

104 PHYS : General Physics (II)
(for Engineering and Computer Science)

Credit Hours : 4 (3+1)

Syllabus

v Theory Section

Electricity and Magnetism: Coulomb's Law, Electric Fields, Gauss' Law, Electric Potential, Potential Energy, Capacitance and Dielectric, Currents and Resistance, Electrical Energy and Power, Direct Current Circuits, Kirchhoffs Rules, Magnetic Fields, Motion of Charged Particle in a Magnetic Field, Sources of the Magnetic Field, Ampere's Law, Faraday's Law of Induction, Self Inductance, Energy in a Magnetic Field, Mutual Inductance, Alternating Current Circuits, the RLC Series Circuit, Power in an A.C. Circuit, Resonance in RLC Services Circuit.

v Practical Section

<i>no</i>	<i>Experience</i>	<i>Lab</i>
<i>1</i>	<i>Prism</i>	<i>1B10</i>
<i>2</i>	<i>The Comparison Between the Electromotive Force of Two Battery</i>	<i>1B20</i>
<i>3</i>	<i>The Metric Bridge</i>	<i>1B18</i>
<i>4</i>	<i>Lenses</i>	<i>1B16</i>
<i>5</i>	<i>Rydberg Constant</i>	<i>1B14</i>
<i>6</i>	<i>Simple Pendulum</i>	<i>1A42</i>
<i>7</i>	<i>Planck Constant</i>	<i>1A40</i>

8	<i>Ohm's Law</i>	1A34
9	<i>Absorption Factor</i>	1A32
10	<i>Capacitors</i>	1B 8

Course Material :

Book "Physics for Scientists and Engineers with Modern Physics" by Raymond A. Serway ; 4th Edition.

Course Description:

Chapter	Sections	Examples	Exercises and problems
23	3, 4, 6, 7	2,3,4,7,8,13,14	7,9,15,19,25,47,48
24	1,2,3,4,	1,4,5,6,7,8,	1,11,15,24,37,41
25	1,2,3,	2,3,5,	3,13,23,24,27,29
26	1,2,3,4,5	1,4,5,6,7	10,15,29,31,49,61,68
27	1,2,3,6	1,3,4,6,9,10,11	21,22,25,32,35,49,53,57
28	1,2,3	1,3,4,7,8,9	6,12,19,21,31,32,36,40
29	1,2,4,5	1,2,4,5	5,9,14,29,35,39
30	1,2,3,4,6,7,	4,8	19,21,24,37,38,62,63,64
31	1,2	1,2,6	2,5,11,18,21
32	1,3	1,2	7,9,16,32,33,38,69
33	1,2,3,4,5,6,7	1,2,4,5,6,7,8	3,12,19,25,28,31,34,38,45

Evaluation Policy :

1. First MidTerm: 15%; Second MidTerm: 15%
2. Pratical Lab : 30%
3. Final Exam : 40