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MTECH
(SEM I) THEORY EXAMINATION 2025-26
SOFTWARE REQUIREMENT & SPECIFICATIONS

TIME: 3 HRS

M.MARKS: 70

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt all questions in brief.

02 x 7 = 14

Q no.	Question	CO	Level
a.	Define Requirements Engineering.	CO1	K1
b.	State the importance of requirements engineering in software development.	CO1	K2
c.	Differentiate between functional and non-functional requirements.	CO1	K2
d.	What is product vision in requirements inception?	CO2	K1
e.	Define use case.	CO2	K1
f.	State any two objectives of requirements validation.	CO4	K1
g.	What is requirements traceability?	CO5	K1

SECTION B

2. Attempt any three of the following:

07 x 3 = 21

Q no.	Question	CO	Level
a.	Explain the place of requirements engineering in the software development life cycle.	CO1	K3
b.	Discuss traditional requirements elicitation techniques such as interviews and workshops.	CO2	K3
c.	Explain scenario-based and use-case approaches for requirements elicitation.	CO2	K3
d.	Explain techniques for writing high-quality requirements.	CO3	K3
e.	Discuss detection of conflicts and inconsistencies in requirements.	CO4	K3

SECTION C

3. Attempt any one part of the following:

07 x 1 = 07

a.	Explain requirements inception and specification.	CO3	K4
b.	Explain prototyping as a requirements elicitation technique.	CO2	K4

4. Attempt any one part of the following:

07 x 1 = 07

a.	Explain documentation standards for requirements with reference to IEEE 830-1998.	CO3	K3
b.	Explain goal-oriented modeling in requirements engineering.	CO3	K4

5. Attempt any one part of the following:

07 x 1 = 07

a.	Explain requirements verification and validation techniques.	CO4	K4
b.	Discuss feature interaction analysis and its resolution.	CO4	K4

6. Attempt any one part of the following:

07 x 1 = 07

a.	Explain requirements management activities: traceability, prioritization, and baselining.	CO5	K4
b.	Discuss tool support for requirements management with reference to DOORS.	CO5	K3

7. Attempt any one part of the following:

07 x 1 = 07

a.	Explain requirements engineering for embedded systems and web-based systems.	CO5	K4
b.	Compare requirements engineering practices in RUP and Agile methods.	CO5	K4