

SUBJECT CODE NO:- P-222
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (Mech) Examination May/June 2017
Automobile Engineering
(Revised)

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i) Question number 1 & Question number 6 are compulsory.
 - ii) Solve any two questions from remaining question from each section A & B.
 - iii) Draw neat sketches wherever necessary.
 - iv) Assume suitable data, if required.
 - v) Figures to the right indicates full marks.

Section A

- Q.1 Enlist the layouts of an Automobile with different engine position and drive arrangement. Explain the four wheel drive arrangement with neat sketch. 10
- Q.2 a) Where and Why do we use multiplate clutches? Explain the construction and working of multiplate clutch with the help of diagram. 08
 b) With the help of suitable diagram, describe the construction and working of diaphragm clutch. 07
- Q.3 a) With the help of suitable diagram, explain how constant mesh gearbox works? Discuss the advantages of a constant mesh Gearbox over sliding Mesh type. 08
 b) Explain the common troubles encountered in the gearbox and suggest suitable remedies. 07
- Q.4 a) What is independent suspension system. Which type of independent suspension is mostly used in Front drive vehicles? Explain with neat sketch. 08
 b) What are the different types of rubber springs? Briefly explain each. 07
- Q.5 Write short note on (Any three) 15
 a) Propeller shaft
 b) Differential
 c) Air suspension
 d) Engine selection criteria
 e) H Frame twist beam rear suspension.

Section - B

- Q.6 Explain the term: Camber, castor, steering axis inclination, toe-in and toe-out, scrub radius. What are the effect of each on the steering characteristics of vehicle? 10
- Q.7 a) Enlist the types of steering gearboxes. Describe in detail the rack and pinion type manual steering gearbox by means of simple sketch. 08
 b) Describe in detail construction Features of the tubed and tubeless tyres for automobile use. 07
- Q.8 a) What is the purpose of brake? Briefly describe construction and working of disc brake. Compare them with the conventional drum type brake. 08
 b) Explain Air brake system. 07
- Q.9 a) Draw the layout of various components of a charging system and point out the function of each component. 08
 b) Explain with neat sketch Automobile Air-conditioning system. 07
- Q.10 Write short note on (Any three) 15
 a) Hydraulic brake system
 b) ABS
 c) Electrical and Electronics in doors of Automobile
 d) Wheel alignment and wheel balancing.
 e) Pollution control devices.

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