

## Lesson plan

**B.Sc. (H) Physics\_sem-I**

**Mathematical Physics-I (Phy-101)**

**A.P. Sandeep Singh**

Lectures	Particular
1.	<b>Importance of the mathematical physics</b>
2.	<b>Unit-1: vector algebra and analysis</b> Introduction to the vectors and scalars
3.	Addition, subtraction and scalar multiplication of the vectors
4.	--continue--
5.	--continue--
6.	Products of the vectors and their physical meanings
7.	--continue--
8.	--continue--
9.	Polar and axial vectors and their meaning from Physics
10.	Triple and quadruple products
11.	--continue--
12.	--continue--
13.	--continue--
14.	Scalar and vector fields, derivative of the scalar and vector fields
15.	--continue--
16.	--continue--
17.	Gradient and its physical meaning
18.	--continue--
19.	Divergence and its physical meaning
20.	--continue--
21.	Class test-1
22.	Curl and its physical meaning
23.	--continue--
24.	Laplacian operator and problems
25.	--continue--
26.	Idea of the line, surface and volume integral
27.	--continue--
28.	--continue--
29.	Gauss ,stokes and Green's theorems
30.	--continue--
31.	--continue--
32.	<b>UNIT-II: Orthogonal curvilinear coordinates</b>
33.	--continue--
34.	Derivation of the gradient ,divergence ,curl and laplacian in Cartesian ,spherical and cylindrical coordinate systems
35.	--continue--
36.	--continue--
37.	--continue--
38.	--continue--

39.	<b>Class test -II</b>
40.	Change of variables and Jacobian
41.	Evaluation of line ,surface and volume integrals
42.	--continue--
43.	--continue--
44.	--continue--
45.	--continue--
46.	Constrained maxima and minima
47.	Method of the Lagrange undetermined multipliers and its applications to simple problems in physics
48.	--continue--
49.	--continue--
50.	<b>Second Assignment</b>
51.	--continue--
52.	--continue--
53.	--continue--
54.	Variational principle Euler –Lagrange equation and its application to simple problems
55.	--continue--
56.	--continue--
57.	--continue--
58.	--continue--
59.	--continue--
60.	<b>Class Test:III</b>
61.	revision
62.	--continue--
63.	Class test-III solved and distributed
64.	revision

RPS Degree College (Balana), Mahendragarh

**Department of Physics**

**B.Sc. Honours 1st sem**

**Name of the Assistant Professor: Dr. Kavita**

**Subject: Mechanics I**

**Subject Code: PHY-102**

**Lesson Plan**

<b>Date</b>	<b>Topics</b>
Day1	Introduction
Day2	Motion of charged particle in electric field
Day3	Motion of charged particle in magnetic field
Day4	Motion of charged particle in cross field
Day5	Revision
Day6	Dynamics of system of particle
Day7	Centre of mass concept
Day8	Conservation of linear momentum by impulse
Day9	Work energy theorem & numerical
Day10	System of variable mass; Rocket
Day11	Numerical on variable system mass
Day12	Revision of last topics
Day13	Conservative and non conservative force
Day14	Potential energy
Day15	Conservation of mechanical energy
Day16	Potential energy in different systems
Day17	Potential energy curve

Day18	Bounded and unbounded curve
Day19	Centre of mass frame and lab frame
Day20	Elastic collision in 1 dimension
Day21	Elastic Oblique collision (2D)
Day22	Oblique collision in centre of mass frame
Day23	Value of scattering angle
Day24	Revision and doubt class of unit 1
Day25	<b>Class test 1</b>
Day26	Distribution of paper and discussion
Day27	Angular momentum of particle and system of particles
Day28	Torque and conservation of angular momentum
Day29	Rotation about a fixed axis Moment of inertia
Day30	Moment of inertia for rectangular bodies
Day31	Moment of inertia for rectangular bodies
Day32	Moment of inertia for spherical bodies
Day33	Kinetic energy of rotation
Day34	Translation and rotation oscillatory motion
Day35	Motion of simple pendulum
Day36	Motion of compound pendulum
Day37	Loaded spring
Day38	Revision and doubt class
Day39	Energy considerations
Day40	Time average of energy
Day41	Revision of unit 2
Day42	<b>Class test 2</b>

