

**101 PHYS : General Physics (II)**  
**( for Geophysics and Agriculture 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

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### **Course Material :**

Physics for Scientists and Engineers by Raymond A. Serway ; 4th Edition.

### **Course Description:**

Chapter	Sections	Examples
1	1,2,3,7,8	1,2,3,12,13,14,18,20
2	1,2,3,4,5,7	2,3,4,6,7,9,10,12,13,15,16,17
3	1,2,3,5,6,7	1,2,3,4,5,6,7,9,10,11,12,15
4	1,2,3,7,8,10	1,2,3,4,12,13,15,17,19
6	1,2,5	1,3,4,6,9,10,11
7	2,4,6	1,3,4,5,8,10,12
8	1,2,3,6,7,8,9,10	1,2,4,8,10,11,14,16,18,21,22
9	1,2,3,4,5,6,7,8,10	2,4,5,7,8,9,13,14,17
10	1,2,3	1,2,3
12	1,2,3,4,5,6,7,8,9	1,2,4,5,6,7,9,10,12,13
14	1,2,3,4,5,6,7,8,9,10,11,12	1,2,5,6,7,8,9,11,12,13
15	1,3,4	
16	1,3	

### **Evaluation Policy :**

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