



10AU81

**Eighth Semester B.E. Degree Examination, June/July 2019**  
**Earth Moving Equipments and Tractors**

Time: 3 hrs.

Max. Marks:100

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

**PART – A**

- 1 a. How do you classify shovels? Explain the working, construction and applications of a shovel with a neat sketch. (10 Marks)  
b. What are the applications of motor graders and compactors? (06 Marks)  
c. Draw a neat sketch of scraper. (04 Marks)
- 2 a. What are the types of loaders? Explain with a necessary sketch. (08 Marks)  
b. Explain the turbocharger system with a neat sketch, and also mention the advantages. (12 Marks)
- 3 a. List and explain all the advantages and disadvantages of wheeled and crawler tractors. (10 Marks)  
b. Explain rubber spring suspension system. (05 Marks)  
c. Write a note on under – carriage components of a crawler. (05 Marks)
- 4 a. With a neat sketch, explain construction and working principle of triple counter shaft transmissions. (10 Marks)  
b. With a neat sketch, explain double reduction final drives. (10 Marks)

**PART – B**

- 5 a. List the components of hydraulic systems used on any earth moving equipment with the block diagram and also mention the function of each component. (08 Marks)  
b. Explain with a neat sketch external gear pump. (06 Marks)  
c. Explain with a neat sketch flow control valve. (06 Marks)
- 6 a. Explain linkage type power steering system, with a neat sketch. (10 Marks)  
b. With a neat sketch hydraulic brake system, explain principle, and operation write its advantages and disadvantages. (10 Marks)
- 7 a. Explain the maintenance of earth moving equipments. (10 Marks)  
b. Explain the safety method for earth moving equipments. (10 Marks)
- 8 a. Explain the methods of selection of equipments. (10 Marks)  
b. Explain the procedure for of calculation the output of bulldozers with mathematical relations. (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.