Lesson plan

(January-June: 2020)

Name of the Assistant/ Associate Professor: **Ms. Archana Sahoo**

Class: **M. Sc. Physics, Semester II** Section: **2A**

Subject: **Atomic and Molecular Physics** Subject Code **: PHY (H) - 203**

Week	Day No.	Topics	Remarks
1	Day 1	**Unit I: One Electron systems and Pauli principle**	
16 Jan. - 24 Jan.	Day 2	Quantum states of one electron atoms	
	Day 3	--continue--	
	Day 4	atomic orbitals, Hydrogen spectrum	
	Day 5	Pauli principle, spectra of alkali elements	
	Day 6	--continue--	
	Day 7	spin orbit interaction and fine structure in alkali spectra	
2	Day 8	--continue--	
27 Jan. - 31 Jan.	Day 9	Spectra of two electron systems	
	Day 10	--continue--	
	Day 11	equivalent and non equivalent electrons	
	Day 12	--continue--	
3	Day 13	Revision of Unit: I	
02 Feb. - 07 Feb.	Day 14	**Unit II: The influence of external fields, Two electron system Hyperfine structure and Line broadening**	
	Day 15	Normal and anomalous Zeeman effect	
	Day 16	--continue--	
	Day 17	Paschen Back effect, Stark effect	
4	Day 18	--continue--	
10 Feb. - 14 Feb.	Day 19	--continue--	
	Day 20	Two electron systems	
	Day 21	interaction energy in LS and jj coupling	
	Day 22	--continue--	
5	Day 23	Hyperfine structure (magnetic and electric, only qualitative)	
17 Feb. - 21 Feb.	Day 24	--continue--	
	Day 25	**Class test: 01**	
	Day 26	--continue--	
6	Day 27	--continue--	
24 Feb. - 28 Feb.	Day 28	Revision of Unit: II	
	Day 29	**First assignment**	
	Day 30	**Unit III: Diatomic molecules and their rotational spectra**	
	Day 31	Types of molecules, Diatomic linear symmetric top	
		--continue--	
7	Day 32	asymmetric top and spherical top molecules	

02 Mar. - 06 Mar.	Day 33	Rotational spectra of diatomic molecules as a rigid rotator	
	Day 34	--continue--	
	Day 35	--continue--	
	Day 36	energy levels and spectra of non-rigid rotor	
8	Day 37	intensity of rotational lines	
09 Mar. - 13 Mar.	Day 38	--continue--	
	Day 39	Revision of Unit: III	
	Day 40	--continue--	
		Holi	
9	Day 41	--continue--	
16 Mar. - 20 Mar.	Day 42	--continue--	
	Day 43	--continue--	
	Day 44	--continue--	
	Day 45	Revision of Unit: III	
10	Day 46	**Unit IV: Vibrational and Rotational Vibration spectra of Diatomic molecules**	
23 Mar. - 27 Mar.	Day 47	Vibrational energy of diatomic molecule	
	Day 48	**Second assignment**	
	Day 49	Diatomic molecules as a simple harmonic oscillator	
	Day 50	**Class test: 02**	
11	Day 51	--continue--	
30 Mar. - 03 Apr.	Day 52	Energy levels and spectrum	
	Day 53	Sample and hold circuits	
	Day 54	Morse potential energy curve	
12	Day 55	--continue--	
06 Apr. - 10 Apr.	Day 56	Molecules as vibrating rotator	
	Day 57	--continue--	
	Day 58	vibration spectrum of diatomic molecules	
	Day 59	vibration spectrum of diatomic molecules	
13	Day 60	PQR Branches	
13 Apr. - 17 Apr.	Day 61	--continue--	
	Day 62	--continue--	
	Day 63	--continue--	
	Day 64	Cont…	

Lesson plan

(January-June: 2020)

Name of the Assistant/ Associate Professor: **Ms. Archana Sahoo**

Class: **M. Sc. Physics, Semester II** Section: **2B**

Subject: **Atomic and Molecular Physics** Subject Code **: PHY (H) - 203**

Week	Day No.	Topics	Remarks
1	Day 1	**Unit I: One Electron systems and Pauli principle**	
16 Jan. - 24 Jan.	Day 2	Quantum states of one electron atoms	
	Day 3	--continue--	
	Day 4	atomic orbitals, Hydrogen spectrum	
	Day 5	Pauli principle, spectra of alkali elements	
	Day 6	--continue--	
	Day 7	spin orbit interaction and fine structure in alkali spectra	
2	Day 8	--continue--	
27 Jan. - 31 Jan.	Day 9	Spectra of two electron systems	
	Day 10	--continue--	
	Day 11	equivalent and non equivalent electrons	
	Day 12	--continue--	
3	Day 13	Revision of Unit: I	
02 Feb. - 07 Feb.	Day 14	**Unit II: The influence of external fields, Two electron system Hyperfine structure and Line broadening**	
	Day 15	Normal and anomalous Zeeman effect	
	Day 16	--continue--	
	Day 17	Paschen Back effect, Stark effect	
4	Day 18	--continue--	
10 Feb. - 14 Feb.	Day 19	--continue--	
	Day 20	Two electron systems	
	Day 21	interaction energy in LS and jj coupling	
	Day 22	--continue--	
5	Day 23	Hyperfine structure (magnetic and electric, only qualitative)	
17 Feb. - 21 Feb.	Day 24	--continue--	
	Day 25	**Class test: 01**	
	Day 26	--continue--	
6	Day 27	--continue--	
24 Feb. - 28 Feb.	Day 28	Revision of Unit: II	
	Day 29	**First assignment**	
	Day 30	**Unit III: Diatomic molecules and their rotational spectra**	
	Day 31	Types of molecules, Diatomic linear symmetric top	
		--continue--	
7	Day 32	asymmetric top and spherical top molecules	

02 Mar. - 06 Mar.	Day 33	Rotational spectra of diatomic molecules as a rigid rotator	
	Day 34	--continue--	
	Day 35	--continue--	
	Day 36	energy levels and spectra of non-rigid rotor	
8	Day 37	intensity of rotational lines	
09 Mar. - 13 Mar.	Day 38	--continue--	
	Day 39	Revision of Unit: III	
	Day 40	--continue--	
		Holi	
9	Day 41	--continue--	
16 Mar. - 20 Mar.	Day 42	--continue--	
	Day 43	--continue--	
	Day 44	--continue--	
	Day 45	Revision of Unit: III	
10	Day 46	**Unit IV: Vibrational and Rotational Vibration spectra of Diatomic molecules**	
23 Mar. - 27 Mar.	Day 47	Vibrational energy of diatomic molecule	
	Day 48	**Second assignment**	
	Day 49	Diatomic molecules as a simple harmonic oscillator	
	Day 50	**Class test: 02**	
11	Day 51	--continue--	
30 Mar. - 03 Apr.	Day 52	Energy levels and spectrum	
	Day 53	Sample and hold circuits	
	Day 54	Morse potential energy curve	
12	Day 55	--continue--	
06 Apr. - 10 Apr.	Day 56	Molecules as vibrating rotator	
	Day 57	--continue--	
	Day 58	vibration spectrum of diatomic molecules	
	Day 59	vibration spectrum of diatomic molecules	
13	Day 60	PQR Branches	
13 Apr. - 17 Apr.	Day 61	--continue--	
	Day 62	--continue--	
	Day 63	--continue--	
	Day 64	Cont…	

