

(Please write your Exam Roll No.)

Exam Roll No. ....

## END TERM EXAMINATION

FIFTH SEMESTER [BCA] NOVEMBER-DECEMBER 2018

Paper Code: BCA-307

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 the purpose of software testing? Who should test?
  - (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. Give three examples of each. (4)
- (b) What are the limitations of software testing? Why it is so hard? (4.5)
- (c) Give some examples of software failures to highlight the importance of 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]. Find all du-paths, identify those du-paths that are definition clear (dc.). (12.5)

OR

- Q5 (a) Draw a neat diagram of a 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. What are stubs and drivers. (8)
- (b) What is regression testing? When & how it is performed. (4.5)
- OR
- Q7 (a) Explain various debugging approaches of software testing. (8)
- (b) Differentiate Alpha, beta testing, acceptance testing. (4.5)

P.T.O.

BCA-307  
P<sub>1/2</sub>

**UNIT-IV**

- Q8 Explain the following:-
- (a) Draw a flow graph and DD path graph using program that classifies a triangle as: Scalene, Isosceles, Equilateral and Not a triangle. The range for input parameters is 0-100. **(8.5)**  
**(4)**
  - (b) What is slice based testing? Explain. **(4)**
- Q9
- (a) Discuss the difference between worst test case and adhoc test case performance evaluation by means of testing. **(6.5)**
  - (c) What is decision table testing? Explain it with the example of largest of three numbers. **(6)**

\*\*\*\*\*

BCA-307  
P2/2