Seat No.:	Enrolment No.
Scat Inc	Emonitario.

GUJARAT TECHNOLOGICAL UNIVERSITY MCA - SEMESTER-III • EXAMINATION - SUMMER 2013

Date: 10-05-2013

Subje	ect Co	de: 630001 Date: 10-05-20	13
-		me: Structured and Object Oriented Analysis	
•		and Design Methodology	
Time	: 10.30	am - 01.00 pm Total Marks:	70
Instruc			, ,
		empt all questions.	
	2. Ma	ke suitable assumptions wherever necessary.	
	3. Fig	gures to the right indicate full marks.	
0.1	()		04
Q.1	(a)	i. Define the term Object Oriented Analysis and Design.	01
		ii. State any two objectives that the systems analyst tries to attain	Λ1
		when designing output of the information system?	01
		iii. What are the different purposes of Modeling?	01
		iv. State TRUE or FALSE: It is allowed to display the object	Λ1
		identifiers explicitly.	01
		v. Define: Aggregation.	01
		vi. What are the building blocks of the UML?	01
	(b)	vii. What are the common uses of Use Case Diagram?	01 03
	(b)	i. Draw the Diagram that lists the variety of information systems	US
		that analysts may develop. ii. List out the basic symbols used in Data Flow Diagrams with	02
		ii. List out the basic symbols used in Data Flow Diagrams with their meanings and example.	UZ
		iii. What are the four basic principles of Modeling?	02
		in. What are the four basic principles of Wodering?	UZ
Q.2	(a)	Explain the SDLC phases with neat diagram.	07
Q.2	(a) (b)	Define State Diagrams. Explain Sample State Diagram for telephone	07
	(D)	lines and One-shot State Diagram for chess game.	07
		OR	
	(b)	Explain the validation process on Input Transactions and Input Data.	07
	(6)	Explain the variation process on input Transactions and input Buta.	07
Q.3	(a)	i. List three roles that the systems analyst is called upon to play.	05
Q.C	(4)	Briefly explain them.	••
		ii. What personal qualities are helpful to the systems analyst?	02
	(b)	What are the different structures used in arranging questions in a	07
	(,,,	logical sequence? Explain any two.	
		OR	
Q.3	(a)	i. What is partitioning?	01
•	()	ii. Why Data Flow Diagrams are partitioned?	06
	(b)	What algebraic notations are used in describing Data Structures? List	07
		and explain. Give one single suitable example of using all notations.	
		-	
Q.4	(a)	Give a systematic way of developing a decision table that an analyst	07
		follows. Consider the situation that customer doing sales in a store	
		and their checkout for which you need to construct a Decision table.	
	(b)	How to design a good dialog using "Minimal User Action"? Explain.	07
		OR	

Q.4	(a)	Explain the following with neat diagram:		
		(i). Multiplicity;	03	
		(ii). Association End Names.	03	
		(iii). Ordering.	02	
	(b)	Write note on the following with neat diagram.		
	, ,	(i). Concurrency within an Object	03	
		(ii). Synchronization of Concurrent Objects	03	
Q.5	(a)	i. What is Class Diagram?	01	
		ii. Draw a class diagram of a School and explain the Logical	06	
		Database Schema Modeling technique.		
	(b)	Explain the Structural and Behavioral Diagrams in UML.	07	
		OR		
Q.5 ((a)	Explain the technique in modeling the context of a system by drawing	07	
		a use case diagram in modeling a context for "Credit Card Validation		
		System".		
(b)	(b)	Differentiate Sequence Diagrams and Collaboration Diagrams.	03	
		Briefly explain how to model the behavior of an element for which	04	
		the Use Case is applied.		
