

Q.P. Code : 561801

(3 Hours)

[Total Marks : 80

- N.B.:** (1) Question No.1 is compulsory.
 (2) Attempt any Three questions from remaining Five questions.
 (3) Draw neat and labelled diagram wherever necessary.

1. Write short note on : (Attempt any five questions out of six)
 - (a) 4WD vehicle layout of vehicle. 4
 - (b) Centrifugal clutch. 4
 - (c) CVT. 4
 - (d) Rack & pinion steering gear. 4
 - (e) Brake valve. 4
 - (f) Comparison of radial tyre and cross ply tyre. 4
2. (a) Explain necessity, functional requirements and basic principle of working of clutch. 8
- (b) What is the drawback of constant mesh gear box? Explain working of synchromesh gear box. 8
- (c) Write short note on Mc-pherson strut suspension. 4
3. (a) Explain any one type of gear shifting mechanism. 8
- (b) Explain following terms : 8
 1. Castor, 2. Scrub radius, 3. King Pin Inclination, 4. Combined angle
- (c) Write short note on wishbone type suspension. 4
4. (a) Explain types of wheels and tyre construction. 8
- (b) Explain necessity and working of differential. 8
- (c) Write short note on power steering. 4
5. (a) Explain hotchkiss drive. Also explain the need of slip joint in it. 8
- (b) Explain different types of brake. 8
- (c) Write short note on multiplate clutch. 4
6. (a) Explain hydraulic brake system in detail. What are its drawbacks? 8
- (b) What are limitations of single plate clutch? Explain working and application of multiplate clutch. 8
- (c) Compare transmission, transaxle and transfer case. 4