***Phys210 (*ميكانيكا تقليدية-1 *(***

***COURSE SYLLABUS***

***Text book***

F U N D A M E N TA L S O F P H Y S I C S

 ***( 10th edition )-* HALLIDAY & RESNICK**

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| **Chapter**  | **Sections Contents**  | **Examples**  | **problems**  |
| **4** Motion in Two and Three Dimensions | **4-1** POSITION AND DISPLACEMENT **4-2** AVERAGE VELOCITY AND INSTANTANEOUS VELOCITY **4-3** AVERAGE ACCELERATION AND INSTANTANEOUS ACCELERATION **4-4** PROJECTILE MOTION **4-5** UNIFORM CIRCULAR MOTION  |   | 1,34,5,711,13,1523,27,28,29107 |
| **9** Center of Mass and Linear Momentum | **9-1** CENTER OF MASS **9-3** LINEAR MOMENTUM **9-4** COLLISION AND IMPULSE **9-5** CONSERVATION OF LINEAR MOMENTUM **9-6** MOMENTUM AND KINETIC ENERGY IN COLLISIONS **9-7** ELASTIC COLLISIONS IN ONE DIMENSION **9-8** COLLISIONS IN TWO DIMENSIONS **9-9** SYSTEMS WITH VARYING MASS: A ROCKET  |     | 1,3,518,19,2223,25,2939,4549,5161,6371,7376,79  |
| **10** Rotation  | **10-1** ROTATIONAL VARIABLES **10-2** ROTATION WITH CONSTANT ANGULAR ACCELERATION **10-3** RELATING THE LINEAR AND ANGULAR VARIABLES **10-4** KINETIC ENERGY OF ROTATION **10-6** TORQUE **10-7** NEWTON’S SECOND LAW FOR ROTATION**10-8** WORK AND ROTATIONAL KINETIC ENERGY  |  | 1,3,59,13,1519,23,2845,49,5349,5159,61,63 |
| **11** Rolling, Torque, and Angular Momentum | **11-1** ROLLING AS TRANSLATION AND ROTATION COMBINED **11-2** FORCES AND KINETIC ENERGY OF ROLLING **11-4** TORQUE REVISITED **11-5** ANGULAR MOMENTUM **11-6** NEWTON’S SECOND LAW IN ANGULAR FORM **11-7** ANGULAR MOMENTUM OF A RIGID BODY **11-8** CONSERVATION OF ANGULAR MOMENTUM **11-9** PRECESSION OF A GYROSCOPE  |  | 13,5,7,1121,23,2526,27,303336,3843,47,53,6059,6668 |
| **12** Equilibrium and Elasticity | **12-1** EQUILIBRIUM **12-2** SOME EXAMPLES OF STATIC EQUILIBRIUM  |  |  3,10,15,1725,28  |
| **13** Gravitation | **13-1** NEWTON’S LAW OF GRAVITATION **13-3** GRAVITATION NEAR EARTH’S SURFACE **13-4** GRAVITATION INSIDE EARTH **13-5** GRAVITATIONAL POTENTIAL ENERGY **13-6** PLANETS AND SATELLITES: KEPLER’S LAWS **13-7** SATELLITES: ORBITS AND ENERGY  |  | 3,517,1925,2731,33,3743,47,5461,65 |

***Course Evaluation***

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| ***Exam***  | ***Marks***  | ***Date***  | ***Notes***  |
| **1st** Midterm | ***20***  |  ***22/3/2018*** |  |
| **2nd** Midterm | ***20***  |  ***19/4/2018*** |  |
| **Exercises:** Report & Exam | ***20***  |  ***open*** |  |
| **Final** | **40** |  ***9/5/2018*** |  |
| **TOTAL**  | **100**  |  |  |