

**B.Tech. Civil (Construction Management) /
B.Tech. Civil (Water Resources Engineering)**

Term-End Examination

00652

June, 2019

**ET-581(F) : MECHANICAL EQUIPMENT IN
CONSTRUCTION**

Time : 3 hours

Maximum Marks : 70

*Note : Attempt any ten questions. All questions carry
equal marks.*

1. What are the different types of concrete buckets ? How would you define mass concrete ? 7
2. List down the factors which affect the selection of a construction equipment. 7
3. What are pile hammers and how are they rated ? Name the principal type of hammers and describe the working principle of each type. 7

4. Differentiate between any **one** of the following : 7
 - (a) Cable controlled bulldozer and Hydraulic controlled bulldozer.
 - (b) Wheel mounted bulldozer and Crawler mounted bulldozer.

5. Discuss the different types of equipment used for concreting operation with their working principle. 7

6. Describe the role of construction equipment in speedy and economical completion of large construction projects. 7

7. Compare the mechanism and operation of the power shovel and the dragline. Under what conditions is each machine useful ? 7

8. Describe the mechanism of a scraper and its operation. Under what soil and valley conditions is the use of a scraper justified ? 7

9. Classify cranes on the basis of broad construction features. Explain the application of each type and its method of operation. 7

10. Describe the key operations involved in excavation and concreting of tunnels. 7

11. Distinguish between cableways and ropeways.
Describe the role of these two systems of conveying in handling

- (i) raw material for an aggregate crushing plant, and
- (ii) concrete for placement in a dam. 7

12. Write short notes on any *two* of the following : $2 \times 3 \frac{1}{2} = 7$

- (a) Salvage value and book value of an equipment
 - (b) Priming system for centrifugal pump
 - (c) Hoes
 - (d) Availability of spare parts
 - (e) Butterfly valve
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