Roll No.....

National Institute of Technology, Delhi

Name of the Examination: B. Tech. Re – Mid Semester Examination-2023

Branch : **EE** **Semester** : **3rd**

Title of the Course : **Electrical and Electronics Measurements** **Course Code** : **EEBB 204**

Time: 1.5 Hours **Maximum Marks: 25**

Note:- 1. Do not write anything on the question paper except Roll number
2. Assume any data suitably if found missing

Q. No.	Questions	Marks	CO	BL
1	(a) What do you mean by Resolution of instrument in Measurement? (b) Define Hysteresis. (c) Define Static Calibration. (d) Define Linearity. (e) Define Dead Time.	5X1=5	CO1	L 3,4 1,2,3
2	What do you mean by Q-factor and Discuss the steps of Measurements?	2.5	CO1	L2
3	What do you mean by Misuse of Measuring Instruments?	2.5	CO3	L2
4	Determine the static sensitivity with detailed mathematical formula.	2.5	CO3	L3
5	Draw the circuit and derive the equation for bridge balance. Also write the general form of ac bridge.	2.5	CO2	L3
6	(a) Explain the Hay's Bridge for measurement of unknown values. (b) Explain and draw the circuit diagram of Anderson's bridge for measurement of self-inductance of low Q coils and write the advantages and disadvantages.	5	CO4	L2
7	A bridge consists of arm AB, iron core with resistance R1 and inductance L1, arm BC, a pure resister R3 arm CD, lossless capacitor C4, arm DA, Capacitor C2 in series with resistance R2. At balance R3=10Ω, R2= 842 Ω, C2=0.135 μF, and C4= 1 μF. Calculate power factor of coil at supply frequency of 1000Hz.	5	CO2	L4

CO – Course Outcomes; **BL** – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analyzing, 5 –Evaluating, 6 - Creating);