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**B TECH  
(SEM-VI) THEORY EXAMINATION 2017-18  
LAND DEVELOPMENT MACHINERY**

Time: 3 Hours

Total Marks: 100

**Note:** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

- 1. Attempt all questions in brief. 2 x 10 = 20**
- a) What is the type of bucket?
  - b) Define hoe.
  - c) What do you mean by leveling?
  - d) Write the methods use in leveling.
  - e) What do you mean by earth moving machinery?
  - f) Define soil stabilization.
  - g) Enlist the various land clearing equipments.
  - h) Write in short the use of power shovel.
  - i) What is scraper?
  - j) Mention the working principle of excavating.

**SECTION B**

- 2. Attempt any three of the following: 10 x 3 = 30**
- a) What do you mean by trucks? Its classification and utilization.
  - b) What is balancing? Describe also balancing capacity of hauling units with the size of excavator.
  - a) Explain soil stabilization and also describe various techniques.
  - b) Explain various type of land clearing equipment and its application.
  - c) Write down the size of power shovel and basic part and also its working principle.

**SECTION C**

- 3. Attempt any one part of the following: 10 x 1 = 10**
- a) What do you mean by earth moving machinery? Describe the terminology and nomenclature.
  - b) A diesel engine transmits 25 kW at the end of the crankshaft, moving at 1650 rev/min., find the torque exerted by the piston.
- 4. Attempt any one part of the following: 10 x 1 = 10**
- a) What is land excavating equipment? Enlist its type and explain also.
  - b) What do you mean by hoe and trenching machinery? Describe its type, capacities and performance.
- 5. Attempt any one part of the following: 10 x 1 = 10**
- a) What do you mean by crawler tractors and its type? Describe bulldozers its general description and also wheel mounted bulldozers.
  - b) Find the cost of using a tractor per hp-hr when the tractor is Rs. 3, 00,000/- life of tractor is 10 yr. rate of interest 10% and working hours per year is 1000 hours.

**6. Attempt any *one* part of the following: **10 x 1 = 10****

- a) What do you mean by trenching machine? Explain general description and also explain wheel type trenching machine.
- b) Explain ladder type trenching machine.

**7. Attempt any *one* part of the following: **10 x 1 = 10****

- a) Explain the balancing capacities of hauling unit with the size of excavator.
- b) Describe the effect of the size of truck on the cost of hauling unit.