Day43	Distribution of paper and discussion
Day44	<b>Previous year question paper discussion unit 1</b>
Day45	<b>Previous year question paper discussion unit 2</b>
Day46	Syllabus complete

RPS Degree College (Balana), Mahendragarh

**Department of Physics**  
**B.Sc. N.M. 6<sup>th</sup> Semester ( B & C)**

**Name of the Assistant Professor: Dr. Rajni Bansal**

**Subject: Atomic, Molecular and Laser Physics**

**Subject Code: PHY-601**

**Lesson Plan**

Week	Date	Topics
1	Day1	Introduction
	Day2	Vector atom model
	Day3	quantum numbers associated with vector atom model,
2	Day4	Penetrating and non penetrating orbits
	Day5	spectral lines in different series of alkali spectra
	Day6	Spin orbit interaction
3	Day7	doublet term separation
	Day8	LS Coupling
	Day9	Numerical problems & assignment 1
	Day10	doubts
	Day11	JJ Coupling
4	Day12	(Expressions for interaction energies for LS and JJ coupling required).
	Day13	Zeeman effect (normal)
	Day14	Anamolous Zeeman effect
5	Day15	Zeeman pattern of D1 and D2 lines of Na-atom
	Day16	Paschen Back effect of a single valence electron system
	Day17	Weak field Strak effect of Hydrogen Atom
6	Day18	Revision of stark effect
	Day19	Numerical problems
7	Day20	Doubts & assignment-2
	Day21	Numerical
	Day22	Discrete set of electronic energies of molecules
8	Day23	Quantization of Vibrational energy

	Day24	Quantization of rotational energy
	Day25	Quantization of vibrational and rotational energy in Raman effect
9	Day26	Stoke's and anti Stoke's lines.
	Day27	Numerical problems & assignment 3
	Day28	Doubts
10	Day29	Numerical problems
	Day30	Introduction to lasers
	Day31	Properties of lasers
11	Day32	Continue
	Day33	Einstein's coefficients and possibility of amplification
	Day34	Doubts
12	Day35	Numerical problems & assignment 4
	Day36	momentum transfer,
	Day37	life time of a level
	Day49	kinetics of optical absorption
13	Day50	kinetics of optical absorption
	Day51	Numerical Problems
	Day52	Problems
	Day53	Laser pumping
14	Day54	He- ne laser
	Day55	Ruby laser
	Day56	revision
	Day57	Application of laser in field of medicine
15	Day58	Application of laser in field of industry
	Day59	doubt
	Day60	Revision

16	Day61	Numerical problems
	Day62	doubts
	Day63	Syllabus completed
	Day64	revision

### **Lesson plan**

Name of the Assistant Professor: BALRAM

Class and Section: B.Sc Physics, Semester VI- (Section A& D)

Subject: Paper-II Nuclear Physics (PHY602)



Week	Day No.	Topics	Remarks
1	Day 1	<b>Basic Introduction about Atom and Nucleus (I unit)</b>	
	Day 2	Constituents of Nucleus ( Different Hypothesis)	
	Day 3	Rutherford Back scattering experiment (nuclear size )	
2	Day 4	Properties of Nucleus (Mass, Spin, statistics and parity )	
	Day 7	Concept of magnetic dipole moment, Quadrupole dipole moment (Shape concept)	
	Day 8	Mass defect and Nuclear Binding Energy	
3	Day 11	Nuclear Binding Energy (continue), Nuclear Stability	
	Day 12	Bain Bridge spectrograph, Mass determination by Bain Bridge	
	Day 13	Jordan mass spectrograph, <b>Numerical problems</b>	
4	Day 16	Mosley Law (charge determination)	
	Day 17	Continue...	
	Day 18	<b>Class Test</b>	
5	Day 26	Test distribution and discussion	
	Day 27	<b>Basic Introduction (charged particles) (II unit)</b>	
	Day 28	Heavy charged particle interaction (alpha particles)	
6	Day 31	Alpha disintegration, Theory of alpha disintegration	
	Day 32	Energetic of alpha decay	
	Day 33	Range of alpha particle, Geiger –Nuttall rule	
7	Day 36	Energy loss of heavy charged particle, Q/M description	
	Day 37	Idea of Bethe Formula	
		Light Charged particle (beta particle)	
	Day 40	Origin of beta spectrum, Neutrino Hypothesis	
8	Day 41	Types of beta decay, Energetic of beta decay	
	Day 42	Energy loss (by ionization)	
	Day 43	Range of electron and	
9	Day 46	Absorption of beta particles	
	Day 47	Interaction of Gamma rays & Interaction of Gamma rays and its nature	
	Day 49	Photo electric effect, Compton effect	
10	Day 51	Pair production effect & electron positron annihilation	
	Day 52	Mass attenuation coefficient and its application	

