

T.E. ECS SEM V C-Scheme KT June 2026

Duration: 3hrs

Max Marks:80

08/06/2026.

N.B.: (1) Question No 1 is Compulsory.

(2) Attempt any three questions out of the remaining five.

(3) All questions carry equal marks.

(4) Assume suitable data, if required and state it clearly.

- 1 Attempt any Four. [20]
 - a Differentiate between top down and bottom-up integration. [5]
 - b Explain any 3 requirement elicitation methods [5]
 - c Explain when one shall use software design concept Aspect. [5]
 - d Explain different roles in SCRUM. [5]
 - e List the advantages and disadvantages of using LOC estimation techniques. [5]
- 2 a Create an SRS document for smart waste management system including a) product perspective b) Scope and objective c) Functional requirements d) Nonfunctional requirements. [10]
 - b
 - i) Draw a Use Case Diagram for online examination system in an engineering college. [10]
 - ii) Draw a Sequence Diagram to represent the sequence of interactions between the student and the system during the online examination process.
 - iii) Draw an Activity Diagram for the workflow of conducting an online examination from student login to result generation.
- 3 a Discuss spiral model of process development with diagram, working, advantages and disadvantages. [10]
 - b Explain COCOMO -II size estimation Model in detail. [10]
- 4 a Explain different types of Software Risks. Create an RMMM plan for the risk scenario where key employees leave the project during software development. [10]
 - b Describe any 4 software design concepts in detail. [10]
- 5 a Explain Software Configuration Management (SCM) in detail. Discuss the various activities involved in SCM. [10]
 - b Explain in detail about PERT technique. Mention advantages and disadvantages of PERT. Comment on how it is different from Gantt chart. [10]
- 6 a Differentiate between alpha and beta testing. Also Describe smoke testing and its purpose in detail. [10]
 - b Perform basis path testing on the program which accepts 3 sides of a triangle and checks whether the triangle is equilateral, scalene or isosceles. [10]
