

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc(SS) DEGREE EXAMINATION MAY 2025
(Fifth Semester)

Branch – SOFTWARE SYSTEMS(Five years Integrated)

SOFTWARE ENGINEERING AND TESTING

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 In requirements modeling, which type of diagram is often used to model system interactions?
(i) Class diagram (ii) Sequence diagram
(iii) Entity-relationship diagram (iv) State machine diagram
- 2 Six Sigma uses which metric to measure process quality?
(i) Defects per million opportunities (DPMO) (ii) Lines of code
(iii) Number of features (iv) Processing speed
- 3 What does validation testing aim to ensure?
(i) The s/w meets technical requirements
(ii) The software fulfills user expectations
(iii) The software is bug-free (iv) The software is secure
- 4 Which of the following is a common method used in security testing?
(i) Path testing (ii) Penetration testing
(iii) Boundary value analysis (iv) Code inspection
- 5 In a deployment diagram, what is the relationship between nodes called?
(i) Component (ii) State
(iii) Communication path (iv) Link

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Sketch a note on Data Modeling.
OR
b Organize the Software Application Domain.
- 7 a Explain about the Architectural design in detail.
OR
b Prepare the various types of Coupling.
- 8 a Evaluate about the Unit Testing.
OR
b State and explain Independent Program paths.

Cont...

- 9 a Justify the following: Fault-Based Testing, Scenario-Based Test design.
OR
b Illustrate in detail about the Security Testing.
- 10 a State about the Business Modeling Workflow in UML.
OR
b Discuss Static vs. Dynamic Modeling.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Create in detail about the Nature of Software.
OR
b Classify the Eliciting Requirements in detail.
- 12 a Develop the User-Interface Analysis and design steps.
OR
b Enumerate and explain the Software Quality.
- 13 a Construct the Black-Box Testing.
OR
b Analyze about the Integration Testing.
- 14 a Formulate in detail about the User Interface Testing.
OR
b Interpret and plan the Navigation Testing.
- 15 a Determine the UML Sequence diagram and Class diagram.
OR
b Elucidate the Analysis Classes Workflow in UML with example.

Z-Z-Z END