



Bangladesh University of Engineering & Technology
Department of Physics

Course Title: Modern Physics (Part of PHY 117 for IPE)

Course Teacher: **Dr. Mohammad Jellur Rahman**

Web Address: <http://mjrahman.buet.ac.bd>

Tentative Lecture Plan

Lecture No.	Topics	Reference No.
1-6	<ul style="list-style-type: none">○ <i>Special relativity, Frame of Reference,</i>○ <i>Michelson-Morley Experiment</i>○ <i>Galilean Transformation, Lorentz Transformation equations</i>○ <i>Postulates of Einstein's Special Theory of Relativity, Length contraction, Time Dilation and</i>○ <i>Mass-Energy relation</i>	1- 2
7-10	<ul style="list-style-type: none">○ <i>Quantum Theory of Radiation</i>○ <i>Photo-Electric effect</i>○ <i>Compton effect</i>○ <i>Wave Particle Duality, Interpretation of Bohr's Postulates</i>	1-2
11-14	<ul style="list-style-type: none">○ <i>Radioactive disintegration: α, β, γ-decay, Radioactive Decay Law</i>○ <i>Properties of nucleus, Nuclear Binding Energy, BE curve</i>○ <i>Nuclear Reactions (NR), Conservation laws of NR</i>○ <i>Fission, Fusion, Chain reaction, Nuclear reactor</i>	1-3

References:

1. Concepts of Modern Physics – Arthur Beiser
2. Lecture notes: <http://mjrahman.buet.ac.bd>
3. Modern Physics – Kenneth S. Krane
4. Elements of Nuclear Physics – Walter E. Meyerhof



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