M.E. Second Semester (Computer Science & Information Technology) (New-CGS)

13192 : Software Engineering Testing Reliability : 2 RNME 4

P. Pages : 2 | **AW - 3880**

Time : Three Hours | Max. Marks : 80

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Notes : 1. Assume suitable data wherever necessary.
2. Illustrate your answer necessary with the help of neat sketches.

1. a) How requirements and design are related? What are fundamental principles of requirements? 6

b) What is DML class diagram? Explain in brief by giving examples of symbols and notations used. 7

OR

2. a) What is the purpose of behavioural models? Describe different types of behavioural models and their uses. 7

b) What different stages are involved in object oriented Design? 6

3. a) Explain in brief, how software testing is useful in the reliability estimation and to improve the quality. 6

b) Explain how debugging process is integrated and related with verification and validation activities. 7

OR

4. a) Explain following stages involved in testing process: 6
i) Unit testing.
ii) System testing.
iii) Module testing.

b) What is integration testing? Why is it necessary? 7

5. a) What is interface testing? What are the general guidelines for the interface testing? 7

b) What do you understand about validation activity in software testing? Explain. 7

OR

6. a) What is regression testing? Why different test should be repeated after every defect repair. 7

b) Explain the objectives of following structural testing strategies. 7
i) White – box testing. ii) Path testing.

7. a) What is software measurement? Which software metrics are used to measure quality of software? 7

b) Explain in brief various aspects of testing of the web based systems. **6**

OR

8. a) What is debugging? Draw and explain the debugging process. **6**

b) What are the important differences between object – oriented systems and the systems developed by using a functional model? What is object class testing? **7**

9. a) Explain the Weibull distribution in the reliability engineering process. **7**

b) Explain in brief, statistical data analysis method used in reliability. **7**

OR

10. a) Explain in brief, the general approach to life data analysis and probability plotting. **7**

b) Explain in brief Monte Carlo simulation method for system reliability analysis. **7**

11. a) Explain Fault – Tree Analysis (FTA) Technique? **6**

b) What is prediction model? Why usually prediction models are formed prior to the software developments and regular test phases? **7**

OR

12. a) How software reliability models helps us in understanding characteristics of how and why software fails? **7**

b) Explain in brief: **6**
   a) Prediction modeling.
   b) Estimation modeling.

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