Lesson plan

(January-June: 2020)

Name of the Assistant/ Associate Professor: **Ms. Nisha**

Class: **M. Sc. Physics, Semester II** Section: **(A & B)**

Subject: **Physics of Laser and Laser Applications** Subject Code **: PHY (H) – 205**

Week	Day No.	Topics	Remarks
1	Day 1	Introduction to laser	
16 Jan. - 17 Jan.	Day 2	Laser characterstics	
2	Day 3	Spontaneous and stimulated process	
20 Jan. - 24 Jan.	Day 4	Laser idea	
	Day 5	Pumping scheme	
	Day 6	Properties of laser	
	Day 7	Cont.	
3	Day 8	Cont.	
27 Jan. - 31 Feb.	Day 9	**Cont.**	
	Day 10	Cont.	
	Day 11	Assignment 1	
	Day 12	Amplified spontaneous emission	
4	Day 13	Class test	
03 Feb. - 08 Feb.	Day 14	Non radiative delay	
	Day 15	Revision	
	Day 16	Problems	
	Day 17	Problems	
5	Day 18	Sessional 1	
10 Feb. - 14 Feb.	Day 19	Unit-2 introduction	
	Day 20	Pumping process	
	Day 21	Electrical pumpig	
	Day 22	Optical pumping	
6	Day 23	Class test	
17 Feb. - 21 Feb.	Day 24	**Pumping efficiency**	
	Day 25	Passive optical resonator	
	Day 26	Assignment 2	
	Day 27	Rate equations	
7	Day 28	Cont.	

24 Feb. - 29 Feb.	Day 29	Cont.	
	Day 30	Revision	
	Day 31	Method of q switching	
	Day 32	Electro optical shutter	
8	Day 33	Mechanical shutter	
02 Mar. - 07 Mar.	Day 34	Acousto optic Q switches	
	Day 35	Mode locking	
	Day 36	Revision	
	Day 37	Class test	
9	Day 38	Sessional 2	
09 Mar. - 13 Mar.	Day39	Unit 3 introduction	
	Day 40	Ruby laser	
	Day 41	Nd-yag laser	
	Day 42	N2 laser	
10	Day 43	Revision	
16 Mar. - 21 Mar.	Day 44	Class test	
	Day 45	Dye laser	
	Day 46	Semiconductor laser	
	Day 47	Revision	
11	Day 48	Problems	
23 Mar. - 27 Mar.	Day 49	Assignment 3	
	Day 50	Sessional 3	
	Day 51	Problems	
	Day 52	Unit 4 Introduction	
12	Day 53	Multi photo photo electric effect	
30 Mar. - 03 Apr.	Day 54	Cont.	
	Day 55	Cont.	
	Day 56	Cont.	
	Day 57	Raman scattering	
13	Day 58	Class test	
06 Apr. - 10 Apr.	Day 59	Stimulated raman effect	
	Day 60	Laser applications	
	Day 61	Cont.	
	Day 62	revision	
14	Day 66	Revision	
13 Apr. - 17 Apr.	Day 67	Previous year question paper discussion	
	Day 68	Assignment 4	
	Day 69	Problems and revision	
	Day 70	Problems and revision	

Lesson plan

(January-June: 2020)

Name of the Assistant/ Associate Professor: **Dr. Jitendra Gangwar**

Class: **M. Sc. Physics, Semester II** Section: **(A & B)**

Subject: **Statistical Mechanics** Code **: PHY (H) - 201**

Week	Day No.	Topics	Remarks
1	Day 1	**Unit I Introduction to syllabus**	
16 Jan.	Day 2	Phase space, Ensembles, Liouville theorem	
-	Day 3	conservation of extension, Equation of motion	
24 Jan.	Day 4	Equal a priori probability, Statistical equilibrium	
	Day 5	Idea of band structure	
	Day 6	Cont…	
	Day 7	Quantization of phase space, classical limit	
2	Day 8	Cont…	
27 Jan.	Day 9	Cont…	
-	Day 10	symmetry of wave functions effect of symmetry on counting various distributions using micro canonical ensemble	
31 Jan.	Day 11	Cont…	
	Day 12	Cont…	
3	Day 13	Revision of Unit: I	
02 Feb.	Day 14	**Unit II** Basic Introduction and Contents	
-	Day 15	Entropy of an ideal gas, Gibbs paradox	
07 Feb.	Day 16	Cont…	
	Day 17	Sackur-Tetrode equation	
4	Day 18	Entropy of a system in contact with a reservoir	
10 Feb.	Day 19	Cont…	
-	Day 20	Ideal gas in a canonical ensemble, Grand canonical ensemble	
14 Feb.	Day 21	Cont…	
	Day 22	Ideal gas in Grand Canonical ensemble	
5	Day 23	Comparison of various ensembles	
17 Feb.	Day 24	Cont…	
-	Day 25	**Class test: 01**	
21 Feb.	Day 26	Quantum distribution using other ensembles	
6	Day 27	Cont…	
24 Feb.	Day 28	Revision of Unit: II	
-	Day 29	**First assignment**	

28 Feb.	Day 30	**Unit iii** Introduction to the Contents	
	Day 31	Transition from classical statistical mechanics to quantum statistical mechanics	
7	Day 32	Cont…	
02 Mar.	Day 33	Cont…	
-	Day 34	Indistinguishability and quantum statistics	
06 Mar.	Day 35	Cont…	
	Day 36	identical particles and symmetry requirements	
8	Day 37	Cont…	
09 Mar.	Day 38	Bose Einstein statistics, Fermi Dirac (F-D) statistics	
-	Day 39	Cont…	
13 Mar.	Day 40	Maxwell Boltzmann statistics	
		Holi	
9	Day 41	Bose Einstein (B-E) Condensation	
16 Mar.	Day 42	Thermal properties of B.E. gas	
-	Day 43	liquid Helium	
20 Mar.	Day 44	Energy and pressure of F-D gas	
	Day 45	Electrons in metals, Thermionic Emission	
10	Day 46	**Unit iv** Introduction to the Contents	
23 Mar.	Day 47	Cluster expansion for a classical gas	
-	Day 48	**Second assignment**	
27 Mar.	Day 49	virial equation of state	
	Day 50	**Class test: 02**	
11	Day 51	Cont…	
30 Mar.	Day 52	Van der Waals gas, Phase transition of second kind	
-	Day 53	Cont…	
03 Apr.		***Ram navmi***	
	Day 54	Ising Model	
12	Day 55	Cont…	
06 Apr.	Day 56	Bragg Williams Approximation	
-	Day 57	Cont…	
10 Apr.	Day 58	Fowler Guggenheim Approximation	
	Day 59	Ising Model in one and two dimensions	
13	Day 60	fluctuations in ensembles	
13 Apr.	Day 61	Energy fluctuation in quantum statistics	
-	Day 62	Concentration fluctuation in quantum statistics	
17 Apr.	Day 63	One dimensional random walk, Brownian motion	
	Day 64	Cont…	

Lesson plan
(January-June: 2020)

