Sea	ıt No.	Enrolment No		
		GUJARAT TECHNOLOGICAL UNIVER	RSITY	
		BE - SEMESTER-IV(OLD) • EXAMINATION – WINT	ER 2016	
Su	bjec	t Code:140703	Date:22/11/201	<b>l6</b>
Su	bjec	t Name:Object Oriented Analysis Design And Uml		
Time:02:30 PM to 05:00 PM Total 1				0
Inst	tructi			
	2	<ul><li>Attempt all questions.</li><li>Make suitable assumptions wherever necessary.</li><li>Figures to the right indicate full marks.</li></ul>		
Q.1	(a) (b)	Describe in detail the stages of Object Oriented methodology. Is UML a programming language? Is it process dependent or incept Pen down the names all the UML Diagrams. Identify each of the diagrams belong to structural and which of these belong to behave	e UML	07 07
Q.2	(a)			
		(i) What is the difference between multiplicity as	-	04
		What is the effect of underestimating or overestimating multipli	city?	0.3
	<b>(b)</b>	<ul><li>(ii) Explain nested states with appropriate diagram.</li><li>A customer decides to upgrade her PC and purchase a DVD pl</li></ul>	ayer. She begins	03 07
		by calling the sales department of the PC vendor and they to customer support. She then calls customer support and they while talking to engineering. Finally, customer support tells the several supported DVD options. The customer chooses a DVD by the mail department. The customer receives the DVD, install and then mails her payment to accounting. Construct an activity diagram for this process. Use swim la various interactions.	put her to talk to put her on hold e customer about and it is shipped Is it satisfactorily	<i>•</i>
		OR		
	<b>(b)</b>	List all kinds of control information represented by Dynamic most State chart diagram for Two Party Phone Call.	odel. Prepare	07
Q.3	(a)	What is software development process? Enlist steps of software process? Differentiate iterative process model from waterfall me	-	
	(b) Prepare a class diagram for the dining philosopher problem. There are 5 philosophers and 5 forks around a circular table. Each philosopher has access t 2			07
		forks, one on either side. Each fork is shared by 2 philosophers be	s. Each fork may	
		either on the table or in use by one philosopher. A philosoph forks to	her must have 2	
		eat.		
Q.3	(a)	Consider online auction system. Elaborate the following high le	vel questions	07
Q.S	(a)	and explain your answer	ver questions	07
		1. Who is the application for?		
		2. Who are the stake holders?		
		3. Identify two features that should be omitted		^ <del>-</del>
	<b>(b)</b>	Differentiate the following Overv and Operation Front and State		07
		<ul><li> Query and Operation - Event and State</li><li> Activity and Operation - Association and Aggregation</li></ul>		
		<ul> <li>Activity and Operation - Association and Aggregation</li> <li>Abstract class and Interface - Inheritance and Multiple Inherita</li> <li>Fork and Join</li> </ul>	nnce	

Q.4	(a)	Explain waterfall development and Iterative Development life cycle styles for Object Oriented approach to software development.	07
	<b>(b)</b>	What is the importance of use case diagram? Explain relationships between use cases with suitable example and proper UML notations. Draw use case diagram	07
		for an 'Online railway ticket reservation system'.	
		OR	
Q.4	(a)	Draw the state diagram for a telephone line. At the start of a call, the telephone line is idle. When the phone is removed from the hook, it emits a dial tone and can accept the dialing of digits. Upon entry of a valid number, the phone system tries to connect the call and route it to the proper destination. The connection can fail if the number or trunk are busy. If the connection is successful the called phone begins ringing. If the called party answers the phone, a conversation can occur. When the called party hangs up the phone disconnects and rewards to idle when put on hook again.	07
	<b>(b)</b>	Draw the use-case diagram for Hotel Information System. There are two types of customers: Tour-group customers and Individual customers. Both can book, cancel, check-in and check-out of a room by Phone or via the Internet. There are booking process clerk and reception staff who manages it. A customer can pay his bill by credit card or pay utility bill.	07
Q.5	(a)	Explain the tasks involved in design optimization	07
	<b>(b)</b>	<ul><li>(a) Define scenario, sequence diagram. Explain with suitable diagram</li><li>(b) Discuss data storage management in system design</li></ul>	04 03
		OR	
Q.5	(a)	What are the similarities/dissimilarities between a sequence diagram and collaboration diagram? Draw the Interaction diagram for an ATM – used for card based banking system.	07
	<b>(b)</b>	Explain the tasks involved in design optimization	07

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