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

**Term-End Examination  
June, 2011**

**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. (a) What are the various costs considered in evaluating the economic life of an equipment? 5
- (b) Explain declining balance method to evaluate depreciation. 5
2. What are the factors and job conditions considered for selection of type and size of a power shovel? 10
3. Describe the following equipments with the help of neat sketches 10  
(a) fork lift truck (b) truck crane
4. What are tipping wagons and where are they used? How are wagons loaded? 10

5. (a) Explain working of sheep's foot roller with a sketch. 5  
(b) How do you estimate the output of vibratory roller? 5
6. Describe various types of cable ways. How is the capacity of a cable way determined? 10.
7. Explain with sketches, the construction and working of external vibrators. Give some applications. 10
8. Explain the factors affecting the drilling pattern in surface work. 10
9. Sketch and explain 5+5  
(a) Butterfly valve (b) Hollow jet valve
10. Write short notes on **any four** :-  $2\frac{1}{2} \times 4 = 10$   
(a) Salvage value  
(b) Angle of swing of drag line  
(c) Whirler Crane  
(d) Burden  
(e) Padfoot roller  
(f) Backhoe  
(g) Flap gate.
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