Name of the Assistant/ Associate Professor: **Ms. Poonam Yadav**

Class: **M. Sc. Physics, Semester II** Section: **4A**

Subject: **Atomic and Molecular Physics – II** Code **: PHY (S) - 406**

Week	Day No.	Topics	Remarks
1	Day 1	**Unit:1 NMR**	
16 Jan.	Day 2	The principle of NMR	
-	Day 3	NMR spectrometer & Types of NMR	
24 Jan.	Day 4	Types of nuclei viewed from the stand point of NMR	
	Day 5	Cont…	
	Day 6	High Resolution & Broad line NMR	
	Day 7	Relaxation mechanisms	
2	Day 8	chemical shift & spin-spin coupling	
27 Jan.	Day 9	Applications of NMR spectroscopy	
-	Day 10	Mossbauer Spectrometer,	
31 Jan.	Day 11	Isomer nuclear transition,	
	Day 12	Resonance fluorescence, Mossbauer effect	
3	Day 13	Mossbauer nuclei, Isomer shift	
02 Feb.	Day 14	quadrupole splitting, Magnetic hyperfine structure	
-	Day 15	Applications of Mossbauer spectroscopy	
07 Feb.	Day 16	Revision of Unit: I	
	Day 17	**Unit II** ESR spectrometer	
4	Day 18	substances which can be studied by ESR	
10 Feb.	Day 19	Resonance condition	
-	Day 20	Description of ESR by Precession	
14 Feb.	Day 21	Relaxation mechanisms	
	Day 22	Features of ESR spectra (a) the g factor	
5	Day 23	(b) Fine structure	
17 Feb.	Day 24	(c) hyperfine structure	
-	Day 25	**Class test: 01**	
21 Feb.	Day 26	(d) ligand hyperfine structure	
6	Day 27	--continue--	
24 Feb.	Day 28	Revision of Unit: II	
-	Day 29	**First assignment**	
28 Feb.	Day 30	**Unit III**	
	Day 31	Spontaneous emission	

7	Day 32	stimulated emission	
02 Mar.	Day 33	Absorption	
-	Day 34	Einstein coefficients	
06 Mar.	Day 35	The laser idea	
	Day 36	properties of laser beams	
8	Day 37	Rate equations	
09 Mar.	Day 38	--continue--	
-	Day 39	methods of obtaining population inversions	
13 Mar.	Day 40	--continue--	
9	Day 41	--continue--	
16 Mar.	Day 42	Revision of Unit: III	
-	Day 43	**Unit IV**	
20 Mar.	Day 44	Nd: YAG Laser	
	Day 45	--continue--	
10	Day 46	CO_2 laser	
23 Mar.	Day 47	--continue--	
-	Day 48	Nitrogen laser	
27 Mar.	Day 49	--continue--	
	Day 50	**Class test: 02**	
11	Day 51	--continue--	
30 Mar.	Day 52	Dye laser	
-	Day 53	--continue--	
03 Apr.		***Ram navmi***	
	Day 54	--continue--	
12	Day 55	Laser Applications	
06 Apr.	Day 56	Cont..	
-	Day 57	Holography material processing fusion reaction	
10 Apr.	Day 58	--continue--	
	Day 59	--continue--	
13	Day 60	laser isotope separation	
13 Apr.	Day 61		
-	Day 62	Solution of Previous Year Question Papers	
17 Apr.	Day 63	--continue--	
	Day 64	--continue--	

Lesson plan
(January-June: 2020)

Name of the Assistant/ Associate Professor: **Ms. Poonam Yadav**

Class: **M. Sc. Physics, Semester II** Section: **4B**

Subject: **Atomic and Molecular Physics – II** Code **: PHY (S) - 406**

Week	Day No.	Topics	Remarks
1	Day 1	**Unit:1 NMR**	
16 Jan.	Day 2	The principle of NMR	
-	Day 3	NMR spectrometer & Types of NMR	
24 Jan.	Day 4	Types of nuclei viewed from the stand point of NMR	
	Day 5	Cont…	
	Day 6	High Resolution & Broad line NMR	
	Day 7	Relaxation mechanisms	
2	Day 8	chemical shift & spin-spin coupling	
27 Jan.	Day 9	Applications of NMR spectroscopy	
-	Day 10	Mossbauer Spectrometer,	
31 Jan.	Day 11	Isomer nuclear transition,	
	Day 12	Resonance fluorescence, Mossbauer effect	
3	Day 13	Mossbauer nuclei, Isomer shift	
02 Feb.	Day 14	quadrupole splitting, Magnetic hyperfine structure	
-	Day 15	Applications of Mossbauer spectroscopy	
07 Feb.	Day 16	Revision of Unit: I	
	Day 17	**Unit II** ESR spectrometer	
4	Day 18	substances which can be studied by ESR	
10 Feb.	Day 19	Resonance condition	
-	Day 20	Description of ESR by Precession	
14 Feb.	Day 21	Relaxation mechanisms	
	Day 22	Features of ESR spectra (a) the g factor	
5	Day 23	(b) Fine structure	
17 Feb.	Day 24	(c) hyperfine structure	
-	Day 25	**Class test: 01**	
21 Feb.	Day 26	(d) ligand hyperfine structure	
6	Day 27	--continue--	
24 Feb.	Day 28	Revision of Unit: II	
-	Day 29	**First assignment**	
28 Feb.	Day 30	**Unit III**	
	Day 31	Spontaneous emission	

7	Day 32	stimulated emission	
02 Mar.	Day 33	Absorption	
-	Day 34	Einstein coefficients	
06 Mar.	Day 35	The laser idea	
	Day 36	properties of laser beams	
8	Day 37	Rate equations	
09 Mar.	Day 38	--continue--	
-	Day 39	methods of obtaining population inversions	
13 Mar.	Day 40	--continue--	
9	Day 41	--continue--	
16 Mar.	Day 42	Revision of Unit: III	
-	Day 43	**Unit IV**	
20 Mar.	Day 44	Nd: YAG Laser	
	Day 45	--continue--	
10	Day 46	CO_2 laser	
23 Mar.	Day 47	--continue--	
-	Day 48	Nitrogen laser	
27 Mar.	Day 49	--continue--	
	Day 50	**Class test: 02**	
11	Day 51	--continue--	
30 Mar.	Day 52	Dye laser	
-	Day 53	--continue--	
03 Apr.		***Ram navmi***	
	Day 54	--continue--	
12	Day 55	Laser Applications	
06 Apr.	Day 56	Cont..	
-	Day 57	Holography material processing fusion reaction	
10 Apr.	Day 58	--continue--	
	Day 59	--continue--	
13	Day 60	laser isotope separation	
13 Apr.	Day 61		
-	Day 62	Solution of Previous Year Question Papers	
17 Apr.	Day 63	--continue--	
	Day 64	--continue--	

RPS Degree College, Balana (Mahendergarh)

2019-20(Even Semester)

Class and Section: M.Sc.(Math) - 4th Sem.(B)
Subject: Advance Complex Analysis(18MAT24DE1)
Name of the Faculty : Dr. Parveen Kumar Gaur

