KADI SARVA VISHWAVIDYALAYA
B.E. SEMESTER 4TH EXAMINATION MAY-2014

SUBJECT CODE: EC-405
SUBJECT NAME: ELECTRONICS MEASUREMENTS & MEASURING INSTRUMENTS
DATE: 15/05/2014 **TIME: 10.30 AM To 01.30 PM** **TOTAL MARKS: 70**

Instructions:
1. Answer Each Section in Separate Answer sheet.
2. Use of Scientific Calculator is permitted.
3. All questions are compulsory.
4. Indicate **clearly**, the options you attempted along with its respective question number.
5. Use the last page of supplementary for rough work.

SECTION - I

Que.1 **(A)** **Define Following Terms.** **(5)**
1) Accuracy
2) Sensitivity
3) Error
4) Transducer
5) Arithmetic Mean

(B) Explain Wheatstone Bridge with necessary diagram. **(5)**

(C) A set of independent voltage measurements taken by four observers was recorded as 117.02V, 117.11V, 117.08V & 117.03V. Calculate 1) Average Voltage 2) Range Of Error. **(5)**

OR

(C) Write short note on LCD. **(5)**

Que.2 **(A)** Explain Ramp type Digital Voltmeter. **(5)**

(B) Explain Data Acquisition System with block diagram. **(5)**

OR

(A) Explain construction and operation of LVDT. **(5)**

(B) Explain Horizontal Deflection system in CRO. **(5)**

Que.3 **(A)** Explain Maxwell Bridge & justify that it is limited to the measurement of medium Q coils. **(5)**

(B) Write short note on Piezoelectric Transducer. **(5)**

OR

(A) Explain BCD to 7 Segment display in detail. **(5)**

(B) Write short note on Dot Matrices. **(5)**

SECTION – II

Que.4	**(A)**	Write short note on Hay's Bridge.	**(5)**
	(B)	Explain Photo electric Transducer.	**(5)**
	(C)	Explain the objectives & features of DAS.	**(5)**
		OR	
	(C)	Write short note on Digital Storage Oscilloscope.	**(5)**
Que.5	**(A)**	What is Strain Gauge? Derive the equation for gauge factor of a Strain Gauge.	**(5)**
	(B)	Explain block diagram of a Function Generator.	**(5)**
		OR	
	(A)	Write short note on a Q meter.	**(5)**
	(B)	Explain block diagram of a Pulse & Square wave Generator.	**(5)**
Que.6	**(A)**	Write a short note on Spectrum Analyzer.	**(5)**
	(B)	The AC Bridge is in balance with following constants. Arm AB R= 450Ω, Arm BC= 300Ω in series with C= 0.265μF, Arm CD unknown, Arm DA R= 200Ω in series with L= 15.9mH. The Oscillator frequency is 1kHz. Find the constants of Arm CD.	**(5)**
		OR	
	(A)	Explain Digital Frequency Meter with suitable block diagram.	**(5)**
	(B)	Explain Electrostatic Deflection in CRT.	**(5)**

----------ALL THE BEST ---------

KADI SARVA VISHWAVIDYALAYA
B.E. SEMESTER 4TH EXAMINATION NOVEMBER-2014

SUBJECT CODE : EC-405
SUBJECT NAME : ELECTRONICS MEASUREMENTS AND MEASURING INSTRUMENTS
DATE : 08/11/2014 TIME: 10.30 AM To 01.30 PM TOTAL MARKS: 70

Instructions:
1. Answer each section in separate Answer Sheet.
2. Use of Scientific Calculator is permitted.
3. All questions are compulsory.
4. Indicate **Clearly**, the options you attempted along with its respective question number.
5. Use the last page of main supplementary for rough work.

SECTION-1

Q.1 All Questions Compulsory.

(A) Define Following Terms with example: **05**
(1) Accuracy (2) Precision.

(B) Calculate the Average Deviation for the data given below. **03**
Data : 0.15 mA, 0.45 mA, 0.15 mA, 0.45 mA, 0.25 mA, 0.25 mA.

(C) Draw the Block Diagram Of DSO & Explain its working. **07**

OR

(C) Explain the Advantages And Applications of Special Oscilloscope. **07**

Q.2 Answer the following Questions.

(A) Explain Types of Error in detail. **05**

(B) Draw the block-diagram of Cathode Ray Tube (CRT). **05**

OR

(A) Explain the Time Interval Measurements. **05**

(B) Comparison between Spectrum Analyzer, Logic Analyzer. **05**

Q.3 Answer the following Questions.

(A) Explain the Kelvin Bridge in detail. **05**

(B) Explain the Maxwell Bridge in detail. **05**

OR

(A) Justify Wheatstone's Bridge with their application and its limitation. **05**

(B) Explain the Hay's Bridge Unbalance Conditions with example. **05**

SECTION-2

Q.4 **All Questions Compulsory.**

(A)	Explain the Block-Diagram of Data Acquisition Systems.	05
(B)	Comparison between Electrical transducer and Resistive transducer.	05
(C)	Justify the Measurement of Frequency in detail.	05
	OR	
(C)	Difference between Digital LCR Meter and Q Meter.	05

Q.5 **Answer the following Questions.**

(A)	Short Note: BCD To 7-Segment Converter.	05
(B)	Explain a Specification of Digital Multi Meters.	05
	OR	
(A)	Short Note: BCD To Dot Matrix Converter.	05
(B)	Explain the Liquid Crystal Diodes.	05

Q.6 **Answer the following Questions.**

(A)	Explain Ratio And Multiple Ratio Measurements.	05
(B)	Explain the Differential output transducer.	05
	OR	
Q.6	**Answer the following Questions.**	
(A)	Draw the Block-Diagram of Square Wave Generator & explain.	05
(B)	Explain the principle of Spectrum Analyzer.	05

--------- All The Best--------

KADI SARVA VISHWAVIDHYALAYA

BE 4th Semester Electronics & Communication Dept.

