

**SAT JINDA KALYANA COLLEGE, KALANAUR**  
**(ROHTAK)**

Lesson Plan

Faculty Name: Dr. Ravi Kumar Subject: Physics (I&II) Class/ Semester: B.Sc. I/1st Semester

Commencement Date: 22-08-2022

Semester End Date: 14-12-2022

Session: 2022-23

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
1.	Mechanics of single particle	22-08-2022		
2.	Mechanics of system of particles	23-08-2022		
3.	Conservation of laws of linear momentum	24-08-2022		
4.	Conservation of laws of angular momentum	25-08-2022		
5.	Conservation of laws of mechanical energy	26-08-2022		
6.	Centre of mass	27-08-2022		
7.	Equation of motion	29-08-2022		
8.	Constrained motion	30-08-2022		
9.	<b>Assignment I</b>	31-08-2022		
10.	Degrees of freedom	01-09-2022		
11.	<b>Numerical based on Unit-1</b>	02-09-2022		
12.	<b>Class Test based on Unit-1</b>	03-09-2022		

Reviewed by

Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
13	Generalised coordinates	05-09-2022		
14	Displacement	06-09-2022		
15	Velocity	07-09-2022		
16	Acceleration, momentum	08-09-2022		
17	Force and potential	09-09-2022		
18	Hamilton's variational principle	10-09-2022		
19	Lagrange's equation of motion from Hamilton's Principle	12-09-2022		
20	Linear Harmonic oscillator	13-09-2022		
21	Simple pendulum	14-09-2022		
22.	Atwood's machine	15-09-2022		
23.	<b>Assignment II</b>	16-09-2022		
24.	<b>Class Test based on Unit-II</b>	17-09-2022		

Reviewed by

Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
25.	Rotation of Rigid body	19-09-2022		
26.	Moment of inertia	20-09-2022		
27.	Angular momentum, kinetic energy of rotation.	21-09-2022		
28	Angular momentum, kinetic energy of rotation.	22-09-2022		
29.	Theorems of perpendicular and parallel axes with proof	24-09-2022		

30.	Moment of inertia of solid sphere	27-09-2022		
31.	Moment of inertia of hollow sphere, spherical shell	28-09-2022		
32.	Moment of inertia of solid cylinder, hollow cylinder	29-09-2022		
33	Moment of inertia of solid bar of rectangular cross-section	30-09-2022		
34.	Acceleration of a body rolling down on an inclined plane	01-10-2022		
35.	<b>Assignment III</b>	03-10-2022		
36.	<b>Class Test based on Unit-III</b>	04-10-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
37	Scalars and Vectors, dot and cross product	06-10-2022		
38	Triple vector product, Scalar and Vector fields	07-10-2022		
39	Differentiation of a vector, Gradient of a scalar and its physical significance	08-10-2022		
40	Integration of a vector (line, surface and volume integral and their physical significance)	10-10-2022		
41	Gauss's divergence theorem and Stocks theorem	11-10-2022		
42	<b>Assignment I</b>	12-10-2022		
43	Derivation of field E from potential as gradient	13-10-2022		
44	Derivation of Laplace and Poisson equations.	14-10-2022		
45	Electric flux, Gauss's Law and its application to spherical shell	15-10-2022		

47.	Uniformly charged infinite plane and uniformly charged straight wire	15-10-2022		
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48	Mechanical force of charged surface	18-10-2022		
49	Energy per unit volume	18-10-2022		
50	<b>Class Test based on Unit-I</b>	19-10-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
51	Magnetic Induction, Magnetic flux	20-10-2022		
52	Solenoidal nature of Vector field of induction	21-10-2022		
53	Properties of B (i) $\cdot B = 0$ (ii) $\times B = J$	22-10-2022		
54	Electronic theory of dia and para magnetism (Langevin's theory)	26-10-2022		
55	Electronic theory of dia and para magnetism (Langevin's theory)	27-10-2022		
56	Domain theory of ferromagnetism	28-10-2022		
57	Cycle of Magnetisation - Hysteresis	29-10-2022		
58	Energy dissipation,	31-10-2022		
59.	Hysteresis loss and importance of Hysteresis curve	02-11-2022		
60.	<b>Assignment II</b>	03-11-2022		
61	<b>Numerical based on Unit-II</b>	04-11-2022		
62	<b>Class Test based on Unit-II</b>	05-11-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
63	Maxwell equation and their derivations	07-11-2022		
64	Maxwell equation and their derivations	09-11-2022		
65	Displacement Current.	10-11-2022		
66	Vector and scalar potentials	11-11-2022		
67	boundary conditions at interface between two different media	12-11-2022		
68	Boundary conditions at interface between two different media	14-11-2022		
69	Propagation of electromagnetic wave	16-11-2022		