Week	Lecture	Date	Topics
1	1	16-Jan-20	Subject History & Progress
	2	17-Jan-20	Subject History & Progress
2	3	20-Jan-20	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
	4	21-Jan-20	Test to Check the Learning Level of the Students
	5	22-Jan-20	Integral Functions
	6	23-Jan-20	Factorization of an Integral function
	7	24-Jan-20	Weierstrass Primary factors
3	8	27-Jan-20	Weierstrass factorization theorem
	9	28-Jan-20	Gamma function and its properties
	10	29-Jan-20	Gamma function and its properties
	11	30-Jan-20	Gamma function and its properties
	12	31-Jan-20	Stirling formula
4	13	03-Feb-20	Integral version of Gamma function
	14	04-Feb-20	Riemann Zeta function
	15	05-Feb-20	Riemann functional equation
	16	06-Feb-20	Mittag-Leffler theorem
	17	07-Feb-20	Runge theorem
5	18	10-Feb-20	Analytical Continuation
	19	11-Feb-20	Natural Boundary
	20	12-Feb-20	Uniqueness of direct analytic continuation
	21	13-Feb-20	Uniqueness of analytic continuation along a curve
	22	14-Feb-20	Power series method of analytic continuation
6 1st Class Test 17-20th Feb. 2020	23	17-Feb-20	Schwarz Reflection principle
	24	18-Feb-20	Germ of an analytic function
	25	19-Feb-20	**Test**
	26	20-Feb-20	Monodromy theorem and its Consequences
7	27	24-Feb-20	Harmonic functions on a disk
	28	25-Feb-20	Poisson kernel
	29	26-Feb-20	The Dirichlet problem for a unit disc
	30	27-Feb-20	Harnack inequality
	31	28-Feb-20	Harnack theorem
8	32	02-Mar-20	Harnack theorem
	33	03-Mar-20	Dirichlet region
	34	04-Mar-20	Dirichlet region
	35	05-Mar-20	Green function
	36	06-Mar-20	Green function
9	37	09-Mar-20	Canonical product
	38	11-Mar-20	Jensen formula
	39	12-Mar-20	Poisson-Jensen formula
	40	13-Mar-20	Hadamard three circles theorem
	41	16-Mar-20	Hadamard three circles theorem

10	42	17-Mar-20	Growth and order of an entire function
	43	18-Mar-20	Growth and order of an entire function
	44	19-Mar-20	An estimate of number of zeros
	45	20-Mar-20	An estimate of number of zeros
11 2nd Class Test 23-27 March 2020	46	23-Mar-20	Exponent of convergence
	47	24-Mar-20	Borel theorem
	48	25-Mar-20	Hadamard factorization theorem
	49	26-Mar-20	**Test**
	50	27-Mar-20	The Range of an Analytic function
12	51	30-Mar-20	The Range of an Analytic function
	52	31-Mar-20	Bloch theorem
	53	01-Apr-20	Bloch theorem
	54	03-Apr-20	Schottky theorem
13	55	06-Apr-20	Little Picard theorem
	56	07-Apr-20	Little Picard theorem
	57	08-Apr-20	Montel Caratheodory theorem
	58	09-Apr-20	Great Picard theorem
	59	10-Apr-20	Univalent functions
14	60	13-Apr-20	Bieberbach conjecture
	61	14-Apr-20	Bieberbach conjecture
	62	15-Apr-20	The 1/4 theorem
	63	16-Apr-20	The 1/4 theorem
	64	17-Apr-20	Revision
15	**20th - 24th April 20**		Final Sessional Test

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RPS Degree College, Balana (Mahendergarh)

2019-20(Even Semester)

Class and Section: M.Sc.(Math) - 4th Sem.(A)
Subject: Advance Complex Analysis(18MAT24DE1)
Name of the Faculty : Dr. Parveen Kumar Gaur

Week	Lecture	Date	Topics
1	1	16-Jan-20	Subject History & Progress
	2	17-Jan-20	Subject History & Progress
2	3	20-Jan-20	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
	4	21-Jan-20	Test to Check the Learning Level of the Students
	5	22-Jan-20	Integral Functions
	6	23-Jan-20	Factorization of an Integral function
	7	24-Jan-20	Weierstrass Primary factors
3	8	27-Jan-20	Weierstrass factorization theorem
	9	28-Jan-20	Weierstrass factorization theorem
	10	29-Jan-20	Gamma function and its properties
	11	30-Jan-20	Gamma function and its properties
	12	31-Jan-20	Stirling formula
4	13	03-Feb-20	Integral version of Gamma function
	14	04-Feb-20	Riemann Zeta function
	15	05-Feb-20	Riemann functional equation
	16	06-Feb-20	Mittag-Leffler theorem
	17	07-Feb-20	Runge theorem
5	18	10-Feb-20	Analytical Continuation
	19	11-Feb-20	Natural Boundary
	20	12-Feb-20	Uniqueness of direct analytic continuation
	21	13-Feb-20	Uniqueness of analytic continuation along a curve
	22	14-Feb-20	Power series method of analytic continuation
6 1st Class Test 17-20th Feb. 2020	23	17-Feb-20	Schwarz Reflection principle
	24	18-Feb-20	Germ of an analytic function
	25	19-Feb-20	**Test**
	26	20-Feb-20	Monodromy theorem and its Consequences
7	27	24-Feb-20	Harmonic functions on a disk
	28	25-Feb-20	Poisson kernel
	29	26-Feb-20	The Dirichlet problem for a unit disc
	30	27-Feb-20	Harnack inequality
	31	28-Feb-20	Harnack theorem
8	32	02-Mar-20	Harnack theorem
	33	03-Mar-20	Dirichlet region
	34	04-Mar-20	Dirichlet region
	35	05-Mar-20	Green function
	36	06-Mar-20	Green function
9	37	09-Mar-20	Canonical product
	38	11-Mar-20	Jensen formula
	39	12-Mar-20	Poisson-Jensen formula
	40	13-Mar-20	Hadamard three circles theorem
	41	16-Mar-20	Hadamard three circles theorem

10	42	17-Mar-20	Growth and order of an entire function
	43	18-Mar-20	Growth and order of an entire function
	44	19-Mar-20	An estimate of number of zeros
	45	20-Mar-20	An estimate of number of zeros
11 2nd Class Test 23-27 March 2020	46	23-Mar-20	Exponent of convergence
	47	24-Mar-20	Borel theorem
	48	25-Mar-20	**Test**
	49	26-Mar-20	Hadamard factorization theorem
	50	27-Mar-20	The Range of an Analytic function
12	51	30-Mar-20	The Range of an Analytic function
	52	31-Mar-20	Bloch theorem
	53	01-Apr-20	Bloch theorem
	54	03-Apr-20	Schottky theorem
13	55	06-Apr-20	Little Picard theorem
	56	07-Apr-20	Little Picard theorem
	57	08-Apr-20	Montel Caratheodory theorem
	58	09-Apr-20	Great Picard theorem
	59	10-Apr-20	Univalent functions
14	60	13-Apr-20	Bieberbach conjecture
	61	14-Apr-20	Bieberbach conjecture
	62	15-Apr-20	The 1/4 theorem
	63	16-Apr-20	Revision
	64	17-Apr-20	Revision
15	**20th - 24th April 20**		Final Sessional Test

