

A8-R5 : System Analysis, Design and Testing

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 :

Name of Candidate :

परीक्षार्थी के हस्ताक्षर :

Signature of Candidate :

परीक्षार्थियों के लिए निर्देश :

Instructions for Candidate :

कृपया प्रश्न-पुस्तिका, ओएमआर शीट एवं उत्तर-पुस्तिका में दिये गए निर्देशों को ध्यानपूर्वक 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 का 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, ओएमआर उत्तर-पुस्तिका पर 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. 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 पश्चात् 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 to the Invigilator.
परीक्षार्थी, उपस्थिति-पत्रिका पर हस्ताक्षर किए बिना और अपनी उत्तर-पुस्तिका, निरीक्षक को सौंपे बिना, परीक्षा हॉल/कमरा नहीं छोड़ सकते 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/her 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 पश्चात् एवं उत्तर लिखना आरम्भ करने से पहले उम्मीदवार जाँच कर यह सुनिश्चित कर लें कि प्रश्न-पुस्तिका प्रत्येक दृष्टि से संपूर्ण है।	After receiving the instruction to open the booklet and before starting to answer 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 ER Model shows the :

- (A) System behaviour
- (B) Test Cases
- (C) Static View
- (D) Functions

1.2 Documentation is prepared :

- (A) at every stage
- (B) at system design
- (C) at system analysis
- (D) at system development

1.3 A system design aid should primarily :

- (A) Generate Code
- (B) Help in Documentation
- (C) Using a graphical user interface
- (D) Help analyze both data and activities

1.4 A feasibility document should contain all of the following except :

- (A) project name
- (B) feasible alternative
- (C) dataflow diagrams
- (D) problem descriptions

1.5 To which phase of SDLC, is file conversion related ?

- (A) System design
- (B) System Analysis
- (C) System development
- (D) System Implementation

1.6 The "big picture" diagram of a system is the :

- (A) Logic Diagram
- (B) System Flow chart
- (C) Block Diagram
- (D) Program Flow chart

<p>1.7 A graphic representation of an information system is called :</p> <p>(A) Histogram</p> <p>(B) Pictogram</p> <p>(C) Flow chart</p> <p>(D) Dataflow diagram</p>	<p>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)</p>
<p>1.8 In dataflow diagrams, an originator or receiver of the data is usually designated by :</p> <p>(A) A circle</p> <p>(B) An arrow</p> <p>(C) A rectangle</p> <p>(D) A square box</p>	<p>2.1 The requirements report includes a list of alternative solutions considered.</p> <p>2.2 Parallel run involves two different terminals accessing a common database.</p> <p>2.3 Flow of information in an organization is always vertical.</p> <p>2.4 Alpha testing is the verification process a system goes through for the first time.</p> <p>2.5 The term Parallel Run refers to the same job running on two different computers to test their speeds.</p> <p>2.6 The approach used in top-down analysis and design is to identify a top level function and then create a hierarchy of lower level modules and components.</p> <p>2.7 The structure chart is a hierarchical partitioning of the program.</p> <p>2.8 User acceptance is a non-functional testing.</p> <p>2.9 Positive testing is the changes made in an existing or a new program.</p> <p>2.10 Unit testing is running the system with line data by the actual user.</p>
<p>1.9 The first step of the implementation phase is :</p> <p>(A) select the computer</p> <p>(B) prepare physical facilities</p> <p>(C) implementation planning</p> <p>(D) announce the implementation project</p>	
<p>1.10 Which of the following activities does not belong to the Implementation phase of the SDLC ?</p> <p>(A) User Training</p> <p>(B) File Conversion</p> <p>(C) Program Testing</p> <p>(D) Documentation</p>	

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	Software Development Life Cycle	A.	Interview, questionnaire
3.2	Process is represented by using	B.	Stages
3.3	Requirement gathering techniques	C.	Strategic, tactical
3.4	Requirement Classifications	D.	Rectangle
3.5	DFD Types	E.	Entity-Relationship Model
3.6	E-R Diagrams	F.	Logical and physical
3.7	Functional Testing	G.	Performance stress, peak load
3.8	Software development approaches	H.	Unit, integration, user acceptance
3.9	Non- functional Testing	I.	Application Logic, Data manipulation
3.10	Distributed System Layers	J.	Waterfall, spiral, agile
		K.	Network Layer
		L.	arrow
		M.	UML

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 attached to the question paper, following instructions therein.

(1x10)

A.	Regression	B.	SDLC	C.	parallelogram
D.	UML	E.	Process	F.	Waterfall model
G.	Selection/repetition	H.	Phased Conversion	I.	arrow
J.	structured	K.	initiation	L.	Cost-benefit
M.	IPO chart				

- 4.1 The _____ symbol is used in a flow chart to represent a calculation task.
- 4.2 A _____ is an outline of a process that develops successful information systems.
- 4.3 The new information system is activated at a time in _____ module.
- 4.4 The _____ symbol is used in a flow chart to represent a step that gets information from the user.
- 4.5 Programmers use _____ to organize and summarize the results obtained out of their problems.
- 4.6 _____ testing is an example of Maintenance Testing.
- 4.7 Object Oriented Modelling is done using _____ diagrams.
- 4.8 Server based architecture is an example of _____ design.
- 4.9 First step of system development process is _____.
- 4.10 _____ analysis is done in feasibility analysis.

PART TWO

(Answer any FOUR questions)

5. (a) We all are familiar how to use ATM machines of the Banks to withdraw money, change PIN, check account balance etc. Draw a USE CASE diagram with at least 2 actors.
- (b) What is Feasibility Study ? Explain Technical and Behavioural feasibility. (7+8)
6. (a) What are the Inputs and Outputs of System Design ?
- (b) What are the types of Documentations in System Design ?
- (c) Explain the role of system analyst. (7+4+4)
7. (a) Explain the Bidirectional, Unidirectional and Reflexive Association using proper example.
- (b) Compare Object Oriented Analysis Design and Structured Analysis Design. (9+6)

8. (a) Differentiate between Functional and Non-Functional Testing.
- (b) Explain Centralized system with an example. (7+8)
9. (a) Identify the entities, relationships and cardinality for the given scenario :
- In a University, a student enrolls in courses. A student must be assigned to at least one or more Courses. Each course is taught by a single professor. To maintain instruction quality, a professor can deliver only one course.
- (b) Differentiate between waterfall and prototype model (9+6)

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SPACE FOR ROUGH WORK

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