



R17 Regulation

Subject code: 1E6ED

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech III Year II Semester Supplementary Examinations, January 2023

SOFTWARE TESTING METHODOLOGIES

(CSE)

Maximum Marks: 70

21-01-2023

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Write the steps involved in Nightmare and when to stop testing?
- 2 Give a note on simple independent and co-related predicates?
- 3 Define births and mergers in a transaction flow testing.
- 4 Compare static versus dynamic anomaly detection?
- 5 Define the following
 - a) Interior Point
 - b) Boundary Point
 - c) Extreme Point
 - d) on-point
- 6 Define tilted boundary and shifted boundary.
- 7 Define the following in terms of reduction procedure
 - i. Cross-Term step
 - ii. Parallel Term
- 8 Define path product, path expression and path sum?
- 9 Define transition and discuss unreachable states?
- 10 Define the following terms
 - i. States
 - ii. Inputs and transitions

Part-B

Answer All the following questions.

(10M X 5=50Marks)

- 11 Explain about statement coverage (C1) and branch coverage (C2)? Explain with an example method to select enough paths to achieve C1+C2? [10]

OR
- 12 A) Justify how flowchart is different from a control flow graph?
B) Explain about multi entry and multi exit routines and fundamental path selection criteria? [5+5]
- 13 A) Demonstrate an anomaly can be detected. Explain different types of data flow anomalies and data flow anomaly state graphs?
B) Write about the applications of data flow testing? [5+5]

OR
- 14 Discuss the following strategies of data flow testing with suitable examples:
 - i. All-predicate-uses (APU) strategy
 - ii. All-computational (ACU) strategy [5+5]

- 15 Describe short notes on
i. Ambiguities and contradictions ii. Simplifying the topology [5+5]
OR
- 16 A) Explain the testing strategy for two-dimensional domains?
B) Discuss the purpose of domain testing? [5+5]
- 17 Explain the push/pop arithmetic with an example and explain the get/return arithmetic with an example? [10]
OR
- 18 A) Discuss regular expressions and flow anomaly detection?
B) Explain a regular expression and flow anomaly detection method with an example and limitations? [5+5]
- 19 Demonstrate an algorithm for node reduction (general) and illustrate the applications of node reduction algorithm? [10]
OR
- 20 A) Define graph matrices and evaluate graph matrix with pictorial Graph explains the basic algorithms?
B) Demonstrate maximum element and minimum element of a graph? [5+5]