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SUBJECT CODE NO: E-17
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(Mech) Examination Nov/Dec 2017
Automobile Engineering
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

- N.B Please check whether you have got the right question paper.
- 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) How do you classify automobiles? Explain in details giving examples. 07
b) Explain the four wheel drive arrangement with neat sketch. 06
- Q.2 a) What is the difference between the centrifugal and semi centrifugal clutches 07
b) Explain the working of a single plate clutch with the help of a simple diagram. 06
- Q.3 a) Describe the construction of a sliding mesh gear box. Show how the power flows in various speeds. 07
b) Explain the construction and working of differential with a neat sketch. 06
- Q.4 a) Differentiate clearly between the functions of a spring and a shock absorber. Explain the construction and working of a telescopic type of shock absorber with the help of neat sketch. 08
b) What is the function of an anti-roll device in vehicles? Explain clearly how it performs the same in actual practice. 05
- Q.5 Write short notes on(any two) 14
- a) Overdrive
 - b) Epicyclic gearbox
 - c) Air suspension
 - d) Macpherson strut type of suspension

Section B

- Q.6 a) Explain the terms 07
i) Camber
ii) King pin inclination.
What are the effects of each on the steering characteristics of a vehicle?
b) What do you understand by backlash in steering gears? Sketch a worm and wheel steering gear and explain its working? 06
- Q.7 a) Discuss with the help of simple sketches, the construction of various types of disc wheels. 07
b) Sketch front axle of car and show how it is connected with the stub axle. 06
- Q.8 a) Describe briefly a 'tandem master cylinder' used in hydraulic braking system. 07
b) Explain briefly the working of 'air brakes'. What are their advantages and disadvantages? 06
- Q.9 a) Draw a layout of the air-conditioning system for a car and explain its working. 07
b) Enumerate the factors which affect battery life. 06
- Q.10 Write short notes on (any two) 14
a) Tubeless tyre & conventional tube tyre.
b) Alternator (A.C. Generator).
c) Disc brakes.
d) Electronic power steering.