

- Q.25 Name different types of leaf spring. Explain any one with neat sketch.
- Q.26 Write the comparison of MPFI with carburetor system.
- Q.27 Write short note on :
 a) Caster b) Toe-in & Toe-out
- Q.28 Explain the principle of differential.
- Q.29 Write the functions of shock absorber.
- Q.30 Give a comparison of dynamo and alternator.
- Q.31 Explain the construction of lead acid battery.
- Q.32 What are the requirements of a good steering system.
- Q.33 Name different brake adjusters.
- Q.34 Explain twin cam 16 valve technology in four cylinders.
- Q.35 Explain Davis steering mechanism with a neat sketch.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Draw a layout of automobile chassis and labels its different components.
- Q.37 Explain the construction and working of constant mesh gear box with a neat sketch.
- Q.38 Explain the principle and working of hydraulic brakes.

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Mechanical Engineering Subject:- Automobile Engineering

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 In which of the following year was the first automobile built?
 a) 1735 b) 1769
 c) 1774 d) 1724
- Q.2 Which of the following is not a part of transmission system.
 a) Clutch b) Wheels
 c) Gear box d) Axle
- Q.3 The torque converter uses _____ to transfer torque.
 a) Air
 b) Automatic transmission fluid (ATF)
 c) Gears
 d) Steel belt
- Q.4 An under inflated tyre will wear the tread most.
 a) Near the centre b) Wear the edges
 c) In the lateral direction d) In the cross direction
- Q.5 The positive plates of a lead acid battery has.

- a) Lead peroxide (PbO_2)
 - b) Spongy lead (pb)
 - c) Lead sulphate ($PbSO_4$)
 - d) Sulphuric acid (H_2SO_4)
- Q.6 Damper is also known as.
- a) Shock absorber b) Torsion bar
 - c) Spring d) Radius rod
- Q.7 Caster is a.
- a) Forward tilt of the king pin
 - b) Backward tilt of the king pin
 - c) Either a or b
 - d) None of these
- Q.8 The parking brakes employed in vehicles are operated
- a) Mechanically b) Hydraulically
 - c) Pneumatically d) None of these
- Q.9 The capacity of a battery is usually expressed in terms of
- a) Volts b) Ampere
 - c) Weight d) Ampere hours
- Q.10 The function of ABS is that is
- a) Reduces the stopping distance
 - b) Minimizes the brake fade
 - c) Maintains directional control during breaking by preventing the wheels from locking
 - d) Prevents nose dives during breaking and there by postpones locking of the wheels

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 The clutch is located between the transmission and the_____.
- Q.12 The tilting of the front wheels away from the vertical, when viewed from the front of the car is called as_____
- Q.13 _____used to check the specific gravity of acid in a battery.
- Q.14 Automobile is a _____ vehicle.
- Q.15 When the clutch pedal is pressed, state whether clutch is engaged or disengaged.
- Q.16 Alternator is an _____ (DC/AC) generator.
- Q.17 Shock absorber works on the principle of _____
- Q.18 A cam changes rotary motion of cam shaft into _____ motion of follower.
- Q.19 Which type of drive of vehicle is used in India (LHD/ RHD).
- Q.20 Name two types of pneumatic tyres.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Write the history and development of automobile.
- Q.22 Draw the power flow diagram in rear wheel drive.
- Q.23 Write short note on CRDI system.
- Q.24 What is universal joint? Explain its function.