

(AUTONOMOUS)
MSc (SS) DEGREE EXAMINATION MAY 2026
(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	_____ is an incremental software process model that emphasizes a short development cycle. (i) Waterfall Model (ii) Prototyping Model (iii) RAD Model (iv) Spiral Model	K1	CO1
	2	Which technique is used to translate the needs of the customer into technical requirements for software? (i) Quality Function Deployment (ii) The concurrent Development Model (iii) Business Process Engineering (iv) Architectural Pattern	K2	CO1
2	3	If a project has frequently changing requirements, which process model is most appropriate? (i) Waterfall (ii) Spiral (iii) V-Model (iv) Incremental	K1	CO1
	4	Software is divided into separately named and addressable components called (i) Modules (ii) Patterns (iii) Segments (iv) Program Classes	K2	CO1
3	5	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	K1	CO1
	6	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	K2	CO1
4	7	The testing is a systematic technique for constructing the software architecture while at the same time conducting test to uncover errors associated with interfacing. (i) Unit testing (ii) System testing (iii) Validation testing (iv) Integration testing	K1	CO1
	8	Which of the following is an example of white-box testing? (i) Regression testing (ii) Boundary value analysis (iii) Statement coverage testing (iv) User acceptance testing	K2	CO1
5	9	In UML modeling, which diagram best illustrates how objects interact to fulfill a use case? (i) State diagram (ii) Class diagram (iii) Collaboration diagram (iv) Component diagram	K1	CO1
	10	Which analysis considers data and the processes that transform the data as separate entities? (i) Interface analysis (ii) Structured analysis (iii) Bounded value analysis (iv) Analysis patterns	K2	CO1

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.	Construct the Flow-oriented Modeling.	K2	CO2
	(OR)			
	11.b.	Justify the Class-Responsibility-Collaborator (CRC) Modeling.		
2	12.a.	Analyze about the Specialized Process Model.	K2	CO2
	(OR)			
	12.b.	Summarize the various Design concepts.		
3	13.a.	Explain the System Testing.	K2	CO2
	(OR)			
	13.b.	Explain about the Control Structure testing.		
4	14.a.	Explain the Performance Testing.	K5	CO5
	(OR)			
	14.b.	Criticize about the Object-oriented Testing Strategies.		
5	15.a.	Predict and create the Requirements Workflow in UML.	K6	CO6
	(OR)			
	15.b.	Classify the UML Component and Object Diagrams.		

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	Develop the User-Interface Analysis and design steps.	K2	CO2
2	17	Analyze about the various types of Coupling	K2	CO2
3	18	State and explain Independent Program paths.	K4	CO4
4	19	Formulate in detail about the User Interface Testing.	K6	CO6
5	20	State about the Business Modeling Workflow in UML.	K5	CO5

Z-Z-Z END