	Day 53	TEST	
11	Day 56	<b>Basic Introduction (III unit)</b> , Nuclear reaction and Its different type	
	Day 57	Continue.... &	
	Day 58	Conservation Laws, Energetic of nuclear reaction (Q value)	
12	Day 61	Nuclear reactor and its design	
	Day 62	Linear , Tendem, Cyclotron and betatron accelerators	
	Day 63	Ionization chamber, proportional counter & G.M. counter	
13	Day 66	<b>TEST</b>	
	Day 67	Test distribution and discussion	
	Day 68	<b>(Revision)</b> & discussion of previous paper <b>(Unit I)</b>	

## **Lesson plan**

Name of the Assistant Professor: Deepika

Class and Section: B.Sc Physics, Semester VI- (Section B&C)

Subject: Paper-II Nuclear Physics (PHY602)

Week	Day No.	Topics	Remarks
1	Day 1	<b>Basic Introduction about Atom and Nucleus (I unit)</b>	
	Day 2	Constituents of Nucleus ( Different Hypothesis)	
	Day 3	Rutherford Back scattering experiment (nuclear size )	
2	Day 4	Properties of Nucleus (Mass, Spin, statistics and parity )	
	Day 7	Concept of magnetic dipole moment, Quadrupole dipole moment (Shape concept)	
	Day 8	Mass defect and Nuclear Binding Energy	
3	Day 11	Nuclear Binding Energy (continue), Nuclear Stability	
	Day 12	Bain Bridge spectrograph, Mass determination by Bain Bridge	
	Day 13	Jordan mass spectrograph, <b>Numerical problems</b>	
4	Day 16	Mosley Law (charge determination)	
	Day 17	Continue...	
	Day 18	<b>Class Test</b>	
5	Day 26	Test distribution and discussion	
	Day 27	<b>Basic Introduction (charged particles) (II unit)</b>	
	Day 28	Heavy charged particle interaction (alpha particles)	
6	Day 31	Alpha disintegration, Theory of alpha disintegration	
	Day 32	Energetic of alpha decay	
	Day 33	Range of alpha particle, Geiger –Nuttall rule	
7	Day 36	Energy loss of heavy charged particle, Q/M description	
	Day 37	Idea of Bethe Formula	
		Light Charged particle (beta particle)	
	Day 40	Origin of beta spectrum, Neutrino Hypothesis	
8	Day 41	Types of beta decay, Energetic of beta decay	
	Day 42	Energy loss (by ionization)	
	Day 43	Range of electron and	
9	Day 46	Absorption of beta particles	
	Day 47	Interaction of Gamma rays & Interaction of Gamma rays and its nature	
	Day 49	Photo electric effect, Compton effect	
10	Day 51	Pair production effect & electron positron annihilation	
	Day 52	Mass attenuation coefficient and its application	

	Day 53	TEST	
11	Day 56	<b>Basic Introduction (III unit)</b> , Nuclear reaction and Its different type	
	Day 57	Continue.... &	
	Day 58	Conservation Laws, Energetic of nuclear reaction (Q value)	
12	Day 61	Nuclear reactor and its design	
	Day 62	Linear , Tendem, Cyclotron and betatron accelerators	
	Day 63	Ionization chamber, proportional counter & G.M. counter	
13	Day 66	<b>TEST</b>	
	Day 67	Test distribution and discussion	
	Day 68	<b>(Revision)</b> & discussion of previous paper <b>(Unit I)</b>	

## **Lesson plan**

Name of the Assistant Professor: PRAVEEN

Class and Section: B.Sc Physics, Semester VI ( E )

Subject: Paper-II Nuclear Physics (PHY602)

