

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

Term-End Examination

December, 2013

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

Time : 3 Hours

Maximum Marks : 70

Note : Answer any seven questions. All questions carry equal marks. Use of calculators is allowed.

1. What is depreciation ? Explain the following methods of calculating depreciation : 10
 - (a) Declining Balance method.
 - (b) Sum-of-the-years digits method.
2. What are the functions of a hoe ? Explain the operation of a back hoe. What forces affects its output ? Give a labelled sketches. 10
3. With the neat sketches explain : 10
 - (a) Crawler type Front-End Loader
 - (b) Mobile crane.
4. How are dumpers classified ? How can you select a truck for a particular earth work job ? What are the merits of trucks over other earth moving/ load hauling equipment ? 10
5. Write detailed notes on : 10
 - (a) Tamping Rollers
 - (b) . Rammer compactors

6. (a) How are concrete buckets classified ? 5
Explain any two with sketches.
- (b) What are the causes of temperature rise 5
during concreting operations ? Discuss post
cooling systems.
7. Classify concrete vibrators. With neat sketches 10
describe internal and external vibrators.
8. Describe various types of handheld drills. Explain 10
any one in detail with a neat sketch.
9. Explain the following with sketches : 10
(a) Slide gates
(b) Cylindrical gates.
Give their applications also.
10. Write short notes on any four giving sketches : 10
(a) Butterfly valve
(b) Degree of packing
(c) Batching
(d) Salvage value
(e) Idlers
(f) Rippers
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