Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2153202 **Date:08/12/2015**

Subject Name: Software Engineering

Time:10:30am to 1:00pm **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)**	Explain RAD Model and Spiral Model with their respective diagram.	**07**
	(b)	(i) Explain the difference between software and hardware characteristics.	**04**
		(ii) List and explain very briefly various activities of software engineering process framework.	**03**
Q.2	**(a)**	Determine cyclomatic complexity and basis set of linearly independent paths for the following code:	**07**

```
public static boolean is_prime(int n)
{
boolean prime=TRUE;
int i=2;
while (i<n)
      {
         if(n%i ==0){
            prime=false;
                        }
         i++;
      }
return (prime);
```

	(b)	Explain white box and black box testing. Discuss all the testing strategies that are available.	**07**
		OR	
	(b)	Explain Unit Testing and Integration Testing in detail.	**07**
Q.3	**(a)**	What do you mean by debugging? Explain various debugging approaches.	**07**
	(b)	Explain five-level of SEI-CMM.	**07**
		OR	
Q.3	**(a)**	Explain Software Project Management and the W^5HH principle.	**07**
	(b)	Explain software version control and change control.	**07**
Q.4	**(a)**	List and explain requirement engineering tasks.	**07**
	(b)	Prepare an SRS and Use Case diagram for a simple Library Management System.	**07**
		OR	
Q.4	**(a)**	Explain Cohesion and Coupling for Software Design.	**07**
	(b)	Explain formal requirements and algebraic specifications.	**07**
Q.5	**(a)**	Explain Business Process Re-engineering.	**07**

	(b)	Explain the significance of User Interface (UI) in a system. Also explain the design model for UI.	**07**

OR

Q.5	**(a)**	Describe the difference between risk components and risk drivers.	**07**
	(b)	i) Compare the relative advantages of function oriented and object oriented approaches to software design.	**04**
		ii) Explain Software Engineering as a Layered Technology.	**03**

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