Cohesion
 - iii) Class diagram
 - iv) Structure Chart

(4+[2+2+3+4])

- 7.**
- a) Discuss the important issues that a SRS must address.
 - b) Differentiate between object oriented and function oriented design.
 - c) Describe the concept and procedure used in constructing DFDs.

(6+4+5)

- 8.**
- a) What do you understand by System Implementation and Maintenance? Discuss the various methods for evaluation of performance.
 - b) What three phases make up the system design?
 - c) Differentiate between Verification and Validation. What are malicious applications?

(7+4+4)

- 9.**
- a) Define the features, advantages and limitations of the CASE Tools.
 - b) List the several techniques for Data and fact gathering.
 - c) List the characteristics of good interface.
 - d) Differentiate between static and dynamic system models.

(5+3+4+3)