Code: 15A05505

R15

B.Tech III Year I Semester (R15) Supplementary Examinations June 2018
SOFTWARE TESTING
(Computer Science & Engineering)

Time: 3 hours   Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
   (a) List the goals of testing.
   (b) Define testing blindness and list its categories.
   (c) Report different types of data flow machines.
   (d) Illustrate the usage of transaction flows.
   (e) List the restrictions to domain testing.
   (f) Differentiate between boundary point and extreme point.
   (g) Compare and contrast between path sum and path product.
   (h) Illustrate decision tables with example.
   (i) Differentiate between symmetric and anti-symmetric relations.
   (j) Differentiate between dead state and unreachable state.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2   (a) Differentiate between control flow graph and flowchart.
    (b) Demonstrate various kinds of loops with respect to path testing using neat diagrams.
OR
3   Explain briefly about structural bugs and coding bugs.

UNIT – II

4   Demonstrate the strategies of data flow testing with neat diagrams.
OR
5   (a) Differentiate various transaction flow testing techniques.
    (b) Write a short note on slicing and dicing.

UNIT – III

6   Illustrate how two dimensional domains can be tested with neat diagrams.
OR
7   Explain about domain and interface testing in detail.

UNIT – IV

8   Calculate the maximum path count and lower path count for the following flow graph with path
         expression: a(b+c)d{e(fi)*fgj(m+l)k}*e(fi)*fgh. Each link is given a weight of 1. Outer loop will take exactly
         four times and inner loop takes zero or three times its path expression.
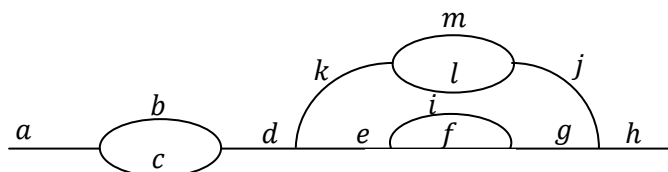
OR
9   Demonstrate by means of truth tables the validity of the following theorems of Boolean algebra:
         (i) Associate laws. (ii) Demorgan's theorem for three variables. (iii) Distributive law. (iv) Absorption rule.

UNIT – V

10   The behaviour of a finite state machine is invariant under all encodings. Justify.
OR
11   (a) Discuss node reduction algorithm for graph matrices.
     (b) What are the advantages and disadvantages of array representations?