

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

Term-End Examination

00117

December, 2017

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

Time : 3 hours

Maximum Marks : 70

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

1. (a) What are the components of cycle time of a machine ? What is the efficiency factor of a machine ? 6
- (b) What are the factors for the selection of type and size of a power shovel ? 4

2. What are different kinds of motor graders ?
Explain various operations of a motor grader.
What factors will affect its output ? 3+4+3=10

3. (a) Explain the working of a Derrick crane. 4
- (b) What are the various costs considered in evaluating the economic life of an equipment? 6
4. What are tipping wagons and where are they used? How are wagons loaded? 10
5. With the help of sketches, describe the operation of scrapers. 10
6. What is aggregate cooling? How are coarse aggregates cooled? 10
7. Write short notes on the following: 10
- (a) Hoes
- (b) Drum Type Concrete Mixer
8. (a) Explain in brief, the construction and working of a needle vibrator. 4
- (b) What are the merits and demerits of a straddle type jumbo? 6
9. What is a smooth wheel roller? Explain its working. If a roller is designated as 7.3 – 12.8t, what does it mean? 10

10. Discuss the factors to be considered while classifying trucks. Compare the relative merits and demerits of the following three types of dump trucks :

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- (a) Bottom dump truck
 - (b) Rear dump truck
 - (c) Side dump truck
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