

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 730104**Date: 26/12/2012****Subject Name: Software Engineering Methodology****Time: 10.30 am – 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)** Explain Software Scope and Feasibility regarding Gujarat Technological University's student web portal which is currently used by the student community. **07**
- (b)** 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**

- Q.2 (a)** FreeSeva.com (S-Sms, e-E-mail, v- Video content a-Application) is a web based application for the need of users to provide more flexibility in the type of sending multiple SMS free of cost to any place in the country & E-mails to all over the world. It also includes the requirements from users like- creating groups, create directory of members, chatting with members, video conferencing with members, reminders to important events etc. It also provide functionality and analysis to each specific user i.e. track, analyze, share their experiences and improve themselves. FreeSeva.com is java based application. Hosted on apache server and mySQL as backend. FreeSeva.com has following functional Units: 30 user inputs , 50 user outputs, 25 user inquires , 6 user files and 4 external interfaces. Assume all complexity adjustment factors and weighing factors are average and calculate function points for the FreeSeva.com project. **07**
- (b)** Explain Role of Software tester. Why stub/driver is required during testing? Explain different methods are used in Control structure testing. **07**

OR

- (b)** Explain: Cyclomatic Complexity , UI testing **07**
- Q.3 (a)** If you are heading a software development team , define Schedule and task sets for above FreeSeva.com Project from your perspective. **07**
- (b)** What is SQA? How formal technical review affects SQA? Explain ISO 9000 quality standard. **07**

OR

- Q.3 (a)** Explain Role of Design metrics ,testing metrics and maintenance metrics. **07**
- (b)** What is Earned Value Analysis? How it effects on project scheduling? Explain with example **07**

- Q.4 (a)** Explain criteria for user interface design, aesthetic design & navigation design in web application. **07**
- (b)** Design the boundary value test cases with single fault assumption($4n+1$). (n = no of different input value). Assume that input module accept date in dd-mm-yyyy format and display next date. **07**

OR

- Q.4 (a)** How to make (1) security testing (2) performance testing for web application? **07**

Explain.

- Q.4 (b)** Identify the equivalence class test case for input and output domain. Assume that input module accept date in dd-mm-yyyy format and display next date. **07**
- Q.5 (a)** Size of the project is 500000 LOC. Calculate the effort, development time, average staff size and productivity of the project by Assuming that project schedule is not tight and software developer team has average experience by using basic COCOMO model ($a=4$, $b=1.2$, $c=3.5$, $d=0.30$). **07**
- (b)** Explain: Business process re-engineering vs. Software Re-engineering **07**
- OR**
- Q.5 (a)** Why Software Configuration management is required? What is the role of SCM repository? **07**
- (b)** Explain any Software project estimation technique with example. **07**