Week	Day No.	Topics	Remarks
1	Day 1	<b>Basic Introduction about Atom and Nucleus (I unit)</b>	
	Day 2	Constituents of Nucleus ( Different Hypothesis)	
	Day 3	Rutherford Back scattering experiment (nuclear size )	
2	Day 4	Properties of Nucleus (Mass, Spin, statistics and parity )	
	Day 7	Concept of magnetic dipole moment, Quadrupole dipole moment (Shape concept)	
	Day 8	Mass defect and Nuclear Binding Energy	
3	Day 11	Nuclear Binding Energy (continue), Nuclear Stability	
	Day 12	Bain Bridge spectrograph, Mass determination by Bain Bridge	
	Day 13	Jordan mass spectrograph, <b>Numerical problems</b>	
4	Day 16	Mosley Law (charge determination)	
	Day 17	Continue...	
	Day 18	<b>Class Test</b>	
5	Day 26	Test distribution and discussion	
	Day 27	<b>Basic Introduction (charged particles) (II unit)</b>	
	Day 28	Heavy charged particle interaction (alpha particles)	
6	Day 31	Alpha disintegration, Theory of alpha disintegration	
	Day 32	Energetic of alpha decay	
	Day 33	Range of alpha particle, Geiger –Nuttall rule	
7	Day 36	Energy loss of heavy charged particle, Q/M description	
	Day 37	Idea of Bethe Formula	
		Light Charged particle (beta particle)	
	Day 40	Origin of beta spectrum, Neutrino Hypothesis	
8	Day 41	Types of beta decay, Energetic of beta decay	
	Day 42	Energy loss (by ionization)	
	Day 43	Range of electron and	
9	Day 46	Absorption of beta particles	
	Day 47	Interaction of Gamma rays & Interaction of Gamma rays and its nature	
	Day 49	Photo electric effect, Compton effect	
10	Day 51	Pair production effect & electron positron annihilation	
	Day 52	Mass attenuation coefficient and its application	

	Day 53	TEST	
11	Day 56	<b>Basic Introduction (III unit)</b> , Nuclear reaction and Its different type	
	Day 57	Continue.... &	
	Day 58	Conservation Laws, Energetic of nuclear reaction (Q value)	
12	Day 61	Nuclear reactor and its design	
	Day 62	Linear , Tendem, Cyclotron and betatron accelerators	
	Day 63	Ionization chamber, proportional counter & G.M. counter	
13	Day 66	<b>TEST</b>	
	Day 67	Test distribution and discussion	
	Day 68	<b>(Revision)</b> & discussion of previous paper <b>(Unit I)</b>	

## Lesson Plan Odd Semester 2020-21

### B.Sc. Honors Physics 1st Sem.

**Teacher's Name:- Praveen Kumar**

**Subject Name:- Electricity(PHY-103)**

Lectures	Topics
1	INTRODUCTION (CORDINATE SYSTEM )
2	BASIC OF FOUR VECTOR
3	LORENTZ TRANSFORMATION IN FOUR DIMENSIONAL SPACE
4	LORENTZ TRANSFORMATION IN FOUR DIMENSIONAL SPACE
5	CONSERVATION OF CHARGE AND FOUR CURRENT DENSITY
6	CONSERVATION OF CHARGE AND FOUR CURRENT DENSITY
7	ELECTROMAGNETIC FIELD TENSOR IN FOUR DIMENSIONS
8	ELECTROMAGNETIC FIELD TENSOR IN FOUR DIMENSIONS
9	LORENTZ INVARIANCE OF MAXWELL'S EQUESTIONS
10	LORENTZ INVARIANCE OF MAXWELL'S EQUESTIONS
11	DUAL FIELD TENSOR
12	DUAL FIELD TENSOR
13	TRANSFORMATION OF ELECTRIC AND MAGNETIC FIELDS
14	TRANSFORMATION OF ELECTRIC AND MAGNETIC FIELDS
15	TRANSFORMATION OF ELECTRIC AND MAGNETIC FIELDS
16	COVARIANCE OF FORCE EQUATION
17	<b>Unit Test</b>
18	REVISION
19	BASICS OF RADIATING SYSTEMS
20	BASICS OF RADIATING SYSTEMS
21	FIELD AND RADIATION OF A LOCALIZED SOURCE AND OSCILLATING ELECTRIC DIPOLE
22	FIELD AND RADIATION OF A LOCALIZED SOURCE AND OSCILLATING ELECTRIC DIPOLE
23	CENTRE FED LINEAR ANTENNA AND LINEARD-WIECHERT POTENTIAL
24	CENTRE FED LINEAR ANTENNA AND LINEARD-WIECHERT POTENTIAL
25	ELECTRIC AND MAGNETIC FIELDS DUE TO A UNIFORMLY MOVING CHARGE AND ACCELERATED CHARGE
26	ELECTRIC AND MAGNETIC FIELDS DUE TO A UNIFORMLY MOVING CHARGE AND ACCELERATED CHARGE
27	LINEAR AND CIRULAR ACCELERATION AND ANGULAR DISTRUBUTION OF POWER
28	LINEAR AND CIRULAR ACCELERATION AND ANGULAR DISTRUBUTION OF POWER

