

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER III (OLD) – • EXAMINATION – SUMMER 2016

Subject Code: 730104**Date: 05/05/2016****Subject Name: Software Engineering Methodology****Time: 10:30 am to 01:00 pm****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) (i) Which testing strategy is important for reducing “side effects”? Explain the strategy. **04**
(ii) Why is highly coupled module difficult to unit test? **03**
(b) Design Robust boundary values test cases for the program used for determination of the nature of roots of a quadratic equation. Its input is a triplet of positive integers (say a, b, c) and the values may be from interval [0, 100]. **07**
The program’s expected output may have one of the following words:
[Not a quadratic equation; Real roots; Imaginary roots; Equal roots]
Also provide the total number of “worst case” test cases possible. Do not design all the worst cases.
- Q.2** (a) Discuss WebE design pyramid in detail with example **07**
(b) Briefly explain the following terms **07**
(i) Fan-in/Fan-out
(ii) Length of code
(iii) Depth of conditional nesting
(iv) Fog index
(v) Cyclomatic Complexity
(vi) UI testing
(vii) Aesthetic design
- OR**
- (b) Define a task set for “Railway Reservation System” Software Project **07**
- Q.3** (a) Develop a set of test cases that is adequate for testing the following program: **07**
A program reads three integer values. The three values are interpreted as representing the lengths of the sides of a triangle. The program prints a message that states whether the triangle is scalene, isosceles or equilateral.
(b) Explain Earned Value Analysis with example. **07**
- OR**
- Q.3** (a) Give your RMMM plan for Indian Government’s UID (Adhar Card) Project which is currently implemented in phased manner in different part of country. **07**
(b) What is SQA? How formal technical review affects SQA? Explain ISO 9000 quality standard. **07**
- Q.4** (a) Using an actual web site as an example, illustrate the different manifestation of WebApp “content”. **07**
(b) Develop use cases for ATM system. **07**
- OR**
- Q.4** (a) How risk table is helpful? Illustrate with example how risk table is prepared? **07**
(b) Explain Business process re-engineering vs. Software re-engineering. **07**
- Q.5** (a) Why Software Configuration management is required? What is the role of SCM repository? **07**
(b) Make a list of “risks” that would be likely during the development of a new e-commerce application that is designed to sell module phones and service **07**

directly over the web.

OR

- Q.5** (a) What is CBSE? Describe Software Reengineering.
(b) Discuss Clean-room s/w engineering approach.

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