R22 Regulation *Subject code:4E4ED*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech IV Semester Regular/Supplementary Examinations, June 2026

SOFTWARE ENGINEERING

(Common to CSE, CSE(AI&ML) & CSE(DS))

Maximum Marks: 60 Date:15.06.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	Define Software Engineering.	1M	1	1
b)	Write the role of a Scrum Master.	1M	1	2
c)	Mention the importance of feasibility study.	1M	2	1
d)	What is requirements management.	1M	2	1
e)	Define abstraction in software design.	1M	3	1
f)	List the UML diagrams.	1M	3	1
g)	List the common debugging approaches.	1M	4	1
h)	Define white-box testing and black-box testing.	1M	4	1
i)	Mention any two benefits of proactive risk strategy.	1M	5	1
j)	Identify the role of statistical methods in software quality assurance.	1M	5	1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Discuss software myths and their impact on software development. b) Describe the Spiral Model and explain its risk-driven approach.	5M 5M	1 1	2 3
	OR			
3	a) Describe the CMMI framework used in software process improvement. b) Discuss Agile Process and its principles.	5M 5M	1 1	3 2
4	a) Explain functional and non-functional requirements of a system with an example. b) Analyze the importance of requirement validation in software quality	5M 5M	2 2	2 4
	OR			
5	a) Discuss challenges in requirements engineering. b) Discuss the need of feasibility studies in requirements engineering.	5M 5M	2 2	2 2
6	a) Describe the characteristics of a good software design. b) Draw the use case diagrams for a library management system.	5M 5M	3 3	2 3

	OR			
7	a) Explain software architecture and its significance. b) Discuss activity diagrams with an application.	5M 5M	3 3	2 3
8	a) Compare black-box testing and white-box testing with an example. b) Discuss the significance of software metrics in quality management and process improvement.	5M 5M	4 4	2 2
	OR			
9	a) Explain about software matrix. b) Discuss the role of debugging in identifying and correcting software defects.	5M 5M	4 4	2 2
10	a) Discuss the reactive and proactive risk strategies in software development. b) Explain the major SQA activities performed during software development.	5M 5M	5 5	2 2
	OR			
11	a) Discuss the role of standards, reviews, testing, and metrics in SQA activities. b) Explain ISO 9000 quality standards.	5M 5M	5 5	2 2