

B.Tech. Civil (Construction Management)

Term-End Examination

June, 2011

**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.

1. (a) What are the advantages and disadvantages of purchase of an equipment as compared with renting it ? What are the situations warranting for renting the equipment ? 5
- (b) What are the factors affecting productivity of a machine ? What do you recommend to increase the productivity ? 5
2. (a) What are various types of lubricants used in construction equipment ? Describe briefly. 5
- (b) How will you ensure safety on construction equipment ? 5
3. (a) What factors affect the theoretical output power shovels and draglines ? 5
- (b) Explain various job and management factors considered in obtaining the average output of equipment . 5

4. (a) What are the problems in planning for electric supply on a construction project ? 5
(b) What are the guidelines for aligning haul roads ? 5
5. Distinguish between periodical maintenance and preventive maintenance. Explain the features of these two types of maintenances in detail. 10
6. (a) What items of spare parts should be stocked ? Also list spare parts which do not need stocking. 5
(b) What information does log-book contain ? 5
Why is a log book called historical record ?
7. What are the characteristics of centrifugal, rotary and reciprocating pumps ? How are these pumps different in principle of working and functioning ? 10
8. (a) How do you classify IC engines ? Distinguish between SI engines and CI engines. Discuss their specific advantages. 5
(b) What are performance curves of an IC engine ? How are they useful ? 5
9. Classify the compressors and explain any two compressors with help of neat sketches. What are measures for maintenance of compressors ? 10
10. Explain *any two* of the following with neat sketches. 5+5
(a) Barrel types grout mixer.
(b) A grout agitator.
(c) Hanging leaders.
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