

(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**
