

- 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 : 3 Hrs.

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 (PbO₂)
 - b) Spongy lead (Pb)
 - c) Lead sulphate (PbSO₄)
 - d) Sulphuric acid (H₂SO₄)
- 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 thereby 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.