ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

Dicipline: ELECTRICAL	Semester: 4	Name of the Teaching Faculty: Er. Tapan Ku Mohanty.	
Subject: ELECTRICAL MEASUREMENT & INSTRUMENTATION	No of Days/Week Class Allotted: 4	Semester From date: 10.3.2022 To date 18.6.2022	No.of Weeks:

WEEK	Class Day	Theory Topics
1st	1st	MEASURING INSTRUMENTS – Defination of Accuracy, Precision, Errors, Resolutions, Sensitivity & tolerance.
	2nd	Classification of Measering instruments.
	3rd	Explain deflecting, Controlling & damping arrangements in indicating type of instrument.
	4th	Explanation of deflecting Controlling & damping arrangements in indicating type of instrument.
	5th	
2nd	1st	Calibration of instruments.
	2nd	ANALOG AMMETERS & VOLTMETERS - Description of Construction priniple of operation Errors, ranges, merits and demerits of moving iron type
	3rd	Permanent Magnet Moving Coil type instruments.
	4th	Dynamometer type instruments.
	5th	
3rd	1st	Dynamometer type instruments
	2nd	Rectifier type instruments
	3rd	Rectifier type instruments.
	4th	Induction type instruments.

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/EEK	Class Day	Theory Topics
	1st	Induction type instruments.
	2nd	Extention of the range of instruments by using Shunts and Multipliers.
	3rd	Solution of numerical problems.
	4th	WATTMETERS & MEASUREMENT OF POWER- Description of Construction, working Principle of Dynamometer type wattmeter, LPF type
	5th	
	1st	Construction, Principle of working Dynamometer type wattmeter UPF type.
	2nd	Describe Construction, working principle of Dynamometer type wattmeter LPF & UPF types
	3rd	Errors in Dynamometer type wattmeter & methods of their Correction
	4th	Errors found in Dynamometer, type wattmeter & Methods of Correction.
	5th	
	1st	Discussion on Induction type wattmeters.
	2nd	Discussion on Induction type wattmeters continued.
	3rd	Induction type wattmeters continued.
	4th	ENERGYMETERS & MEASUREMENT OF ENERGY- Introduction.

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ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

Discipline: ELECTRICAL	Semester: 4	Name of the Teaching Faculty: Sri. Tapan Kr Mohanty.	
Subject: ELECTRICAL MEASUREMENT & INSTRUMENTATION	No of Days/Week Class Allotted: 04	Semester From date: 16.3.2022 to date 15.6.2022	No. of Weeks:

WEEK	Class Day	Theory Topics
8th	1st	Further introduction on Energy meters & Measurements of Energy.
	2nd	Single Phase Induction type Energy meters - Construction, Working principle & their Compensation and adjustments.
	3rd	Single phase Induction type Energy meters - Construction, working principle, Compensation and adjustments
	4th	Single Phase Induction type Energy meters, Construction, working principle, Compensation & their adjustments.
	5th	
9th	1st	Single Phase Induction type Energy meters, its Construction working principle, Compensation & adjustments
	2nd	Single Phase Induction type Energy meters, its Construction, working principle, Compensation and adjustment Continued
	3rd	Single Phase Induction type Energy meters, its Construction, Working principle, Compensation and adjustment.
	4th	Testing of Energy meters.
	5th	
9th	1st	Testing of Energy meters.
	2nd	MEASUREMENT OF SPEED FREQUENCY AND POWER FACTOR - Tachometers, its types & working principle.
	3rd	Tachometers, types & working principles.
	4th	Principle of Operation & Construction of Mechanical resonance - Type frequency meters.

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WEEK	Class Day	Theory Topics
	1st	Principle of operation & Construction of Electrical resonance type frequency meters.
	2nd	Principle of operation & ~~Construction of~~ and working of Dynamometer type Single Phase and 3 Phase Power factor meters.
10th	3rd	Principle of operation and working of Dynamometer type single phase and 3 Phase power factor meters.
	4th	Principle of operations and working of Dynamometer type single Phase and Three Phase Power factor meters.
	5th	
	1st	MEASUREMENT OF RESISTANCE, INDUCTANCE & CAPACITANCE - Classification of resistance, Measurement of low resistance by potentiometer method.
	2nd	Measurement of Medium resistance by wheat stone bridge method
11th	3rd	Measurement of high resistance by loss of charge method.
	4th	Construction, principle of operations of Megger & Earth tester for insulation resistance & earth resistance measurement respectively.
	5th	
	1st	Construction & principles of Multimeter (Analog & Digital)
12th	2nd	Construction & Principles of Multimeter (Analog and Digital)
	3rd	Measurement of inductance by Maxewell's Bridge method.
	4th	Measurement of Capacitance by Schering bride method.

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Dicipline: ELECTRICAL	Semester: 4	Name of the Teaching Faculty: Er. Pawan Kr Mohanty	
Subject: ELECTRICAL MEASUREMENT & INSTRUMENTATION	No of Days/Week Class Allotted: 4	Semester From date: 16.3.2022 To date 15.6.2022	No. of Weeks:

WEEK	Class Day	Theory Topics
13th	1st	SENSORS & TRANSDUCER - Defination of Transducer, Sensing element, detector and transduction elements.
	2nd	classification of transducer and its various examples.
	3rd	Resistive transducer, Linear & angular motion potentiometer
	4th	Thermistor & Resistance thermometers. Wire Resistance Strain Gauge
	5th	
14th	1st	Inductive Transducer - Principle of Linear Variable differential Transformer (LVDT) - Uses of LVDT.
	2nd	Capacitive Transducer, General Principle of Capacitive transducer.
	3rd	Variable area Capacitive transducer - change in distance between plate Capacitive.
	4th	Piezoelectric Transducer & Hall effect Transducer and their applications.
	5th	
15th	1st	OSCILLOSCOPE - Principle of operation of Cathode Ray Tube.
	2nd	Principle of operation of Oscilloscope with help of block diagram.
	3rd	Measurement of DC Voltage & current
	4th	Measurement of AC Voltage, current, Phase and frequency.

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