ACADEMIC SESSION 2018-19 : COURSE PLANNING

Course Program Name - XI ADHITA	Course Code - RDNEET	Course Duration - 850 Hrs

TARGET EXAM - NEET/AIPMT

Course Commencement : **04.06.2018** | **Subject - Physics**

S.No	No. of week	Week Duration	No. of Classes	Topic(s) Name (No. of Lectures)	Sub-topic(s) Name (No. of Lectures)
1	**W1**	04/6/2018 to 09/06/18	3	Mathematical Tools (3)	**1.Function + Trigonometry** **2.Slope + Curve** **3. Differentiation + Rules of Diff.**
2	**W2**	11/06/18 to 16/06/18	3	Mathematical Tools (3)	**1.Chain Rule** **2. Maxima & Minima application of diff** **3. Integral. Indefinite.**
3	**W3**	18/06/18 to 23/06/18	5	Mathematical Tools (3)	**1.Define Integration, Area under Curve** **2.Define vector, Vector Addition** **3.Resolution of vector** **4.Multiplication of Vector (Dot Product)** **5.Cross Product**
4	**W4**	25/06/18 to 30/06/18	5	Rectilinear motion (4) Projectile Motion (1)	**1. Definition, Dist. Displacement averge velocity and acceleration** **2.Motion with uniform acceleration Graphs.** **3. Motion under gravity with graph** **4. Variable acceleration** **5. Ground to Ground projectile motion with complete derivation.**
5	**W5**	02/07/18 to 07/07/18	5	Projectile Motion (3) Relative Motion (2)	**1. Equation of trajectory, Projectile from tower** **2. Projetile motion from inclined plane** **3.Projectile Motion from a moving frame** **4. Relative motion in 1-D** **5. River Problem**
6	**W6**	09/07/18 to 14/07/18	5	Relative Motion(3) NLM(1) Buffer (1)	**1. Wind, rain Problem** **2. Velocity of approach, separation** **3. Collision Maximum and minimum separation** **4. Basic Force** **5. Buffer**
7	**W7**	16/07/18 to 21/07/18	5	NLM(5)	**1. NLM 1st,2nd, 3rd, Law (Action Reaction)** **2. Tension, Normal** **3. System F.B.D.** **4. Problem of equilibrium & with acceleration** **5. Constrained motion (string and wedge)**
8	**W8**	23/07/18 to 28/07/18	5	NLM (4) Buffer (1)	**1. Weighing machine, spring** **2. Spring balance, spring and string cut problem** **3. Practice Problem** **4. Newton's law for system, Pseudo force** **5. Buffer**
9	**W9**	30/07/18 to 04/08/18	5	Friction (5)	**1. Causes of friction, Kinetic friction** **2. Problem of kinetic friction** **3. Static friction, problem of static friction (1), Two Block problem (1), Calculation of work by constant force(1)**

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10	**W10**	06/08/18 to 11/08/18	3	Work power & energy (3)	**1. W.D. By variable force, area under graph** **2. Spring force, Kinetic Energy** **3. Work energy theorem**
11	**W11**	13/08/18 to 18/08/18	3	Work power & energy (3)	**1. Power** **2. Conservative and non conservative force** **3. Potential energy**
12	**W12**	20/08/18 to 25/08/18	3	Work power & energy (3)	**1. Relation between force and potential energy with equilibrium condition** **2. Mechanical energy conservation** **3. Problems**
13	**W13**	27/08/18 to 01/09/18	3	Circular motion(3)	**1. Kinematics of circular motion(2)** **2. Relative Circular Motion**
14	**W14**	03/09/18 to 08/09/18	3	Circular motion(3)	**1.Circular motion in horizontal plane** **2.Circular motion in vertical plane** **3.Turning on roads**
15	**W15**	10/09/18 to 15/09/18	3	Circular motion (2) Buffer (1)	**1.Centrifugal force** **2.Effect of earth's rotation** **3. Buffer**
16	**W16**	17/09/18 to 22/09/18	3	Center of mass (3)	**1.Calculation of COM of system of N particles** **2.COM of continuous distributed mass, Ring, Disc, Sphere** **3.Cavity concept (Negative Mass concept)**
17	**W17**	24/09/18 to 29/09/18	3	Center of mass (3)	**1.Motion of COM, Linear momentum conservation** **2. Spring-block problem** **3. Impulse and Impulsive force**
18	**W18**	01/10/18 to 06/10/18	3	Center of mass (3)	**1. Collision in 1-D, 2-D** **2.Practice problem** **3.Variable mass system**
19	**W19**	08/10/18 to 13/10/18	3	Center of mass (2) Buffer (1)	**1.Rocket propulsion** **2. Discussion** **3.Buffer**
20	**W20**	15/10/18 to 20/10/18	3	Rotational motion (3)	**1.Definition and types of motion, Moment of Inertia** **2.Theorems, Radius of gyration** **3.Torque, point of application of force**
21	**W21**	22/10/18 to 27/10/18	3	Rotational motion (3)	**1. Rotation about fixed axis, Derivation of $\tau = I\alpha$** **2.Equilibrium** **3.Angular momentum**
22	**W22**	29/10/18 to 03/11/18	3	Rotational motion (3)	**1.Angular momentum conservation** **2. CTRM (2)**
23	**W23**	05/11/18 to 10/11/18			**Diwali**
24	**W24**	12/11/18 to 17/11/18	3	Rotational motion (3)	**1.Pure rolling** **2. Rolling with slipping, Rolling on a moving object.**

