

**Eighth Semester B.E. Degree Examination, Feb./Mar. 2022**  
**Earthmoving Equipments and Tractors**

Time: 3 hrs.

Max. Marks:100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.

**PART - A**

- 1 a. Enlist the different type of Earthmoving Equipments. Briefly explain their application. (08 Marks)
- b. Explain the following with simple line diagram : (12 Marks)
  - i) Scrapers
  - ii) Motor graders.
- 2 a. With neat sketch, explain functions of following in Earthmoving Vehicle Engines : (10 Marks)
  - i) Turbochargers
  - ii) After coolers. (10 Marks)
- b. With neat sketch, explain working of Automatic Injection timer.
- 3 a. With a aid of neat sketch, briefly explain the under carriage components of Earthmoving Vehicle. (10 Marks)
- b. Compare Tyred Vs Tracked type of Vehicle. (05 Marks)
- c. Explain Air Spring Suspension. (05 Marks)
- 4 a. What is PTO Shaft? Mention different PTO types and explain any one type with neat sketch. (10 Marks)
- b. What is the need of Hydraulic retarder? With neat sketch, explain Hydraulic Retarder System. (10 Marks)

**PART - B**

- 5 a. Explain the Directional Control Valve. State the classification. (08 Marks)
- b. With neat sketch, explain Construction and working of Double acting hydraulic cylinder and state the function. (07 Marks)
- c. Explain Draft and Depth Control System. (05 Marks)
- 6 a. Name the types of Power Steering and explain any one type in detail. (10 Marks)
- b. Explain the Construction and working of disc brake mechanism in tractors. (10 Marks)
- 7 a. Discuss various Safety Methods for Earth moving Equipment. (10 Marks)
- b. With the help of block diagram, explain the Organization Setup in maintenance department. (10 Marks)
- 8 a. Discuss the various considerations, while selecting Earthmoving Equipments. (10 Marks)
- b. Define Productivity. Explain about the improvement of productivity in Earth Moving Vehicles. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.