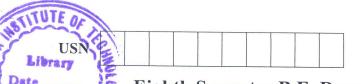
## 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8=50, will be treated as malpractice. Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.



## Eighth Semester B.E. Degree Examination, June/July 2019

## **Autotronics**

Weal on Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

		at least IWO questions from each part.	
		PART - A	
1	a. b.	Define mechatronics. List out the advantages and disadvantages of mechatronics. Explain with a block diagram engine management system using microprocessor.	(10 Marks) (10 Marks)
2	a.	Define the following performance terminology:  i) Range ii) Span iii) Sensitivity	
	b.	iv) Accuracy. Sketch and explain the working principle of following: i) Pneumatic sensor	(08 Marks)
		ii) Hall effect sensor	(12 Marks)
3	a. b.	Explain the principle of brushless D.C. permanent magnet with a neat sketch.  Write symbolic representation and explain the following:  i) Diode  ii) Thyristor  iii) Transistor  iv) Solenoid  v) TRIAC (Triode AC Switch)	(10 Marks)
y.			(10 Marks)
4	a. b.	List the process involved in signal conditioning and briefly explain them.  What are different types op-amp? Explain and obtain the voltage gain of the amplifier.	(10 Marks) e inverting (10 Marks)
5	a.	What are logic gates? With the help of symbol and truth table, explain the (i) NOT (ii) AND (iii) OR (iv) XOR	
	b.	Convert the following: i) $(48)_{10} = ($ $)_2$ ii) $(1101.11)_2 = ($ $)_{10}$ iii) $(2747)_8 = ($ $)_{10}$ iv) $(736)_8 = ($ $)_2$	(10 Marks)
		v) $(42AB)_{16} = ( )_{10}$	(10 Marks)
6	a. b.	Explain with neat sketch pin configuration of Intel 8085 microprocessor. List out the difference between Microprocessor and Microcontroller.	(12 Marks) (08 Marks)
7	a.	Explain the difference between parallel and serial interface and also describe the that can be required of an interface.	functions (12 Marks)

that can be required of an interface.

b. With a neat flow chart discuss the programming process.

(12 Marks)

(08 Marks)

8 a. Explain the different automotive applications used in a mechatronics system.
b. Draw and explain the timing diagram memory operation. (10 Marks)
(10 Marks)

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