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6th Sem / Branch : MECHANICAL Engg./GE/Mechanical Engg. (Fabrication Tech.)
Sub. : Automobile Engg.

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following is a component of the transmission system? (CO2)

a) Differential b) Brakes
c) Accelerator d) Shock absorbers

Q.2 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.3 What is the purpose of the reciprocating ball type steering gear? (CO3)

a) To reduce the operating cost
b) To reduce the number of parts
c) To reduce the operating friction
d) To reduce the toe-out during the turns

Q.4 Generally which brakes are on the front wheels?

a) Drum brake b) Disk brake (CO4)

c) Shoe brake d) Double shoe brake

Q.5 What should a fully-charged 6 cell auto motive battery indicate? (CO5)

a) 12V b) 12.6V
c) The specific gravity of 1.29 at 32°C
d) 12.6V and the specific gravity of 1.29 at 32°C

Q.6 In an alternator, which component controls the output? (CO5)

a) Voltage regulator b) Cutout relay
c) Current regulator d) Diode

Q.7 Which of the following is the disadvantage of the cone clutch? (CO2)

a) It becomes difficult to disengage the clutch when the cone angle is less than 20°
b) It is silent in operation
c) The normal forces on the contact surface is larger than the axial force
d) Same torque can be transmitted for the same size as the plate clutch

Q.8 Which of the following is the need of the gearbox?

a) To vary the speed of the vehicle (CO2)
b) To vary the torque of vehicle
c) To vary the power of the vehicle
d) To vary the acceleration of the vehicle

Q.9 What is the function of an Anti-lock braking system?

a) Used for car parking (CO4)
b) To maintain tractive force

c) Programming the sysetm

d) To drive the car

Q.10 Which types of gears are used in constant mesh gearbox? (CO2)

a) Spur gear b) Helical gear

c) Bevel gear d) Worm gear

SECTION-B

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

Q.11 When was the first automobile made? (CO1)

Q.12 Define governing. (CO1)

Q.13 Give the advantage of auto transmission. (CO2)

Q.14 What do you mean by re-treading of tyres. (CO3)

Q.15 Hydraulic brake works on the principle of ___(CO4)

Q.16 Write the function of shock absorber. (CO4)

Q.17 What is the function of dynamo in automobiles?(CO5)

Q.18 Expand ABS. (CO4)

Q.19 What is the need of rotation of tyres? (CO3)

Q.20 Write the function of differential. (CO2)

SECTION-C

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

Q.21 Name any 5 Automobile manufacturers and their locations. (CO1)

Q.22 Write short note on ECM-8 bit and 16 bit. (CO1)

Q.23 Explain the working of centrifugal clutch. (CO2)

Q.24 Write short note on torque converter. (CO2)

Q.25 What is the function of Universal joints. Explain with diagram. (CO2)

Q.26 Explain the need of Toe-in and Toe-out with diagrams. (CO3)

Q.27 Discuss the working of Davis Steering with its diagram. (CO3)

Q.28 Write the procedure of brake adjustment. (CO4)

Q.29 Write short note on leaf springs. (CO2)

Q.30 Write the procedure of checking of battery or voltage and specific gravity. (CO5)

Q.31 Discuss briefly electric Vehicles. (CO1)

Q.32 Write short note on working of regulators. (CO5)

Q.33 Draw the wiring diagram of an automobile. (CO5)

Q.34 Write short note on maintenance of batteries. (CO5)

Q.35 Explain the line diagram of transmission system. (CO2)

SECTION-D

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

Q.36 Explain the working of Power steering with its line diagram. (CO3)

Q.37 a) Explain Air/Vacuum brakes (CO4)

b) Bleeding of brakes

Q.38 Explain the working of a sliding mesh gear box with 3 forward and 1 reverse gear. (CO2)