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RPS Degree Colle

Class and Section: M.Sc.(Math) - 2nd Se
Subject: Integral Equation & Valculus
Name of the Faculty : Dr. Parveen Kuma

Week	Lecture	Date
1	1	16-Jan-20
	2	17-Jan-20
2	3	20-Jan-20
	4	21-Jan-20
	5	22-Jan-20
	6	23-Jan-20
	7	24-Jan-20
3	8	27-Jan-20
	9	28-Jan-20
	10	29-Jan-20
	11	30-Jan-20
	12	31-Jan-20
4	13	03-Feb-20
	14	04-Feb-20
	15	05-Feb-20
	16	06-Feb-20
	17	07-Feb-20
5	18	10-Feb-20
	19	11-Feb-20
	20	12-Feb-20
	21	13-Feb-20
	22	14-Feb-20
6 1st Class Test 17-20th Feb. 2020	23	17-Feb-20
	24	18-Feb-20
	25	19-Feb-20
	26	20-Feb-20
7	27	24-Feb-20
	28	25-Feb-20
	29	26-Feb-20
	30	27-Feb-20
	31	28-Feb-20
8	32	02-Mar-20
	33	03-Mar-20
	34	04-Mar-20
	35	05-Mar-20
	36	06-Mar-20
9	37	09-Mar-20
	38	11-Mar-20

	39	12-Mar-20
	40	13-Mar-20
10	41	16-Mar-20
	42	17-Mar-20
	43	18-Mar-20
	44	19-Mar-20
	45	20-Mar-20
11 2nd Class Test 23-27 March 2020	46	23-Mar-20
	47	24-Mar-20
	48	25-Mar-20
	49	26-Mar-20
	50	27-Mar-20
12	51	30-Mar-20
	52	31-Mar-20
	53	01-Apr-20
	54	03-Apr-20
13	55	06-Apr-20
	56	07-Apr-20
	57	08-Apr-20
	58	09-Apr-20
	59	10-Apr-20
14	60	13-Apr-20
	61	14-Apr-20
	62	15-Apr-20
	63	16-Apr-20
	64	17-Apr-20
15	**20th - 24th April 20**	

ge, Balana (Mahendergarh)

2019-20(Even Semester)

:m.(B)

of Variation(MAT-203)

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Topics
Subject History & Progress
Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
Test to Check the Learning Level of the Students
Linear Integral equations
Some basic identities
Initial value problems reduced to Volterra integral equations
Methods of successive substitution
Successive approximation to solve Volterra integral equations
Iterated kernels and Neumann series for Volterra equations
Resolvent kernel as a series
Laplace transform method for a difference kernel
Solution of a Volterra integral equation of the first kind
Boundary value problems reduced to Fredholm integral equations
Methods of successive approximation
Methods of successive approximation
Successive substitution to solve Fredholm equations Second kind
Test
Successive substitution to solve Fredholm equations Second kind
Iterated kernels and Neumann series for Fredholm equations
Resolvent kernel as a sum of series
Fredholm resolvent kernel as a ratio of two series
Fredholm equations with separable kernels
Approximation of a kernel by a separable kernel
Fredholm Alternative
Non homogeneous Fredholm equations with degenerate kernels

Green's function
Use of method of variation of parameters to construct the Green's function for a non-homogeneous linear second order boundary value problem
Basic four properties of the Green's function
Alternate procedure for construction of the Green's function by
Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green's function
Test
Hilbert-Schmidt theory for symmetric kernels
Motivating problems of calculus of variations
Shortest distance
Minimum surface of resolution
Brachistochrone problem
Isoperimetric problem
Geodesics
Fundamental lemma of calculus of variations
Euler's equation for one dependant function and its generalization to 'n' dependant functions and to higher order derivatives
Conditional extremum under geometric constraints and under integral constraints
Revision
Revision
Revision
Final Sessional Test

RPS Degree Colle

Class and Section: M Sc.(Phy)- 2nd Sem.
Subject:Communication skills and Pers
Name of the Faculty : Mr. Sushil kumar

Week	Lecture	Date
1	1	16-Jan-20
	2	17-Jan-20
2	3	23-Jan-20
	4	24-Jan-20
3	5	30-Jan-20
	6	31-Jan-20
4	7	06-Feb-20
	8	07-Feb-20
5	9	13-Feb-20
	10	14-Feb-20
6	11	20-Feb-20
7	12	27-Feb-20
	13	28-Feb-20
8	14	05-Mar-20
	15	06-Mar-20
9	16	12-Mar-20
	17	13-Mar-20
10	18	19-Mar-20
	19	20-Mar-20
11	20	26-Mar-20
	21	27-Mar-20
12	22	30-Mar-20
	23	31-Mar-20
	24	03-Apr-20
13	25	09-Apr-20
	26	10-Apr-20
14	27	16-Apr-20
	28	17-Apr-20
15	**20th - 24th April 20**	

ge, Balana (Mahendergarh)

2019-20(Even Semester)

sonality Development

Topics
Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
Basics of Translation
unit 1 33% complete
Unit 1 66% complete
Doubt session
Unit 1 complete
Unit 2 33% complete
Unit 2 66% complete
Unit 2 complete
UT1
Unit 3 33% complete
Unit 3 66% complete
Unit 3 complete
Doubt session
Unit 4 33% complete
Unit 4 66% complete
Unit 4 complete
Doubt session
UT2
Basics of Translation
Writing skills tipps
Letter writing
Revision
Revision
Revision
Revision
Final Sessional Test

RPS Degree Colle

Class and Section: B.Sc.(Non-Med) - 2n
Subject: Vector Calculus(12BSM123)
Name of the Faculty : Dr. Parveen Kuma

Week	Lecture	Date
1	1	16-Jan-20
2	2	21-Jan-20
	3	22-Jan-20
	4	23-Jan-20
3	5	28-Jan-20
	6	29-Jan-20
	7	30-Jan-20
4	8	04-Feb-20
	9	05-Feb-20
	10	06-Feb-20
5	11	11-Feb-20
	12	12-Feb-20
	13	13-Feb-20
6 1st Class Test 17-20th Feb. 2020	14	18-Feb-20
	15	19-Feb-20
	16	20-Feb-20
7	17	25-Feb-20
	18	26-Feb-20
	19	27-Feb-20
8	20	03-Mar-20
	21	04-Mar-20
	22	05-Mar-20
9	23	11-Mar-20
	24	12-Mar-20
10	25	17-Mar-20
	26	18-Mar-20
	27	19-Mar-20
11 2nd Class Test 23-27 March 2020	28	24-Mar-20
	29	25-Mar-20
	30	26-Mar-20
12	31	31-Mar-20
	32	01-Apr-20
13	33	07-Apr-20
	34	08-Apr-20
	35	09-Apr-20
14	36	14-Apr-20
	37	15-Apr-20
	38	16-Apr-20

15	**20th - 24th April 20**

ge, Balana (Mahendergarh)

2019-20(Even Semester)

