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**6th Sem / Branch : Mechanical Engineering/GE/ME
(Fabrication Tech.)
Sub.: Automobile Engineering**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 What is the number of positive plates in a battery cell? (CO5)
a) One more than the negative plates
b) Two less than the negative plates
c) One less than the negative plates
d) Two more than the negative plates
- Q.2 Which of the following is not a part of the transmission system? (CO2)
a) Clutch b) Wheels
c) Gear Box d) Axles
- Q.3 Where is the clutch located? (CO2)
a) Between transmission and engine
b) Between transmission and rear axle
c) Between transmission and propeller shaft
d) Between transmission and differential
- Q.4 Where is the overdrive located? (CO2)
a) Between transmission and engine
b) Between transmission and rear axle
c) Between transmission and propeller shaft
d) Between transmission and differential

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- Q.5 Which types of gear are used in constant mesh gearbox? (CO2)
a) Spur gear b) Helical gear
c) Bevel gear d) Worm gear
- Q.6 Which types of joints are used when the shafts are inclined? (CO1)
a) Universal joint b) Hinge joint
c) Ball and socket joint d) Pivot joint
- Q.7 What is the angle between the steering axis and the vertical in the plane of the wheel? (CO3)
a) Castor
b) Camber
c) Steering axis inclination
d) Kingpin inclination
- Q.8 What is a condition called when the vehicle will try to move away from its normal direction and to keep it on the right path there is need to steer a little? (CO3)
a) Understeer b) Oversteer
c) Reversibility d) Irreversibility
- Q.9 What is the function of the alternator? (CO5)
a) Recharging the Battery
b) Voltage Regulator
c) Auto-ignition
d) None of the above

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- Q.10 What gets deposited on the plates of a discharged lead acid battery? (CO6)
- a) PbO_2 b) Pb_2O_4
 c) Pb d) PbSO_4

SECTION-B

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

- Q.11 Define an automobile. (CO1)
- Q.12 What is the value of caster angle? (CO3)
- Q.13 What is the effect of under-inflated tyres? (CO2)
- Q.14 What is the function of tie rod? (CO3)
- Q.15 Define steering system. (CO3)
- Q.16 What is the purpose of brakes? (CO4)
- Q.17 Define spring rate. (CO1)
- Q.18 Define sprung weight to the vehicle. (CO1)
- Q.19 Name two types of battery cells. (CO5)
- Q.20 What is dynamo? (CO6)

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. (CO1)
- Q.22 Write the name of Auto mobile's manufactures (4 wheels) in India and give location of their manufacturing unit. (CO1)
- Q.23 Write the functions of transmission system. (CO2)

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- Q.24 Explain the working principle of differential. (CO2)
- Q.25 Compare tubed and tubeless tyres. (CO2)
- Q.26 What is universal joint? Explain its function. (CO3)
- Q.27 Write the principle hydraulic power steering. (CO3)
- Q.28 What are the requirements of a good steering system? (CO3)
- Q.29 Write the purposes served by master cylinder. (CO4)
- Q.30 Write the functions of suspension system. (CO1)
- Q.31 Explain the various parts of a shock absorber. (CO1)
- Q.32 Explain the construction of lead acid battery. (CO5)
- Q.33 Explain under charging of battery. (CO5)
- Q.34 Given a comparison of dynamo and alternator. (CO5)
- Q.35 Write the functions of electrical system in an automobile. (CO6)

SECTION-D

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

- Q.36 Explain the construction features and working of constant mesh gear box. (CO2)
- Q.37 Explain the construction and working of hydraulic brakes with diagram. (CO4)
- Q.38 Explain the construction of working of lead acid battery with diagram. (CO5)

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