

2023

M.E. (Computer Science and Engineering)

First Semester

Elective - I

✓ CS-8104: Software Testing and Quality Management

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What are the main issues in the project's quality plan?
- b) List out the main components of software maintenance.
- c) Outline the factors affecting the quality assurance activities.
- d) List out the advantages and disadvantages of spiral model.
- e) Define Test case and Test suite.
- f) What is cyclomatic complexity in software testing?
- g) List the advantages of Automation Testing.
- h) What is equivalence partitioning in software testing?
- i) What is boundary value testing?
- j) What is Formal technical review? (10x1)

**UNIT - I**

- II.
  - a) What are the challenges of software engineering?
  - b) Elucidate the key features of the software process models with suitable examples. (2x5)
- III.
  - a) What are the various levels of CMM? Explain in detail the role of KPAs in each level.
  - b) Describe the role of software reviews in achieving good quality software. (2x5)
- IV. What are the different ways in which quality can be reviewed? What are the objectives of software Maintenance? Explain in detail maintenance metrics. (10)

P.T.O.

(2)

**UNIT - II**

- V. a) Why is it so important to include boundary values in your black-box test data? Illustrate with example.
- b) Explain the integration testing process and system testing process and discuss their outcomes. (2x5)
- VI. a) What is risk identification and risk estimation? Discuss various risk management plans by taking suitable examples.
- b) What do you understand by software configuration management (SCM)? What are various software configuration items and tasks? (2x5)
- VII. Write short notes on:-
- a) Design Phase Testing
- b) Testing in Multiplatform Environment. (2x5)

x-x-x