

- Q.25 What is the necessity of gear box?  
 Q.26 Write the functions of tyres.  
 Q.27 Explain the effect & purpose of king pin inclination.  
 Q.28 What are the requirements of a good steering system?  
 Q.29 Write a short note on wheel cylinder.  
 Q.30 Write the functions of suspension system.  
 Q.31 Write a short note on lithium ion batteries.  
 Q.32 Explain the construction of Lead acid Battery,  
 Q.33 What is a dynamo? Write its uses in automobiles.  
 Q.34 Explain the voltage regulator with the help of neat sketch.  
 Q.35 Compare the cross-ply tyres & radial ply tyres.

#### **SECTION-D**

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)  
 Q.36 Explain the construction and working differential with the help of neat sketch.  
 Q.37 Explain anti-lock breaking system (ABS) with the help of neat sketch.  
 Q.38 Explain Principle, construction and working of shock absorber with neat sketch.

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**5th Sem / Mech. Engg.(MSIL)**  
**Subject:- Automobile Engineering**

Time : 3Hrs. M.M. : 100

#### **SECTION-A**

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

- Q.1 What is an automobile?  
 a) Self propelled vehicle  
 b) Used for carrying goods on ground  
 c) Contains the power source for & propulsion  
 d) All of these  
 Q.2 Which of these were or are used in automobiles to provide suspension?  
 a) Coil springs      b) Torsion bar  
 c) Leaf spring      d) All of these  
 Q.3 In which of the following year was the first automobile built?  
 a) 1735      b) 1769  
 c) 1774      d) 1724  
 Q.4 Which of the following automobile has two/four doors?  
 a) Convertible  
 b) Special purpose vehicles  
 c) Pickups  
 d) Sedan

- Q.5 Which of the following parts does not include an automobile classis?  
a) Differential      b) Brake  
c) Steering system      d) Shock absorbers
- Q.6 Which of the following material is used to make connecting rod?  
a) Cast iron      b) Mild steel  
c) Forged steel      d) Tool steel
- Q.7 Where is the clutch located?  
a) Between transmission and engine  
b) Between transmission and rear axle  
c) Between transmission and propeller shaft  
d) Between transmission and differential
- Q.8 In which of the following gearbox all the gears are always in contact?  
a) Constant mesh G.B      b) Sliding mesh G.B  
c) Synchromesh G.B      d) Epicyclical G.B
- Q.9 When the supercharger draws power from engine exhaust gases with the help of gas turbine, what is the supercharger called?  
a) Turbocharger  
b) Vane type supercharger  
c) Root's supercharger  
d) Centrifugal type supercharger

- Q.10 The basic characteristics of a brake fluid is \_\_\_\_\_.  
a) A high boiling point  
b) Low viscosity  
c) Compatibility with rubber and metal parts  
d) All of these

### SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Define the chassis of an automobile.  
Q.12 Write the purpose of wheel alignment.  
Q.13 Tread is the outer most part of the tyres which comes in contact with the road surface (True/False)  
Q.14 What is value of caster angle?  
Q.15 Write the function of propeller shaft.  
Q.16 When the clutch pedal is pressed, clutch is (Engaged/disengaged)  
Q.17 Define steering ratio.  
Q.18 Define Toe in.  
Q.19 Which battery is widely used in automobiles?  
Q.20 What is the other name of cut-out relay?

### SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write the advantages & disadvantages of front wheel drive.  
Q.22 Explain the working of mechanical brake.  
Q.23 Name the various components of transmission system.  
Q.24 Write the advantage & disadvantages cone clutch.