

- (ii) Describe the working of torque converter with neat sketch.
 - (b) (i) Explain the construction and working of differential with neat sketch.
 - (ii) Explain king-pin inclination and how it effects vehicle stability.
 - (c) Explain the working of Steering system with a neat sketch/ layout showing its all components.
3. Attempt any *two* parts of the following :— (10×2=20)
- (a) What are the requirements of good braking system ? Discuss the classification of brakes for automotive vehicles.
 - (b) What do you understand by independent suspension system ? Explain Wishbone arm system with neat sketch.
 - (c) Write short notes on the following :—
 - (i) Self energizing brakes
 - (ii) Causes of tyre wear.
4. Attempt any *two* parts of the following :— (10×2=20)
- (a) Describe the main components and working of battery ignition system with neat sketch.
 - (b) What are the functional requirements of diesel engine injection system ? Describe different types of injection nozzles and compare them.
 - (c) What are the advantages of MPFI (multi point fuel injection) over the carburettor system ? Explain MPFI electronic control system with a block diagram.

5. Attempt any *four* parts of the following :— (5×4=20)
- (a) Explain pressurized with cooling.
 - (b) Why overheating and over-cooling of Engine is harmful ?
 - (c) What are multigrade oils and what are their advantages ?
 - (d) Name different types of additives used in lubricating oil.
 - (e) Make comparison between periodic and preventive maintenance.
 - (f) Discuss Mist lubrication system.