

00625

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

**Term-End Examination**

**June, 2012**

**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 objectives of an organisation chart for equipment management ? What are the responsibilities of an equipment manager ? 5
- (b) What factors affect the productivity of a machine ? What role do operating conditions play on machine productivity ? 5
2. (a) How do health hazards occur and how can they be avoided on construction project ? 5
- (b) Write detailed notes on "insurance" used in construction project. 5
3. (a) What factors affect the theoretical output of power shovel and dragline ? How do you determine the ideal output of these ? 5

- (b) What are the costs included in total capital costs ? Briefly explain. 5
4. (a) How will you plan the access roads in a project area ? What are the guidelines for aligning the haul roads ? 5
- (b) What is a job schedule ? How is equipment schedule prepared ? 5
5. (a) What are objectives of inspections ? Brief out the four major types of inspections. 5
- (b) When should an equipment be replaced ? What happens if it is not replaced and used beyond the economic life ? 5
6. (a) What features are checked in daily maintenance and inspection in : 5
- (i) Tyres
- (ii) Engine
- (iii) Battery
- (b) What is "POL" ? Why should a record of POL be maintained ? 5
7. (a) How are pumps classified ? Distinguish between centrifugal and reciprocating pumps. 5
- (b) What are various methods of measuring the discharge of pump ? Explain. 5

8. With a neat sketch explain fuel system for Diesel Engine. Explain the principle of the pressure - time fuel injection. 10
9. With the help of a neat sketch describe centrifugal compressor and its working. 10
10. Write short notes on : 10
- (a) Piston type grout pumps
  - (b) Hanging frames
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