

University of Mumbai

Examinations Summer 2022

Program: T.E (Civil) Rev 2019 (Choice Based)

Curriculum Scheme: Rev 2019

Examination: TE Semester: VI

Course Code: CE-DLO 6013

Course Name: Construction Equipment & Techniques.

Time: 2 hour 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks (20 marks)
1	The raw material used in an atomic power plant is
Option A:	Sodium
Option B:	Uranium.
Option C:	Calcium
Option D:	Magnesium
2	The formwork suitable for constructing similar units in a mass housing project is
Option A:	Jump formwork
Option B:	Collapsible formwork
Option C:	Modular shuttering
Option D:	Slip formwork
3	The rate of raising slip form is
Option A:	50 cm/hr.
Option B:	100 cm/hr.
Option C:	30 to 45 cm/hr.
Option D:	10 to 15 cm/hr.
4	Well point system is a
Option A:	Well construction technique
Option B:	Dewatering technique
Option C:	Drilling technique
Option D:	Soil improvement technique
5	Removal of debris from inner portion of a tunnel to open atmosphere is called
Option A:	Lead
Option B:	Lift
Option C:	Scraping
Option D:	Mucking
6	Damages to underground utility lines can easily be located using
Option A:	Great trigonometrical radars
Option B:	Underground utility locator
Option C:	Ground positioning remotes
Option D:	Ground penetrating radar

7	The train which floats over its guide system is
Option A:	Maglev
Option B:	Mono
Option C:	Metro
Option D:	Tube train
8	The method of Tunneling in which least interruption of traffic is possible is
Option A:	Cut and Cover Method
Option B:	Needle Beam Method
Option C:	TBM Method
Option D:	English Method
9	Thermal power plants use water as a
Option A:	cleaning agent
Option B:	source of power
Option C:	backwashing agent
Option D:	working fluid
10	The equipment used to remove off old bituminous pavement for laying new layer is called
Option A:	Sack rammer
Option B:	Jack hammer
Option C:	Tack hammer
Option D:	Back rammer

Q2 (20 Marks)	Solve any Four out of Six	5 mark each
i	Explain balancing of equipment with a suitable exam.	
ii	Define a) Equipment Suitability b) Ownership Cost c) Reactive Maintenance and Proactive Maintenance d) Cycle Time e) operating cost of equipment	
iii	Differentiate between conventional and modern methods of formwork	
iv	What is NATM? Write advantages and limitations of NATM.	
v	Write a note on cut and cover method of tunnel construction	
vi	State the advantages of prefabricated housing system	

Q3 (20 Marks)	Solve any Two Questions out of Three	10 mark each
i	Enlist the different methods of tunneling in soft soil. State the various stages in construction of tunnels along with the equipment required. Describe with neat sketches any one method.	
ii	Describe Incremental launching method of bridge construction	
iii	Describe in detail with diagram about slip and jump formwork	

Q4. (20 Marks)	
A	Solve any Two 5 marks each
i.	What is ground penetrating radar (GPR)? What is use of the GPR system?
ii.	What are maglev trains? Explain the working of maglev trains.
iii	Give the layout of a Hydropower station & explain the techniques for setting up the same.
B	Solve any ONE 10 mark each
i.	What are different techniques for demolition of buildings.
ii.	Explain different types of earth moving equipment and brief the suitability of each.