

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

## Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 Earth Moving Equipment & Tractors

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. List out the different types of Earth Moving Equipments, mention their respective activities. (08 Marks)  
b. How do you classify shovels? Explain the working, construction and application of a shovel, with neat sketch. (08 Marks)

OR

- 2 a. Explain the following with simple line diagram:  
(i) Scrapers. (ii) Compactors. (08 Marks)  
b. What are the applications of Motor grader and rollers? (08 Marks)

### Module-2

- 3 a. Sketch and explain the generalized fuel injection system used in Earth Moving Vehicle engines. (08 Marks)  
b. Discuss the functions of following in earth moving vehicle engines:  
(i) Turbo charger. (ii) After coolers. (08 Marks)

OR

- 4 a. Compare tyred V/s tracked vehicles. (08 Marks)  
b. List and explain advantages and disadvantages of wheeled and crawler tractors. (08 Marks)

### Module-3

- 5 a. With a neat sketch, explain the construction and working of a twin counter shaft transmission system. (08 Marks)  
b. List the basic types of transmission used in earth moving vehicles and explain planetary transmission. (08 Marks)

OR

- 6 a. Explain with neat sketches, single and double reduction final drive. (08 Marks)  
b. What is PTO shaft? Explain the working and applications in tractors. (08 Marks)

### Module-4

- 7 a. List out basic components of hydraulic system and explain control valves. (08 Marks)  
b. List out types of pumps and explain any 2 types. (08 Marks)

OR

- 8 a. Explain the depth and draft control systems with a simple line diagram. (08 Marks)  
b. Explain hydraulic motors and hydraulic cylinders. (08 Marks)

### Module-5

- 9 a. Discuss the classification of soils. (08 Marks)  
b. Discuss the various considerations, while selecting earth moving equipments for different activities. (08 Marks)

OR

- 10 a. Explain briefly operation capacity. (08 Marks)  
b. Explain briefly productivity of Bulldozers. (08 Marks)

\*\*\*\*\*