

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name : Automotive Electrical and Electronics

Subject Code : 4TE05AEE1

Branch: B.Tech (Automobile)

Semester : 5

Date : 31/03/2018

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)	A battery consists of A) A cell B) A circuit C) A generator D) A number of cell	01
b)	Electrolyte is a mixture of A) HCl and Water B) PbSO ₄ and Water C) H ₂ SO ₄ and Water D) HCl and H ₂ SO ₄	01
c)	The current flow through electrolyte is due to the movement of _____ A) Electrons B) Protons C) Holes D) Ions	01
d)	Vent plug is used for.....in battery A) To rum cranking motor B) To produce the current C) To provide earthing D) Pouring electrolyte and water	01
e)	The capacity of a cell is measured in A) Amperes B) Ampere-hours C) Watt D) Watt-hours	01
f)	Which battery is used in aeroplanes? A) Dry cell battery B) Lead acid battery C) Edison cell D) None of these	01
g)	When the starting motor will not crank the engine or cranks it too slowly, the first thing to check is A) Battery B) Wiring and cables C) Solenoid D) Starting motor	01
h)	Which one is not the accessories of car? A) Oil pressure gauge B) Horn C) Car heater D) Automatic door switch	01
i)	The instrument used to check specific gravity of acid in a battery is A) Hydrometer B) Hygrometer C) Anemometer D) Multimeter	01
j)	The range of specific gravity of electrolyte used in battery is A) 0.050-1.000 B) 1.000-1.150 C) 1.150-1.250 D) 1.250-1.350	01



- k) In commercial vehicle, batteries ofAmpere-Hours are used 01
 A) 43-50 B) 70-75 C) 90-240 D) 78-135
- l) The ratio between the number of teeth on the starter motor pinion gear and the 01
 engine flywheel is about
 A) 1:1 B) 1:5 C) 1:20 D) 1:50
- m) The negative plates of a lead acid battery has 01
 A) Lead peroxide B) Spongy lead C) Lead sulphate D) Sulphuric acid
- n) In Ignition coil, the ratio between the number of turns of primary and secondary 01
 windings is about
 A) 1 to 50 B) 1 to 100 C) 1 to 200 D) 1 to 400

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

- Q-2 Attempt all questions (14)**
 (a) Explain Starting system and Ignition system of Vehicle. 07
 (b) Explain Positive and Negative earthing. 07
- Q-3 Attempt all questions (14)**
 (a) Write short notes on Battery Ratings and Battery efficiency. 07
 (b) Explain in detail Cam angle and Contact Points Gap. 07
- Q-4 Attempt all questions (14)**
 (a) Explain Working of CRDI system. Also write its advantages and disadvantages. 07
 (b) Explain with the help of a neat diagram the working of balancing coil type oil pressure gauge. 07
- Q-5 Attempt all questions (14)**
 (a) Explain the characteristics of the ideal spark plug. 07
 (b) Explain with the help of neat sketch the electric horn and its relay. 07
- Q-6 Attempt all questions (14)**
 (a) What is traction? Explain traction control system in vehicle with neat sketch 07
 (b) Explain with neat sketch Anti-lock braking system. Also define its component in detail. 07
- Q-7 Attempt all questions (14)**
 (a) Explain windscreen wiper. 07
 (b) Classify and explain battery failures. 07
- Q-8 Attempt all questions (14)**
 (a) What is headlight dazzle? Discuss the various causes of dazzle. 07
 (b) Enlist the sensor used in automobile and explain any two in detail. 07

