Q.P. Code: 16ME332 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech IV Year II Semester Regular Examinations September 2020

MECHATRONICS

(Mechanical Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	**a**	Why is CNC machining necessary? Define CNC.	**4M**
	b	Distinguish between Robot, industrial robot and humanoid robot.	**8M**
		OR	
2	**a**	Draw with neat sketch of open loop control system and explain it.	**8M**
	b	What are the differences between GPOS and RTOS?	**4M**
		UNIT-II	
3	**a**	What is filter? And give a classification of filters.	**6M**
	b	Explain characteristics of ideal filters with neat sketches.	**6M**
		OR	
4	**a**	What are the properties of resistor?	**4M**
	b	What is meant by resolution? Write common widescreen resolution in compute.	**8M**
		UNIT-III	
5	**a**	Describe the basic components of pneumatic system with neat diagram.	**6M**
	b	Draw the switch contact configurations. Explain uses.	**6M**
		OR	
6	**a**	Draw motor drive system with velocity and angular position feedback explain it.	**7M**
	b	What are the control valves function in hydraulic system?	**5M**
		UNIT-IV	
7	**a**	Describe the working of bipolar transistor with a neat sketch.	**8M**
	b	Distinguish NPN and PNP transistors.	**4M**
		OR	
8	**a**	What is MOSFET? Explain two functions with neat sketch?	**8M**
	b	What is a Buffer in Electronics?	**4M**
		UNIT-V	
9	**a**	Draw ladder logic diagram and describe it with few examples of industrial automation.	**6M**
	b	What are the applications of 8051 microcontroller?	**6M**
		OR	
10	**a**	How does a work internal relay in PLC with sketch explain it?	**6M**
	b	Draw flip flop shift register and explain it.	**6M**

*** END ***