	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE **Supplementary Examination – Summer 2022** **Course: B. Tech. Branch :Electrical Semester :III** **Subject Code & Name: Measurement & Instrumentation(BTEEC304)** **Max Marks: 60 Date: Duration: 3 Hr.**		
	Instructions to the Students: *1. All the questions are compulsory.* *2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.* *3. Use of non-programmable scientific calculators is allowed.* *4. Assume suitable data wherever necessary and mention it clearly.*		
		(Level/CO)	Marks
Q. 1	**Solve Any Two of the following.**		
A)	**Describe direct & indirect methods of measurements**	(CO1)	**6**
B)	**Define the terms 1.Repeatability 2.Reproducibility 3.Accuracy**	(CO1)	**6**
C)	**Explain the term standard & state its types.**	(CO1)	**6**
Q.2	**Solve Any Two of the following.**		
A)	**Describe the construction & working of PMMC instrument.**	(CO2)	**6**
B)	**Explain the instrument transformer CT & PT**	(CO2)	**6**
C)	**Explain the electro dynamometer type wattmeter**	(CO2)	**6**
Q. 3	**Solve Any Two of the following.**		
A)	**Explain working & application of Q-meter**	(CO3)	**6**
B)	**Classify & explain different methods of measuring Low,Medium & High resistance.**	(CO3)	**6**
C)	**Coil of 300 MI voltmeter has resistance 500 ohm & inductance of 0.8 Henry.The instrument reads correctly at 50 Hz ac supply & takes 100 mA at full scale deflection. Analyze the percentage error in the instrument reading when it is connected to 200v DC supply**	(CO1)	**6**
Q.4	**Solve Any Two of the following.**		
A)	**Draw & explain the block diagram of digital voltmeter**	(CO4)	**6**
B)	**Explain with neat sketch RVDT**	(CO5)	**6**
C)	**Explain thermocouple & RTD with its operation**	(CO5)	**6**
Q. 5	**Solve Any Two of the following.**		
A)	**Explain different types of recorders.**	(CO6)	**6**

B)	**Draw & explain block diagram of Digital Storage Oscilloscope(DSO)**	(CO6)	**6**
C)	**Two wattmeter connected to measure input to balanced three phase circuit indicates 1500W & 400W respectively. Find the power factor of the circuit. i)When the both readings are positive ii)When the latter reading is obtained after reversing the connection to current coil of the first instrument.**	(CO5)	**6**
	***** End *****		

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