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Question Paper Code: 31876

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Elective

Information Technology

01UIT912 - PRINCIPLES OF SOFTWARE TESTING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Differentiate between validation and verification.
2. Define test bed.
3. What is a control flow graph?
4. Give the formula for mutation score.
5. List out the preparation tasks for performing unit testing.
6. Compare alpha testing and beta testing.
7. List the information contain in the test item transmittal report.
8. Give examples for testing cost estimation.
9. Write down the features of JMetra.
10. Differentiate between automation and manual testing.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain in detail about various types of defect classification with examples. (16)

Or

(b) Summarize the tasks of testers, users/client in software testing. (16)

12. (a) A program validates a numeric field as follows: values less than 10 are rejected, values between 10 and 21 are accepted, values greater than or equal to 22 are rejected. Prepare the black box testing using boundary value analysis. (16)

Or

(b) (i) Differentiate between static testing and dynamic testing. (6)

(ii) Explain in detail about various types of testing in white box. (10)

13. (a) List out the various tasks carried out in unit testing. (16)

Or

(b) Develop a test cases for library management system. (16)

14. (a) Explain in detail about the components inside a test plan. (16)

Or

(b) Prepare the positive and negative test cases for registration forms. (16)

15. (a) (i) Mention the purpose of test metrics. (6)

(ii) List the features and need of JUnit. (10)

Or

(b) The following table shows the data retrieved from the test analyst who is actually involved in testing.

S.No	Testing Metric	Data retrieved during test case development and execution
1.	No. of requirements	5
2.	Average no of test cases written per requirement	20
3.	Total no of test cases written for all requirements	100
4.	Total no of test cases executed	65
5.	No of test cases passed	30

6.	No of test cases failed	26
7.	No of test cases blocked	9
8.	No of test cases unexecuted	35
9.	Total no of defects identified	30
10.	Critical defects count	6
11.	High defects count	10
12.	Medium defects count	6
13.	Low defects count	8

Calculate the following metrics.

(i) Percentage of test cases executed

(ii) Percentage of test cases not executed

(iii) Percentage of test cases failed

(16)

