

END TERM EXAMINATION

Paper Code: **BCA-307** Fifth Semester (BCA) January-2024
Subject: **Software Testing**

Time: **3 Hours** Maximum Marks: **75**

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

- Q1 Attempt any five of the following: (5x5=25)
- (a) What is software testing? What are its objectives?
 - (b) Explain the following terms: Test case, test suite, error, incident, fault and failure
 - (c) Differentiate static and dynamic testing.
 - (d) Explain the V-shaped software life cycle model of testing.
 - (e) What is Cyclomatic Complexity? Explain with appropriate example.
 - (f) Differentiate debugging and testing.
 - (g) Describe cause-effect graphing technique with the help of example.

UNIT-I

- Q2 (a) Differentiate structural and functional testing. (4)
 (b) What are the limitations of software testing? Why it is so hard? (4.5)
 (c) What is graph theory? How it is useful in testing? (4)
- Q3 (a) Considering the issues of psychology, identify the set of vital testing principles in software testing. (7)
 (b) Explain code inspections, walk through and peer review. (5.5)

UNIT-II

- Q4 Consider a program for classification of triangle. Its input is a triple of positive integers (a,b,c) from interval [1, 100]. The output may be one of the following: [Scalene, Isosceles, Equilateral, Not a triangle, invalid input]. Give DD path and Find all du-paths, identify those du-paths that are definition clear (dc). (12.5)
- Q5 (a) Consider a suitable graph and define the following:- (5)
 (i) Degree of nodes
 (ii) Incidence Matrix
 (iii) Adjacency Matrix
 (b) What is Boundary Value Analysis? Generate test cases using BVA for a program having three inputs, ranges [1-100]. (7.5)

UNIT-III

- Q6. (a) Graphically illustrate the various levels of testing? Explain integration testing in details. (8)
 (b) What is regression testing? When & how it is performed. (4.5)
- Q7 (a) What is debugging? Explain various debugging approaches of software testing. (8)
 (b) Differentiate Alpha and beta testing. (4.5)

UNIT-IV

- Q8 What is object oriented testing? Give various techniques. Explain issues involved in it with examples. (12.5)
- Q9 Explain in detail the various challenges and strategies involved in testing Internet applications like: functional, interface, usability, browser and database testing. (12.5)

BCA-307
P.1

P.T.O.

BCA-307
P.1