29	REVISION
30	UNIT TEST
31	BASIC OF RADIATIVE REACTION FORCE
32	BASIC OF RADIATIVE REACTION FORCE
33	THOMPSON AND RAYLEIGH SCATTERING, NORMAL AND ANOMALOUS DISPERSION
34	THOMPSON AND RAYLEIGH SCATTERING, NORMAL AND ANOMALOUS DISPERSION
35	IONOSPHERE AND PROPAGATION OF ELECTROMAGNETIC WAVE THROUGH IONOSPHERE
36	IONOSPHERE AND PROPAGATION OF ELECTROMAGNETIC WAVE THROUGH IONOSPHERE
37	IONOSPHERE AND PROPAGATION OF ELECTROMAGNETIC WAVE THROUGH IONOSPHERE
38	REFLECTION OF ELECTROMAGNETIC WAVE BY IONOSPHERE
39	MOTION OF CHARGE PARTICLE IN ELECTRIC AND MAGNETIC FIELDS
40	MOTION OF CHARGE PARTICLE IN ELECTRIC AND MAGNETIC FIELDS
41	MOTION OF CHARGE PARTICLE IN ELECTRIC AND MAGNETIC FIELDS
42	REVISION
43	UNIT TEST
44	PROBLEMS SOLUTION
45	BASICS OF WAVE GUIDE AND TRANSMISSION LINES
46	BASIC OF RADIATIVE REACTION FORCE
47	BASIC OF RADIATIVE REACTION FORCE
48	THOMPSON AND RAYLEIGH SCATTERING, NORMAL AND ANOMALOUS DISPERSION
49	THOMPSON AND RAYLEIGH SCATTERING, NORMAL AND ANOMALOUS DISPERSION
50	IONOSPHERE AND PROPAGATION OF ELECTROMAGNETIC WAVE THROUGH IONOSPHERE
51	IONOSPHERE AND PROPAGATION OF ELECTROMAGNETIC WAVE THROUGH IONOSPHERE
52	IONOSPHERE AND PROPAGATION OF ELECTROMAGNETIC WAVE THROUGH IONOSPHERE
53	REFLECTION OF ELECTROMAGNETIC WAVE BY IONOSPHERE
54	MOTION OF CHARGE PARTICLE IN ELECTRIC AND MAGNETIC FIELDS
55	MOTION OF CHARGE PARTICLE IN ELECTRIC AND MAGNETIC FIELDS
56	MOTION OF CHARGE PARTICLE IN ELECTRIC AND MAGNETIC FIELDS
57	REVISION
58	REVISION
59	UNIT TEST
60	BASICS OF WAVE GUIDE AND TRANSMISSION LINES
61	WAVE GUIDE MODES IN RECTANGULAR WAVE GUIDE
62	WAVE GUIDE MODES IN RECTANGULAR WAVE GUIDE
63	DIELECTRIC WAVE GUIDE AND ATTENUATION IN WAVE GUIDES
64	DIELECTRIC WAVE GUIDE AND ATTENUATION IN WAVE GUIDES
65	DIELECTRIC WAVE GUIDE AND ATTENUATION IN WAVE GUIDES
66	CIRCUIT REPRESENTATION OF PARALLEL PLATE TRANSMISSION LINE AND TRANSMISSION LINE EQUATIONS AND THEIR SOLUTIONS



