

Teaching Plan
Academic Year 2015 – 2016

CLASS – B.Sc.II Year

SEMESTER --III,

SUBJECT –Physics,

Paper- VII (PHY – 201)

PERIODS/ WEEK – 3

TOTAL WEEKS – 15

Weeks	Topics to be covered
1	Limit of function, Partial differentiation, Successive differentiation, Total differentiation.
2	Exact differentiation and chain rule, Ordinary differential equation , order and degree of differential equation, Solution of first order linear differential equation.
3	Solution of second order linear differential equation with constant coefficients, Homogenous equation.
4	Inhomogenous equation, Special case of exponential right hand to find P.I.
5	Probability, Principle of equal a priori probability, Probability and frequency, Some basic rules of probability theory.
6	Permutation and Combination, Macrostates and Microstates, Phase space , Thermodynamic probability..
7	Division of compartment into cells, Maxwell energy Distribution law .
8	Evaluation of g , α , β , M.B. distribution function for ideal gas, M.B. distribution law.
9	Need of quantum statistics, Bose – Einstein distribution law , Plank’s radiation law.
10	Fermi – Dirac distribution law , Electron gas
11	Fermi level and Fermi energy, E_{FO} for electrons in metals, Comparison of three static Difference between classical and quantum statistics.
12	Frame of reference, Gallian transformation equations, Michelson and moorley experiment.
13	Special theory of relativity, Lorentz transformation equations.
14	Length contraction and time dilation, Problems.
15	Addition of velocities, Variation of mass energy equivalence, Problems.

Teacher’s Signature

H. O. D’s Signature

Teaching plan
Academic Year 2015-2016

Class: **B.Sc. II.Year**

Semester: **III**

Subject: **Physics**

Paper No. **VIII (PHY-202)** Periods per weeks: Th.: **3** Pract: **1** Weeks (Total):

WEEKS	TOPICS TO BE COVERED
1	Chapter 1: PHOTOELECTRIC EFFECT: Introduction, Lenard's method to determine e/m for photoelectrons, Richardson and Compton experiment.
2	Relation between photoelectric current and retarding potential, relation between velocity of photoelectron and frequency of light.
3	Photoelectric cells i) Photo emissive cell, ii) Photo voltaic cell, iii) Photo conductive cell, Applications of photoelectric cells. MCQ's and revision, Numerical.
4	Numerical, Chapter 2: X-RAYS : Introduction Absorption of X-rays
5	Laue's experiment, Bragg's law, Bragg's X-ray spectrometer.
6	Powder crystal method, Laue's method, X-ray spectra.
7	Main features of X-ray spectrum, Characteristics X-ray spectrum MCQ's and revision, Numerical.
8	Chapter 3: NUCLEAR FORCES AND MODELS: Introduction Binding energy Nuclear Stability
9	Nuclear forces, Meson theory of nuclear forces, Liquid drop model.
10	Shell model, energy released in fission, Chain reaction, Atom Bomb, Nuclear reactor, Nuclear fusion, Source of stellar energy.
11	MCQ's and revision, Numerical. Chapter 4: PARTICLE ACCELERATORS AND DETECTORS: Linear accelerator
12	Cyclotron, Synchro cyclotron, Betatron.
13	Ionization Chamber, Proportional Counter.
14	Geiger-Muller counter, MCQ's and revision, Numerical.
15	Revision

Teacher's Signature
(Dr. Shaikh Amjad Afsar)

H.O.D's Signature
(Dr. Gulam Rabbani)

Teaching Plan
Academic Year 2015-2016

Class:- B.Sc. II Year

Semester:- IIIrd

Subject:- Electronics

Paper No:- VII (ELE-301)

Periods Per weeks:- The, Prac Weeks (Total):-

WEEKS	TOPICS TO BE COVERED
1.	Operational amplifier, dual input balanced output different amplifier current bias.
2.	Current mirror. Block diagram of typical Op-Amp schematic symbol.
3.	Data sheet, the ideal Op-Amp
4.	Equivalent circuit of Op-Amp open loop Op-Amp configuration.
5.	Operator amplifier application voltage series feedback amplifier, voltage shunt feedback amp
6.	Voltage to current converter integrator differentiator basic comparator
7.	Zero detector crossing Schmitt trigger
8.	Oscillator. oscillator principle oscillator type
9.	Frequency stability, phase shift oscillator ,wein Bridge oscillator
10.	Square wave generator, triangular wave generator, saw tooth wave generator.
11.	Voltage controlled oscillator, the 555 timer
12.	The 555 timer as monostable multivibrator applications. The 555 as an astable.
13.	Multivibrator, free running ramp.
14.	Generator. Problems. MCQs.
15.	REVISION

Teacher's Signature

Dr. J. M.Pathan

H.O.D.'s Signature

Teaching Plan
Academic Year 2015 – 2016

Class: B. Sc. II Year **Semester:** III **Subject:** Electronics
Paper No: VIII (A) (302) **Periods per weeks:** Th.03; Pract.03 **Weeks (Total) :** 15

Tutorial Date): 17 – 09 –15

WEEKS	TOPICS TO BE COVERED
1	Pin diagram (Signal Description)
2	CPU architecture, General bus operation
3	I / O processing capability, Special processor activities
4	Minimum mode 8086 system and timing, maximum mode 8086 system and timing
5	Machine language instruction formats
6	Addressing modes of 8086
7	Data copy / transfer instructions, Arithmetic instructions
8	Logical instruction, Branch instructions, loop instructions
9	Machine control instructions, Flag manipulation instructions
10	Shift and rotate instructions, String instructions
11	A few machine level programs, programming with an assembler, entering a program, assembling a program, linking a program
12	Using debug, assembly language example programs, addition of two numbers, addition of a series of 8 bit numbers, find the largest number from given array of 8 bit numbers
13	Find out odd and even numbers from the given series of hexadecimal numbers, find out positive numbers and negative numbers from a given series of signed numbers, move a string of data from one location to other location
14	Arrange given array of 8 bit numbers in ascending order, arrange given array of 8 bit numbers in descending order, one byte BCD addition, factorial of a 8 bit number , average of block of 8 / 16 bit data
15	REVISION

Teacher's Signature

(Dr. Gulam Rabbani)

H.O.D.'s Signature