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Topics
Subject History & Progress
Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
Test to Check the Learning Level of the Students
Scalar and vector product of three vectors
Product of four vectors
Reciprocal vectors
Vector differentiation
Scalar Valued point functions
Vector valued point functions
Derivative along a curve
Directional derivatives
Gradient of a scalar point function
Geometrical interpretation of grad
Test
Character of gradient as a point function
Divergence and curl of vector point function
Characters of Div and Curl as point function
Gradient, divergence and curl of sums and product and their related vector identities
Laplacian operator
Orthogonal curvilinear coordinates
Conditions for orthogonality fundamental triad of mutually orthogonal unit vectors
Gradient, Divergence, Curl and Laplacian operators in terms of Orthogonal curvilinear coordinates
Cylindrical co-ordinates and Spherical co-ordinates
Test
Vector integration; Line integral
Surface integral
Volume integral
Theorems of Gauss
Green Theoremand problems based on this theorem
Stokes Theorem and problems based on this theorms
Revision
Revision
Revision

Final Sessional Test

RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2019-20(Even Semester)

Class and Section: M.Sc.(Math) - 4th Sem.(B)
Subject: Advance Complex Analysis(18MAT24DE1)
Name of the Faculty : Dr. Parveen Kumar Gaur

Week	Lecture	Date	Topics
1	1	16-Jan-20	Subject History & Progress
	2	17-Jan-20	Subject History & Progress
2	3	20-Jan-20	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
	4	21-Jan-20	Test to Check the Learning Level of the Students
	5	22-Jan-20	Integral Functions
	6	23-Jan-20	Factorization of an Integral function
	7	24-Jan-20	Weierstrass Primary factors
3	8	27-Jan-20	Weierstrass factorization theorem
	9	28-Jan-20	Gamma function and its properties
	10	29-Jan-20	Gamma function and its properties
	11	30-Jan-20	Gamma function and its properties
	12	31-Jan-20	Stirling formula
4	13	03-Feb-20	Integral version of Gamma function
	14	04-Feb-20	Riemann Zeta function
	15	05-Feb-20	Riemann functional equation
	16	06-Feb-20	Mittag-Leffler theorem
	17	07-Feb-20	Runge theorem
5	18	10-Feb-20	Analytical Continuation
	19	11-Feb-20	Natural Boundary
	20	12-Feb-20	Uniqueness of direct analytic continuation
	21	13-Feb-20	Uniqueness of analytic continuation along a curve
	22	14-Feb-20	Power series method of analytic continuation
6 1st Class Test 17-20th Feb. 2020	23	17-Feb-20	Schwarz Reflection principle
	24	18-Feb-20	Germ of an analytic function
	25	19-Feb-20	**Test**
	26	20-Feb-20	Monodromy theorem and its Consequences
7	27	24-Feb-20	Harmonic functions on a disk
	28	25-Feb-20	Poisson kernel
	29	26-Feb-20	The Dirichlet problem for a unit disc
	30	27-Feb-20	Harnack inequality
	31	28-Feb-20	Harnack theorem
8	32	02-Mar-20	Harnack theorem
	33	03-Mar-20	Dirichlet region
	34	04-Mar-20	Dirichlet region
	35	05-Mar-20	Green function
	36	06-Mar-20	Green function
9	37	09-Mar-20	Canonical product
	38	11-Mar-20	Jensen formula
	39	12-Mar-20	Poisson-Jensen formula
	40	13-Mar-20	Hadamard three circles theorem

10	42	17-Mar-20	Growth and order of an entire function
	43	18-Mar-20	Growth and order of an entire function
	44	19-Mar-20	An estimate of number of zeros
	45	20-Mar-20	An estimate of number of zeros
11 2nd Class Test 23-27 March 2020	46	23-Mar-20	Exponent of convergence
	47	24-Mar-20	Borel theorem
	48	25-Mar-20	Hadamard factorization theorem
	49	26-Mar-20	**Test**
	50	27-Mar-20	The Range of an Analytic function
12	51	30-Mar-20	The Range of an Analytic function
	52	31-Mar-20	Bloch theorem
	53	01-Apr-20	Bloch theorem
	54	03-Apr-20	Schottky theorem
13	55	06-Apr-20	Little Picard theorem
	56	07-Apr-20	Little Picard theorem
	57	08-Apr-20	Montel Caratheodory theorem
	58	09-Apr-20	Great Picard theorem
	59	10-Apr-20	Univalent functions
14	60	13-Apr-20	Bieberbach conjecture
	61	14-Apr-20	Bieberbach conjecture
	62	15-Apr-20	The 1/4 theorem
	63	16-Apr-20	The 1/4 theorem
	64	17-Apr-20	Revision
15	**20th - 24th April 20**		Final Sessional Test

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RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2019-20(Even Semester)

Class and Section: M.Sc.(Math) - 4th Sem.(A)
Subject: Advance Complex Analysis(18MAT24DE1)
Name of the Faculty : Dr. Parveen Kumar Gaur

Week	Lecture	Date	Topics
1	1	16-Jan-20	Subject History & Progress
	2	17-Jan-20	Subject History & Progress
2	3	20-Jan-20	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
	4	21-Jan-20	Test to Check the Learning Level of the Students
	5	22-Jan-20	Integral Functions
	6	23-Jan-20	Factorization of an Integral function
	7	24-Jan-20	Weierstrass Primary factors
3	8	27-Jan-20	Weierstrass factorization theorem
	9	28-Jan-20	Weierstrass factorization theorem
	10	29-Jan-20	Gamma function and its properties
	11	30-Jan-20	Gamma function and its properties
	12	31-Jan-20	Stirling formula
4	13	03-Feb-20	Integral version of Gamma function
	14	04-Feb-20	Riemann Zeta function
	15	05-Feb-20	Riemann functional equation
	16	06-Feb-20	Mittag-Leffler theorem
	17	07-Feb-20	Runge theorem
5	18	10-Feb-20	Analytical Continuation
	19	11-Feb-20	Natural Boundary
	20	12-Feb-20	Uniqueness of direct analytic continuation
	21	13-Feb-20	Uniqueness of analytic continuation along a curve
	22	14-Feb-20	Power series method of analytic continuation
6 1st Class Test 17-20th Feb. 2020	23	17-Feb-20	Schwarz Reflection principle
	24	18-Feb-20	Germ of an analytic function
	25	19-Feb-20	**Test**
	26	20-Feb-20	Monodromy theorem and its Consequences
7	27	24-Feb-20	Harmonic functions on a disk
	28	25-Feb-20	Poisson kernel
	29	26-Feb-20	The Dirichlet problem for a unit disc
	30	27-Feb-20	Harnack inequality
	31	28-Feb-20	Harnack theorem
8	32	02-Mar-20	Harnack theorem
	33	03-Mar-20	Dirichlet region
	34	04-Mar-20	Dirichlet region
	35	05-Mar-20	Green function
	36	06-Mar-20	Green function
9	37	09-Mar-20	Canonical product
	38	11-Mar-20	Jensen formula
	39	12-Mar-20	Poisson-Jensen formula
	40	13-Mar-20	Hadamard three circles theorem