67	CIRCUIT REPRESENTATION OF PARALLEL PLATE TRANSMISSION LINE AND TRANSMISSION LINE EQUATIONS AND THEIR SOLUTIONS
68	CIRCUIT REPRESENTATION OF PARALLEL PLATE TRANSMISSION LINE AND TRANSMISSION LINE EQUATIONS AND THEIR SOLUTIONS
69	CHARACTERISTIC INPEDANCE AND PROPAGATION COEFFIEIENT
70	CHARACTERISTIC INPEDANCE AND PROPAGATION COEFFIEIENT
71	LOW LOSS RADIO FREQUENCY AND UHF TRANSMISSION LINES
72	LOW LOSS RADIO FREQUENCY AND UHF TRANSMISSION LINES
73	REVESION
74	REVESION
75	UNIT TEST
76	PROBLEMS SOLUTION



# RPS Degree College, Balana (Mahendergarh)

## Syllabus Plan

2020-21(Odd Semester)

**Class and Section: HP Ist**

**Subject: Sequence and Series**

Lecture	Topics
1	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
2	Test to Check the Learning Level of the Students
3	introduction to limit
4	how to find the different type of the form of limit
5	supremum and infimum of a set
6	limit superior
7	example to find the limit of any value
8	example to find the limit
9	example to find the limit
10	sequence of real numbers
11	cauchy sequence
12	example of cauchy sequence
13	example of cauchy sequence
14	monotonic and bounded sequence
15	example to check whether the sequence is bounded
16	example to check whether the sequence is bounded
17	example of monotonic sequence
18	definition of subsequence
19	Cauchy first theorem on limits
20	cauchy second theorem to find the limit
21	examples of Cauchy first and second theorem
22	example of cauchy first and second theorem
23	squeeze principle
24	example of squeeze principle
25	example of squeeze principle
26	convergent and divergent of a sequence
27	oscillating sequence
28	example to check whether the sequence is convergent or divergent
29	example to check whether the sequence is convergent or divergent
30	example to check whether the sequence is convergent or divergent
31	revision of sequence
32	revision of sequence
33	definition of series
34	finite series and infinite series
35	convergent of a series by sequence of partial sum

36	example to check the convergence of a series
37	convergence of GP series
38	oscillating series and their examples
39	theorems based on the convergence of series
40	comparison first test to check the convergence of a series
41	comparison second test to check the convergence of a series
42	comparison third test to check the convergence of a series
43	d'alembert ratio test to check the convergence of a series
44	logarithmic test to check the convergence of a series
45	examples of D'alembert ratio test
46	examples of D'alembert ratio test
47	cauchy root test
48	examples based on cauchy root test
49	Rabbe's test
50	examples of Rabbe's test
51	cauchy integral test
52	example based on cauchy integral test
53	alternating series
54	examples of alternating series
55	leibnitz test of alternating series
56	absolute and conditional convergence of a series
57	Revision
58	Revision
59	Revision
60	Revision

15-Jul-19 Monday  
16-Jul-19 Tuesday  
17-Jul-19 Wednesday  
18-Jul-19 Thursday  
19-Jul-19 Friday

22-Jul-19 Monday  
23-Jul-19 Tuesday  
24-Jul-19 Wednesday  
25-Jul-19 Thursday  
26-Jul-19 Friday  
27-Jul-19 Saturday

29-Jul-19 Monday  
30-Jul-19 Tuesday  
31-Jul-19 Wednesday  
1-Aug-19 Thursday  
2-Aug-19 Friday  
3-Aug-19 Saturday

5-Aug-19 Monday  
6-Aug-19 Tuesday  
7-Aug-19 Wednesday  
8-Aug-19 Thursday  
9-Aug-19 Friday

10-Aug-19 Saturday

12-Aug-19 Monday

13-Aug-19 Tuesday

14-Aug-19 Wednesday

16-Aug-19 Friday

19-Aug-19 Monday

20-Aug-19 Tuesday

21-Aug-19 Wednesday

22-Aug-19 Thursday

23-Aug-19 Friday

26-Aug-19 Monday

27-Aug-19 Tuesday

28-Aug-19 Wednesday

29-Aug-19 Thursday

30-Aug-19 Friday

31-Aug-19 Saturday

2-Sep-19 Monday

3-Sep-19 Tuesday

4-Sep-19 Wednesday

5-Sep-19 Thursday

6-Sep-19 Friday

7-Sep-19 Saturday

9-Sep-19 Monday

10-Sep-19 Tuesday

11-Sep-19 Wednesday

12-Sep-19 Thursday  
13-Sep-19 Friday  
14-Sep-19 Saturday

16-Sep-19 Monday  
17-Sep-19 Tuesday  
18-Sep-19 Wednesday  
19-Sep-19 Thursday  
20-Sep-19 Friday

