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18AU732

## Seventh Semester B.E. Degree Examination, Feb./Mar. 2022 Earthmoving Equipment and Tractors

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. With neat sketch, explain construction and working of bulldozer. (08 Marks)  
b. Discuss the function of following with sketches: i) Excavators ii) Scrapers. (12 Marks)

OR

- 2 a. Explain the following with diagram i) Motor graders ii) Compactors. (12 Marks)  
b. Discuss the various attachments of tractors and mention their applications. (08 Marks)

### Module-2

- 3 a. Explain Construction and working of turbocharger, with neat sketch. (10 Marks)  
b. Explain working of automatic Injection timer, with neat sketch. (10 Marks)

OR

- 4 a. Compare tyred and tracked type and vehicles. (10 Marks)  
b. Explain the following : (10 Marks)  
i) Rubber spring suspension ii) Air spring suspension. (10 Marks)

### Module-3

- 5 a. With a neat sketch, explain the construction and working of twin counter shaft transmission system. (10 Marks)  
b. List the basic types of transmission used in earth moving vehicles and explain planetary transmission with sketch. (10 Marks)

OR

- 6 a. Explain single and double reduction final drive with neat sketches. (10 Marks)  
b. Discuss the purpose of PTO shaft in tractors. (10 Marks)

### Module-4

- 7 a. With simple line diagram, explain the depth and draft control systems. (10 Marks)  
b. Explain construction and working of double acting hydraulic cylinder with neat sketch. State the functions. (10 Marks)

OR

- 8 a. Explain construction and working of vane type motor with neat diagram. (08 Marks)  
b. Explain the functions of following components (12 Marks)  
i) Flow control valves ii) Direction control valves iii) Pumps.

### Module-5

- 9 a. Discuss the various considerations, while selecting earth moving equipments for different activities. (10 Marks)  
b. Explain the factors affecting the productivity of bulldozer. (10 Marks)

OR

- 10 a. Explain the various safety measures adopted for earth moving equipments. (10 Marks)  
b. Discuss the types of maintenance and state its purpose, with advantages in earth moving equipments. (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.