



C20-A-303

7203

**BOARD DIPLOMA EXAMINATION, (C-20)
OCTOBER/NOVEMBER—2023
DAE – THIRD SEMESTER EXAMINATION
AUTOMOBILE TRANSMISSION SYSTEMS**

Time : 3 hours]

[Total Marks : 80

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. What are the requirements of a clutch?
2. List the types of friction materials used in clutches.
3. Define road resistance.
4. What are the advantages of torque converter?
5. State the purpose of final drive.
6. Draw the neat sketch of Hypoid gear used in final drive.
7. List the types of stub axles used in automobile.
8. List the components in front axle.
9. Draw the line diagram of Hotchkiss drive mechanism.
10. What is meant by tyre designation? Give an example.

- 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) Describe the constructional details of semi centrifugal clutch with a neat sketch.

(OR)

(b) Explain the working of single plate clutch with the help of sketch.

12. (a) Draw and explain the working of overdrive mechanism in transmission.

(OR)

(b) Explain the working of transfer case with a neat sketch.

13. (a) State the purpose of universal joint and explain ball and trunnion type joint with a sketch.

(OR)

(b) Explain cross-type universal joint with the help of a neat sketch.

14. (a) Draw and explain different mechanism with a neat sketch.

(OR)

(b) Explain the construction of double reduction final drive with a neat sketch.

15. (a) Explain the constructional details of tubeless tyre with a neat sketch.

(OR)

(b) Explain cross ply and radial ply tyre carcass with neat sketches.

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. Compare the construction of semi floating axle with full floating axle.

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