Q.27 Explain the principle of steering and write name of various steering gear boxes.

Q.28 Define toe-In and Toe-Out.

Q.29 Explain the various components of air brake system.

Q.30 Write a short note on working and construction of anti lock brake system.

Q.31 Write the functions of suspension system.

Q.32 Write the advantages of coil spring over leaf springs.

Q.33 Explain the various parts of a shock absorber.

Q.34 Explain the construction of lead acid battery.

Q.35 Explain under-charging of battery.

SECTION-D

Note: Long answer type questions. Attempt any two out of three questions. (2x10=20)

Q.36 Explain the construction and working of constant mesh gear box.

Q.37 What is Steering Mechanism? Describe Ackerman steering system with neat sketch.

Q.38 What is an alternator? Give its principle, Construction and working.

Roll No. .....

5th Sem. / Mech. Engg. (MSIL)

Subject : Automobile Engineering

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following parts does not include an automobile chassis?

a) Differential b) Brakes
c) Steering system d) Shock absorbers

Q.2 Which of the following is not a part of the transmission system?

a) Clutch b) Wheels
c) Gear Box d) Axles

Q.3 Which of the following parameter is not necessary for the description of an automobile?

a) Model b) Type
c) Capacity d) Colour

Q.4 Which of the following is the need of the gearbox?

a) To vary the speed of the vehicle
b) To vary the torque of the vehicle
c) To vary the power of the vehicle
d) To vary the acceleration of the vehicle

Q.5 If the front of the front wheels is inside and rear of front wheels are apart when the vehicle is at rest then the configuration is called?

a) Toe-in b) Toe out

c) Positive camber d) Positive castor

Q.6 What is the angle between the vertical when the top of the wheel slants outward?

a) Negative camber

b) Negative castor

c) Positive camber

d) Positive castor

Q.7 ON what principle does the braking system in the car work?

a) Frictional force

b) Gravitational force

c) Magnetic force

d) Electric force

Q.8 Generally which brakes are on the front wheels?

a) Drum brake b) Disk brake

c) Shoe brake d) Double shoe brake

Q.9 Coil spring absorb shocks by

a) Twisting b) Compression

c) Bending d) Tension

Q.10 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)

SECTION-B

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

Q.11 Define body of a vehicle.

Q.12 Name two components of fuel injection system.

Q.13 Write function of propeller shaft.

Q.14 What is the effect of under-inflated tyres?

Q.15 What is the value of caster angle?

Q.16 Write the function of alignment of wheels.

Q.17 Define sprung weight to the vehicle.

Q.18 Write the function of clutch.

Q.19 What is right hand drive?

Q.20 Name two types of battery cells.

SECTION-C

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

Q.21 Draw layout of automobile chassis and label its different components.

Q.22 What are the advantages and disadvantages of front wheel drive automobiles.

Q.23 With neat sketch, explain MPFI system.

Q.24 Explain the various components of fuel system for a diesel engine.

Q.25 Explain the working principle of differential.

Q.26 Compare tubed and tubeless tyres.