Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Automobile Engineering
Subject Code: 4TE06AEN1 **Branch: B.Tech (Mechanical)**
Semester: 6 **Date: 29/04/2019** **Time: 10:30 To 01:30** **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.

Q-1 **Attempt the following questions:** **(14)**

a) The condition that causes vapour locking in a brake system is **1**

A. overheating of the fluid due to frequent brake application

B. overcooling of the brakes during high speed driving

C. keeping the vehicle without use for an extended period

D. an excessively high engine speed on a downhill road

b) The motion of the cam is transferred to the valves through **1**

A. pistons

B. rocker arms

C. camshaft pulley

D. valve stems

c) Which of the following symptom is caused as a result of brake disc run out ? **1**

A. Ineffectiveness of the brakes

B. Judder during braking

C. Localized wearing of the brake pads

D. Rapid wearing of the brake pads

d) A clutch is usually designed to transmit maximum torque which is **1**

A. equal to the maximum engine torque

B. 80 per cent of the maximum engine torque

C. 150 per cent of the maximum engine torque

D. none of these

e) In radial tyres **1**

A. one ply layer runs diagonally one way and another layer runs diagonally the other way

B. all plies run parallel to one another and vertical to tyre bead

C. inner tubes are always used

D. none of these

f) An a ventilated disc brake, **1**

A. a duct directs air towards the caliper for cooling while the vehicle is moving

B. caliper is covered with cooling fins

C. disc contains many small holes for optimum cooling performance

D. disc contains radial vanes between its rubbing surfaces for optimum cooling performance

g) The effect of having excess camber is **1**

A. excessive steering alignment torque

B. hard steering

C. too much traction

D. uneven tyre wear

h) The operation of removing trapped air from the hydraulic braking system is known as **1**

A. trapping

B. tapping

C. bleeding

D. cleaning

i) Enlist types of clutches. **1**
j) Define wheel wobble. **1**
k) Define wheel skidding. **1**
l) Enlist main component and vehicle assemblies **1**
m) Enlist types of car body styles. **1**
n) Enlist different types of final drives **1**

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

Q-2 **Attempt all questions** **(14)**
(A) Explain various resistances acting on a vehicle in motion. **7**
(B) With neat sketch explain construction and working of a single plate clutch **7**

Q-3 **Attempt all questions** **(14)**
(A) Explain with neat sketch vehicle layout for automobile of rear engine rear wheel **7**

		drive with its advantages.	
	(B)	Explain the rear axle shaft supporting of 1. Semi floating 2. Full floating.	**7**
Q-4		**Attempt all questions**	**(14)**
	(A)	Explain in detail Telescopic type shock absorber.	**7**
	(B)	Write a short note on Power steering	**7**
Q-5		**Attempt all questions**	**(14)**
	(A)	Explain the working of internal expanding shoe brake with neat sketch.	**7**
	(B)	What is transfer box? Where it is used? Explain clearly the construction and working of transfer box.	**7**
Q-6		**Attempt all questions**	**(14)**
	(A)	Which are the basic considerations for suspension system?	**7**
	(B)	Discuss various types of disc wheels with suitable diagrams.	**7**
Q-7		**Attempt all questions**	**(14)**
	(A)	Explain Drum brakes and also explain the term "Bleeding of brakes"	**7**
	(B)	Write a short note on vaccum assisted brakes.	**7**
Q-8		**Attempt all questions**	**(14)**
	(A)	Discuss the functions of frames. Explain briefly the various types of chassis construction with the help of suitable diagram.	**7**
	(B)	Describe briefly and electromagnetic clutch. Discuss its merits and demerits.	**7**