

Roll No.

Total Pages : 2

BT-8/M-20

38171

AUTOMOBILE ENGINEERING

Paper–ME-402N

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. What are the basic requirements of the transmission system? Explain the various components of the transmission system. Also discuss the need for multi-cylinder engines. 15
2. (a) Explain the function of a clutch. What is fluid flywheel? 7
(b) With the help of a neat sketch, explain the construction and working of a multiplate clutch. 8

UNIT-II

3. (a) What is tractive effort? Explain the variation in tractive effort with speed. 7
(b) Draw and explain with a simple sketch, working of a constant mesh gear box. 8

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4. (a) What is need of using a differential? Explain with a neat sketch construction and working of differential. 8
- (b) What is the function and requirements of propeller shaft? Discuss universal joint. 7

UNIT-III

5. (a) Sketch the schematic arrangement of a dual power air brake system and explain its working. 8
- (b) Draw the layout of a rear wheel modern brake and name the various components. 7
6. (a) Write down function of suspension system. Explain the classification of suspension system. 10
- (b) What is the function of a shackle with a leaf spring? 5

UNIT-IV

7. What is multi fuel automobile? How the automobile running on alternate sources of energy? Discuss the total emission control packages. 15
8. (a) What are the functions of steering system. Explain with relevant sketch Ackerman steering mechanism. 7
- (b) Explain with a simple sketch, working of rack and pinion steering mechanism. 8