Name. _____ **Student Admn. No.: _____**	**Printed Pages:01**

School of _____

Semester end term examination Semester-: Winter 2022-23, June 2023

[Programme:] [Semester II&IV] [Batch:]

Course Title: Sensors and Transducers **Course Code:G2UB403T /BTME3022**	**Max Marks: 100** **Time:3 hrs.**

Instructions:	*1. All questions are compulsory.* *2. Assume missing data suitably, if any.*

SECTION-A 15 marks, 5 marks each

S. No	QUESTION	K level	COs	Marks
1.	Explain the advantages and limitations of temperature Sensor.	KL2	CO3	5
2.	Identify the suitable temperature sensor and light sensor for the measurement of high temperature measurements.	KL3	CO4	5
3.	Compare the working principle of thermocouple and thermistors.			5
	SECTION-B 40 marks, 10 marks each			
4.	Compare the working principle of sensors and transducers. Discuss sensors specifications in detail.	KL2	CO3	10
5.	Differentiate between span and range of a transducer system	KL3	CO4	10
6.	List the applications of potentiometer sensor in/around your home and office/ university.	KL4	CO5	10
7.	State the applications of pyroelectric sensors.			10
	SECTION-C 45 marks, 15 marks each			
8.	Develop a conceptual design of a Light sensors based control system for counting a number of milk packets being packed for discharge. Assume suitable data if necessary.			15
9.	What kind of signal conditioning operations will be required to develop a table top CNC turning center for small job works?			15
10.	Explain the importance of data conversion devices in Mechatronics with suitable example.			15