

A5-R4: STRUCTURED SYSTEM ANALYSIS & DESIGN

अवधि: 03 घंटे
DURATION: 03 Hours

अधिकतम अंक: 100
MAXIMUM MARKS: 100

ओएमआर शीट सं.:					
OMR Sheet No.:					

रोल नं.:

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Roll No.:

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उत्तर-पुस्तिका सं.:

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Answer Sheet No.:

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परीक्षार्थी का नाम:

परीक्षार्थी के हस्ताक्षर:

Name of Candidate: _____; Signature of candidate: _____

परीक्षार्थियों के लिए निर्देश:

Instructions for Candidate:

कृपया प्रश्न-पुस्तिका, ओएमआर शीट एवं उत्तर-पुस्तिका में दिये गए निर्देशों को ध्यान पूर्वक पढ़ें।	Carefully read the instructions given on Question Paper, OMR Sheet and Answer Sheet.
प्रश्न-पुस्तिका की भाषा अंग्रेजी है। परीक्षार्थी केवल अंग्रेजी भाषा में ही उत्तर दे सकता है।	Question Paper is in English language. Candidate can answer in English language only.
इस मॉड्यूल/पेपर के दो भाग हैं। भाग एक में चार प्रश्न और भाग दो में पाँच प्रश्न हैं।	There are TWO PARTS in this Module/Paper. PART ONE contains FOUR questions and PART TWO contains FIVE questions.
भाग एक "वैकल्पिक" प्रकार का है जिसके कुल अंक 40 हैं तथा भाग दो, "व्यक्तिपरक" प्रकार है और इसके कुल अंक 60 हैं।	PART ONE is Objective type and carries 40 Marks. PART TWO is subjective type and carries 60 Marks.
भाग एक के उत्तर, इस प्रश्न-पत्र के साथ दी गई ओएमआर उत्तर-पुस्तिका पर, उसमें दिये गए अनुदेशों के अनुसार ही दिये जाने हैं। भाग दो की उत्तर-पुस्तिका में भाग एक के उत्तर नहीं दिये जाने चाहिए।	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 for PART TWO .
भाग एक के लिए अधिकतम समय सीमा एक घण्टा निर्धारित की गई है। भाग दो की उत्तर-पुस्तिका, भाग एक की उत्तर-पुस्तिका जमा कराने के पश्चात दी जाएगी। तथापि, निर्धारित एक घंटे से पहले भाग एक पूरा करने वाले परीक्षार्थी भाग एक की उत्तर-पुस्तिका निरीक्षक को सौंपने के तुरंत बाद, भाग दो की उत्तर-पुस्तिका ले सकते हैं।	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 .
परीक्षार्थी, उपस्थिति-पत्रिका पर हस्ताक्षर किए बिना एवं अपनी उत्तर-पुस्तिका, निरीक्षक को सौंपे बिना, परीक्षा हाल नहीं छोड़ सकता हैं। ऐसा नहीं करने पर, परीक्षार्थी को इस मॉड्यूल/पेपर में अयोग्य घोषित कर दिया जाएगा।	Candidate cannot leave the examination hall/room without signing on the attendance sheet and handing over his Answer sheet to the invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.
प्रश्न-पुस्तिका को खोलने के निर्देश मिलने के पश्चात एवं उत्तर देने से पहले उम्मीदवार यह जाँच कर यह सुनिश्चित कर ले कि प्रश्न-पुस्तिका प्रत्येक दृष्टि से संपूर्ण है।	After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question booklet is complete in all respect.

जब तक आपसे कहा न जाए तब तक प्रश्न-पुस्तिका न खोलें।

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

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 Design Phase consists of _____.
i) Identify the functions to be performed
ii) Design the input/output and file design
iii) Defining basic parameters for system design
A) i) & ii) B) ii) & iii)
C) i) & iii) D) i), ii) & iii)
- 1.2 Statement of scope and objectives, opportunities and performance criteria _____.
A) Problem definition B) System analysis
C) System Design D) Documentation
- 1.3 The output of problem definition stage is _____.
A) Master Development Plan
B) Terms of reference
C) Feasibility report
D) Final product
- 1.4. In _____ system the interaction between various subsystems cannot be defined with certainty
A) Open System B) Closed System
C) Deterministic System D) Probabilistic System
- 1.5 A structure chart
A) Shows module inter-relationships in a hierarchical manner
B) Describes the internal structure of a program in a graphical manner
C) Is a graphical representation of structured English
D) Depicts data structures in the form of a chart
- 1.6 _____ is a tabular method for describing the logic of the decisions to be taken.
A) Decision tables B) Decision tree
C) Decision Method D) Decision Data
- 1.7 A DFD is normally leveled as
A) It is a good idea in design
B) It is recommended by many experts
C) It is easy to do it
D) It is easier to read and understand a number of smaller DFDs than one large DFD
- 1.8 A context diagram
A) Describes the context of a system
B) is a DFD which gives an overview of the system
C) is a detailed description of a system
D) is not used in drawing a detailed DFD

