

- N.B.:** (1) Question No.1 is compulsory
(2) Answer any three (3) questions from the remaining.
(3) All questions carry equal marks.

1. Write short notes on the following with neat sketches wherever necessary. 20
- (a) DIAPHRAGM WALL
 - (b) Mechanical Moles
 - (c) DRAGLINE
 - (d) BULLDOZER
2. (a) Explain about the following: 5
- (i) PILE DRIVING HAMMERS 5
 - (ii) CENTRIFUGAL PUMP 5
- (b) Explain the following with neat sketches: 5
- (i) Lining of Tunnels & Ventilation in Tunnels 5
 - (ii) Air Compressor
3. Explain any four(4) from the following with neat sketches 20
- (a) TYPES OF CLADDING
 - (b) SAND DRAINS
 - (c) ROCK ANCHORS
 - (d) FOUNDATION GROUTING
 - (e) JACK HAMMERS
 - (f) ROLLERS & COMPACTORS
 - (g) Methods of "Depreciation" and formula for each method.
4. Find the OWNING COST & OPERATING COSTS for a construction equipments 20
used in the large site with following given data:
- PURCHASE COST = Rs.15 Lakhs
 - USEFUL LIFE = 10 Years (2000 Hrs. per Year)
 - OPERATING FACTOR = 0.65
 - ENGINE = 40 H.P (Diesel Type)
 - SALVAGE VALUE = 10% of PURCHASE COST
 - MAINTENANCE & REPAIRS = 85% OF DEPRECIATION

B.E Civil VIII CBGS
Construction Engg

02-12-16
QP Code : 732100

INVESTMENT COST = 12% OF Average Annual Investment

Lubricating Oil = 20% of Fuel Cost

Labour Cost = Rs. 15,000/- per month

Assume any other data, if missing, as per the rules and state the same while doing all the detailed calculations.

5. (a) Draw neat sketch for "TUNNEL BORING MACHINE" and explain in detail how it works for tunneling purpose. 10
- (b) Draw neat sketch for "WELL-POINT SYSTEM" and how it works on the large site. 10
6. (a) Draw neat sketches for "Jaw Crusher" and "Gyratory Crusher" and explain them how work. 10
- (b) Explain in detail about "Mass Concreting" and "Vacuum Concreting" along with sketches. 10

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