70	Poynting vector	17-11-2022		
71	Poynting theorem.	18-11-2022		
72	<b>Assignment III</b>	19-11-2022		
73.	<b>Class Test based on Unit-III</b>	21-11-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
74	Revision	22-11-2022		
75	Revision	23-11-2022		
76	Revision	24-11-2022		
77	Revision	25-11-2022		
78	Revision	26-11-2022		
79	Revision	28-11-2022		
80	Revision	29-11-2022		
81	Revision	30-11-2022		
82	Revision	01-12-2022		
83.	Revision	02-12-2022		
84.	Revision	03-12-2022		
85	Revision	05-12-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
86	Revision	06-12-2022		
87	Revision	07-12-2022		
88	Revision	08-12-2022		
89	Revision	09-12-2022		
90	Revision	10-12-2022		
91	Revision	12-12-2022		
92	Revision	13-12-2022		
93	Revision	14-12-2022		

Reviewed by

Date

Remarks

Signature of Faculty

Reviewed by

Date

Remarks

Overall Observation (Problems faced/improvement Suggestions/Recommendation)

Reviewed by H.O.D./Committee

Principal

**SAT JINDA KALYANA COLLEGE, KALANAUR  
(ROHTAK)**

Lesson Plan

Faculty Name: Dr. Ravi Kumar Subject: **Physics (I&II)** Class/ Semester: B.Sc. II / 3rd Sem.

Commencement Date: 22-08-2022

Semester End Date: 14-12-2022

Session: 2022-23

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
1.	Second law of thermodynamics	22-08-2022		
2.	Carnot theorem	23-08-2022		
3.	Absolute scale of temperature	24-08-2022		
4.	Absolute Zero, Entropy	25-08-2022		
5.	$dQ/T=O$ , T-S diagram	26-08-2022		
6.	Nernst heat law	27-08-2022		
7.	Joule's free expansion	29-08-2022		
8.	Joule Thomson (Porous plug) experiment	30-08-2022		
9.	Joule - Thomson effect, Liquefaction of gases	31-08-2022		
10.	<b>Assignment II</b>	01-09-2022		
11.	Air pollution due to internal combustion Engine	02-09-2022		
12.	<b>Class Test based on Unit-1I</b>	03-09-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
13	Derivation of Clausius - Claperyron latent heat equation	05-09-2022		
14	Derivation of Clausius - Claperyron latent heat equation	06-09-2022		
15	Phase diagram and triple point of a substance	07-09-2022		
16	Development of Maxwell thermodynamical relations.	08-09-2022		
17	Application of Maxwell relations in the derivation of relations between entropy	09-09-2022		
18	Application of Maxwell relations in the derivation of relations between entropy	10-09-2022		
19	Specific heats and thermodynamic variables	12-09-2022		
20	Thermodynamic functions : Internal energy (U),	13-09-2022		
21	Helmholtz function (F)	14-09-2022		
22.	Enthalpy (H), Gibbs function (G)	15-09-2022		
23.	<b>Assignment III</b>	16-09-2022		
24.	<b>Class Test based on Unit-III</b>	17-09-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
25.	Matrix methods in paraxial optics	19-09-2022		
26.	Effects of translation and refraction	20-09-2022		
27.	Derivation of thin lens and thick lens formulae	21-09-2022		
28	Derivation of thin lens and thick lens formulae	22-09-2022		
29.	Unit plane, nodal planes	24-09-2022		
30.	System of thin lenses	27-09-2022		



31.	Chromatic	28-09-2022		
32.	spherical coma	29-09-2022		
33	astigmatism	30-09-2022		
34.	distortion aberrations and their remedies	01-10-2022		
35.	<b>Assignment II</b>	03-10-2022		
36.	<b>Class Test based on Unit-II</b>	04-10-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
37	Interference by Division of Wavefront	06-10-2022		
38	Fresnel's Biprism	07-10-2022		
39	Fresnel's Biprism	08-10-2022		
40	Its applications to determination of wave length of sodium light and thickness of a mica sheet,	10-10-2022		
41	Its applications to determination of wave length of sodium light and thickness of a mica sheet,	11-10-2022		
42	Lloyd's mirror	12-10-2022		
43	Lloyd's mirror	13-10-2022		
44	Phase change on reflection	14-10-2022		
45	<b>Numerical based on Unit-III</b>	15-10-2022		

