

Roll No. ....

**67216**

**MCA 5th Semester CBCS Scheme**

**(w. e. f. 2018-19)**

**Examination – December, 2018**

**SOFTWARE TESTING AND QUALITY ASSURANCE**

**Paper : 18MCA35DA3**

**Time : Three Hours ]**

**[ Maximum Marks : 80**

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) What is software testability ?
- (b) What is Unit testing ? Explain.
- (c) What do you mean by Dynamic analysis tools ? Explain
- (d) What do you mean by Ticking Box testing ? Explain
- (e) What do you understand by software safety ? Explain
- (f) What is Software reliability ?

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(g) What do you mean by software validation ?  
Explain.

(h) What is Data-flow testing ? Explain.  $2 \times 8 = 16$

**UNIT - I**

2. What do you mean by White box testing and Black box testing ? Explain the main techniques for performing black box testing in detail. 16

3. (a) What is Software testing ? How is testing important in software life cycle ? Discuss the objectives of software testing. 8

(b) What do you mean by Test Cases ? Explain the features of test cases. 8

**UNIT - II**

4. (a) What is software testing strategy ? Explain the characteristics of a good software testing strategy in detail. 8

(b) What do you mean by Test data generator and Debuggers ? Explain in detail. 8

5. (a) What is Software metrics ? Enumerate the qualities of good software metrics. How the software metrics can help in software management ? Explain in detail. 8

(b) Explain Integration, System, Alpha and Beta testing in detail. 8

**UNIT - III**

6. (a) What is object oriented testing ? Explain the various object-oriented testing strategies and issues in detail. 8

(b) What is Software quality assurance (SQA) ? What are the main activities in SQA plan ? How are these ensured ? Justify. 8

7. Explain the following in detail :

(a) Test case design and Interface testing 8

(b) FTR and Structured walk through technique 8

**UNIT - IV**

8. What do you mean by ISO quality models ? Explain SEJ-CMM and ISO 9000 certification. Also Explain their relevance in detail. 16

9. (a) What do you mean by Hazard analysis ? What are the various techniques for hazard analysis ? Explain. 8

(b) What is Software quality ? Explain the features affecting software quality in detail. 8