

CBCS SCHEME

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18AU732

Seventh Semester B.E. Degree Examination, Jan./Feb. 2023 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. List out the types of earthmoving equipments, with their respective applications. (10 Marks)
b. Draw a layout of Dozer and explain about different components. (10 Marks)

OR

- 2 a. Explain the working of following with line diagrams:
i) Excavator ii) Roller. (10 Marks)
b. Discuss about the special features of tractors with applications. (10 Marks)

Module-2

- 3 a. Compare track type Vs wheel type vehicles. (06 Marks)
b. Explain the following systems adopted in earth moving vehicle engines:
i) Turbochargers
ii) After coolers. (14 Marks)

OR

- 4 a. Explain the undercarriage components of a track type vehicle, with their functions. (10 Marks)
b. Discuss the following:
i) Rubber spring suspension
ii) Air spring suspension. (10 Marks)

Module-3

- 5 a. Name the types of transmissions and explain any one type with sketch. (12 Marks)
b. Explain the hydroshift mechanism. (08 Marks)

OR

- 6 a. Compare single reduction Vs double reduction drive systems. (10 Marks)
b. Discuss the functions of PTO shaft with sketch. (10 Marks)

Module-4

- 7 a. List out the components of hydraulic system and highlight their functions in brief. (08 Marks)
b. Explain the functions of following in hydraulic system:
i) Flow control valves
ii) Direction control valves
iii) Pressure control valves. (12 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.

OR

- 8 a. Write short notes about:
i) Hydraulic motors
ii) Hydraulic cylinders. (08 Marks)
- b. With the aid of a neat sketch, explain the working of depth and draft control system. (12 Marks)

Module-5

- 9 a. Discuss about the criterion for selection of earth moving equipment based on the type of soil. (10 Marks)
- b. Explain the procedure of calculating the operating capacity and productivity of a bulldozer. (10 Marks)

OR

- 10 a. Explain the types of maintenance, state the advantages and disadvantages. (10 Marks)
- b. Discuss about the safety measures adopted in earthmoving equipments. (10 Marks)
