Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory -3,Electrical Measurement & Instrumentation

Semester & Branch : 4th Sem , Electrical Engineering **Total Periods-75**

Name of the faculty : Ashis Dash **No of periods /week-5**

WEEK	CLASS DAY	THEORY
1ST	1ST	measuring instrument concepts
	2ND	accuracy,precision,errors,resolutions,sensitivity
	3RD	classification of measuring instruments
	4TH	explain deflecting,contolling and damping torques.
	5TH	callibration of instruments
2ND	1ST	doubt solving session on measuring instruments
	2ND	analog ammeters and voltmeters concepts
	3RD	construction ,operation,errors,ranges of MI instruments
	4TH	merits and demerits of MI instruments
	5TH	construction ,operation,errors,ranges of PMMC instruments
3RD	1ST	construction ,operation,errors,ranges of Dynamometer instruments
	2ND	construction ,operation,errors,ranges of rectifier type instruments
	3RD	construction ,operation,errors,ranges of induction type instruments
	4TH	use of shunt and multiplier.
	5TH	solve numericals on instruments.
4TH	1ST	class test on measuring instrument,analog ammeter and voltmeter
	2ND	wattmeters and measurement of power concepts
	3RD	construction and working principle of dynamometer type instruments
	4TH	errors in dynammometer type wattmeters and their corrections
	5TH	Induction type wattmeters.
5TH	1ST	doubt solving session on induction type wattmeter
	2ND	measurement of speed, frequency and power factor
	3RD	Tachometers,types and working principles
	4TH	single phase induction type energy meter(construction)
	5TH	single phase induction type energy meter(working principle)
6TH	1ST	single phase induction type energy meter(adjustments)
	2ND	single phase induction type energy meter(compensations)
	3RD	class test on tachometers
	4TH	doubt solving session on speed ,power factor
	5TH	doubt solving session on torques.
7TH	1ST	doubt solving session on shunt and multiplier
	2ND	numericals practice on PMMC instruments
	3RD	numericals practice on MI instruments
	4TH	numericals practice on dynamometer type instruments
	5TH	testing of energymeter(session-1)
8TH	1ST	testing of energymeter(session-2)
	2ND	types of tachometers(class discussion)
	3RD	principle of operation of mechanical resonance type frequency meter
	4TH	principle of operation of Electrical resonance type frequency meter
	5TH	dynamometer type power factor meter

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9TH	1ST	dynamometer type power factor meter(single phase,three phase)
	2ND	dynamometer type power factor meter(single phase,three phase)
	3RD	dynamometer type power factor meter(single phase,three phase)
	4TH	measurement of resistance,inductance and capacitance(concepts)
	5TH	potentiometer method,wheatstone bridge method of resistances.
10TH	1ST	loss of charge method of high resistances
	2ND	meggar(in brief)
	3RD	maxwell's bridge method,schering bridge method
	4TH	sensors and transducers(concepts)
	5TH	classify transducers.
11TH	1ST	linear and angular potentiometer(in brief)
	2ND	thermistor and wire resistance strain gauge
	3RD	Inductive Transducer,LVDT(in brief)
	4TH	oscilloscope (concepts)
	5TH	principle of operation of cathode ray tube.
12TH	1ST	principle of operation of oscilloscope(with diagram)
	2ND	measurement of DC voltage,AC voltage,current,phase& frequency.
	3RD	doubt solving session on oscilloscope.
	4TH	semester pattern practice exam theory(80 marks)
	5TH	semester pattern practice exam theory(80 marks)
13TH	1ST	revision test on measuring instruments
	2ND	revision test on classification of measuring instruments
	3RD	revision test on controlling ,damping torques.
	4TH	revision test on callibration of instruments
	5TH	revision test on dynamometer type instrument
14TH	1ST	revision session on speed ,power factor
	2ND	revision session on torques.
	3RD	revision session on shunt and multiplier
	4TH	numericals practice on PMMC instruments
	5TH	numericals practice on MI instruments
15TH	1ST	doubt solving session thermistor and wire resistance strain gauge
	2ND	doubt solving session Inductive Transducer
	3RD	oscilloscope (concepts)
	4TH	doubt solving session on LVDT(in brief)
	5TH	doubt solving session on LVDT(in brief)

(SIGNATURE OF FACULTY) **(SIGNATURE OF HOD**