

B.E. (Mechanical) (Sem - VII) (C.B.)

(3Hrs)

80 Marks

- N.B.:** (1) Question No. 1 is compulsory.  
 (2) Attempt any 3 questions out of 5 questions.  
 (3) Figures to the right indicate full marks.  
 (4) Illustrate your answers with sketches wherever necessary.

- Q.1** Attempt **any four** from following six questions 20
- a) Explain the requirements of Clutches. 05
  - b) Explain the working of differential with sketch. 05
  - c) Explain the difference between sprung and un-sprung mass. 05
  - d) Explain various battery ratings. 05
  - e) Explain the importance of body design. 05
  - f) Explain what do you mean by adaptive cruise control. 05
- Q.2** 20
- a) Explain synchromesh gearbox with sketch. 10
  - b) Explain types of universal joint in detail. 10
- Q.3** 20
- a) Explain steering geometry in detail. 10
  - b) Explain air suspension and its feature in detail. 10
- Q.4** 20
- a) Explain types of live axle with sketches. 10
  - b) Explain different brake actuation methods. 05
  - c) Explain overdrive. 05
- Q.5** 20
- a) Explain the working of lead acid battery with neat sketch. 10
  - b) Explain reversibility of steering gears. 05
  - c) Explain working of combine current and voltage regulator. 05
- Q.6** Attempt any four from following six questions 20
- a) Explain the working of electronic brake distribution with neat sketch. 05
  - b) Explain open, semi-integral and integral structure with neat sketch. 05
  - c) Explain bendix drive in detail. 05
  - d) Explain principle operation of dynamometer in detail with diagram. 05
  - e) Explain different types of tyres. 05
  - f) Explain the difference between disc and drum brake. 05

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