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25	**W25**	19/11/18 to 24/11/18	3	Rotational motion (3)	**1.Instantaneous axis of rotation (IAOR)** **2.Toppling** **3.Discussion**
26	**W26**	26/11/18 to 01/12/18	3	Fluid mechanic (3)	**1.Static fluid, Pascal's Law, Barometer(2)** **2. Buoyancy force**
27	**W27**	03/12/18 to 08/12/18	3	Fluid mechanic (3)	**1.Bernoulli's equation, continuity equation** **2.Problems** **3.Venturimeter, discussion**
28	**W28**	10/12/18 to 15/12/18	3	Viscosity/elasticity (3)	**1.Elasticity** **2.Viscosity** **3.Discussion**
29	**W29**	17/12/18 to 22/12/18	3	Surface tension (3)	**1.Definition, excess pressure** **2.Capillary action, surface energy** **3.Discussion**
30	**W30**	24/12/18 to 29/12/18	4	Unit & dimension Error Significant number(2) Buffer(1)	**1.U&D (1)** **2.Error(1)**
31	**W31**	31/12/18 to 05/01/19	4	SHM(4)	**1.Linear SHM(1)** **2.Graphs between various parameters (1)** **3.Spring block system, Combination of spring(2)**
32	**W32**	07/01/19 to 12/01/19	3	SHM(4)	**1.Angular SHM, Simple pendulum (1), Compound pendulum (1)** **2.Superposition principle** **3.Discussion**
33	**W33**	14/01/19 to 19/01/19		Wave on string (3)	**1.Definition, equation of pulse, travelling wave** **2.Speed in string wave**
34	**W34**	21/01/19 to 26/01/19	3	Wave on string (3)	**1.Super position, Reflection** **2.Refraction, Interference** **3.Standing wave**
35	**W35**	28/01/19 to 02/02/19	3	Wave on string(2) Sound waves (1)	**1.Vibration in string wave** **2. Sonometer wire** **3.Propagation of sound wave**
36	**W36**	04/02/19 to 09/02/19	3	Sound waves(3)	**1. Equation of pressure wave** **2. Speed of sound, Intensity** **4. Loudness, Pitch**
37	**W37**	11/02/19 to 16/02/19	3	Sound waves(3)	**1. Interference, Reflection and Refraction** **2. Air columns (Organ pipes)** **3. Beats, Doppler's effect**
38	**W38**	18/2/2019 to 23/02/19	3	Sound waves(2) KTG + Thermo (1)	**1.Beats in Doppler's effect** **2.Discussion** **3. Assumptions, derivation of pressure, Maxwell eqn, verious speed**
39	**W39**	25/02/19 to 02/03/19	3	KTG+ Thermo(3)	**1.DOF, Internal Energy** **2.System, Ideal gas, Various law, various process** **3. Cal. Of w, Δu, Q for various process**

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40	**W40**	04/03/19 to 09/03/19	3	KTG+ Thermo(2) Calorimetry (1)	**1. Graphs, Cyclic process, efficiency** **2. Free expansion, specific heats**
41	**W41**	11/03/19 to 16/03/19	3	Calorimetry (1) Thermal expansion (2)	**Principle of calorimentry** **Problems of calorimentry (1)** **1-D, 2-D, 3-D** **weight temp scales.** **Expansion. in Time period, App**