(2019-2020) Academic Year

University of Computer Studies, Yangon

First Year B.C.Sc./B.C.Tech.

Phys-101 : Physics

Text Book : "College Physics" by Raymond A.Serway and Chris Viulle

Period : 45periods for 15 weeks First Semester

No.	Topics	Period	Examples	Problems
I	**MECHANICS**			
	TOPIC (2) Motion in One Dimension 2.1 Displacement, Velocity and Acceleration	5	2,3	3,7
	2.2 Motion Diagrams 2.3 One-Dimensional Motion with Constant Acceleration		4,5	27
	2.4 Freely Falling Objects		8	45,54
	Summary			
	TOPIC (3) Vectors and Two-Dimensional Motion 3.1 Displacement, Velocity and Acceleration in Two Dimensions 3.2 Two Dimensional Motion	4	2,5,6	7,9,13,14,16,17,19
	Summary			
	TOPIC (4) Newton's Laws of Motion 4.1 Forces 4.2 The Laws of Motion	7	1,5	11
	4.3 The Normal and Kinetic Friction Forces 4.4 Static Friction Forces		6	24,31
	4.5 Tension Forces 4.6 Applications of Newton's Laws		7,8,10,11,12	46,47
	4.7 Two-Body Problems		13,15	66,75, 76
	Summary			
	TOPIC (6) Momentum, Impulse and Collisions 6.1 Momentum and Impulse 6.2 Conservation of Momentum	5	1,2	11,17,18,26
	6.3 Collisions in One Dimension		4,6,7	31
	6.4 Glancing Collisions		8	40,42
	Summary			
	TOPIC (7) Rotational Motion and Gravitation 7.1 Angular Velocity and Angular Acceleration	5	1	
	7.2 Rotational Motion Under Constant Angular Acceleration		2	8

	7.3 Tangential Velocity, Tangential Acceleration, and Centripetal Acceleration		4,5	
	7.4 Newton's Second Law for Uniform Circular Motion		6,7	19,27,60,65
	Summary			
II	**THERMODYNAMICS**			
	TOPIC (11) Energy in Thermal Processes 11.1 Heat and Internal Energy	4		
	11.2 Specific Heat 11.3 Calorimetry		2,3	8,21,22,26
	11.4 Latent Heat and Phase Change		5,6	31
	Summary			
	TOPIC (12) The Laws of Thermodynamics 12.1 Work in Thermodynamic Processes	5	1	9
	12.2 The First Law of Thermodynamics 12.3 Thermal Processes in Gases		3,4,5,6,7,8	23
	12.4 Heat Engines and the Second Law of Thermodynamics		10,12,13	39
	Summary			
III	**VIBRATIONS AND WAVES**			
	TOPIC (14) Sound 14.1 Producing a Sound Wave 14.3The Speed of Sound	5	1	8
	14. 4 Energy and Intensity of Sound Waves		2	15
	14.6 The Doppler Effect		4,5	28
	14.7 Interference of Sound Waves		6	38
	14.8 Standing Waves		8	42
	Summary			
	REVISION	5		