

B.Tech. Civil (Construction Management)

Term-End Examination

00810

June, 2014

**ET-523(B) : OPERATION AND MAINTENANCE OF
CONSTRUCTION EQUIPMENT**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any *seven* questions.

1. (a) Describe the role of planning in selection of equipment and working shifts for a construction project. 5
- (b) What are the factors affecting productivity of a machine ? What are your recommendations to increase the productivity ? 5
2. (a) What are the various types of lubricants used in construction equipment ? Describe any two briefly. 5
- (b) Why do you carry out cash flow analysis for equipment ? 5

3. (a) What role do operating conditions play in machine productivity ? 5
- (b) Draw an organisation chart for centralised maintenance. Describe the objectives of an organisation chart for equipment management. 5
4. (a) What are the problems in planning of electric supply at a construction project ? 5
- (b) What is meant by transit insurance ? How is construction equipment insured ? 5
5. Distinguish between periodical maintenance and preventive maintenance. Explain the features of these two types of maintenance in detail. 10
6. (a) How do you classify IC engines ? Distinguish between SI engines and CI engines. Discuss their specific advantages. 5
- (b) Why is a cooling system required in an IC engine ? Explain. 5
7. What are the characteristics of centrifugal, rotary and reciprocating pumps ? How are these pumps different in principle of working and functioning ? 10
8. Classify the compressors and explain any two types of compressors with the help of neat sketches. What are the measures of maintenance of compressors ? 10

9. (a) What are the guidelines for aligning haul roads and how will you plan the access roads in a project area ? 5
- (b) What records for individual machines should be maintained by the project manager ? 5
10. Explain any *two* of the following with neat sketches : 5+5
- (a) Barrel types grout mixer
- (b) A grout agitator
- (c) Hanging leaders

