

M.C.A. 3rd Semester (MCA 2 Year Programme)  
w.e.f. 2021-2022 Examination, November-2023  
SOFTWARE TESTING & QUALITY ASSURANCE  
ELECTIVE 1 (ii)

Paper-21MCA23DA2

Time allowed : 3 hours]

[Maximum marks : 80

*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 software quality management?
  - (b) Name two software project management software tools.
  - (c) What is mutation testing?
  - (d) What is functional testing?
  - (e) What is the essence of ISO quality standards for software?
  - (f) Is debugging a kind of testing? Justify your answer.
  - (g) How is Beta testing useful?
  - (h) What are testing tools? Name two popular testing tools.
- 8×2=16

**Unit-I**

2. (a) What is software testability? Enumerate some important key characteristics of software testability.

7

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

### Unit-II

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

**Unit-III**

6. (a) What are some key features of Rational Rose that make it useful for software testing? How does the software help streamline the testing process and improve testing accuracy? Explain. 8
- (b) What do you test web applications? Discuss the major concerns regarding this kind of testing. 8
7. (a) What is Post Deployment Testing? Illustrate its significance. 4
- (b) What is performance testing? Discuss its relevance. 4
- (c) What is Object-Oriented Testing(OOT)? What are various OOT methods? Illustrate each stating their usefulness. 8

**Unit-IV**

8. (a) What do you mean by Formal Technical Review? Illustrate its significance. 5
- (b) What is SQA plan? Illustrate the activities involved in SQA plan. 6
- (c) What do you mean by Structured Walkthrough? Discuss its significance. 5



9. (a) What is software capability maturity model? Provide its structure and illustrate significance of each element. 8
- (b) What is meant by Software Quality Assurance (SQA)? Enumerate objectives and goals of SQA. 8

