PRN:		Course Code :	P71PC101

First Year **M. Tech** End Semester Examination Winter 2024

Automotive Electronics-I 000444

Day and Date: Sat 30 [illegible] 2024 Max Marks: **50**

Time : 10:30AM To 12:30PM Duration: **02** hrs

Instructions:
1. All questions are compulsory.
2. Assume suitable data wherever necessary and mention it clearly.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following Question.**			
	a)	i) Classify transducers based on the principle of operation.	5	3	1
		ii) Demonstrate the use of piezoelectric transducer for measurement of acceleration.	5	3	1
Q.2		**Attempt the following Question.**			
	a)	List different components of a parking assistance system for an automobile? Explain with circuit diagram.	10	4	1
		OR			
	b)	Illustrate in detail lighting system of automobile.	10	3	2
Q.3		**Attempt the following Question.**			
	a)	Explain engine management system (EMS) for diesel engine.	10	5	2
		OR			
	b)	Explain gasoline engine management system.	10	5	2
Q.4		**Attempt the following Question.**			
	a)	Justify the use of oxygen sensor in automobile and also explain working principle of solenoids.	10	6	4
		OR			
	b)	Analyze steering wheel angle sensor in automobile and also explain working of relay in detail.	10	4	4
Q.5		**Attempt the following Question.**			
	a)	Elaborate lead acid battery and its charging method for prolonged life.	10	4	3
		OR			
	b)	Elaborate in detail the charging circuit for an automobile and also fuel cell in detail.	10	4	3

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