QP Code: R252B048 | Reg. No | | | | | | | | | | | AY 24

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

(GIET UNIVERSITY)

M.Tech. (Second Semester) Regular Examinations, July – 2025

24MCTPC12001 – Construction Equipment and Methods

(Construction Technology and Management)

Time: 3 hrs | Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Define the term "shovel production."	CO1	K1
b. Define soil stabilization.	CO2	K1
c. What is the purpose of roller production estimation?	CO3	K2
d. Name any two earthmoving machines.	CO4	K1
e. Mention any two types of pumps used on-site.	CO5	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Explain the different types of excavators with neat sketches.	5	CO1	K2
b. Discuss in detail the factors influencing the productivity of excavators.	5	CO1	K4
(OR)			
c. Compare the merits and demerits of shovel and hoe-type excavators.	5	CO1	K4
d. Explain the impact of swing angle on the production of an excavator.	5	CO1	K3
3.a. What is dynamic compaction? Explain with diagrams.	5	CO2	K2
b. Explain the compaction of soil and rock in detail.	5	CO2	K2
(OR)			
c. Explain stabilization of weak subgrade using lime and cement.	5	CO2	K3
d. Compare various methods for estimating production cost in earthwork projects.	5	CO2	K4
4.a. Describe different types of earthmoving equipment used in construction.	5	CO3	K2
b. Explain the working principle and applications of dozers and rippers.	5	CO3	K2
(OR)			
c. What are hydraulic hammers? Where are they preferred?	5	CO3	K3
d. Explain the working principle of pile driving equipment.	5	CO3	K2
5.a. Describe the installation and working of a centrifugal pump in a construction site dewatering operation.	5	CO4	K3
b. How do diaphragm pumps differ from reciprocating pumps in performance and application?	5	CO4	K4
(OR)			
c. Discuss the working and advantages of shotcrete in modern construction.	5	CO4	K2
d. What is the role of air compressors in material handling operations? Explain with examples.	5	CO4	K3
6.a. What are belt conveyors? Illustrate their application in material transport.	5	CO5	K2
b. Explain how cranes are classified and used in construction projects.	5	CO5	K2
(OR)			
c. Compare the roles of pavers and transit mixers in road construction.	5	CO5	K4
d. What are the safety precautions to be followed during material lifting operations?	5	CO5	K3

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