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SUBJECT CODE NO:- H-114
FACULTY OF SCIENCE 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. Give the classification of chassis 08
 - b. What are the advantages of diesel engines in cars? 05
- Q.2
- a. With the help of suitable diagrams, describe the constructional features of a diaphragm spring. type clutch, discuss its advantages & disadvantages relative to clutch employing helical spring. 08
 - b. Define clutch. What are the functions and requirements of clutch? 05
- Q.3
- a. What is an epicyclic gear box? Describe its principle with the help of a neat sketch. 07
 - b. Explain with neat sketch construction & working of overdrive. What are its advantages? 06
- Q.4
- a. Describe Macpherson strut assembly of independent suspension system and what are its advantages? 07
 - b. What is the function of an anti-roll device in vehicles? Explain clearly how it performs the same in actual practice 06
- Q.5
- a. Write short notes on (any two) 14
 - i. Propeller shaft used in transmission system of a vehicle
 - ii. Sliding mesh gear box
 - iii. Leaf springs
 - iv. Air suspension

“Section B”

- Q.6
- a. Explain the terms: camber and castor. What are the effects of each on the steering characteristics of a vehicle? 07
 - b. Sketch front axle of a car and show how it is connected with the stub axle. 06
- Q.7
- a. Describe in detail the rack and pinion type manual steering gear by means of a simple sketch and discuss its advantages 07
 - b. Describe in details the equipment to check wheel alignment and steering geometry 06

- Q.8 a. Explain with neat sketch a ‘hydraulic braking system’ what are the essential differences between mechanical brakes and hydraulic braking system? 07
 b. What is the necessity of bleeding of breaks? Explain bleeding process. 06
- Q.9 a. Draw the layout of the air-conditioning system for a car and explain its working. 07
 b. Describe with the help of neat sketch a battery ignition system 06
- Q.10 a. Write short notes on (any two) 14
 i. Tubeless tyre and conventional tube tyre
 ii. Factors affecting battery life
 iii. Disc brakes
 iv. Toe-in and Toe-out