

Program/Sem:	T.Y.B.Sc CS – Sem - V	Course:	Software Testing & Quality Assurance
Program Code:	IS00195	Course Code:	USCS5032

Duration: 2 ½ Hour

06 NOV 2025

Max. Marks: 75

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.

**Q. 1 Attempt ANY FOUR from the following: [20]**

- a) Discuss the role of testing in each phase of software development life cycle.
- b) Differentiate between validation and verification.
- c) Explain the seven principles of testing.
- d) Explain equivalence partitioning and boundary value analysis with example.
- e) Write a short note on software testing and its need.
- f) Who are the participants during a review any four types take part? Give their responsibilities.

**Q. 2 Attempt ANY FOUR from the following: [20]**

- a) What are the different attributes of effective software metrics?
- b) Explain cyclomatic complexity with example.
- c) What are software-testing metrics? Explain different types of metrics.
- d) What is system testing? Explain its importance in testing lifecycle.
- e) What is top-down integration? Write the steps to be followed in integration process.
- f) Define unit testing. Why it is necessary?

**Q. 3 Attempt ANY FOUR from the following: [20]**

- a) Explain McCall's quality factors in details.
- b) Which are the three ISO clauses of management responsibility and measurement, analysis and improvement?
- c) What is quality cost? Explain the objectives of finding quality cost.
- d) What is included in software quality assurance plan with respect to testing?
- e) List and explain the goals & objectives of software quality assurance.
- f) Explain six-sigma process known as quality improvement process.

**Q. 4 Attempt ANY FIVE from the following: [15]**

- a) In the review meeting what is logging phases meant?
- b) Explain scatter diagram in details.
- c) Write short note on regression testing.
- d) Explain the alpha testing.
- e) Write short note on histogram diagram.
- f) What are the activities of software quality management?

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