

**B. TECH. Civil (Construction Management)**

**Term-End Examination**

**December, 2013**

**ET-523 (B) : Operation and Maintenance of  
Construction Equipment**

*Time : 3 hours*

*Maximum Marks : 70*

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

1. (a) Explain the factors that affect the productivity of a machine. 5
- (b) What are the responsibilities of an equipment manager ? Discuss briefly each item of responsibility. 5
2. (a) How will you ensure safety on a construction job ? Explain giving examples. 5
- (b) How are working and idle equipment insured ? 5
3. (a) Explain downtime of a machine. 3
- (b) How are downtime costs computed ? 4
- (c) How is downtime control exercised ? 3

4. (a) How does weather affect the output of an equipment ? Discuss.  
(b) Write a note on erection, dismantling and shifting.
5. (a) What are the advantages of compressed air as a prime mover ?  
(b) What is preventive maintenance ? What are its principal objectives ?
6. (a) Discuss when should a construction equipment be replaced ?  
(b) What is unit log book ? What information does it contain ? Why is it called a historical record ?
7. With the help of a neat schematic diagram explain the construction and working of reciprocating pump. Compare its merits and demerits with reference to centrifugal pump.
8. (a) Discuss the cooling system in an IC engine.  
(b) Describe the auxiliary apparatus of a diesel engine.
9. Classify the air compressors. Explain the working of a centrifugal compressor with a neat sketch.
10. Write notes on : 5x2=10
  - (a) Grout Agitator
  - (b) Double acting steam hammer