

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 113602 Roll No.

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**B.Tech.**

(SEM. VI) THEORY EXAMINATION 2013-14

**SOFTWARE TESTING**

*Time : 3 Hours*

*Total Marks : 100*

**Note :-** Attempt all questions, each question carries equal marks.

1. Attempt any **four** parts of the following : (5×4=20)
  - (a) What is Software Testing ? Also explain its concept in reference of tester and customers.
  - (b) What are the various important principles of software testing ?
  - (c) Differentiate between faults, errors and failures.
  - (d) What is the relation between software quality and reliability ?
  - (e) Explain Software Defect Tracking.
  - (f) What is the difference between :
    - (i) Debugging and Testing
    - (ii) Verification and Validation ?

2. Attempt any **two** parts of the following : **(10×2=20)**
- (a) What is White Box Testing ? Explain its methods. Differentiate between black box and white box testing.
  - (b) Compare the equivalence partitioning and boundary value analysis testing methods. Discuss in detail with example.
  - (c) (i) Explain state/graph based testing.  
(ii) Explain Model Based Testing.
3. Attempt any **two** parts of the following : **(10×2=20)**
- (a) What is integration testing ? Explain different approaches used in integration testing.
  - (b) (i) Define Defect Bash. Write its advantages and disadvantages.  
(ii) Explain design/architecture verification in software testing.
  - (c) Discuss the scenario testing. Consider a typical university academic information system. Identify the typical agents, actors and the expected system behaviours for the various types of use-case in the system.
4. Attempt any **two** parts of the following : **(10×2=20)**
- (a) What is Regression Testing ? Why regression test is applied in each phase of software development ? Discuss.

- (b) (i) Differentiate between Smoke and Sanity testing.  
(ii) Define test minimization and test prioritization.
  - (c) Discuss the following :
    - (i) Ad hoc Testing
    - (ii) Pair Testing.
5. Attempt any **two** parts of the following : **(10×2=20)**
- (a) Illustrate the generic requirements for test tool framework in detail.
  - (b) (i) What is Test Planning ? Explain test plan structure with diagram.  
(ii) What do you mean by Test Management ? Explain its various aspects.
  - (c) Write short notes on the following :
    - (i) Test in object oriented system
    - (ii) Software test automation.