

Reg No : Name :



MAR ATHANASIOUS COLLEGE OF ENGINEERING, KOTHAMANGALAM

(Govt. Aided Autonomous Institution)

Fourth Semester B.Tech. Degree Examination, May, 2026

Course Code: B24CE2T07

Course Name: CONSTRUCTION TECHNOLOGY & MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART - A: 30 Marks (10 Qns x 3 Marks)

Answer all questions

1. Describe the basic structural difference between RCC framed structures and steel framed structures with reference to material behaviour
2. Explain the uses of scaffolding in building construction with reference to supporting workmen and materials at height.
3. Explain the fundamental concept of prestressing and describe how internal compressive stresses are introduced in concrete.
4. State and explain any three advantages of prefabricated construction.
5. List different types of concrete pumps used in construction projects.
6. Select a suitable earth-moving equipment for excavation in soft soil and justify your choice .
7. List and explain any three objectives of preparing a Detailed Project Report (DPR).
8. Classify construction projects into different categories and give one suitable example for each.
9. Define Programme Evaluation and Review Technique (PERT). State its main objective in project management.
10. Define the Critical Path Method (CPM). State its main objective in construction project management.

PART - B: 70 Marks (5 Qns x 14 Marks)

Answer any One full question from each module.

Module 1

11. Explain the concept of filler slab technology and commonly used filler materials, and Analyse how the type and depth of filler material influence slab behaviour and cost reduction.

OR

12. Explain the importance of construction safety and the need for safety management on construction sites. Describe the reasons why construction is considered as a hazardous industry.

Module 2

13. Explain the process of 3D printing in construction and analyse its impact on construction speed, labour requirement, material optimization, and structural performance.

OR

14. Discuss the functional principles of raised access flooring technology and evaluate its advantages in terms of flexibility, service integration, and maintenance in modern buildings.

Module 3

15. Describe various types of hoisting equipment used in construction projects with neat sketches and applications.

OR

16. Describe soil stabilization equipment and techniques, explaining their role in improving soil properties.

Module 4

17. Explain the contents of tender documents and the role of Notice Inviting Tender (NIT) in the tendering process.

OR

18. Explain lump sum contract. Discuss its suitability, advantages and limitations with reference to construction projects.

Module 5

19. Discuss the fundamentals of network planning techniques. Explain the Activity on Node (AON) method of network representation, its principles, advantages, and limitations. Compare AON with AOA highlighting their differences in structure, clarity, and practical application in construction projects.

OR

20. Explain in detail the construction schedule. Discuss the information to be included, objectives, and importance of construction scheduling.
