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## Seventh Semester B.E. Degree Examination, June/July 2024

### Earth Moving 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. List the different types of special equipments and state the applications. (04 Marks)
- b. With a neat sketch, explain the working of scraper. (08 Marks)
- c. With a neat sketch, explain the construction and working of bull Dozer. (08 Marks)

OR

- 2 a. Discuss the various attachments of the tractors. Mention their applications. (08 Marks)
- b. With a neat sketch, explain construction and working of motor grader. (08 Marks)
- c. List the types of compactors and states applications. (04 Marks)

#### Module-2

- 3 a. With a neat sketch, explain working of automatic injection timer. (08 Marks)
- b. What is After Cooler? Briefly discuss the water cooled and air cooled after coolers. (08 Marks)
- c. Briefly discuss the Turbo Charger in earth moving vehicle engine. (04 Marks)

OR

- 4 a. With a neat sketch, explain under carriage equipments of tracked vehicles. (08 Marks)
- b. Compare Tyred vs Tracked Vehicles. (07 Marks)
- c. State the advantages of air suspension system. (05 Marks)

#### Module-3

- 5 a. Explain PTO shaft. Mention types and explain any one type with neat sketch. (10 Marks)
- b. With a neat sketch. Explain the planetary transmission. (10 Marks)

OR

- 6 a. What is the need of hydraulic retarder? With neat sketch explain hydraulic retarder system. (10 Marks)
- b. Explain final drives, with a neat sketch discuss two types of final drive. (10 Marks)

#### Module-4

- 7 a. With a neat sketch, explain the basic hydraulic system with components. (10 Marks)
- b. List the types of pressure control valves with a neat sketch. Explain pressure sequence valve. (10 Marks)

OR

- 8 a. With a neat sketch, explain pilot operated direction control valve. (10 Marks)
- b. Explain the following with neat sketch :
  - i) Pumps
  - ii) Hydraulic cylinders. (10 Marks)

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.

**Module-5**

- 9 a. Write a note on productivity of bull dozer and explain the factors affecting the productivity of bull dozer. (10 Marks)
- b. Discuss the types of maintenance and state purpose, with advantages in earth moving equipments. (10 Marks)

**OR**

- 10 a. Discuss the various considerations, while selecting earth moving equipments for different activities. (10 Marks)
- b. Discuss the various safety methods for earth moving equipment. (10 Marks)

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