23-Sep-19 Monday  
24-Sep-19 Tuesday  
25-Sep-19 Wednesday  
26-Sep-19 Thursday  
27-Sep-19 Friday  
28-Sep-19 Saturday

30-Sep-19 Monday  
1-Oct-19 Tuesday

3-Oct-19 Thursday  
4-Oct-19 Friday  
5-Oct-19 Saturday

7-Oct-19 Monday

9-Oct-19 Wednesday  
10-Oct-19 Thursday  
11-Oct-19 Friday  
12-Oct-19 Saturday

14-Oct-19 Monday

15-Oct-19 Tuesday  
16-Oct-19 Wednesday

18-Oct-19 Friday

21-Oct-19 Monday  
22-Oct-19 Tuesday  
23-Oct-19 Wednesday  
24-Oct-19 Thursday  
25-Oct-19 Friday

29-Oct-19 Tuesday  
30-Oct-19 Wednesday  
31-Oct-19 Thursday  
1-Nov-19 Friday  
2-Nov-19 Saturday

4-Nov-19 Monday  
5-Nov-19 Tuesday  
6-Nov-19 Wednesday  
7-Nov-19 Thursday  
8-Nov-19 Friday  
9-Nov-19 Saturday

11-Nov-19 Monday  
12-Nov-19 Tuesday

13-Nov-19 Wednesday  
14-Nov-19 Thursday  
15-Nov-19 Friday

16-Nov-19 Saturday

18-Nov-19 Monday

19-Nov-19 Tuesday

20-Nov-19 Wednesday

21-Nov-19 Thursday

22-Nov-19 Friday

23-Nov-19 Saturday



**RPS Degree College, Balana(Mahendergarh)**

**Lesson plan**

**2020-2021(Odd Semester)**

**Class and Section: B.Sc HP 1st sem**

**Subject: Chemistry**

Lectures	Topics
1	Introduction to the syllabus/Exam pattern
2	Introduction to the chapter
3	Approach to V.B.T
4	Examples of V.B.T
5	Limitations of V.B.T
6	Hybridisation
7	Examples of all Hybridisation
8	Question Practice
9	Equivalent and non-equivalent hybridisation
10	Bent's rule
11	Applications and limitations of Bent's rule
12	Molecular Orbital Theory
13	Symmetry and overlap
14	Concept of s-p mixing
15	M.O Diagram of simple diatomic molecules B <sub>2</sub> , C <sub>2</sub> , N <sub>2</sub>
16	M.O Diagram of O <sub>2</sub> , CO
17	M.O Diagram of NO and their ions
18	M.O Diagram of HCl, BeF <sub>2</sub>
19	M.O Diagram of BCl <sub>3</sub> , CH <sub>4</sub>
20	Revision of M.O Diagrams
21	Introduction to weak vanderwall forces
22	Hydrogen Bonding
23	Effect of chemical forces on M.P, B.P and solubility
24	Energetics of dissolution process
25	Packing of ions in crystals
26	Basics about solid state
27	Close packed structure in 1-D and 2- D
28	Cose packed structures in 3-D
29	Spinel structures of mixed metal oxides
30	Ilmenite structures of mixed metal oxides
31	Pervoskite structures of mixed metal oxides
32	Size effects
33	Radius ratio rules
34	Derivation of radius ratio for trigonal and tetrahedral sites
35	radius ratio rules for octahedral sites
36	Limitations of radius ratio
37	Lattice Energy
38	Born equation
39	Madelung constant

40	Kapustinskii equation
41	Applications of Kapustinskii equation
42	Born Haber cycle and its applications
43	Solvation Energy and Valence band theories
44	Semiconductors and defects in solids
45	Crystal Field Theory
46	Measurement of $10Dq$ CFSE in weak field and strong field.
47	Pairing Energy
48	Factors affecting C.F.S.E
49	Octahedral versus Tetrahedral co-ordination
50	Tetragonal distortion
51	Jahn Teller Theorem
52	Ligand Field Theory
53	Trans Effect
54	Mechanism of Trans effect
55	Kinetics of Square planar substitution reaction
56	Thermodynamic and Kinetic stability
57	Labile and Inert Complexes
58	Kinetics of Octahedral substitution reaction
59	Mechanism of substitution in octahedral complexes
60	Mechanism of electron transfer reactions

