P P SAVANI UNIVERSITY

Fifth Semester of B. Tech. Examination
December 2021
SEIT3510 System Analysis and Design

16.12.2021, Thursday   Time: 09:00 a.m. To 11:30 a.m.   Maximum Marks: 60

Instructions:
1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1	Attempt the following questions.	[05]
(i)	What is System Analysis and Design?	
(ii)	What is Prototype?	
(iii)	What is the main objective of system evaluation?	
(iv)	Explain SRS.	
(v)	Define Term "Expert system".	
Q - 2 (a)	Explain Software Development Life Cycle in brief.	[05]
Q - 2 (b)	Explain operational, tactical and strategic information System with example.	[05]
	OR	
Q - 2 (a)	Explain Functional vs Non Functional Requirements.	[05]
Q - 2 (b)	Define management structure. Explain any four Key components of management structure.	[05]
Q - 3 (a)	What do you mean by System? Discuss different types of System.	[05]
Q - 3 (b)	Briefly explain the Role of System Analyst in System Analysis and Design.	[05]
	OR	
Q - 3 (a)	Briefly describe RAD VS Waterfall model.	[05]
Q - 3 (b)	What is Feasibility Study? Explain different types of Feasibility Study.	[05]
Q - 4	Attempt any one.	[05]
(i)	Write a sort note on "Tools used in System Analysis".	
(ii)	What are the steps involved in implementation and evaluation of a System? Explain User Interface Design. List out important consideration for it.	

SECTION – II

Q - 1	Attempt the following questions.	[05]

(i) A functional dependency is a relationship between or among?

a) Tables   b) Rows   c) Relations   d) Attributes

(ii) Which type of DFD concentrates on the system process, and flow of data in the system?

a) Physical DFD   b) Logical DFD   c) Flowchart DFD   d) System DFD

(iii) Which 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

(iv) The expansion of SRS is................

a) System Requirements Specification   b) System Resources Statement
c) Statement of Reliability of System   d) Standard Requirements Statement

(v) Cost-Benefit Analysis is performed during.......

a) Analysis phase b) Design phase c) Feasibility study phase d) Implementation phase

Q - 2 (a) Write Short Notes on i) Spending vs Investment ii) Payback Period iii) Profitability Index. **[05]**

Q - 2 (b) Draw ER diagram for ART GALLERY and show the mapping among entity set. **[05]**

OR

Q - 2 (a) Create Decision Table for the following code: **[05]**
if customer pays advance
then
Give 10% Discount
else
if purchase amount >25,000
then
if the customer is a regular customer
then Give 10% Discount
else No Discount
end if
else No Discount
end if
end if

Q - 2 (b) Write short notes on Data flow diagram and Document flow diagram with example. **[05]**

Q - 3 (a) Differentiate Logical DFD and Physical DFD with suitable example. **[05]**

Q - 3 (b) Explain 1NF, 2NF, 3NF and BCNF with suitable example. **[05]**

OR

Q - 3 (a) Define Use Case Diagram Symbols and Notations. Draw use case diagram for Railway ticket booking system. **[05]**

Q - 3 (b) Explain Decision Table and Decision Tree with suitable example. **[05]**

Q - 4 Attempt any one. **[05]**

(i) Create Context diagram and Level 0 DFD for Digital Music Download System.

(ii) Create class diagram for Online Movie Booking System.

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SECTION – I

Q - 1	Attempt the following questions.	[05]
(i)	In a document flow diagram a solid line with an arrow depicts?	
	a) flow of documents b) control flow c) flow of materials d) data flow	
(ii)	Which is not the part of Non-functional requirement?	
	a) Operational b) process c) security d) performance	
(iii)	What kind of feasibility measures cost-effectiveness of a project or solution?	
	a) Economic feasibility b) operational feasibility c) strategic feasibility d) None	
(iv)	Which is not the part of influence?	
	a) Authority based b) Expertise based c) Customer based d) None	
(v)	Financial Planning System comes under following system?	
	a) TPS b) DSS c) MIS d) None	
Q - 2 (a)	What is information System? Explain TPS, MIS and DSS with Suitable example.	[05]
Q - 2 (b)	Who is System Analyst? Explain role of System Analyst.	[05]

OR

Q - 2 (a)	List out different source of information gathering. Explain any three information gathering method with example.	[05]
Q - 2 (b)	Define management structure. Explain any four Key components of management structure.	[05]
Q - 3 (a)	Explain Technical and Operational feasibility Analysis with example.	[05]
Q - 3 (b)	Explain waterfall model and its advantages and disadvantages.	[05]

OR

Q - 3 (a)	Explain RAD concept with their advantages and disadvantages.	[05]
Q - 3 (b)	Explain Different types of management structure. Write two advantages and disadvantages for each.	[05]
Q - 4	Attempt any one.	[05]
(i)	Explain different requirement analysis strategies with example.	

(ii)	What is normalization? Explain various Normal form with suitable example.	

SECTION – II

Q - 1	Attempt the following questions.	[05]
(i)	What is System Proposal?	
(ii)	What is Fact gathering Phase?	
(iii)	What is Normalization?	
(iv)	List out symbols of E-R Diagram.	
(v)	What is decision table?	

Q - 2 (a)	Explain Payback Period and Profitability Index with suitable example.	[05]
Q - 2 (b)	Draw E-R Diagram for Blood Bank Management system.	[05]

OR

Q - 2 (a)	Explain Relationships Cardinality and Participation in E-R Diagram with example.	[05]
Q - 2 (b)	Draw E-R Diagram for IT Solution based company.	[05]

Q - 3 (a)	Define Use Case Diagram Symbols and Notations. Draw use case diagram for University Management System.	[05]
Q - 3 (b)	Prepare a Data Flow Diagram that is drawn for a Food Ordering System.	[05]

OR

Q - 3 (a)	What is Cost benefit analysis? Explain it with appropriate example.	[05]
Q - 3 (b)	Prepare a Data Flow Diagram that is drawn for a Taxi Service System.	[05]

Q - 4	Attempt any one.	[05]
(i)	Explain Specification oriented Design vs Procedure oriented Design.	
(ii)	Explain Structured systems analysis and design Method	

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