10	42	17-Mar-20	Growth and order of an entire function
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	45	20-Mar-20	An estimate of number of zeros
11 2nd Class Test 23-27 March 2020	46	23-Mar-20	Exponent of convergence
	47	24-Mar-20	Borel theorem
	48	25-Mar-20	**Test**
	49	26-Mar-20	Hadamard factorization theorem
	50	27-Mar-20	The Range of an Analytic function
12	51	30-Mar-20	The Range of an Analytic function
	52	31-Mar-20	Bloch theorem
	53	01-Apr-20	Bloch theorem
	54	03-Apr-20	Schottky theorem
13	55	06-Apr-20	Little Picard theorem
	56	07-Apr-20	Little Picard theorem
	57	08-Apr-20	Montel Caratheodory theorem
	58	09-Apr-20	Great Picard theorem
	59	10-Apr-20	Univalent functions
14	60	13-Apr-20	Bieberbach conjecture
	61	14-Apr-20	Bieberbach conjecture
	62	15-Apr-20	The 1/4 theorem
	63	16-Apr-20	Revision
	64	17-Apr-20	Revision
15	**20th - 24th April 20**		Final Sessional Test

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RPS Degree Colle

2019-2

Class and Section: M.Sc.(Math) - 2nd Se

Subject: Integral Equation & Valculus

Name of the Faculty : Dr. Parveen Kuma

Week	Lecture	Date
1	1	16-Jan-20
	2	17-Jan-20
2	3	20-Jan-20
	4	21-Jan-20
	5	22-Jan-20
	6	23-Jan-20
	7	24-Jan-20
3	8	27-Jan-20
	9	28-Jan-20
	10	29-Jan-20
	11	30-Jan-20
	12	31-Jan-20
4	13	03-Feb-20
	14	04-Feb-20
	15	05-Feb-20
	16	06-Feb-20
	17	07-Feb-20
5	18	10-Feb-20
	19	11-Feb-20
	20	12-Feb-20
	21	13-Feb-20
	22	14-Feb-20
6 1st Class Test 17-20th Feb. 2020	23	17-Feb-20
	24	18-Feb-20
	25	19-Feb-20
	26	20-Feb-20
7	27	24-Feb-20
	28	25-Feb-20
	29	26-Feb-20
	30	27-Feb-20
	31	28-Feb-20
8	32	02-Mar-20
	33	03-Mar-20
	34	04-Mar-20
	35	05-Mar-20
	36	06-Mar-20
	37	09-Mar-20

9	39	12-Mar-20
	40	13-Mar-20
10	41	16-Mar-20
	42	17-Mar-20
	43	18-Mar-20
	44	19-Mar-20
	45	20-Mar-20
11 2nd Class Test 23-27 March 2020	46	23-Mar-20
	47	24-Mar-20
	48	25-Mar-20
	49	26-Mar-20
	50	27-Mar-20
12	51	30-Mar-20
	52	31-Mar-20
	53	01-Apr-20
	54	03-Apr-20
13	55	06-Apr-20
	56	07-Apr-20
	57	08-Apr-20
	58	09-Apr-20
	59	10-Apr-20
14	60	13-Apr-20
	61	14-Apr-20
	62	15-Apr-20
	63	16-Apr-20
	64	17-Apr-20
15	**20th - 24th April 20**	

ge, Balana (Mahendergarh)

Lesson Plan

20(Even Semester)

m.(B)

of Variation(MAT-203)

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Topics
Subject History & Progress
Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
Test to Check the Learning Level of the Students
Linear Integral equations
Some basic identities
Initial value problems reduced to Volterra integral equations
Methods of successive substitution
Successive approximation to solve Volterra integral equations
Iterated kernels and Neumann series for Volterra equations
Resolvent kernel as a series
Laplace transform method for a difference kernel
Solution of a Volterra integral equation of the first kind
Boundary value problems reduced to Fredholm integral equations
Methods of successive approximation
Methods of successive approximation
Successive substitution to solve Fredholm equations Second kind
Test
Successive substitution to solve Fredholm equations Second kind
Iterated kernels and Neumann series for Fredholm equations
Resolvent kernel as a sum of series
Fredholm resolvent kernel as a ratio of two series
Fredholm equations with separable kernels
Approximation of a kernel by a separable kernel
Fredholm Alternative

Green's function
Use of method of variation of parameters to construct the Green's function for a non-homogeneous linear second order boundary value problem
Basic four properties of the Green's function
Alternate procedure for construction of the Green's function by
Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green's function
Test
Hilbert-Schmidt theory for symmetric kernels
Motivating problems of calculus of variations
Shortest distance
Minimum surface of resolution
Brachistochrone problem
Isoperimetric problem
Geodesics
Fundamental lemma of calculus of variations
Euler's equation for one dependant function and its generalization to 'n' dependant functions and to higher order derivatives
Conditional extremum under geometric constraints and under integral constraints
Revision
Revision
Revision
Final Sessional Test

RPS Degree Colle

2019-2

Class and Section: M Sc.(Phy)- 2nd Sem.

Subject:Communication skills and Pers

Name of the Faculty : Mr. Sushil kumar

Week	Lecture	Date
1	1	16-Jan-20
	2	17-Jan-20
2	3	23-Jan-20
	4	24-Jan-20
3	5	30-Jan-20
	6	31-Jan-20
4	7	06-Feb-20
	8	07-Feb-20
5	9	13-Feb-20
	10	14-Feb-20
6	11	20-Feb-20
7	12	27-Feb-20
	13	28-Feb-20
8	14	05-Mar-20
	15	06-Mar-20
9	16	12-Mar-20
	17	13-Mar-20
10	18	19-Mar-20
	19	20-Mar-20
11	20	26-Mar-20
	21	27-Mar-20
12	22	30-Mar-20
	23	31-Mar-20
	24	03-Apr-20
13	25	09-Apr-20
	26	10-Apr-20
14	27	16-Apr-20
	28	17-Apr-20
15	**20th - 24th April 20**	

ge, Balana (Mahendergarh)

Lesson Plan

20(Even Semester)

sonality Development

Topics
Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
Basics of Translation
unit 1 33% complete
Unit 1 66% complete
Doubt session
Unit 1 complete
Unit 2 33% complete
Unit 2 66% complete
Unit 2 complete
UT1
Unit 3 33% complete
Unit 3 66% complete
Unit 3 complete
Doubt session
Unit 4 33% complete
Unit 4 66% complete
Unit 4 complete
Doubt session
UT2
Basics of Translation
Writing skills tipps
Letter writing
Revision
Revision
Revision
Revision
Final Sessional Test

RPS Degree Colle

2019-2

Class and Section: B.Sc.(Non-Med) - 2n

Subject: Vector Calculus(12BSM123)

Name of the Faculty : Dr. Parveen Kuma

Week	Lecture	Date
1	1	16-Jan-20
2	2	21-Jan-20
	3	22-Jan-20
	4	23-Jan-20
3	5	28-Jan-20
	6	29-Jan-20
	7	30-Jan-20
4	8	04-Feb-20
	9	05-Feb-20
	10	06-Feb-20
5	11	11-Feb-20
	12	12-Feb-20
	13	13-Feb-20
6 1st Class Test 17-20th Feb. 2020	14	18-Feb-20
	15	19-Feb-20
	16	20-Feb-20
7	17	25-Feb-20
	18	26-Feb-20
	19	27-Feb-20
8	20	03-Mar-20
	21	04-Mar-20
	22	05-Mar-20
9	23	11-Mar-20
	24	12-Mar-20
10	25	17-Mar-20
	26	18-Mar-20
	27	19-Mar-20
11 2nd Class Test 23-27 March 2020	28	24-Mar-20
	29	25-Mar-20
	30	26-Mar-20
12	31	31-Mar-20
	32	01-Apr-20
13	33	07-Apr-20
	34	08-Apr-20
	35	09-Apr-20
14	36	14-Apr-20
	37	15-Apr-20
	38	16-Apr-20

