C09–M–606B

# 3785

## BOARD DIPLOMA EXAMINATION, (C–09)

## OCT/NOV—2016

## DME—SIXTH SEMESTER EXAMINATION

## AUTOMOBILE ENGINEERING

*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 various loads acting on the frame?

**2.** Write the functions of the clutch.

**3.** What are the materials used for construction of frames?

**4.** List out the various resistances encountered by the vehicle.

**5.** List out the different types of gearboxes.

**6.** State three differences between semi-floating and full-floating rear axles.

**7.** What are the factors influencing wheel alignment?



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8. Why is lubrication required in a gearbox?

9. List out various requirements of brakes.

10. What are the factors to be considered for suspension system?

## PART—B

10×5=50

***Instructions*** : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. List out the various components of an automobile and explain them briefly. 5+5=10

12. Explain the construction and working of multiple clutch with sketch. 5+5=10

13. Explain the working of synchromesh gearbox with neat sketch. 5+5=10

14. Explain the working of differential with a neat line diagram. 5+5=10

15. List out various types of stub axles and explain them with neat sketches. 2½+2½+2½+2½=10

16. Explain the working of air brakes with line diagram. 5+5=10

17. Explain with neat sketch the working of telescopic type shock absorber. 5+5=10

18. Explain the following : 5+5=10

*(a)* Universal joints

*(b)* Under-steering and over-steering

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