Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 10-10-2025 **Time:** 11.45am to 01.15pm

School: SOE	**Program:** B. Tech	
Course Code: MEC3006	**Course Name:** Mechatronics	
Semester: V	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Marks	**19**	**31**	**-**	**-**	**-**	**-**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. 5Q x2M=10M

1	Define transducer	**2 Marks**	**L1**	**CO2**
2	Define sensor	**2 Marks**	**L1**	**CO1**
3	Explain primary and secondary transducer	**2 Marks**	**L2**	**CO2**
4	Define Mechatronics	**2 Marks**	**L1**	**CO1**
5	Define Actuators	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. Total Marks 40 M

6.	**a.**	Define Mechatronics and list out advantages and disadvantages of mechatronics.	**5 Marks**	**L1**	**CO2**
	b.	Draw a neat block diagram of a generalized measurement system.	**5 Marks**	**L2**	**CO2**
Or					

7.	**a.**	Define control system and different types of control systems.	**5 Marks**	**L1**	**CO2**
	b.	Enumerate the difference between open loop and closed loop control system.	**5 Marks**	**L3**	**CO2**

8.	**a.**	With a block diagram explain the working of a microprocessor controlled washing machine.	**7.5 Marks**	**L2**	**CO1**
	b.	With a block diagram explain the working of a microprocessor controlled automatic camera	**7.5 Marks**	**L2**	**CO1**
		Or			
9.	**a.**	With a block diagram explain the working of a microprocessor-controlled engine management system.	**7.5 Marks**	**L2**	**CO1**
	b.	Explain programmable logic controller.	**7.5 Marks**	**L2**	**CO1**

10.	**a.**	Explain with a simple sketch the constructional features of an absolute encoder.	**7.5 Marks**	**L2**	**CO2**
	b.	Explain with a simple sketch the constructional features of an incremental encoder.	**7.5 Marks**	**L2**	**CO2**
		Or			
11.	**a.**	Explain the principle and working of proximity sensor.	**7.5 Marks**	**L2**	**CO2**
	b.	Explain the principle and working of Hall Effect sensor.	**7.5 Marks**	**L2**	**CO2**