



M.E DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

First Semester

CONSTRUCTION MANAGEMENT

P18CMT1004: Construction Equipment and Methods

COURSE OUTCOMES

- CO1:** Understand the functions of various earthwork equipment.
CO2: Understand the functions of forklifts and screening equipment.
CO3: Understand the construction methods involved in sub structure and super structure construction.
CO4: Understand the functions of various methods of strengthening and rehabilitation of structures. .
CO5: Understand the various equipment management techniques.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Identify the incorrect statements from the following. CO1 [K₂]
- 1) A wheel tractor scraper is a piece of heavy equipment used for earthmoving.
 - 2) Scrapers are used only for hauling purpose
 - 3) Scrapers are used to remove dirt from the ground surface
 - 4) Loading and dumping cannot be done with the help of scraper
- a) 1&2 b) 2&4
c) 1&3 d) 3&4
2. _____ are used for site levelling, loading, and hauling CO1 [K₁]
- a) Scraper b) Dozer
c) Grader d) Loader
3. Identify the correct operations from the following. CO2 [K₂]
- 1) Overhead cranes are used for lifting and lowering
 - 2) Pumps are used for vertical transportation
 - 3) Chutes are used for lifting and transportation
 - 4) Pumps are used for horizontal transportation
- a) 1,2 &3 b) 1,2 &4
c) 1,3 &4 d) 1&2

10. Sinking fund is _____ CO5 [K₁]
- | | |
|---|---|
| a) The fund for rebuilding a structure when its economic life is over | b) The total sum to be paid to the municipal authorities by the tenants |
| c) Raised to meet maintenance cost | d) A part of the money kept in reserve for providing additional structures and structural modifications |

PART B (10 x 2 = 20 Marks)

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| 11. Mention the types of blades used in bull dozers. | CO1 [K ₁] |
| 12. Compare crawler tractor with wheeled tractor. | CO1 [K ₂] |
| 13. Compare weigh batching with volume batching. | CO2 [K ₂] |
| 14. Define dredging and mention any two types of dredging. | CO2 [K ₁] |
| 15. List out any four types of percussion drills. | CO3 [K ₂] |
| 16. Mention the types of pumps used in construction. | CO3 [K ₁] |
| 17. Outline the significance of mud jacking. | CO4 [K ₂] |
| 18. Define seismic retrofitting and its needs. | CO4 [K ₁] |
| 19. Mention the uses of maintenance of an equipment. | CO5 [K ₂] |
| 20. List out the causes of equipment failure. | CO5 [K ₂] |

PART C (10 x 5 = 50 Marks)

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| 21. Discuss key components of a scraper. | CO1 [K ₂] |
| 22. Explain two types of motor graders. | CO1 [K ₂] |
| 23. Explain the various parts of a forklift with a neat sketch. | CO2 [K ₂] |
| 24. Classify the various types of aerial transportation system and explain any one type in detail. | CO2 [K ₂] |
| 25. Illustrate the various methods involved in blasting of rocks with suitable examples. | CO3 [K ₂] |
| 26. List out the sequence of demolition of a framed structure. | CO3 [K ₂] |
| 27. Outline the various protection methods of structures. | CO4 [K ₂] |
| 28. Outline the methods of strengthening a masonry wall. | CO4 [K ₂] |
| 29. List out the factors influencing the selection of construction equipment for high rise buildings. | CO5 [K ₂] |
| 30. Illustrate the factors influencing the safety of the workers who are working around heavy equipment in a construction project. | CO5 [K ₂] |

Answer any TWO Questions

PART D (2 x 10 = 20 Marks)

31. Explain out the various types of dozers and the blades used in it CO1 [K₂]
32. Explain the various types of tunnel driving methods in detail with suitable sketches CO3 [K₂]
33. Classify the types of underpinning methods adopted in strengthening the foundation with suitable sketches. CO4 [K₂]
