



Code	Subject Title	Cr. Hrs	Semester
PHY-214	Physics-IV (Concepts of Modern Physics)	1	IV
Year	Discipline		
2	Chemistry-II, Mathematics-I, Statistics-I		

1. Variation of photo-electric current with the intensity of light
2. Measurement of Planck's constant using spectrometer
3. Determination of e.m. of electron by deflection method
4. Determination of ionization potential of mercury
5. Acceptor circuit
6. Rejecter circuit
7. Characteristic curves of G.M. Counter
8. Setting up half and full wave rectifiers and the study of the waveshape on oscilloscope effect of smoothing circuit on ripple voltage.
9. To set up a transistor as an oscillator and to measure its frequency by an oscilloscope
10. Triode valve as a single stage voltage amplifier and measurement of its gain by an oscilloscope
11. To draw the characteristics of a semi-conductor diode.
12. Setting up a single stage transistor amplifier and measurement of voltage gain
13. Determination of range of Alpha Particles
14. Stopping power for alpha particles in air equivalent of Mica, Ag, Cu and Al.
15. Absorption coefficient of Beta-particles, using and End-on-Geiger Counter
16. To study the voltage current characteristics of an electric Discharge in gases at low pressures
17. Production of vacuum and its rough measurement with a monometer
18. Production of X-rays and the demonstration of their effect on a fluorescent screen.
19. To set up a High-Frequency Oscillator and measure its frequency, with a wave meter.

**Recommended Books:**

1. Physics Vol. I & II (extended) by Resnick, Halliday and Karne, 4<sup>th</sup> and Sons Inc, New York.
2. Fundamentals of Physics by Halliday Resnick and Krane, John Wiley and Sons Inc, New York.
3. University Physics 8<sup>th</sup> Edition by Sears, Zemansky and Young, Addison – Wesley, Reading (MA), USA.
4. Physics by Alonso and Finn; Addison-Wesley, Reading (MA) USA.