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**Question Paper Code: 41021**

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2015.

Fourth Semester

Computer Science and Engineering

01UCS402 - SOFTWARE TESTING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Define Testing.
2. What do you mean by Test case?
3. What are the knowledge sources for Black box testing?
4. List the methods of White box testing.
5. What are the advantages of Bottom up integration?
6. Give an example for Regression testing.
7. Define Work Breakdown Structure (WBS).
8. Write down the skills needed by a Test specialist.
9. Explain the benefits of review program.
10. Define Defect Removal Leverage (DRL).

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Write and explain the Software testing principles in detail. (8)  
(ii) Explain the role of process in software quality. (8)

Or

- (b) Explain the origin of defect and its classes with its repository in detail. (16)

12. (a) Given a set of numbers 'n', the function Find Prime (a[ ],n) prints a number – if it is a prime number. Draw a control flow graph, calculate the cyclomatic complexity and enumerate all paths, State how many test cases are needed to adequately cover the code in terms of branches, decisions and statement. Develop the necessary test cases using sample values for 'a' and 'n'. (16)

Or

- (b) (i) What is Equivalence class partitioning? List rules used to define valid and invalid equivalence classes. Explain the technique using an example. (8)  
(ii) What is Boundary value analysis? Explain the technique specifying rules and its usage with the help of an example. (8)

13. (a) Explain Unit and Integration Testing and its types in detail with the necessary diagram. (16)

Or

- (b) Explain in detail System and validation Testing and all its types. (16)

14. (a) (i) Explain Organizational structures for testing teams in detail. (8)  
(ii) Discuss about Test planning in detail with an example. (8)

Or

- (b) “The role of three groups in test planning and policy development” explain in detail. (16)

15. (a) Describe in detail about Software test automation. (16)

Or

- (b) Explain in detail about software configuration management with relevant sketches. (16)