PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.TECH MIDSEM EXAMINATION
SEMESTER- 8
ACY-2023-24 (EVEN SEM)

Subject Name: Modern Automotive Control System - 203102487   **Branch:** Automobile Engineering
Date: 30.01.2024   **Time:** 10.30 AM to 12.00 PM   **Total Marks: 40**

Sr. No.		Marks
Q.1 (A)	One line Questions:	5
1.	Draw the symbol of NOT Logic Gate.	
2.	Give the full form of EGR system.	
3.	In computer control of evaporative emissions system, canister contains activated charcoal which has the ability to bind toxic substances into hydrocarbon molecules. Statement is true or false.	
4.	Diagnostic trouble codes are an important part of fault finding and DTCs are stored in the computer memory. Statement is true or false.	
5.	When ABS operation stops the modulator pump continues to run for approximately 5 Minutes in order to ensure that the hydraulic accumulators are half filled. Statement is true or false.	

Q.1 (B)	Compulsory Question:	5
1.	ABS prevents any further pressure from reaching the brake. This is known as the _____. (a) pressure reduction phase (b) pressure retention phase (c) pressure increase phase (d) None of the above	
2.	In the constant energy ignition system, the period between switching on and switching off the ignition coil primary current is called the _____. (a) dwell period (b) rising period (c) falling period	
3.	In _____, there are two electronic devices involved in the operation of the basic device. One is a light-emitting diode, which converts electricity into light, and the other is a photodiode that can be 'switched on' when the light from the LED falls on it. (a) optoelectronic sensor (b) hall effect sensor (c) variable resistance sensor (d) None of the above	
4.	"NAND" Logic Gate is applied, If input A = 0 & B = 1 than output X= ____. (a) 1 (b) 0 (c) -1 (d) None of the above	
5.	"XOR" Logic Gate is applied, If input A = 0 & B = 1 than output X=____. (a) 1 (b) 0 (c) -1 (d) None of the above	

Q.2   Attempt any four(Short Questions)   12
1.   Draw a layout of the fundamental parts of computer and explain in detail.
2.   List out the name of sensors involved in MPFI system, also give the full-form
      of MPFI.
3.   What is the function of the engine management system?
4.   Explain series and parallel data transmission.
5.   Explain spill control (fuel quantity) operating conditions of computer
      controlled diesel engine management systems.

Q.3   Attempt any two   8
1.   Discuss a computer control of evaporative emissions control system.
2.   Explain a working of the distributor-less ignition system with neat diagram.
3.   Illustrate the application of "OR Gates" in automobile vehicles system.

Q.4 (A)   Discuss a computer controlled transmission system.   05

Q.4 (B)   Describe stability control, explain how it assist the vehicle during   05
          oversteering condition.
                                        OR
Q.4 (B)   Describe the operation of ABS in detail with neat diagram.   05