

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name : Automobile Engineering

Subject Code : 4TE06AEN1

Branch : B.Tech (Mechanical)

Semester : 6

Date :17/05/2016

Time :2:30 To 5:30

Marks :70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1

Attempt the following questions:

(14)

- 1) The purpose of four-wheel drive is
 - (a) clutch operation is simplified
 - (b) road adhesion is increased
 - (c) road adhesion is decreased
 - (d) cooling of engine is simplified
- 2) The function of universal joint is to allow propeller shaft to
 - (a) change the length
 - (b) change the inclination
 - (c) transfer the torque at an angle
 - (d) none of the above
- 3) The angle formed by the wheel with the vertical when the top of the wheel slants outwards is called
 - (a) positive caster
 - (b) negative caster
 - (c) positive camber
 - (d) negative camber
- 4) The spring commonly used in heavy duty automobile is
 - (a) coil spring
 - (b) elliptical leaf spring
 - (c) plastic spring
 - (d) semi elliptical leaf spring
- 5) A 12 V lead acid battery consists of
 - (a) 9 cells
 - (b) 6 cells
 - (c) 12 cells
 - (d) 10 cells
- 6) Brake in car are usually operated
 - (a) mechanically
 - (b) hydraulically
 - (c) by compressed air
 - (d) by engine vacuum.
- 7) Fading of brake occurs
 - (a) high speed
 - (b) low speed
 - (c) continuous operation
 - (d) brake lining wear out



- 8) Increase in torque in automobile is obtained by
 (a) Increasing the speed (b) Decreasing the speed
 (c) Increasing the power (d) Decreasing the power
- 9) The component of the torque converter that redirects the flow to the impeller is
 (a) Stator (b) Turbine (c) Pump (d) Freewheel unit.
- 10) Overdrive is placed
 (a) before gearbox (b) in between propeller shaft and gear box
 (c) after propeller shaft (d) in between engine and gear box
- 11) Which type of clutch does not require clutch pedal?
 (a) single plate (b) multi plate (c) centrifugal (d) cone
- 12) The differential unit consists
 (a) one bevel pinion (b) two bevel pinion
 (c) three bevel pinion (d) four bevel pinion
- 13) In Disc clutch, engine flywheel acts as a
 (a) driving plate (b) driven plate
 (c) pressure plate (d) none of the above
- 14) The following diverts the power at right angles towards the driving wheels
 (a) torque tube (b) transfer case
 (c) final drive (d) differential

Attempt any four questions from Q-2 to Q-8

- Q-2** **Attempt all questions** **(14)**
- (a) Draw the layout of transmission system of rear wheel drive vehicle and explain about various parts on it? **(07)**
- (b) What are the differences between Frame, Chassis and Body? Give classification of Chassis of Automobiles. **(07)**
- Q-3** **Attempt all questions** **(14)**
- (a) Discuss the factors effecting the torque transmission by a friction clutch. **(07)**
- (b) Explain the working of multiple clutch with the help of neat sketch. When it is generally preferred? **(07)**
- Q-4** **Attempt all questions** **(14)**
- (a) Explain the working of three forward speed and one reverse constant mesh type gear box. **(07)**
- (b) Draw and Explain working of CVT with neat sketch. **(07)**



