



**C20-A-405**

**7405**

**BOARD DIPLOMA EXAMINATION, (C-20)  
OCTOBER/NOVEMBER—2023  
DAE – FOURTH SEMESTER EXAMINATION  
SPECIAL PURPOSE VEHICLES**

*Time : 3 Hours ]*

*[ Total Marks : 80*

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**PART—A**

**3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write the advantages of special purpose vehicles.
2. List out any six special purpose vehicles.
3. List the tractor manufacturing companies in India.
4. What are the different components of differential locking system of a tractor?
5. What is the purpose of drawbar? Mention different types of drawbars.
6. Write any three precautions to be taken while using belt-pulley system.
7. What are the applications of graders?
8. What is the difference between a dumper and a tipper?
9. What are the ill effects of automobile pollutants?
10. What is ELCD? Where is it used?

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** (a) Briefly explain about wheel type tractor.  
(b) Write the applications of tippers.

**(OR)**

- (c) Differentiate between track type tractor and wheel type tractor.  
(d) Write the applications of shovels.

- 12.** Explain steering system used in tractors.

**(OR)**

Explain about the utility tractors.

- 13.** Draw the general layout of hydraulic system of a tractor and briefly explain it.

**(OR)**

What are the different types of drives used for PTO shafts? Draw the line diagram and explain each one of them.

- 14.** Explain the basic motions of excavators.

**(OR)**

Write the specifications of different types of earth moving vehicles.

- 15.** Explain the working of Exhaust Gas Recirculation (EGR) system with a neat sketch.

**(OR)**

Explain the working of any one type of catalytic convertor with a sketch.

**PART—C**

10×1=10

- Instructions :** (1) Answer the following question.  
(2) The question carries **ten** marks.  
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**16.** Tractor braking system does not contain brake drum and internal expansion type brake shoes. Infer it.

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