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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) PbO₂ b) Pb₂O₄
 c) Pb d) PbSO₄

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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