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**Eighth Semester B.E. Degree Examination, June/July 2017**  
**Earth Moving 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, mention their respective activities. (08 Marks)  
b. Explain the following with simple line diagram.  
i) Scrapers  
ii) Compactors. (12 Marks)
- 2 a. Sketch and explain the generalized fuel injection system used in earth moving vehicle engines. (10 Marks)  
b. Discuss the functions of following in earth moving vehicle engines :  
i) Turbochargers  
ii) after coolers. (10 Marks)
- 3 a. Compare tyred Vs tracked vehicles. (06 Marks)  
b. Draw and explain the under carriage components of a track type vehicle. (09 Marks)  
c. Discuss about the suspension system in earth moving vehicles. (05 Marks)
- 4 a. List the basic types of transmission used in earth moving vehicles and explain any one type in detail. (10 Marks)  
b. What is PTO shaft? Explain the working, and applications in tractors. (10 Marks)

**PART – B**

- 5 a. Explain the functions of following components in hydraulic systems :  
i) Pumps ii) control valves iii) hydraulic motors iv) hydraulic cylinders. (10 Marks)  
b. Explain the depth and draft control systems with a simple line diagram. (10 Marks)
- 6 a. With neat sketch. Explain the construction and working of a planetary steering system. (10 Marks)  
b. Explain the construction and working of a disc brake mechanism in tractors. (10 Marks)
- 7 a. Discuss the types of maintenance and state the purpose, with advantages in earth moving equipments. (10 Marks)  
b. Discuss the various safety measures adopted in earth moving equipments. (10 Marks)
- 8 a. Discuss the various considerations, while selecting earthmoving equipments for different activities. (10 Marks)  
b. Write short notes on :  
i) Operation capacity  
ii) Productivity of bull dozers. (10 Marks)

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Important Note : 1 On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages