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18AU732

**Seventh Semester B.E. Degree Examination, July/August 2022**  
**Earth Moving 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. Define earth moving equipment. List out the different types of earth moving equipments and mention their respective activities. (10 Marks)
- b. With neat sketches, discuss the following:
- (i) Loaders (10 Marks)
- (ii) Excavators (10 Marks)

OR

- 2 a. Discuss the tractor with a neat sketch and types of tractors with various attachments of tractors. Also mention their applications. (10 Marks)
- b. With a neat sketch enumerate compactors and their types. List their applications. (10 Marks)

**Module-2**

- 3 a. Discuss the following functions in earth moving vehicle engines:
- (i) Turbocharger (10 Marks)
- (ii) After coolers (10 Marks)
- b. List out the different working systems of engine and their functions. Also briefly explain the automatic injection timer. (10 Marks)

OR

- 4 a. Draw a neat sketch of under carriage system of earth moving vehicle and list the components. (10 Marks)
- b. Differentiate tyred and tracked vehicles and list their advantages and disadvantages. (10 Marks)

**Module-3**

- 5 a. Enumerate function of transmission system and basic types of transmission. Explain any one type with a neat sketch. (10 Marks)
- b. Explain the construction and working of hydro shift automatic transmission and list its applications. (10 Marks)

OR

- 6 a. What are types of final drives? Explain any one type of final drive with a neat sketch. (10 Marks)
- b. Explain planetary PTO shaft with a neat sketch. (10 Marks)

**Module-4**

- 7 a. List out basic components of hydraulic system and explain flow control valve. (10 Marks)
- b. List the types of pumps and explain any two types with a neat sketch. (10 Marks)

OR

- 8 a. Differentiate between hydraulic motors and hydraulic cylinders. (10 Marks)  
b. Explain the depth and draft control system with line diagram. (10 Marks)

Module-5

- 9 a. List the types of soil and discuss the various considerations while selecting earth moving equipment. (10 Marks)  
b. List the factors affecting the production of bulldozer. (10 Marks)

OR

- 10 a. Discuss the types of maintenance and state the purpose with advantages in earth moving equipment. (10 Marks)  
b. Discuss various safety methods for earth moving equipment. (10 Marks)

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