

Department of Physics
Teaching plan: 2017 – '18

1st year Honours		
Pre Mid-term		
Topic	Teacher	No. of classes
Mathematical methods I: preliminary topics , matrix	Shubhankar Roy	10
Mathematical methods I: vector analysis, sequences and series	Biswajoy Brahmachari	15
Waves and optics I: linear harmonic oscillator, waves, Fermat's principle	Dibyendu Biswas	12
Electronics I: networks, diodes, bipolar junction transistor	Pushan Banerjee	13
Classical mechanics I: mechanics of a particle and system of particles	Shubhankar Roy	13
Thermal physics I: Kinetic theory, transport phenomena, real gases	Kartick Malik	16

Post Mid-term		
Topic	Teacher	No. of classes
Mathematical methods II: ordinary and partial differential equations, Fourier series	Biswajoy Brahmachari	25
Waves and optics I: cardinal points, wave theory of light	Dibyendu Biswas	13
Electronics I: digital electronics, FET	Pushan Banerjee	12
Classical mechanics I: rotational motion	Shubhankar Roy	12
Thermal physics I: conduction of heat, radiation	Kartick Malik	9

1st year General		
Pre Mid-term		
Topic	Teacher	No. of classes
Vectors, mechanics of a particle, dynamics of rigid bodies	Pushan Banerjee	12
Simple harmonic motion and their superposition	Biswajoy Brahmachari	7
Heat and thermodynamics	Riddhi Sengupta	20

Post Mid-term		
Topic	Teacher	No. of classes
Gravitation, viscosity, surface tension, elasticity	Pushan Banerjee	10
Differential equation of wave motion	Biswajoy Brahmachari	8
Geometrical optics	Riddhi Sengupta	12

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2nd year Honours		
Pre Mid-term		
Topic	Teacher	No. of classes
Electronics II: amplifier, oscillator, OPAMP, communication principles	Pushan Banerjee	15
Electricity and magnetism: magnetic effects of steady current, field and magnetic materials	Dibyendu Biswas	13
Electrostatics: Gauss' law, multipole expansion	Kartick Malik	13
Waves and optics II: interference, diffraction	Chinmoy Sikdar	14
Classical mechanics I: mechanics of a particle and system of particles	Shubhankar Roy	13
Quantum mechanics I: old quantum theory and basic quantum mechanics	Biswajoy Brahmachari	15
Thermal physics II: basic concepts, 1st and 2nd laws of thermodynamics	Kartick Malik	15

Post Mid-term		
Topic	Teacher	No. of classes
Electronics II: combinational and sequential logic	Pushan Banerjee	15
Electricity and magnetism: field and magnetic materials, electromagnetic induction	Dibyendu Biswas	12
Electrostatics: dielectrics, electrical images	Kartick Malik	12
Waves and optics II: polarization	Chinmoy Sikdar	11
Quantum mechanics I: basic postulates of quantum mechanics	Biswajoy Brahmachari	10
Thermal physics II: thermodynamic functions, change of state	Kartick Malik	10

2nd year General		
Pre Mid-term		
Topic	Teacher	No. of classes
Electronics: diodes, transistors, digital circuits	Pushan Banerjee	15
Electrostatics, capacitors	Kartick Malik	10
Steady current, thermoelectricity, magnetic effect of current	Dibyendu Biswas	15

Post Mid-term		
Topic	Teacher	No. of classes
Physical optics: interference, diffraction, polarization	Pushan Banerjee	10
Modern physics: special theory of relativity, quantum theory, quantum mechanics, solid state physics, nuclear physics	Kartick Malik	15
Lorentz force, magnetic materials, electromagnetic induction, varying currents, alternating current	Dibyendu Biswas	15

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3rd year Honours		
Pre Test		
Topic	Teacher	No. of classes
Classical mechanics II	Shubhankar Roy and Chinmoy Sikdar	25
Special theory of relativity	Riddhi Sengupta	25
Quantum mechanics II	Biswajoy Brahmachari	25
Atomic physics	Chinmoy Sikdar	25
Nuclear and particle physics I	Riddhi Sengupta	25
Nuclear and particle physics II	Avijit Jana	25
Solid state physics I	Kartick Malik	25
Solid state physics II	Pushan Banerjee	25
Statistical mechanics	Shubhankar Roy	25
Electromagnetic theory	Dibyendu Biswas	25

3rd year General		
Pre Test		
Topic	Teacher	No. of classes
Pumps, gauges and engine, energy sources	Kartick Malik	15
Electronics, communications	Pushan Banerjee	15