

# CBCS SCHEME

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17AU741

## Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 Earthmoving Equipments 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. How do you classify the scrapers? Sketch and explain the working of scraper. (10 Marks)  
b. List out the special attachments to the tractors and briefly discuss the working of shovel, with simple line diagram. (10 Marks)

OR

- 2 a. With neat sketch, explain excavators. (08 Marks)  
b. With neat sketch, explain construction and working of motor grader. (08 Marks)  
c. List the different types of compactors and states applications. (04 Marks)

### Module-2

- 3 a. With neat sketch, explain construction and working of turbocharger. (08 Marks)  
b. With neat sketch, explain working of automatic injection timer. (08 Marks)  
c. Briefly explain after coolers. (04 Marks)

OR

- 4 a. With the help of line diagram, explain water cooling system. (08 Marks)  
b. With the help of line diagram, explain mechanical governor. (08 Marks)  
c. Compare crawler and wheeled tractors. (04 Marks)

### Module-3

- 5 a. What is the need of hydraulic retarder? With neat sketch explain hydraulic retarder system. (10 Marks)  
b. What are the types of PTO shafts? Sketch and explain any one of them. (10 Marks)

OR

- 6 a. What are the types of final drives? Sketch and explain any one type of final drive. (10 Marks)  
b. List the basic types of transmission used in earth moving vehicles and explain any one type in detail. (10 Marks)

### Module-4

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

OR

- 8 a. Explain construction and working of Vane type motor. (08 Marks)  
b. Explain the functions of following components in hydraulic system :  
i) Pumps  
ii) Control valves  
iii) Hydraulic motors  
iv) Hydraulic cylinders. (12 Marks)

**Module-5**

- 9 a. Discuss the various considerations, while selecting earth moving equipments for different activities. (10 Marks)
- b. With the help of block diagram, explain the organization set up in maintenance department. (10 Marks)

**OR**

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

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