

- (c) What is meant by software quality assurance (SQA) ? Enumerate objectives and goals of SQA. 6

7. Explain the following :

- (a) Interface Testing 5
(b) Formal Technical Review 5
(c) Test Case Design 6

UNIT – IV

8. (a) What is software hazard analysis ? Enumerate its objectives and also indicate the general threats applicable to the software design. 8
(b) What is software capability maturity model ? Provide its structure and illustrate significance of each element. 8
9. (a) What do you mean by software safety ? Illustrate its significance. 6
(b) What is SQA plan ? Illustrate the activities involved in SQA plan. 6
(c) Differentiate between hardware reliability and software reliability. 4

Roll No.

67242

**MCA 5th Semester (With New Notes)
Examination – May, 2018**

SOFTWARE TESTING & QUALITY ASSURANCE (New)

Paper : MCA-502

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 : Question No. 1 is compulsory. Attempt four questions by selecting one question from each Unit. All questions carry equal marks.

1. (a) What is mutation testing ? 2 × 8 = 16
(b) How is Beta testing useful ?
(c) What is functional testing ?
(d) What are testing tools ? Name two popular testing tools.

- (e) What is software quality management ?
- (f) Name two software project management software tools.
- (g) What is the essence of ISO quality standards for software ?
- (h) Is debugging a kind of testing? Justify your answer.

UNIT – I

- 2. (a) What do you understand by software testing ? What kind of testing is required during software lifecycle ? Illustrate. 9
- (b) What is software testability ? Enumerate some important key characteristics of software testability. 7
- 3. Differentiate between the following :
 - (a) Static and dynamic testing 4
 - (b) WBT and BBT 5
 - (c) Verification and Validation 3
 - (d) Equivalence partitioning and Boundary value analysis methods. 4

UNIT – II

- 4. (a) What are testing tools ? What characterizes a good testing tool ? Discuss. 6
- (b) What is software quality ? Illustrate factors affecting software quality. 5
- (c) What are test data generators ? Illustrate their importance in software testing. 5
- 5. (a) What are various software quality metrics ? Outline the importance of each. 6
- (b) What is software testing strategy ? Outline the characteristics of a good software testing strategy and also discuss the strategies involved in integration testing. 6
- (c) Differentiate between Alpha and Beta Testing. 4

UNIT – III

- 6. (a) What is structured walk through technique ? How is it helpful ? Illustrate. 4
- (b) What is object-oriented testing (OOT) ? What are various OOT methods ? Illustrate each stating their usefulness. 6