10AU81

Eighth Semester B.E. Degree Examination, Aug./Sept.2020
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. List out the different types of earth moving equipments and explain their applications briefly. **(10 Marks)**

     b. Explain the following with neat sketches : i) Excavator   ii) Roller. **(10 Marks)**

2   a. Discuss the special features of Tractors and its attachments. **(10 Marks)**

     b. Explain the importance of following in earth moving vehicles engine's performance :
      i) Turbo chargers   ii) After coolers. **(10 Marks)**

3   a. Compare Tyred vehicles Vs Tracked vehicles. **(06 Marks)**

     b. Draw and explain the under carriage components of a tracked vehicles. **(10 Marks)**

     c. Explain Air spring suspension. **(04 Marks)**

4   a. List the basic types of transmission systems adopted in earthmoving equipments and explain any one type with figure. **(10 Marks)**

     b. Explain the working of PTO shaft in tractors. State the advantages. **(10 Marks)**

PART – B

5   a. Discuss the functions of following components in the hydraulic systems of earth moving vehicles : i) Pumps   ii) control valves (All types). **(10 Marks)**

     b. With a neat sketch, explain the Depth and Draft Control systems. **(10 Marks)**

6   a. List out the different types of Power Steering Systems and explain any one in detail. **(10 Marks)**

     b. Explain the steering in tracked vehicles. **(05 Marks)**

     c. Explain the disc brake mechanism. **(05 Marks)**

7   a. What is Preventive Maintenance? Discuss its importance in maintaining the earth moving vehicle systems. **(10 Marks)**

     b. Discuss about the safety measures adopted for the overall safety of earth moving vehicles. **(10 Marks)**

8   a. Write short notes on :
      i) Selection of machines based on soil.
      ii) Selection of machines based on weather condition. **(10 Marks)**

     b. List and explain the different operating costs. **(10 Marks)**

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