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GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– IV EXAMINATION – SUMMER - 2017

Subject Code : 3640003 Date: 03-06-2017

Subject Name: Basic Computer Science – 4 (Software Engineering)

Time:10.30AM TO 01.00PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What is Process? Explain Evolutionary Process Model in detail.	**07**
	(b)	(1) Differentiate Alpha Testing v/s Beta Testing.	**04**
		(2) Write a Note on Modularity.	**03**
Q.2	**(a)**	Explain Following Terms (1) Multiplicity (2) N-ary Associations (3) Sequences (4) Aggregation (5) Link (6) Derived Data (7) Metadata	**07**
	(b)	Explain Golden Rules for Interface Design and UI Designing Issue.	**07**
		OR	
	(b)	What is Requirement Model? Discuss Flow Oriented Model in Detail.	**07**
Q.3	**(a)**	What is Extreme Programming? Explain XP Process in Detail.	**07**
	(b)	Explain Black-Box Testing Techniques.	**07**
		OR	
Q.3	**(a)**	What is Software Architecture? Discuss Architecture Style in Detail.	**07**
	(b)	(1) Write a note on Formal Technical Review.	**03**
		(2) Write a note on COCOMO-II Model.	**04**
Q.4	**(a)**	(1) Explain Case Study to Prepare SRS for Online Shopping Application.	**04**
		(2) Discuss FP Based Estimation.	**03**
	(b)	What is State Diagram? Explain with Suitable Example.	**07**
		OR	
Q.4	**(a)**	(1) Explain Case Study to Prepare Timeline Chart for Online Shopping Application	**04**
		(2) Discuss LOC Based Estimation.	**03**
	(b)	What is State Diagram? Discuss One-Shot State Diagram with Example	**07**

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Q.5 **(a)** What is an Activity Diagram? Discuss Various Notations used to Draw Activity Diagram. **07**

(b) **Situation:** Consider the air transportation system. Many flights land And depart from city's airport. Some of the big cities may have more than one airport. Every flight belongs to specific airline. The planes may have many flights to different airports. Each plane is identified with serial number and model. There are specific pilots for each airline and they fly many flights. Each flight is identified by flight number and date on which flight is scheduled. The passenger reserves a seat for a flight. The seat is identified by a location. **07**

1) Draw Activity Diagram for Login & Book Flight.

2) Draw Sequence Diagram for Login & Book Flight.

OR

Q.5 **(a)** What is Use Cases? Discuss Various Terms of Use Cases. **07**

(b) **Situation:** Consider the air transportation system. Many flights land And depart from city's airport. Some of the big cities may have more than one airport. Every flight belongs to specific airline. The planes may have many flights to different airports. Each plane is identified with serial number and model. There are specific pilots for each airline and they fly many flights. Each flight is identified by flight number and date on which flight is scheduled. The passenger reserves a seat for a flight. The seat is identified by a location. **07**

1) Draw Use Case for System, Admin and Passengers.

2) Draw Class Diagram.

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