

END TERM EXAMINATION

FIFTH SEMESTER [MCA] DECEMBER 2013

Paper Code: MCA 303

Subject: Software Testing
(2010 Batch)

Time: 3 Hours

Maximum Marks: 60

Note: Attempt five questions including Q.no.1 which is compulsory.
Select one question from each unit.

Q1. Attempt any ten of the following: (2 X 10 = 20)

- a) Software Testing is software verification plus software validation. Discuss.
- b) What is special value testing?
- c) Differentiate between positive and negative testing.
- d) Give two main advantages and disadvantages of functional test cases.
- e) What are the major problems that we face during object-oriented testing?
- f) How graph theory is useful in testing?
- g) What is risk and how risk analysis is useful?
- h) What do you understand by system testing coverage? *P.L.S, F.R, U.I*
- i) Why developers are not good testers?
- j) What is fault prediction model?
- k) Is testing different from debugging? Justify.
- l) Distinguish between static and dynamic testing.

Unit - I

- Q2. a) 'Software testing is an incremental process'. Justify the statement. 5
- b) Discuss briefly the phases through which we can approach testing using a sample software testing problem. Comment on difficulty of testing? 5

- Q3. a) Why exhaustive testing does not guarantee 100% correctness even for small programs. Illustrate with the help of an example. 5
- b) What are the factors for determining the limit of testing? 5

Unit - II

Q4. Write a program for multiplication of two matrices. Draw the DD graph and calculate cyclomatic complexity for it. Also, derive du-paths and dc-paths using data flow testing. 10

Q5. A program determines the next date in the calendar. Its input is entered in the form of <ddmmyyyy> with the following range: 10

1 <=mm <=12

1 <=dd <=31

1900 <=yyyy <=2020

Its output would be the next date or an error message 'invalid date'. Design test cases using equivalence class partitioning method.

Unit - III

- Q6. a) What are prioritization categories and guidelines for the test case-reduction? 5
- b) What is the need of regression testing? How it is done? 5

Q7. What is use-case testing? How do we develop the test cases based on use case specifications for the login screen? 10

Unit - IV

- Q8. a) What is state based testing? Why it is suitable for object oriented testing? 5
- b) Discuss some methods of integration testing with examples. 5

- Q9. a) What are metrics? Why do we need to measure software? 5
- b) What is class testing? Discuss the issues related to class testing. 5