47.	<b>Assignment III</b>	18-10-2022		
48	<b>Class Test based on Unit- III</b>	19-10-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
49	Fourier Analysis and Fourier Transforms : Speed of transverse waves on a uniform string.	20-10-2022		
50	Speed of longitudinal waves in a fluid	21-10-2022		
51	superposition of waves (physical idea)	22-10-2022		
52	Fourier Analysis of complex waves and its application for the solution of triangular waves	26-10-2022		
53	Fourier Analysis of complex waves and its application for the solution of rectangular waves	27-10-2022		
54	half and full wave rectifier out puts	28-10-2022		
55	half and full wave rectifier out puts	29-10-2022		
56	Fourier transforms and its properties	31-10-2022		
57	Application of Fourier transform	02-11-2022		
58	<b>Numerical based on Unit-I</b>	03-11-2022		
59.	<b>Assignment I</b>	04-11-2022		
60.	<b>Class Test based on Unit- I</b>	05-11-2022		

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S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
61	Computer organisation, Binary representation	07-11-2022		
62	Algorithm development, flow charts and their interpretation	09-11-2022		
63	Fortran Preliminaries	10-11-2022		
64	Integer and floating point arithmetic expression	11-11-2022		
65	Built in functions executable and non-executable statements	12-11-2022		

66	Built in functions executable and non-executable statements	14-11-2022		
67	Built in functions executable and non-executable statements	15-11-2022		
68	Input and output statements	16-11-2022		
69	Formats, I.F. DO and GO TO statements	17-11-2022		
70	Dimension arrays statement function and function subprogram	18-11-2022		
71	<b>Assignment I</b>	19-11-2022		
72.	<b>Class Test based on Unit- I</b>	21-11-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
73.	Revision	22-11-2022		
74	Revision	23-11-2022		
75	Revision	24-11-2022		
76	Revision	25-11-2022		
77	Revision	26-11-2022		
78	Revision	28-11-2022		
79	Revision	29-11-2022		
80	Revision	30-11-2022		
81	Revision	01-12-2022		
82	Revision	02-12-2022		
83.	Revision	03-12-2022		
84.	Revision	05-12-2022		

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Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
85.	Revision	06-12-2022		
86	Revision	07-12-2022		
87	Revision	08-12-2022		
88	Revision	09-12-2022		
89	Revision	10-12-2022		
90	Revision	12-12-2022		
91	Revision	13-12-2022		
92	Revision	14-12-2022		

Reviewed by

Date

Remarks

Signature of Faculty

Reviewed by

Date

Remarks

Overall Observation (Problems faced/improvement Suggestions/Recommendation)

Reviewed by H.O.D./Committee

Principa

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**SAT JINDA KALYANA COLLEGE, KALANAUR  
(ROHTAK)**

Lesson Plan

Faculty Name: Dr. Ravi Kumar Subject: Physics (I&II) Class/ Semester: B.Sc. III / 5th Sem.

Commencement Date: 22-08-2022

Semester End Date: 14-12-2022

Session: 2022-23

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
1.	Crystalline and gally forms	22-08-2022		
2.	Crystalline and gally forms	23-08-2022		
3.	Liquid crystals	24-08-2022		
4.	Crystal structure	24-08-2022		
5.	Periodicity, lattice and basis	25-08-2022		
6.	Crystal translational vectors and axes	25-08-2022		
7.	Unit cell and primitive cell	29-08-2022		
8.	Wigner Seitz primitive Cell	30-08-2022		
9.	Symmetry operations for a two dimensional crystal	31-08-2022		
10.	Bravais lattices in two and three dimensions	01-09-2022		
11.	<b>Assignment I</b>	05-09-2022		
12.	<b>Class Test based on Unit-1</b>	06-09-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
13	Crystal planes	07-09-2022		
14	Miller indices	07-09-2022		
15	Interplaner spacing	07-09-2022		
16	Crystal structures of Zinc sulphide	08-09-2022		
17	Crystal structures of Zinc sulphide	08-09-2022		
18	Crystal structures Sodium Chloride	08-09-2022		
19	Crystal structures diamond	12-09-2022		
20	X-ray diffraction,	13-09-2022		
21	Bragg's Law and experimental x-ray diffraction methods	14-09-2022		
22.	K-space.	14-09-2022		
23.	<b>Assignment II</b>	15-09-2022		
24.	<b>Class Test based on Unit-II</b>	15-09-2022		

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S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
25.	Failure of (Classical) E.M. Theory. quantum theory of radiation (old quantum theory)	19-09-2022		
26.	Photon, photoelectric effect	20-09-2022		
27.	Einsteins photoelectric equation compton effect (theory and result)	21-09-2022		
28	Inadequacy of old quantum theory	22-09-2022		
29.	de-Broglie hypothesis	22-09-2022		

