

### III B.TECH - I SEM EXAMINATIONS, NOVEMBER - 2010 **ELECTRONICS MEASUREMENT & INSTRUMENTATION** (ELECTRONICS & COMMUNICATIONS ENGINEERING) Max.Marks:80

# **Time: 3hours**

## **Answer any FIVE questions** All questions carry equal marks

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1.a) b)	What are the various types of errors? Explain Explain various methods that are available to minimize and eliminate error	[8+8] ors.
2.a) b)	Explain the available types of distortion. What is meant by distortion? With a neat circuit diagram explain a programmable decode synthesizer.	[8+8]
3.a)	Derive the following i) Condition for bridge balancing ii) Criterion for balance of a wheat stone bridge.	[8+8]
b)	Kelvin bridge is called modified wheat stone bridge. Justify your answer.	
4.a)	Explain the method employed for the measurement of $\theta$ of i) High impedance components ii) Low impedance components	[8+8]
b)	Explain the measurement of resistance of a coil using a $\theta$ meter.	
5.a) b)	Explain the main components of CRT with a neat sketch. Explain briefly the basic operation of a general purpose oscilloscope v block diagram.	[8+8] vith a neat
6.a)	Explain various blocks of a spectrum analyzer of the swept receiver des neat diagram.	sign with a [10+6]
b)	Mention all the applications of spectrum analyzer.	[10:0]
7.	Explain briefly the working of (i) Resistive transducers (ii) Capacitive transducers (iii) Inductive transducers and give two applications for each.	[16]
8.a)	Define and explain briefly about the operating principle of an LVDT. W applications?	Vhat are its

Discuss the advantages and disadvantages of LVDT. [8+8] b)

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Code.	No: NR310401 NR	SET-2	
III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010 ELECTRONICS MEASUREMENT & INSTRUMENTATION (ELECTRONICS & COMMUNICATIONS ENGINEERING) Time: 3hours Max.Marks:80 Answer any FIVE questions All questions carry equal marks			
1.a)	Derive the following i) Condition for bridge balancing	[8+8]	
b)	<ul><li>ii) Criterion for balance of a wheat stone bridge.</li><li>Kelvin bridge is called modified wheat stone bridge. Justify your answer</li></ul>	r.	
2.a)	<ul><li>Explain the method employed for the measurement of θ of</li><li>i) High impedance components</li><li>ii) Low impedance components</li></ul>	[8+8]	
c)	Explain the measurement of resistance of a coil using a $\theta$ meter.		
3.a) b)	Explain the main components of CRT with a neat sketch. Explain briefly the basic operation of a general purpose oscilloscope block diagram.	[8+8] with a neat	
4.a) b)	Explain various blocks of a spectrum analyzer of the swept receiver do neat diagram. Mention all the applications of spectrum analyzer.	esign with a [10+6]	
5.	Explain briefly the working of (i) Resistive transducers (ii) Capacitive transducers (iii) Inductive transducers and give two applications for each.	[16]	
6.a)	Define and explain briefly about the operating principle of an LVDT. applications?	What are its	
b)	Discuss the advantages and disadvantages of LVDT.	[8+8]	
7.a) b)	What are the various types of errors? Explain Explain various methods that are available to minimize and eliminate errors	[8+8] rors.	
8.a) b)	Explain the available types of distortion. What is meant by distortion? With a neat circuit diagram explain a programmable decode synthesizer.	[8+8]	

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Code.No: NR310401



SET-3

## III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010 ELECTRONICS MEASUREMENT & INSTRUMENTATION (ELECTRONICS & COMMUNICATIONS ENGINEERING)

#### **Time: 3hours** Max.Marks:80 **Answer any FIVE questions** All questions carry equal marks 1.a) Explain the main components of CRT with a neat sketch. [8+8]Explain briefly the basic operation of a general purpose oscilloscope with a neat b) block diagram. 2.a) Explain various blocks of a spectrum analyzer of the swept receiver design with a neat diagram. [10+6] b) Mention all the applications of spectrum analyzer. 3. Explain briefly the working of [16] (i) Resistive transducers (ii) Capacitive transducers (iii) Inductive transducers and give two applications for each. Define and explain briefly about the operating principle of an LVDT. What are its 4.a) applications? Discuss the advantages and disadvantages of LVDT. b) [8+8]What are the various types of errors? Explain 5.a) [8+8]Explain various methods that are available to minimize and eliminate errors. b) Explain the available types of distortion. What is meant by distortion? 6.a) [8+8]With a neat circuit diagram explain a programmable decode synthesizer. b) 7.a) Derive the following [8+8] i) Condition for bridge balancing ii) Criterion for balance of a wheat stone bridge. Kelvin bridge is called modified wheat stone bridge. Justify your answer. b) Explain the method employed for the measurement of $\theta$ of 8.a) [8+8]i) High impedance components

- ii) Low impedance components
- d) Explain the measurement of resistance of a coil using a  $\theta$  meter.

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SET-4

## III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010 ELECTRONICS MEASUREMENT & INSTRUMENTATION (ELECTRONICS & COMMUNICATIONS ENGINEERING)

### **Time: 3hours**

Code.No: NR310401

Max.Marks:80

## Answer any FIVE questions All questions carry equal marks

#### 1. Explain briefly the working of [16] **Resistive transducers** (i) (ii) Capacitive transducers (iii) Inductive transducers and give two applications for each. 2.a) Define and explain briefly about the operating principle of an LVDT. What are its applications? Discuss the advantages and disadvantages of LVDT. [8+8] b) 3.a) What are the various types of errors? Explain [8+8]Explain various methods that are available to minimize and eliminate errors. b) Explain the available types of distortion. What is meant by distortion? 4.a) [8+8]With a neat circuit diagram explain a programmable decode synthesizer. b) Derive the following 5.a) [8+8]i) Condition for bridge balancing ii) Criterion for balance of a wheat stone bridge. Kelvin bridge is called modified wheat stone bridge. Justify your answer. b) Explain the method employed for the measurement of $\theta$ of 6.a) [8+8]i) High impedance components ii) Low impedance components Explain the measurement of resistance of a coil using a $\theta$ meter. e) 7.a) Explain the main components of CRT with a neat sketch. [8+8] Explain briefly the basic operation of a general purpose oscilloscope with a neat b) block diagram. Explain various blocks of a spectrum analyzer of the swept receiver design with a 8.a)

neat diagram. [10+6]b) Mention all the applications of spectrum analyzer.

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