Code No: 873AJ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA III Semester Examinations, March/April - 2022
SOFTWARE TESTING METHODOLOGIES

Time: 3 Hours   Max.Marks:75

Answer any five questions
All questions carry equal marks
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1.a) Define testing. Explain the goal of software testing.
  b) What are the applications of path testing? Explain with examples.   [7+8]

2.a) Explain the goal of path predicates, path sensitizing and path instrumentation.
  b) Differentiate testing and debugging with an example.   [8+7]

3.a) What are the different notations used in the transaction flow testing? Explain.
  b) Differentiate Data flow testing and Domain testing with an example.   [8+7]

4.a) What are the data flow testing motivation, applications and advantages? Explain.
  b) Discuss about domain boundaries and compound predicates.   [8+7]

5.a) How Loop removal operation works and how loops are eliminated from the graph? Explain with an example.
  b) Calculate the probability and maximum path count arithmetic for a routine with an example.
                                                                                [8+7]

6.a) Write a short note on regular expressions and flow anomaly detection.
  b) Minimize the following function using KV map:
       $F (A, B, C, D) = \Sigma (1, 3, 4, 6, 8, 9, 11, 13, 15) + d (2, 14)$ [8+7]

7.   Write a short note on following:
     a) Dead state
     b) Unreachable state
     c) Transition bugs.   [5+5+5]

8.a) Explain node reduction algorithm.
  b) Explain matrix of graph, relations and properties of relations.   [7+8]

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