

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI- EXAMINATION – SUMMER 2016

Subject Code: 160701

Date: 19/05/2016

Subject Name: Software Engineering

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) Outline the software development life cycle. Briefly describe each of the stages, its relation to other stages and its overall importance. **07**
(b) What are the purposes of Data Flow diagrams, Entity-Relationship diagrams? Give an example diagram of each. **07**
- Q.2** (a) What is Software Requirement Specification (SRS)? Why is it important? List the characteristic of a good quality SRS? What contents can we include in it? **07**
(b) How do we define Software Quality & Software Reliability? Describe briefly the terms: a) Quality of Design b) Quality of Conformance c) MTBF **07**
- OR**
- (b) Spiral model is a realistic approach to the development of large-scale systems & software. Justify & explain the model. **07**
- Q.3** (a) Define Testing. What is the need of it? Explain various levels of software testing. **07**
(b) A supermarket needs to develop software to encourage regular customers. For this, the customer needs to supply his name, address, telephone number and driving license number. A customer is assigned a unique customer number (CN) by the computer. When a customer makes a purchase, the value of the purchase is credited against his CN. At the end of each year, surprise gifts to 10 customers who have made the highest purchase is given. In addition, a 22 carat gold coin is given to every customer who has made a purchase over Rs.10,000/-. The entries are reset on the last day of the year.
(i) Draw the context diagram **07**
(ii) Give data dictionary entries for i) address ii) CN iii) gold-coin-winner-list iv) totalsales **07**
- OR**
- Q.3** (a) Define Cohesion & Coupling. Explain types of both with suitable example. **07**
(b) A store is in the business of selling paints and hardware items. A number of reputed companies supply items to the store. New suppliers can also register with the store after providing necessary details. The customer can place the order with the shop telephonically. Or personally. In case items are not available customers are informed. The detail of every new customer is stored in the company's database for future reference. Regular customers are offered discounts. Additionally details of daily transactions are also maintained. The suppliers from time to time also come up with attractive schemes for the dealers. In case, scheme is attractive for a particular item, the store places order with the company. Details of past schemes are also maintained by the store. The details of each item i.e. item code, quantity available etc. is also maintained.
i) Draw a level 1 DFD for the above requirement. **07**
- Q.4** (a) Write short note on Reverse Engineering. **07**
(b) What is Risk? Explain various categories of it. Also mention strategies of Risk. **07**
- OR**
- Q.4** (a) Write short note on ReEngineering. **07**
(b) Differentiate Black Box and White Box Testing. **07**
- Q.5** (a) Describe integrated CASE environment. **07**

(b) What is User Interface Design? Explain Golden Rules of it.

07

OR

Q.5 (a) Write short note on COCOMO Model.

07

(b) Define Requirements Engineering. List and explain Requirements Engineering Tasks.

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