

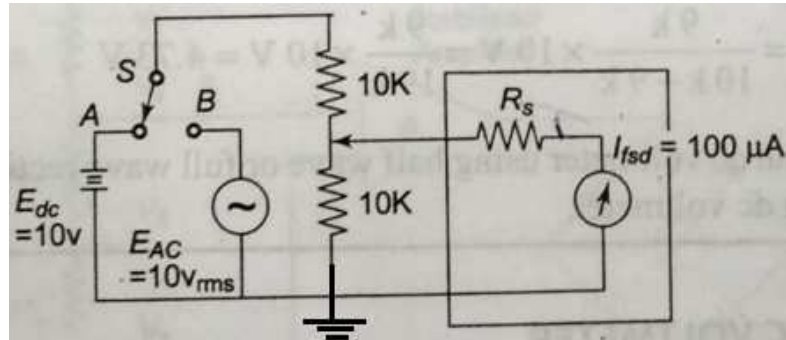
Visvesvaraya Technological University, Belagavi
MODEL QUESTION PAPER
 3rd Semester, B.E (CBCS 2017-18 Scheme)EC/TC
 Course: 17EC32- Electronic Instrumentation, *Set no.1*

Time: 3 Hours

Max. Marks: 100

**Note: (i) Answer Five full questions selecting any one full question from each Module.
 (ii) Question on a topic of a Module may appear in either its 1st or/and 2nd question.**

		Module-1	Marks
1	a	Explain accuracy, precision, resolution and significant figures	8
	b	Design an Arytons shunt to provide an ammeter with a current range of 0-1 mA, 10mA, 50 mA and 100 mA. A D' Arsonval movement with an internal resistance of 100 Ohms and full scale current of 50 μ A is used	12
OR			
2	a	Explain RF Ammeter and different types of thermocouples and limitations of Thermocouples.	8
	b	Determine the reading obtained with a DC voltmeter in the given circuit, when is switch is set at position A then the switch is moved to position B and determine the reading obtained with a half-wave rectifier and full-wave rectifier AC voltmeter. All meters use 100 μ A full scale deflection meter movement and are set on 10 V DC or RMS ranges	12



		Module-2	
3	a	Explain the Integrating type DVM (voltage to frequency) with relevant equations	10
	b	Explain the universal counter with a neat block diagram explaining the significance of the different blocks	10
		OR	
4	a	Explain dual slope integrating type DVM with expression.	10
	b	Explain the working and construction of a Digital Frequency Meter with neat diagrams	10
		Module-3	
5	a	Explain briefly the working of a function generator with a neat block diagram	10
	b	Explain basic principle of Oscilloscope	10
		OR	
6	a	Explain the features of CRT. Explain the different types of sweeps generated	10
	b	Explain briefly the working of a modern laboratory signal generator	10
		Module-4	
7	a	Explain Maxwells bridge and derive the expressions for Rx, Lx and Q-factor.	8
	b	Explain Q-meter? The self-capacitance of a coil is measured. The first measurement is at $f_1 = 1$ MHz and $C_1 = 500$ pF. The second measurement is at $f_2 = 2$ MHz and $C_2 = 110$ pf. Find the distributed capacitance also find the value of L	12
		OR	
8	a	Explain Megger with a neat diagram	8
	b	Derive the balanced equation for WheatStone's bridge. Also derive the unbalanced Wheatstone's bridge and write the limitations	12
		Module-5	
9	a	Explain the parameters of electrical transducers and mention its advantages	10
	b	What is a thermistor? Explain the different types of thermistor?	10
		OR	

10	a	Explain LVDT with neat diagrams and relevant graphs	10
	b	Explain resistance thermometer with neat diagrams and write expressions. Mention its limitations	10
