PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

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

Branch - **SOFTWARE SYSTEMS (five years integrated)**

SOFTWARE ENGINEERING AND TESTING

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following best defines software engineering? a) The process of writing programs only b) A disciplined approach to software development and maintenance c) The process of compiling and debugging d) A subset of computer hardware design	K1	CO1
	2	During the requirements modeling phase, what is created to visually represent system functions and data flow? a) Class diagrams b) Database schema c) Use case diagrams d) Source code	K2	CO1
2	3	Identify the primary reason why the Waterfall model is less adaptive in modern projects. a) It is too cost-effective b) It requires extensive prototyping c) It assumes requirements remain unchanged d) It eliminates documentation	K1	CO2
	4	If a project has frequently changing requirements, which process model is most appropriate? a) Waterfall b) Spiral c) V-Model d) Incremental	K2	CO2
3	5	Which of the following is a part of the strategic approach to software testing? a) Code writing b) Defining test cases early c) Customer training d) Final product review	K1	CO3
	6	What does validation testing aim to ensure? a) The s/w meets technical requirements b) The software fulfills user expectations c) The software is bug-free d) The software is secure	K2	CO3
4	7	Which of the following is a common method used in security testing? a) Path testing b) Boundary value analysis c) Penetration testing d) Code Inspection	K1	CO4
	8	Which of the following is an example of white-box testing? a)Regression testing b) Boundary value analysis c) Statement coverage testing d) User acceptance testing	K2	CO4
5	9	In UML modeling, which diagram best illustrates how objects interact to fulfill a use case? a) State diagram b) Class diagram c) Collaboration diagram d) Component diagram	K1	CO5
	10	In a deployment diagram, what is the relationship between nodes called? a) Component b) State c) Communication path d) link	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	How would you apply techniques to negotiate and validate requirements?	K3	CO1
		(OR)		
	11.b.	Identify the problems and challenges in software engineering.		
2	12.a.	Explain about the Architectural design in detail.	K3	CO2
		(OR)		
	12.b.	Classify the Elements of Software Quality Assurance.		
3	13.a.	Analyze the White-Box Testing with example.	K4	CO3
		(OR)		
	13.b.	Inspect Unit Testing with example.		
4	14.a.	Examine the following: Fault-Based Testing, Scenario-Based Test design.	K4	CO4
		(OR)		
	14.b.	Inspect about the Database Testing.		
5	15.a.	Explain the Use Case diagram in UML with example.	K5	CO5
		(OR)		
	15.b.	Interpret the Design Workflow in UML.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Evaluate the different techniques for eliciting requirements.	K4	CO1
2	17	Examine about Software Quality.	K4	CO2
3	18	Analyze the Integration Testing with an example.	K4	CO3
4	19	Explain about User Interface Testing.	K5	CO4
5	20	Explain the UML Sequence diagram and Class diagram with an example.	K5	CO5

Z-Z-Z END