

THIRD SEMESTER B. TECH (ELECTRONICS AND INSTRUMENTATION) PROCTORED ONLINE END SEMESTER EXAMINATION Dec. 21/Jan. 22

SUBJECT: Electronic Measurements (ICE-2153)

TIME: 9:20-10:35 AM

DATE:24-01-2022

MAX MARKS 20

Note: Answer All questions.

1	A	Draw a circuit for 5X5 LED dot matrix displaying number 'one' addressed in both Cathode Column-Anode Row (CCAR) and Anode Column-Cathode Row (ACCR) arrangement.	3M
	В	The four arms of a bridge are: Arm AB: an imperfect capacitor C1 with equivalent series resistance of r1. Arm BC: a non-inductive resistance R3 Arm CD: a non-inductive resistance R4 Arm DA: an imperfect capacitor C2 with an equivalent resistance of r2 series with resistance R2 Frequency=450Hz, arm AC: supply, arm BD: detector At balance, R2=4.8 Ω , R3=2000 Ω , R4=2850 Ω , C2=0.5 µF, r2=0.4 Ω Calculate the value of C1 and r1 and also the dissipation factor of unknown capacitor.	3М
	С	State the uses of Q-meter and explain the procedure of measuring quality factor of unknown components connected in parallel to Q-meter with necessary equations.	4M
2	A	Explain the working of high impedance and active probe with necessary sketches.	3M
	B	Explain the working of wave analyzers used in audio range with its block diagram.	3M
	С	Write the four differences between frequency modulation recording and pulse duration modulation recording.	2M
	D	Derive an expression for total harmonic distortion.	2M