30.	Davisson and Germer experiment G.P. Thomson experiment	27-09-2022		
31.	Phase velocity group velocity Heisenberg's uncertainty principle	28-09-2022		
32.	Time-energy and angular momentum, position uncertainty Uncertainty principle from de-Broglie wave	28-09-2022		
33	Gamma Ray Macroscope	29-09-2022		
34.	Electron diffraction from a slit.	29-10-2022		
35.	<b>Assignment I</b>	03-10-2022		
36.	<b>Class Test based on Unit-1</b>	04-10-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
37	Derivation of time dependent Schrodinger wave equation	06-10-2022		
38	Derivation of time dependent Schrodinger wave equation	10-10-2022		
39	eigen values, eigen functions, wave functions and its significance	10-10-2022		
40	eigen values, eigen functions, wave functions and its significance	11-10-2022		
41	Normalization of wave function	11-10-2022		
42	concept of observable and operator	12-10-2022		
43	Solution of Schrodinger equation for harmonic oscillator ground states	12-10-2022		
44	Solution of Schrodinger equation for harmonic oscillator ground states	13-10-2022		

45	Solution of Schrodinger equation for harmonic oscillator excited states.	13-10-2022		
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47.	<b>Assignment II</b>	17-10-2022		
48	<b>Class Test based on Unit-II</b>	18-10-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
49	Application of Schrodinger equation of Free particle in one dimensional box (solution of schrodinger wave equation)	19-10-2022		
50	Application of Schrodinger equation of Free particle in one dimensional box (solution of eigen function)	20-10-2022		
51	Application of Schrodinger equation of Free particle in one dimensional box (solution of eigen values)	26-10-2022		
52	Application of Schrodinger equation of Free particle in one dimensional box (solution of quantization of energy and momentum)	26-10-2022		
53	Application of Schrodinger equation of Free particle in one dimensional box (solution of nodes and antinodes, zero point energy).	27-10-2022		
54	One-dimensional potential barrier $E > V_0$ (Reflection and Transmission coefficient)	27-10-2022		
55	One-dimensional potential barrier $E > V_0$ (Reflection and Transmission coefficient)	31-10-2022		
56	One-dimensional potential barrier, $E > V_0$ (Reflection Coefficient, penetration of leakage coefficient, penetration depth).	31-10-2022		
57	One-dimensional potential barrier, $E > V_0$ (Reflection Coefficient, penetration of leakage coefficient, penetration depth).	02-11-2022		
58	<b>Numerical based on Unit-III</b>	02-11-2022		
59.	<b>Assignment III</b>	03-11-2022		
60.	<b>Class Test based on Unit-III</b>	03-11-2022		

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Date

Remarks



S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
61	Reciprocal lattice and its physical significance	07-11-2022		
62	Reciprocal lattice and its physical significance	09-11-2022		
63	reciprocal lattice vectors	09-11-2022		
64	reciprocal lattice vectors	10-11-2022		
65	lattice to a simple cubic lattice, b.c.c and f.c.c.	10-11-2022		
66	lattice to a simple cubic lattice, b.c.c and f.c.c.	14-11-2022		
64	Specific heat of solids, Einstein's theory of specific heat	15-11-2022		
68	Specific heat of solids, Einstein's theory of specific heat	15-11-2022		
69	Debye model of specific heat of solids	16-11-2022		
<b>70</b>	<b>Numerical based on Unit-III</b>	16-11-2022		
71	<b>Assignment III</b>	17-11-2022		
72.	<b>Class Test based on Unit-III</b>	17-11-2022		

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Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
73.	Revision	21-11-2022		
74	Revision	22-11-2022		
75	Revision	23-11-2022		
76	Revision	24-11-2022		
77	Revision	28-11-2022		
78	Revision	29-11-2022		
79	Revision	30-11-2022		
80	Revision	01-12-2022		
81	Revision	05-12-2022		
82	Revision	06-12-2022		
83.	Revision	07-12-2022		
84.	Revision	08-12-2022		

Reviewed by

Date

Remarks

S.No./Lect. No.	Topic	Proposed Date	Actual Date	Remarks
85.	Revision	12-12-2022		
86	Revision	13-12-2022		
87	Revision	14-12-2022		

Reviewed by

Date

Remarks

Signature of Faculty

Reviewed by

Date

Remarks

Overall Observation (Problems faced/improvement Suggestions/Recommendation)

Reviewed by H.O.D./Committee

Principal