- 1.9 _____ is a schedule of various applications to be computerized.
A) Materials planning
B) Master development Plan
C) Manufacturing organization
D) None of the above

- 1.10 _____ Gives defining the flow of the data through an organization or a company or series of tasks that may or may not represent computerized processing.
A) System process B) System flowchart
C) System design D) Structured System

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 In Probabilistic system the interaction between various subsystems cannot be defined with certainty.
- 2.2 The primary functions of PERT chart are for planning and controlling complex system projects.
- 2.3 Integration test is done to test a module comprising of a few programs.
- 2.4 A technically feasible solution recommended by a study would always prove to be operationally feasible.
- 2.5 A context diagram is used as an aid to system Analysis.
- 2.6 Decision Tree is a tabular method for describing the logic of the decisions to be taken.
- 2.7 During system study, data can be collected through questionnaires.
- 2.8 A data flow in DFD may either emanate or terminate in an external entity but not both.
- 2.9 Analysis Phase is a time consuming phase and yet a very crucial phase.
- 2.10 The longest method of system conversion is Direct Conversion.

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	Feasibility Study	A.	sequence diagram
3.2	A system process	B.	It is a repository of the data elements in a system.
3.3	A unit external to the system being designed	C.	Security feature
3.4	System Documentation	D.	An external entity
3.5	fact-finding technique	E.	Reasonable limits of input
3.6	Cost-Benefit Analysis is performed during	F.	Coordinated effort, to communicate the information of the system in written form.
3.7	Data Dictionary	G.	Includes review of the existing procedures and information flow.
3.8	transposition errors	H.	Questionnaire
3.9	The structure chart derived by studying the flow through the system supports the activity of	I.	Internal controls design
3.10	UML interaction diagrams	J.	Feasibility study phase
		K.	A circle in a DFD
		L.	Analysis of Structured Decision
		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.	System flow	B.	Data structure	C.	Process
D.	Decision Tree	E.	DFD	F.	Debugging
G.	Transposition Errors	H.	Operational Managers	I.	Structure Chart
J.	System Prototyping	K.	Structure	L.	Cost Benefit Analysis
M.	Data Dictionary				

- 4.1 A self check digit is useful in detecting _____.
- 4.2 Diagram in which nodes represent the conditions, with the right side of tree listing the actions to be taken _____.
- 4.3 _____ is finding and correcting errors in the program code.
- 4.4 _____ Diagram shows the flow of data.
- 4.5 Data dictionary describes every data element and _____.
- 4.6 A _____ is the primary tool used in structured system development to graphically depict systems.
- 4.7 Announcement of MIS implementation is made by _____.
- 4.8 A hierarchical chart that divides a large program into modules, in which greater detail is designed in successively lower levels, is called a _____ chart.
- 4.9 _____ compares the cost, with the benefits, of introducing a computer-based system.
- 4.10 The _____ symbol is used in a flowchart to represent a calculation task.

PART TWO
(Answer any FOUR questions)

5.

- a) What is information system? Describe the different categories of information system. List and explain three different strategies of information system development
- b) Write a short note on Management Information System

(10+5)

6.

- a) What is the input validation for detecting errors in input of the data?
- b) Define the term Computer Aided Software Engineering (CASE). Describe the types and advantages of CASE tools.
- c) Explain different types of threats that a computer system may face and explain various control measures for those threats.

(3+8+4)

7.

- a) How structure analysis is related to fact-finding techniques, such as interview and questionnaires?
- b) What is Object Oriented Modeling? Differentiate between Static and Dynamic Modeling.
- c) Explain the concept of business process re-engineering with the help of an appropriate example.

(5+5+5)

8.

- a) What is Software Development Life Cycle (SDLC)? Describe various phases of SDLC. Briefly explain various types of documentation involved in each phase of SDLC.
- b) What is the significance of Use case diagram in UML? At which phase of System Development is it drawn? Explain steps for preparing Use case diagram with example.

(8+7)

9.

- a) What is object Oriented Analysis? How is it similar to, and different from modern structured analysis and information engineering?
- b) How disaster recovery is performed in the computer systems?
- c) What is a structure chart? How does it denote cohesion and coupling?

(5+5+5)
