

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-114
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (Mechanical)
Automobile Engineering
(REVISED)

[Time: Three Hours]

[Max. Marks: 80]

Please check whether you have got the right question paper.

- N.B
- i. Solve any three questions from each section
 - ii. Draw neat sketches wherever necessary
 - iii. Assume suitable data, if required

Section A

- | | | |
|-----|---|----|
| Q.1 | a. What are the major or main components of an automobile? Describe all of them briefly. | 08 |
| | b. What are the advantages of diesel engines in cars? | 05 |
| Q.2 | a. With the help of a neat sketch explain the construction and working of a multi-plate clutch | 07 |
| | b. Describe briefly the parts of a plate clutch | 06 |
| Q.3 | a. Give the comparison among sliding mesh, constant mesh and synchromesh gear boxes. | 07 |
| | b. Explain with neat sketch construction and working of overdrive, what are its advantages? | 06 |
| Q.4 | a. Explain briefly the following independent suspension system used in automobiles | 08 |
| | i. Wishbone type suspension | |
| | ii. Mac person strut | |
| | b. State the advantages and disadvantages of independent suspension over rigid axle type suspension | 05 |
| Q.5 | a. Write short notes on (any two) | 14 |
| | i. Leaf springs | |
| | ii. Air suspension | |
| | iii. Automatic transmission | |
| | iv. Differential | |

Section B

- | | | |
|-----|---|----|
| Q.6 | a. Explain the terms: | 07 |
| | i. Combined angle and scrub radius | |
| | ii. Toe-in or Toe-out | |
| | What are the effects of each on the steering characteristics of a vehicle | |
| | b. Discuss the factors affecting oversteer and understeer | 06 |
| Q.7 | a. What do you understand by backlash in steering gears? Sketch any one steering gear and explain the constructional features provided to adjust the backlash | 07 |

- b. Describe in details the equipment to check wheel alignment and steering geometry 06
- Q.8 a. Discuss the classification of brakes for vehicles. Explain the construction and working of disc brake with the help of neat sketch 07
 b. Explain briefly the working of air brakes. Enumerate the main parts of an air brake 06
- Q.9 a. Draw the layout of the air-conditioning system for a car and explain its working 07
 b. Explain the working principle and construction of a D.C. generator (dynamo) 06
- Q.10 a. Write short notes on(any two) 14
 i. Tubeless tyres and conventional tubes tyre
 ii. Factors affecting battery life
 iii. Tandem master cylinder and slave cylinder
 iv. Alternate (A.C. Generator)