

Earth Moving Equipment and Tractors VTU CBCS Question Paper Set 2018

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Eighth Semester B.E. Degree Examination, June/July 2016
Earth Moving Equipment and Tractors

Time: 3 hrs.

Max. Marks: 100

**Note: 1. Answer any FIVE full questions, selecting
atleast TWO questions from each part.**
2. Sketches should be drawn with pencil only.

PART - A

- 1 a. Enlist the different types of earth moving equipments. Briefly explain their applications. (08 Marks)
b. How do you classify the scrapers? Sketch and explain the working of a scraper. (12 Marks)
- 2 a. Write a brief note on :
i) Automatic Injection Timer ii) Turbochargers. (10 Marks)
b. Sketch and explain the working of motor grader. (10 Marks)
- 3 a. With a neat sketch, explain the undercarriage component of a crawler. (10 Marks)
b. With the help of line diagrams, compare the construction and working of wheeled and crawler tractors. (10 Marks)
- 4 a. What are the types of Final drivers? Sketch and explain any one type of final drive. (10 Marks)
b. What are the types of PTO shafts? Sketch and explain any one of them. (10 Marks)

PART - B

- 5 a. Sketch and explain the hydraulic systems with basic components. (10 Marks)
b. With a neat sketch, explain the hydraulic depth control mechanism used in tractors. (10 Marks)
- 6 a. Sketch and explain the clutch / brake steering system. (10 Marks)
b. Sketch and explain the construction and working of Disc brakes used in tractors. (10 Marks)
- 7 a. What are the objectives of maintenance? Explain the various functions and advantages of preventive maintenance. (10 Marks)
b. With the help of block diagram, explain the organization set up in maintenance department. (10 Marks)
- 8 a. Discuss the various methods used to select the equipments. (10 Marks)
b. List the factors on which the output of bulldozer depends. Also discuss the calculation of output of a bulldozer in detail. (10 Marks)

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Eighth Semester B.E. Degree Examination, June/July 2017
Earth Moving Equipments and Tractors

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. List out the different types of earth moving equipments, mention their respective activities. (08 Marks)
b. Explain the following with simple line diagram.
i) Scrapers
ii) Compactors. (12 Marks)
- 2 a. Sketch and explain the generalized fuel injection system used in earth moving vehicle engines. (10 Marks)
b. Discuss the functions of following in earth moving vehicle engines :
i) Turbochargers
ii) after coolers. (10 Marks)
- 3 a. Compare tyred Vs tracked vehicles. (06 Marks)
b. Draw and explain the under carriage components of a track type vehicle. (09 Marks)
c. Discuss about the suspension system in earth moving vehicles. (05 Marks)
- 4 a. List the basic types of transmission used in earth moving vehicles and explain any one type in detail. (10 Marks)
b. What is PTO shaft? Explain the working, and applications in tractors. (10 Marks)

PART – B

- 5 a. Explain the functions of following components in hydraulic systems :
i) Pumps ii) control valves iii) hydraulic motors iv) hydraulic cylinders. (10 Marks)
b. Explain the depth and draft control systems with a simple line diagram. (10 Marks)
- 6 a. With neat sketch. Explain the construction and working of a planetary steering system. (10 Marks)
b. Explain the construction and working of a disc brake mechanism in tractors. (10 Marks)
- 7 a. Discuss the types of maintenance and state the purpose, with advantages in earth moving equipments. (10 Marks)
b. Discuss the various safety measures adopted in earth moving equipments. (10 Marks)
- 8 a. Discuss the various considerations, while selecting earthmoving equipments for different activities. (10 Marks)
b. Write short notes on :
i) Operation capacity
ii) Productivity of bull dozers. (10 Marks)

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Important Note : On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages