

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

**Term-End Examination**

**December, 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 (10).

1. (a) What are the general considerations in selecting the equipment ? 5  
(b) Why do you carry out cash flow analysis for equipment ? 5
2. (a) What do you understand by operating schedule ? What are its objectives ? 5  
(b) What are the potential health hazards on a construction project ? Write measures to avoid them. 5
3. (a) Describe the terms erection, dismantling and shifting with reference to construction equipment. Write the precautions to be taken while performing these tasks. 5  
(b) How are downtime costs computed in construction equipment ? How will you handle breakdown ? 5

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| 4.  | (a) | What are the criteria for replacement of equipment ?   | 5  |
|     | (b) | What do you mean by construction target ?<br>How does it help in production rate ?   | 5  |
| 5.  |     | What is importance of documentation in maintenance of construction equipment ? List various records you would maintain along with cares to be taken. | 10 |
| 6.  | (a) | What are maintenance schedules ? What does maintenance schedule card indicate ?  | 5  |
|     | (b) | What are the components of a planned repair and maintenance system ?   | 5  |
| 7.  | (a) | What is priming ? What are the methods of priming a pump?  | 5  |
|     | (b) | What factors determine the power required to lift water from a lower level to higher level ? How will you decide the power requirement for above ?   | 5  |
| 8.  | (a) | Distinguish between petrol engine and diesel engine.   | 5  |
|     | (b) | Explain the importance of coding of IC engines. How do you code IC engines?  | 5  |
| 9.  |     | Describe centrifugal and reciprocating compressors with neat sketches. Also write about their maintenance.   | 10 |
| 10. |     | Explain the following with neat sketches.  | 10 |
|     | (a) | Ram type grout pump  |    |
|     | (b) | Double acting steam hammer.  |    |