Examination –April/May 2015

Sub code: EC- 405 **Sub Name: Electronics Measurement and Measuring Instrument**

Date: 7/5/2015 **Time: 10:30am to 01:30pm** **Total Marks:70**

Instructions:

1. Answer Each Section in Separate Answer sheet.
2. Use of Scientific Calculator is permitted. .
3. All questions are separate
4. Indicate clearly, the options you attempted along with its respective question number.
5. Use the last page of supplementary for rough work.

SECTION I

Q.1 (a)	Explain following teams 1) Accuracy 2) Precision 3) Sensitivity 4) Resolution 5) Error	**[05]**
(b)	Explain different type of Static Error.	**[05]**
(c)	A 0-25A ammeter has a guaranteed accuracy of 1 percent of full scale reading. The current measured by this instrument is 10A. Determine the limiting error in percentage.	**[05]**
	OR	
(c)	List the applications of Wheatstone bridge and explain its limitations?	**[05]**
Q.2 (a)	Explain Block Diagram of Digital Frequency Meter.	**[05]**
(b)	Explain Block Diagram of CRO.	**[05]**
	OR	
Q.2 (a)	Explain Digital Millimeter.	**[05]**
(b)	Explain Kelvin Bridge.	**[05]**
Q-3 (a)	Explain the working principle of Q meter.	**[05]**
(b)	Draw the useful modification of the Maxwell's inductance capacitance bridge circuit and derive the expression for the unknown element at balance?	**[05]**
	OR	
Q-3 (a)	Explain Cathode Ray Tube.	**[05]**
(b)	Describe the working of function generator with the block diagram.	**[05]**

SECTION II

Q.4 (a)	What is transducer? Explain Different parameters of Transducer and Classification of Transducer.	[05]
(b)	Explain General Block Diagram Of Data Acquisition System.	[05]
(c)	Explain LED and LCD.	[05]
	OR	
(c)	Explain BCD to Dot Matrix Converter.	[05]
Q.5 (a)	Explain Strain Gauges Transducer.	[05]
(b)	Explain Liner Variable Differential Transducer.(LVDT)	[05]
	OR	
Q.5 (a)	What is Sensitivity of Digital Meter. (a) What is Resolution of 3½ digital display? (b) Find the Resolution of 3½digital meter in case range is 1v.(c) Find the resolution of the meter for 10V range.	[05]
(b)	Segmental Gas Discharge Display.	[05]
Q-6 (a)	Explain Sweep Frequency Generator.	[05]
(b)	Explain Single Channel Data Acquisition System.	[05]
	OR	
Q-6(a)	Explain Differential output Transducer.	[05]
(b)	Explain Digital Display Method And Digital Display Units.	[05]

KADI SARVA VISHWAVIDHYALAYA

BE 4th Semester Electronics & Communication Dept.

Examination –October 2015

Sub code: EC- 405 **Sub Name: Electronics Measurement and Measuring Instrument**

Date: 29/10/2015 **Time: 10.30 a.m to 1.30 p.m** **Total Marks:70**

Instructions:

1. Answer Each Section in Separate Answer sheet.
2. Use of Scientific Calculator is permitted. .
3. All questions are separate
4. Indicate clearly, the options you attempted along with its respective question number.
5. Use the last page of supplementary for rough work.

SECTION I

Q.1 (a)	Explain Block Diagram of CRO	**[05]**
(b)	Explain following teams 1) Accuracy 2) Precision 3) Sensitivity 4) Resolution 5) Error	**[05]**
(c)	Explain Wien bridge and list its application.	**[05]**
	OR	
(c)	A set of independent current measurement were recorded as 10.03, 10.10, 10.11 and 10.08 calculate (a) the average current and (b) range of error.	**[05]**
Q.2 (a)	Explain the block diagram of Function generator.	**[05]**
(b)	Describe Block Diagram of DSO and Its Application.	**[05]**
	OR	
Q.2 (a)	Explain Digital Millimeter.	**[05]**
(b)	Explain Whetstones Bridge with Derivation.	**[05]**
Q-3 (a)	Explain Vector Signal Generator.	**[05]**
(b)	Explain Basic Circuit Diagram of Digital Frequency Meter.	**[05]**
	OR	
Q-3 (a)	Explain Kelvin Bridge.	**[05]**
(b)	Explain Digital RLC Meter.	**[05]**

SECTION II

Q.4	**(a)**	What is transducer? And Explain LVDT. (Liner Variable Differential Transducer)	**[05]**
	(b)	Explain General Block Diagram Of Data Acquisition System	**[05]**
	(c)	Explain Strain Gauges Transducer..	**[05]**
		OR	
	(c)	Explain the working principle of Q meter.	**[05]**
Q.5	**(a)**	Explain parameters of Transducer and Classification of Transducer.	**[05]**
	(b)	Explain BCD to Dot Matrix Converter	**[05]**
		OR	
Q.5	**(a)**	Explain Sweep Frequency Generator.	**[05]**
	(b)	Explain Harmonic Distortion Analyzer	**[05]**
Q-6	**(a)**	Explain BCD to seven segment converter	**[05]**
	(b)	Explain Objective of DAS.	**[05]**
		OR	
Q-6	**(a)**	Difference between Liquid Crystal Diodes and Light emitted Diode.	**[05]**
	(b)	What is sensitivity of digital meter. And Explain digital display method and digital display units.	**[05]**

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