## Lesson Plan Odd Semester 2020-21

### B.Sc. Honors Physics 1st Sem.

**Teacher's Name:- Manjeet Kumar**

**Subject Name:- LDIC-I(PHY-106)**

Lectures	Topics
1	Introduction to syllabus
2	Diff. b/w Analog & Digital circuits
3	Introduction about No. System
4	Conversion of No. System
5	Conversion of No. System
6	Conversion of No. System
7	Introduction about Logic Gates & AND Gate using Diodes
8	AND Gate using Transistors
9	OR Gate using Diodes & Transistors
10	NOT & NAND Gate using Transistors & Diodes
11	NOR & EX-OR Gate using Diodes & Transistors
12	EX-NOR & diff.-diff. Gates using NAND & NOR Gates
13	Boolean Algebra
14	Boolean Algebra
15	Boolean Algebra
16	Boolean Algebra
17	Revisions of above Lectures
18	Logical functions & their representation
19	SOP Expression
20	POS Expression
21	1 <sup>st</sup> Class Test
22	POS Expression & Their examples
23	K-Map
24	K-Map
25	K-Map
26	K-Map
27	K-Map & Don't care condition
28	Multiplexer
29	Multiplexer

30	Demultiplexer
31	Doing eg. on K-Map
32	Revisions of above Lectures
33	Revision of MUX
34	Revision of DEMUX
35	Revision of K-Map
36	Decoders
37	Encoders
38	Revision of Decoders & Encoders
39	Half & Full adder
40	Half & full Subtractor
41	Complement of numbers
42	Binary addition using 2's complement
43	Binary subtraction using 2's complement
44	Revision of above lectures
45	Problems
46	2 <sup>nd</sup> Class Test
47	Active and passive components
48	discrete component circuits
49	water, chip, advantages of integrate circuits
50	Types of IC's
51	MSI, LSI and VLSI (basic idea and definitions only)
52	Operational Amplifiers (Op-Amp)
53	Basic characteristics without detailed internal circuit of IC: Requirement of ideal voltage amplifier
54	Revision of above Lectures
55	characteristics of ideal operational amplifier
56	feedback in amplifier (black box approach)
57	open loop and close loop gain
58	Inverting Op Amp
59	non-inverting amplifier
60	zero crossing detector
61	Previous year paper solved
62	Revision
63	Application of op-amps: Mathematical operations addition
64	Multiplication Cont.
65	Multiplications, integration and differentiation.
66	Electronic circuits – oscillator (Wien's bridge)
67	rectangular and triangular wave generators
68	Revision
69	Revision
70	Revision



# RPS Degree College, Balana (Mahendergarh)

## Syllabus Plan

2020-21(Odd Semester)

**Class and Section: HP 1st Sem**

**Subject: ENGLISH**

**Name of the Faculty : DEEPIKA**

Lecture	Topics
1	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
2	Test to Check the Learning Level of the Students
3	Introduction to literature
4	General discussion on literature
5	Basics of ENGLISH
6	Poem 1 . One third W.Shakespeare
7	Two third
8	Poem complete
9	Doubt class
10	Poem 2 . One third J Donne
11	Two third
12	Poem complete
13	Doubt class
14	Poem 3 one third J Milton
15	Two third
16	Poem complete
17	Doubt class
18	Poem 4 one third J Dryden
19	Two third poem
20	Poem complete
21	Doubt class
22	Poem 5 one third A Pope
23	Two third
24	Poem complete
25	Doubt class
26	Poem 6 one third W Blake
27	Two third
28	Poem complete
29	Doubt class
30	Poem 7 one third W Wordsworth
31	two third
32	Poem complete
33	Doubt class
34	Text book doubt

35	Phonetics Intro
36	Trancription 1
37	Transcription 2
38	Parts of speech
39	Noun Pronoun
40	adverb
41	adjective
42	conjunction and preposition
43	Types of sentence
44	Common errors
45	Common errors
46	Letter and Application
47	Practise Technical Writing
48	Revision
49	Revision
50	Revision