

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

**AUTOMOBILE TRANSMISSION**

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. List two advantages of multi-plate clutch.
2. Name two types of gear selector mechanisms in vehicles.
3. State the use of propeller shaft in vehicles.
4. Designate a Radial tyre.
5. Identify the main parts of a differential mechanism.

(5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Summarize the Materials used for Clutch facings.
2. Explain the working of Epicyclic gear box with a diagram.
3. Discuss the constructional details of full floating type rear axle.
4. List 6 advantages of Tubeless Tyres over tubed tyre.
5. Write a short note on constructional details of clutch disc.
6. Illustrate the working of Transfer case with a diagram.
7. Explain the constructional details of Wire wheel with a sketch.

(5×6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

## UNIT — I

- III (a) Discuss the electro-magnetic operation of clutch with a diagram. 7  
 (b) Sketch and explain the working of multi-plate clutch. 8

OR

- IV (a) Describe the Hydraulic clutch operation with a diagram. 7  
 (b) Discuss the constructional details of a centrifugal clutch with Sketch. 8

## UNIT — II

- V (a) Explain the working of Variomatic Transmission with a line diagram. 7  
 (b) Label a 4 speed synchro-mesh gear box uses in cars. 8

OR

- VI (a) Illustrate the working of progressive type gear box used in 2 wheelers. 7  
 (b) Sketch and mark, a 3 speed constant mesh gear box with 2nd gear in engaged position. 8

## UNIT — III

- VII (a) Discuss the constructional details of semi-floating type rear axle with sketch. 7  
 (b) Illustrate 2 different arrangements of final drive gearing. 8

OR

- VIII (a) Sketch and explain the working of Tripoid joint. 7  
 (b) Distinguish between Salisbury type and Split type Rear axle Casings, with sketches. 8

## UNIT — IV

- IX (a) Differentiate among In-set, Zero-set and Out-set wheels. 7  
 (b) Explain the constructional details of Disc wheel and list 3 advantages. 8

OR

- X (a) List 7 points by comparing Radial ply and Bias ply Tyres. 7  
 (b) Discuss with proper sketches, the Tyre wear patterns during over and under inflation. 8