

**SECTION - B**

7. With neat sketches, explain the working mechanism of the following :
- (a) Electronic power steering. (10)
  - (b) Recirculating ball type gear box used in automobile steering system. (10)
8. (a) What are the requirements for a good automobile braking system ? (5)
- (b) Name the different types of brake systems used in automobiles. With a neat sketch, explain the construction and working of a master cylinder in hydraulic brake system. (15)
9. (a) With a neat sketch, explain the construction and working of drum brakes. Also, compare the disc brakes over drum brakes. (10)
- (b) With a neat sketch, explain the working principle of an Anti-lock Braking System (ABS). Also, enumerate its advantages in automobiles. (10)

Register Number :

Name of the Candidate :

**6 2 5 4****P.G. DIPLOMA EXAMINATION, 2008****(AUTOMOBILE MAINTENANCE)****(PAPER - I)****110. BASICS OF AUTOMOBILES**

December ] [ Time : 3 Hours

Maximum : 100 Marks

*Answer any FIVE questions,  
choosing THREE from Section - A  
and TWO from Section - B.  
All questions carry equal marks.*

**SECTION - A**

1. (a) Draw the assembly of cylinder and piston and mark the different parameters. (10)

**Turnover**

- (b) Explain the cycle of operation of four stroke diesel engine with suitable sketches. Also, mention the advantages and limitations of four stroke engine. (10)
2. (a) With neat sketch, explain the working of a solex carburettor and indicate the different parts. (10)
- (b) Explain with sketches, the operation of a diesel fuel pump and atomiser. (10)
3. (a) What are the requirements of an automobile clutch? (5)
- (b) Explain the construction and working of a multiplate clutch with neat sketch. (15)
4. (a) What is variable velocity universal joint? (5)
- (b) Explain the different types of variable velocity universal joints with neat sketches. (15)

5. (a) Explain the functions of the following components in a coil ignition circuit :
- (i) Condenser.
  - (ii) Ignition coil.
  - (iii) Contact breaker.
  - (iv) Distributor. (10)
- (b) Why are voltage regulator, current regulator and a cutout used in the charging circuit of an automobile? Also, state the periodic maintenance to be carried out on automobile battery. (10)
6. (a) Draw a neat sketch of a telescopic type shock absorber and explain its working mechanism. (10)
- (b) Write short notes on the following :
- (i) Rigid axle suspension systems. (5)
  - (ii) Wiring layout of automobile head light system. (5)

**Turn over**

10. (a) With the help of a sketch, discuss the working principle of a rack and pinion type gear box used in automobile steering system. (10)
- (b) What are power brakes ? Explain its working principle, advantages and disadvantages. (10)

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