

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

Term-End Examination

00905

June, 2017

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

Time : 3 hours

Maximum Marks : 70

Note : Attempt any **seven** questions. Figures in the margin indicate marks.

1. (a) Explain the various costs considered in evaluating the economic life of an equipment. 6
- (b) Explain the straight line method of depreciation rate determination. 4
2. (a) How will you select the type and size of power shovels ? 5
- (b) Differentiate between wheel-type and ladder-type trenching machines. 5
3. (a) What are bucket excavators ? How is theoretical output calculated for bucket excavators ? 5
- (b) What is a bulldozer ? Compare crawler mounted and wheel mounted bulldozers. 5

4. (a) What are scrapers ? Briefly explain the different types of scrapers. 4
- (b) Explain the wheel type front-end loaders. 3
- (c) How are front-end loaders rated ? Explain the different ratings used. 3
5. (a) Write a short note on each of the following : 6
- (i) Fork Lift Trucks
- (ii) Travelling Bridge Crane
- (b) What are the uses of belt conveyors ? What are the essential parts of a belt conveyor system ? 4
6. (a) What are the uses of compactors ? How will you calculate their output ? 5
- (b) What is a concrete mixer ? Explain the drum type concrete mixer. 5
7. (a) What are the commonly used concrete cooling methods ? Explain them in brief. 5
- (b) What are the causes of temperature rise during concreting operations ? 2
- (c) What is post cooling of concrete ? How is it achieved ? 3

8. (a) What is a jackhammer drill ? 3
(b) What is airleg drill ? 2
(c) What are drilling jumbos ? State their types. 5
9. (a) What are different types of underground cuts ? Explain them in brief. 5
(b) What do you mean by delay detonator ? State different types of delay detonators. 5
10. Write short notes on any **four** of the following :

$$4 \times 2 \frac{1}{2} = 10$$

- (a) Smooth Wheel Roller
(b) Vibrating Compactor
(c) Cableways
(d) Drilling Techniques
(e) Motor Grader
-

