

Government Polytechnic Nayagarah

Subject: Basic Electronics

Name Of faculty: Samir Kumar Sethi

Lesson Plan: 2023 1st Semester)

Lecture in Electronics

Electronics Device	
16.08.2023	History of Electronics, atomic structure, Definition of electronics and the application of electronics in different field.
17.08.2023	What is electronics emission? Concept of work function. Type of electronics emission. 1.Thermionic emission 2.Field emission 3.secondary emission 4.photoelectric emission
23.08.2023	Classification of electric material & concept of energy band diagram. The concept of semiconductor and vacuum tube & difference between them.
24.08.2023	Type of semiconductor .1.Intrinsics Semiconductor 2.Extrinsic Semiconductor
31.08.2023	What is Diode ?Working principle and use of Diode.
07.09.2023	What is Zener Diode and LED? Integrated Circuit and its application.
Electronic Circuit	
13.09.2023	Application of Diode (Rectifier) What is rectifier? Type of rectifier, Merits and demerits
14.09.2023	Concept of filter. Type of filter and working principle
20.09.2023	What is transistor? Different types of transistorDifferent types of transistor depending upon configuration:
21.09.2023	Working principle of transistor.
27.09.2023	Derive the current gain of different configuration and find the relationship between them
28.09.2023	What is biasing ? The need of biasing .Explain the different biasing circuit.
04.10.2023	What is amplifier? How the transistor will behave as a amplifier? working principles of single phase CE amplifier
05.10.2023	What is oscillator and the working principle of oscillator.
11.10.2023	Classification of oscillator with block diagram
Communication System	
12.10.2023	What is communication? What is communication system with block diagram?
18.10.2023	What is modulation and the require of modulation? What is de-modulation and the require of de-modulation? Type of modulation.
19.10.2023	Amplitude modulation ,modulating signal or baseband signal, Carrier signal, Modulated signal.
01.11.2023	Frequency modulation and the block diagram of FM modulator & receiver
Transducers and Measuring Instruments	
02.11.2023	Concept of Transducer and sensor with their differences.
08.11.2023	Different type of transducer.
09.11.2023	Working principle of photo emissive ,photoconductive
15.11.2023	Working principle of photovoltaic transducer and application
16.11.2023	Multimeter, type & application.
22.11.2023	Working principle of Multimeter
23.11.2023	What is CRO ? Working principle CRO with block diagram.

Signature of HOD

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Government Polytechnic Nayagarah

Subject: Basic Electrical

Name Of faculty: Samir Kumar Sethi

Lesson Plan: 2023 (1st & 2nd Semester)

Lecture in Electronics

Fundamentals	
19.08.2023	Concept of current .Conventional current vs electron flow,Concept of source and load State Ohm's law and concept of resistance. Relation of V, I & R in series circuit ,Relation of V, I & R in parallel circuit.
26.08.2023	Division of current in parallel circuit. Effect of power in series & parallel circuit. Kirchhoff's Law. Simple problems on Kirchhoff's law.
A.C. Theory	
02.09.2023	Generation of alternating emf Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference. Difference between D.C. & A.C.
09.09.2023	State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems. Represent AC values in phasor diagrams. AC through pure resistance, inductance & capacitance
16.09.2023	AC through RL, RC, RLC series circuits. Concept of Power and Power factor.
23.09.2023	Impedance triangle and power triangle.
Generation Of Electrical Power	
30.09.2023	Give elementary idea on generation of electricity from thermal with block diagram.
07.10..2023	Give elementary idea on generation of electricity from hydro with block diagram.
14.10.2023	Give elementary idea on generation of electricity from nuclear power station with block diagram.
Conversion Of Electrical Energy	
04.11.2023	Introduction of DC machines, Main parts of DC machines. Classification of DC generator Classification of DC motor. Working principle of DC generator and DC Motor
11.11.2023	Types and uses of single phase induction motors Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle.
18.11.2023	Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept)
Wiring And Power Billing	
25.11.2023	Types of wiring for domestic installations. Layout of household electrical wiring (single line diagram showing all the important component in the system). List out the basic protective devices used in house hold wiring. Calculate energy consumed in a small electrical installation.
Measuring Instruments	
02.12.2023	Introduction to measuring instruments. Torques in instruments. Different uses of PMMC type of instruments (Ammeter & Voltmeter). Different uses of MI type of instruments (Ammeter & Voltmeter).
09.12.2023	Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only).

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