

# CBCS Scheme

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16MCA43

## Fourth Semester MCA Degree Examination, June/July 2018 Software Testing and Practices

Time: 3 hrs.

Max. Marks: 80

**Note:** Answer FIVE full questions, choosing one full question from each module.

### Module-1

- 1 a. Explain error, faults and failures in the process of programming and testing with a diagram. (10 Marks)  
b. Describe Quality attributes of software testing. (06 Marks)

OR

- 2 a. Explain the basic principles of Analysis and testing and describe adequacy criteria and comparison criteria. (10 Marks)  
b. Discuss the various test generation strategies in brief. (06 Marks)

### Module-2

- 3 a. Describe the implementation of NEXTDate function. (10 Marks)  
b. Explain the levels of testing found in waterfall model. (06 Marks)

OR

- 4 a. Describe the specified, implemented and tested behavior with the help of Venn diagram and discuss each of them. (10 Marks)  
b. Write the algorithm for triangle problem. (06 Marks)

### Module-3

- 5 a. Illustrate with appropriate diagrams, the mechanism to generate test cases in BVA for a function of two variables in  
(i) Robustness Testing  
(ii) Worst – Case Testing  
(iii) Robust Worst Case Testing. (10 Marks)  
b. Write the test cases for NEXTDate function using boundary value analysis. (06 Marks)

OR

- 6 a. Write test cases for a commission problem using equivalence class Testing. (10 Marks)  
b. Illustrate the usage of decision table method to devise test cases for a triangle problem. (06 Marks)

### Module-4

- 7 a. Draw a program graph and DD path graph for a triangle problem. (10 Marks)  
b. Explain McCabe's basis path method with an example. (06 Marks)

OR

- 8 a. Discuss the types of test coverage metrics in detail. (10 Marks)  
b. Explain traditional view of testing levels and alternative life cycle models. (06 Marks)

### Module-5

- 9 a. Explain Scaffolding. Compare between generic versus specific scaffolding. (07 Marks)  
b. Explain any five major activities in a planning and monitoring the process. (09 Marks)

OR

- 10 a. Describe test oracles and self checks as oracles. (10 Marks)  
b. Illustrate mutation analysis with its variants. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.