12052

21314

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Solve any <u>FIVE</u> of the following: **20**

a) What are the advantages of rear engine rear wheel drive ?

b) Explain with neat sketch the working of centrifugal clutch.

c) What are the advantages of constant mesh gear box over sliding mesh type, gear box ?

d) Why slip joint and universal joint are used in automobile transmission system ?

e) Draw a neat sketch of full-floating type rear axle and write two advantages.

f) What are the advantages of using diagram clutch ?

g) What is transfer case ? Why and where is it used ?

Marks

2. Solve any TWO of the following: **16**

a) Explain the working of torque convertor with a neat sketch.

b) What are the advantages and disadvantages of front engine rear wheel drive ?

c) With a neat sketch, explain the working of clutch used in Motor cycle.

3. Solve any TWO of the following: **16**

a) Explain the construction and working of Hotchkiss drive used in a vehicle.

b) Why differential is necessary in four wheeler ? Explain its working.

c) What are the types of tyre tread ? Mention it's importance with regard to its use.

4. Solve any TWO of the following: **16**

a) What are the advantages of fluid coupling ?

b) Draw a neat sketch of radial tyre construction. Explain tyre rotation procedure and its importance.

c) With a neat sketch explain the working of synchroniser unit used in gear box.

5. Solve any TWO of the following: **16**

a) What are the requirements of clutch ?

b) Describe, how does a self locking differential work ?

c) Mention the purposes of the transmission system in vehicle.

Marks

6. Solve any <u>FOUR</u> of the following: **16**

a) State and explain the loads acting on chassis frame with brief elaboration.

b) Draw a neat and well labelled diagram of conventional vehicle layout.

c) Compare Hotchkiss and torque tube drive. (Four points each)

d) Why constant velocity type joint are necessary incase of front engine front wheel drive, type vehicle.

e) What is the necessity of backlash in differential ?

f) What are the desired properties of tyre ?

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