15	**20th - 24th April 20**

ge, Balana (Mahendergarh)

Lesson Plan

20(Even Semester)

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Topics
Subject History & Progress
Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
Test to Check the Learning Level of the Students
Scalar and vector product of three vectors
Product of four vectors
Reciprocal vectors
Vector differentiation
Scalar Valued point functions
Vector valued point functions
Derivative along a curve
Directional derivatives
Gradient of a scalar point function
Geometrical interpretation of grad
Test
Character of gradient as a point function
Divergence and curl of vector point function
Characters of Div and Curl as point function
Gradient, divergence and curl of sums and product and their related vector identities
Laplacian operator
Orthogonal curvilinear coordinates
Conditions for orthogonality fundamental triad of mutually orthogonal unit vectors
Gradient, Divergence, Curl and Laplacian operators in terms of Orthogonal curvilinear coordinates
Cylindrical co-ordinates and Spherical co-ordinates
Test
Vector integration; Line integral
Surface integral
Volume integral
Theorems of Gauss
Green Theoremand problems based on this theorem
Stokes Theorem and problems based on this theorms
Revision
Revision
Revision

Final Sessional Test

LESSON PLAN (Jan-April/2020)

Name of the Assistant/ Associate professor: **Mr. Sandeep Singh**
Class and Section: **M.Sc. Physics 2nd semester (section A and B)**
Subject: **Quantum Mechanics-II (PHY(H)-202)**

Week	Date	Day	Topic
01	20/01/2020	Monday	**UNIT-1:** Non-degenerate and degenerate time independent perturbation theory.
	21/01/2020	Tuesday	Continue
	22/01/2020	Wednesday	Continue
	23/01/2020	Thursday	Continue
	24/01/2020	Friday	Continue
	25/01/2020	**Saturday**	**Working**
	26/01/2020	**Sunday**	
02	27/01/2020	Monday	Variational Method
	28/01/2020	Tuesday	Continue
	29/01/2020	Wednesday	Ground state of He using Variational method
	30/01/2020	Thursday	Some examples of Variational and perturbation methods.
	31/01/2020	Friday	Continue
	01/02/2020	**Saturday**	**Vacant**
	02/02/2020	**Sunday**	
03	03/02/2020	Monday	JWKB approximation method
	04/02/2020	Tuesday	Continue
	05/02/2020	Wednesday	Continue
	06/02/2020	Thursday	Continue
	07/02/2020	Friday	Time dependent perturbation theory
	08/02/2020	**Saturday**	**Working**
	09/02/2020	**Sunday**	
04	10/02/2020	Monday	Continue
	11/02/2020	Tuesday	Continue
	12/02/2020	Wednesday	Adiabatic and Sudden approximations
	13/02/2020	Thursday	Continue
	14/02/2020	Friday	Continue
	15/02/2020	**Saturday**	**Vacant/Alumni Meet**
	16/02/2020	**Sunday**	

Week	Date	Day	Topics
05	**17/02/2020**	**Monday**	**First Class Test**
	18/02/2020	Tuesday	**UNIT-2: Semi-classical theory of radiation-matter interaction.** Transition probability for absorption and induced emission
	19/02/2020	Thursday	Continue
	20/02/2020	Wednesday	Continue
	21/02/2020	**Friday**	**Maha Shivratri**
	22/02/2020	**Saturday**	**Working**
	23/02/2020	**Sunday**	
06	24/02/2020	Monday	Electric dipole transition and selection rules
	25/02/2020	Tuesday	Magnetic dipole transitions, forbidden transitions
	26/02/2020	**Wednesday**	**First Assignment**
	27/02/2020	**Thursday**	**Annual Sport Meet**
	28/02/2020	**Friday**	**Annual Sport Meet/ First PTM**
	29/02/2020	**Saturday**	**Vacant**
	01/03/2020	**Sunday**	
07	02/03/2020	Monday	Higher order transitions
	03/03/2020	Tuesday	Continue
	04/03/2020	Wednesday	Einstein's coefficients
	05/03/2020	Thursday	Continue
	06/03/2020	Friday	Continue
	07/03/2020	**Saturday**	**Vacant**
	08/03/2020	**Sunday**	
08	09/03/2020	Monday	**UNIT-3: Collision in 3D and Scattering** Laboratory and C.O.M. reference frames
	10/03/2020	**Tuesday**	**Holi/Dhulandi**
	11/03/2020	Wednesday	Scattering amplitude, differential scattering cross section and total scattering cross section
	12/03/2020	Thursday	Continue
	13/03/2020	Friday	Continue
	14/03/2020	**Saturday**	**Working**
	15/03/2020	**Sunday**	
09	16/03/2020	Monday	The optical theorem
	17/03/2020	Tuesday	Continue
	18/03/2020	Wednesday	Scattering by spherically symmetric potentials, Partial waves and phase shifts
	19/03/2020	Thursday	Continue
	20/03/2020	Friday	Continue
	21/03/2020	**Saturday**	**Vacant**
	22/03/2020	**Sunday**	Continue

Week	Date	Day	Topic
10	**23/03/2020**	**Monday**	**Second Class Test**
	24/03/2020	Tuesday	Continue
	25/03/2020	Wednesday	Continue
	26/03/2020	Thursday	Continue
	27/03/2020	**Friday**	**Second Assignment**
	28/03/2020	**Saturday**	**Working**
	29/03/2020	**Sunday**	
11	30/03/2020	Monday	Scattering by a perfectly rigid sphere and square well
	31/03/2020	Tuesday	Continue
	01/04/2020	Wednesday	Continue
	02/04/2020	**Thursday**	**Ram Navmi**
	03/04/2020	**Friday**	**Second PTM**
	04/04/2020	**Saturday**	**Vacant**
	05/04/2020	**Sunday**	
12	06/04/2020	Monday	Complex potential and absorption,The Born approx.
	07/04/2020	Tuesday	Continue
	08/04/2020	Wednesday	Continue
	09/04/2020	Thursday	Continue
	10/04/2020	Friday	Continue
	11/04/2020	**Saturday**	**Working**
	12/04/2020	**Sunday**	
13	13/04/2020	Monday	**UNIT-4: Identical Particles** The principle of indistinguishability, Symmetric and anti-symmetric wave functions
	14/04/2020	Tuesday	Continue
	15/04/2020	Wednesday	Continue
	16/04/2020	Thursday	Spin and Statistics of identical particles
	17/04/2020	Friday	The Slatter determinant, Pauli exclusion principle
	18/04/2020	**Saturday**	**Vacant**
	19/04/2020	**Sunday**	
14	20/04/2020	Monday	Spin states of a two electron system, like He
	21/04/2020	Tuesday	Continue
	22/04/2020	Wednesday	Collision of Identical particles
	23/04/2020	Thursday	Continue
	24/04/2020	**Friday**	**Final Sessional**
	25/04/2020	**Saturday**	**Working**
	26/04/2020	**Sunday**	