

B.Tech. Civil (Construction Management)

Term-End Examination

00343

December, 2018

**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 calculator is permitted.

1. (a) What do you understand by the “Fast-Fill Fuel System” ? Describe briefly various types of lubricants used in construction equipment.
- (b) Differentiate between “Licence” and “Permit”. 5+5
2. (a) What are the various features to be considered in planning of a project ?
- (b) How will you plan for repairs and maintenance of construction equipment ? 5+5

3. (a) Describe the role of construction equipment in speedy and economical completion of large construction projects.
- (b) Describe the fuel systems of a spark-ignition engine and a compression-ignition engine and compare them. 5+5
4. (a) Describe the lubrication and cooling system of an internal combustion engine.
- (b) Classify water pumps and distinguish between different types of pumps. 5+5
5. (a) What are pile hammers and how are they rated ? Name the principal type of hammers.
- (b) Describe the role of Project Manager in maintenance. 5+5
6. (a) What are the advantages and disadvantages of a double-acting steam hammer ?
- (b) What are the functions of an air receiver ? 5+5
7. (a) What are the objectives of planning a budget and budgetary control ?
- (b) What is meant by transit insurance ? How is construction equipment insured ? 5+5

8. (a) A pump operating at a rate of 4500 rpm requires 120 kW power to discharge 150 litres/sec against a head of 90 m. Find its capacity, head and power required at 2400 rpm.
- (b) What is an axial compressor ? Explain the working of a centrifugal compressor. 5+5
9. (a) How are compressed air services planned for a construction project ?
- (b) What records for individual machines should be maintained by the Project Manager ? 5+5
10. Write short notes on any *five* of the following : 5×2=10
- (a) Repair Charges
 - (b) Interest on Capital Investment
 - (c) POL
 - (d) Electric Power
 - (e) Dismantling
 - (f) Access Road
 - (g) Overhaul
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