

# Badriprasad Institute of Technology, Sambalpur

## Lesson plan for Theory -4, ELECTRONICS MEASUREMENT &

### INSTRUMENTATION

Semester & Branch : 3<sup>RD</sup> SEM, ETC Engineering

Total Periods-60

Name of the faculty : MR. SARTHAK PANDA

No of periods /week-4

WEEK	CLASS DAY	THEORY
1ST	1ST	ACCURACY,SENSITIVITY,REPRODUCIBILITY & STATIC ERROR OF INSTRUMENT
	2ND	DYNAMIC CHARACTERISTICS & SOEED OF INSTRUMENTS
	3RD	ERROR OF AN INSTRUMENT & TYPES
	4TH	INTRODUCTION TO INDICATOR & DISPLAY DEVICES & ITS TYPES
2ND	1ST	BASIC PRINCIPLE OF METER MOVEMENT,PERMANENT MAGNETIC MOVING COIL MOVEMENTS & ITS ADVANTAGES & DISADVANTAGES
	2ND	OPERATION OF MOVING IRON INSTRUMENT
	3RD	BASIC PRINCIPLE OF OPERATION OF DC AMMETER & MULTI RANGE AMMETER
	4TH	BASIC PRINCIPLE OF OPERATION OF AC AMMETER & MULTI RANGE AMMETER
3RD	1ST	BASIC PRINCIPLE OF OPERATION OF DC VOLTMETER AND ITS APPLICATION
	2ND	BASIC PRINCIPLE OF OPERATION OF AC VOLTMETER AND ITS APPLICATION
	3RD	BASIC PRINCIPLE OF OPERATION OF OHM METER (SERIES AND SHUNT )
	4TH	BASIC PRINCIPLE OF OPERATION ANALOG MULTIMETER & ITS TYPES & ITS APPLICATION
4TH	1ST	OPEARATION OF Q METER AND ITS ESSENTIALS
	2ND	BASIC PRINCIPLE OF OPERATION OF RAMP TYPE DIGITAL VOLTMETER & APPLICATION
	3RD	OPERATION OF DISPLAY OF 3 1/2,4 1/2 DIGITAL MULTIMETER & RESOLUTION & SENSITIVITY
	4TH	BASIC PRINCIPLE OF OPERATION OFDIGITAL MULTIMETER TYPES & APPLICATION
5TH	1ST	BASIC PRINCIPLE OF OPERATION OF DIGITAL FREQUENCY METER
	2ND	BASIC PRINCIPLE OF OPERATION OFDIGITAL MEASUREMENT OF TIME
	3RD	MEASUREMENT OF FREQUENCY
	4TH	PRINCIPLE OF OPERATION OF DIGITAL TECHOMETER
6TH	1ST	PRINCIPLE OF OPERATION OFWORKING OF AUTOMATION IN DIGITAL INSTRUMENTS
	2ND	BLOCK DIAGRAM OF LCR METER & ITS WORKING PRINCIPLE
	3RD	BASIC PRINCIPLE OF OSCILLOSCOPE & ITS BLOCK DIAGRAM
	4TH	BASIC PRINCIPLE & BLOCK DIAGRAM OF CRO,DUAL TRACE OSCILLOSCOPE
7TH	1ST	CRO MEASUREMENTS,LISSAJOUS FIGURES
	2ND	APPLICATION OF OSCILLOSCOPE
	3RD	OPERATION OF DIGITAL STORAGE OSCILLOSCOPE & HIGH FREQUENCY OSCILLOSCOPE
	4TH	TYPES OF BRIDGES
8TH	1ST	MEASUREMENT OF RESISTANCE BY WHEASTONE'S BRIDGE
	2ND	MEASUREMENT OF INDUCTANCE BY MAXWELL'S BRIDGE
	3RD	MEASUREMENT OF INDUCTANCE BY HEY'S BRIDGE
	4TH	MEASUREMENT OF CAPACITANCE BY SCHERING'S BRIDGE
9TH	1ST	MEASUREMENT OF CAPACITANCE BY DESAUTY'S BRIDGE
	2ND	WORKING PRINCIPLE OF Q METER
	3RD	MEASUREMENT OF LOW IMPEDENCE ,MEASUREMENT OF FREQUENCY
	4TH	LCR METER & ITS MEASUREMENT
10TH	1ST	PARAMETER,METHOD OF SELECTING & ADVANTAGE OF ELECTRICAL TRANSDUCER
	2ND	PARAMETER,METHOD OF SELECTING & ADVANTAGE OF RESISTIVE TRANSDUCER

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	3RD	WORKING PRINCIPLE OF STRAIN GAUGE
	4TH	WORKING PRINCIPLE OF LVDT
11TH	1ST	WORKING PRINCIPLE OF CAPACITIVE TRANSDUCERS
	2ND	WORKING PRINCIPLE OF LOAD CELL
	3RD	WORKING PRINCIPLE OF TEMP. TRNSDUCER (RTD,OPTICAL PYROMETER)
	4TH	WORKING PRINCIPLE OF TEMP. TRNSDUCER (THERMOCOUPLE,THERMISTER)
12TH	1ST	WORKING PRINCIPLE OF CURRENT TRANSDUCER
	2ND	WORKING PRINCIPLE OF KW TRANSDUCER
	3RD	WORKING PRINCIPLE OF PROXIMITY
	4TH	WORKING PRINCIPLE OF LIGHT SENSOR
13TH	1ST	GENERAL ASPECT & CLASSIFICATION OF SIGNAL GENERATORS
	2ND	WORKING PRINCIPLE OF AF SINE WAVE GENERATOR
	3RD	WORKING PRINCIPLE OF SQUARE WAVE GENERATOR
	4TH	WORKING PRINCIPLE OF FUNCTION GENERATOR
14TH	1ST	FUNCTION OF BASIC WAVE ANALYSER
	2ND	FUNCTION OF SPECTRUM ANALYSER
	3RD	BASIC CONCEPT OF DATA ACQUISITION SYSTEM
	4TH	OBJECTIVE TYPES QUESTION DISCUSSION
15TH	1ST	OBJECTIVE TYPES QUESTION DISCUSSION
	2ND	SEMESTER PATTERN QUESTION DISCUSSION
	3RD	PRACTICE TEST
	4TH	PRACTICE TEST

Sign of Faculty

Sign of HOD