

(Please write your Exam Roll No.)

Exam Roll No. 0102040413

END TERM EXAMINATION

FIFTH SEMESTER [MCA] DECEMBER 2015

Paper Code: MCA303

Subject: Software Testing

Time: 3 Hours

Maximum Marks: 60

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

- Q1
- (a) What is software testing? Is it possible to do complete testing? (2)
 - (b) Explain the term code walkthrough. (2)
 - (c) What is the use of graph theory in software testing? (2)
 - (d) Distinguish between single and multiple fault assumption. (2)
 - (e) Distinguish between statement coverage and branch coverage. (2)
 - (f) Explain validity checks. (2)
 - (g) What is regression testing? (2)
 - (h) Explain how system testing differs from acceptance testing. (2)
 - (i) What are the major problems that we face during object oriented testing? (2)
 - (j) What is fault prediction model? (2)

UNIT-I

- Q2
- (a) What are the essentials of software testing? Why software testing is hard? (5)
 - (b) Define a test case. What are the objectives and the various steps involved in test case design? (5)
- Q3
- Define verification testing. Discuss briefly the various methods of verification testing. (10)

UNIT-II

- Q4
- (a) Compare the various functional testing techniques in terms of effort and number of test cases. What are its limitation and discuss the situations in which these are not effective (6)
 - (b) Explain the cause effect graph technique using suitable example. (4)
- Q5
- Write a program to find the factorial of a number. Draw the DD graph and calculate cyclomatic complexity for it. Also derive du-paths and dc-paths using data flow testing and generate test cases for these paths. (10)

UNIT-III

- Q6
- Briefly describe the followings:- (5x2=10)
- (a) Use case testing
 - (b) Database testing
- Q7
- (a) Give reasons why we cannot execute all test cases. What are prioritization categories and guidelines for test case-reduction? (5)
 - (b) Define regression testing. Is it necessary to perform? Explain one regression testing technique. (5)

UNIT-IV

- Q8
- (a) What is the difference between unit testing and integration testing? Explain the different strategies used for integration testing. (5)
 - (b) How is object-oriented integration testing different from functional-oriented integration testing? (5)
- Q9
- (a) What is class testing? What are various issues related to class testing? (5)
 - (b) What is software metrics? What should we measure during testing? (5)

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