


RPS Degree College, Balana (Mahendergarh)			
			
Class : B.Sc. (Hons) Chemistry IVth Semester			
Subject: Mathematics-IV			
Name of the Faculty :Mr. Ajay Singh			
Week	Lecture	Date	Topics
1	7	16/01/20 to 24/01/20	Solution of Algebraic and Transcendental equations: Bisection method, Regula-Falsi method, Newton-Raphson's method.
2	5	27/01/20 to 31/01/20	Numerical Integration: Trapezoidal rule,
3	5	03/02/20 to 07/02/20	Simpson's one-third and three-eighth rule,
4	5	10/02/20 to 14/02/20	Gauss Quadrature formula Concepts in Probability
5	5	17/02/20 to 21/02/20	Random experiment, trial, exhaustive, equally likely and independent events
6			1st Class Test
7	5	24/02/20 to 28/02/20	Definition of probability- classical , relative frequency, statistical and axiomatic approach,
8	5	02/03/20 to 06/03/20	Addition and multiplication laws of probability. Baye's theorem
9	5	09/03/20 to 13/03/20	Correlation for Bivariate Data: Concept and types of correlation, Scatter diagram,
10			2nd Class Test
11	5	16/03/20 to 20/03/20	Karl Pearson Coefficients(r) of correlation and rank correlation coefficient
12	5	23/03/20 to 27/03/20	Linear Regression: Concept of regression, two lines of regression
13	5	06/04/20 to 10/04/20	Properties of regression coefficients. Difference between correlation and regression.
14	5	30/03/20 to 03/04/20	Test of significance-t-test for single mean, Chi-square test
15	5	13/04/20 to 17/04/20	ANOVA for one way and two way classified data
16			Final Sessional Test



RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2019-20 (Even Semester)

Class and Section: B.Sc. Hons. Chem. 4th Sem

Subject: Genomics (Zoology)

Name of the Faculty : Vishnu Saini

Week	Lecture	Date	Topics
1	2	16/01/20 to 24/01/20	Basics of genomics
	5		Elementary idea of gene mapping in bacteria
2	5	27/01/20 to 31/01/20	Transposons
3	3	03/02/20 to 07/02/20	Transposition mechanism
	2		Basics of mutation
4	3	10/02/20 to 14/02/20	Types of mutations
	2		Nomenclature of mutation
5	3	17/02/20 to 21/02/20	Mutagenesis
	2		DNA Repair
6	17/02/20 to 21/02/20		1st Class Test
7	3	24/02/20 to 28/02/20	Types of DNA Repair
	2		DNA Repair pathways
8	2	02/03/20 to 06/03/20	Error-Prone repair
	3		Mutagenesis in DNA Repair
9	2	09/03/20 to 13/03/20	Gene families
	3		Multi gene families, Repetitive DNA
10	3	16/03/20 to 20/03/20	Comparative genomics
	2		Overview of prokaryotic and eukaryotic genomes
11	3	23/03/20 to 27/03/20	Conserved Domains
	2		The genome project
12	23/03/20 to 27/03/20		2nd Class Test
13	3	30/03/20 to 03/04/20	Human Genome Project
	2		Organization and goal of HGP
14	3	06/04/20 to 10/04/20	Mapping strategies
	2		Mitochondrial genome
15	5	13/04/20 to 17/04/20	Revision



RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2019-20 (Even Semester)

Class and Section: B.Sc. Hons. Chem. 2nd Sem

Subject: Plant Physiology and metabolism

Name of the Faculty : Yash Gaur

Week	Lecture	Date	Topics
1	2	16/01/20 to 24/01/20	Basics of Plant physiology
	5		Osmosis, Diffusion, Imbibition, Water potential
2	5	27/01/20 to 31/01/20	Soil plant atmosphere, symplast apoplast, ascent of sap
3	3	03/02/20 to 07/02/20	Transpiration and antitranspirants, opening closing stomata
	2		Mineral nutrition and translocation of food
4	3	10/02/20 to 14/02/20	Photosynthesis- pigments, photosystems, phosphorylation
	2		C3 cycle- Calvin cycle
5	3	17/02/20 to 21/02/20	C4 and CAM plants cycle, factors affecting PS
	2		Glycolysis, TCA cycle
6	17/02/20 to 21/02/20		1st Class Test
7	3	24/02/20 to 28/02/20	ETC, oxidative phosphorylation, carbohydrates
	2		Sucrose, starch, cellulose
8	2	02/03/20 to 06/03/20	Biological nitrogen fixation
	3		Structure and function of lipids, beta oxidation
9	2	09/03/20 to 13/03/20	Triglycerol and steroids
	3		Synthesis and breakdown
10	3	16/03/20 to 20/03/20	Nitrogen cycle, formation of glycerides
	2		Significance of fatty acids
11	3	23/03/20 to 27/03/20	Physiology of flowering
	2		Role of light in flowering
12	23/03/20 to 27/03/20		2nd Class Test
13	3	30/03/20 to 03/04/20	photoperiodism, inductive and non-inductive cycles
	2		Florigen concept, nature of stimulus
14	3	06/04/20 to 10/04/20	Vernalization, auxin, gibberelin
	2		ABA, Cytokinin, Ethylene
15	5	13/04/20 to 17/04/20	Revision



RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2020-21 (Even Semester)

Class and Section: Bsc(Hons.) Chem. Second sem

Subject: Zoology

Name of the Faculty : Devender kumar

Week	Lecture	Date	Topics
1	7	16/01/20 to 24/01/20	Introduction to Chordates and their origin
2	5	27/01/20 to 31/01/20	Protochordates - general features and phylogeny of hemichordates
3	5	03/02/20 to 07/02/20	Urochordates and Cephalochordates
4	5	10/02/20 to 14/02/20	Retrogressive Metamorphosis
5	5	17/02/20 to 21/02/20	General features of living Agnatha
6			1st Class Test
7	5	24/02/20 to 28/02/20	Pisces - osmoregulation
8	5	02/03/20 to 06/03/20	Migration and parental care
9	5	09/03/20 to 13/03/20	Amphibia -origin and evolution.
10			2nd Class Test
11	5	16/03/20 to 20/03/20	Terrestrial ectotherms and parental care
12	5	23/03/20 to 27/03/20	Reptiles -origin,Poisonous and Non-poisonous snakes

13	5	06/04/20 to 10/04/20	Biting mechanism of snakes
14	5	30/03/20 to 03/04/20	Affinities of order Sphenodon
15	5	13/04/20 to 17/04/20	Avs-origin,mechanism of flight and Migration, Mammals (origin,evolution of human)
16			Final Sessional Test



RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2019-20 (Even Semester)

Class and Section: B.Sc. Hons. Chem. 4th Sem

Subject: Economic Botany

Name of the Faculty :D R Bharadwaj

Week	Lecture	Date	Topics
1	2	16/01/20 to 24/01/20	Concept of Cultivated & Wild Plants, Land marks in economic botany, Utilization of plants
	5		
2	5	27/01/20 to 31/01/20	Center of origin of cultivation of plants, Different types of works on centers of origin, Importance of centers of origin
3	5	03/02/20 to 07/02/20	Vavilove's contribution, De Candolle's contribution, Plant introductions
4	5	10/02/20 to 14/02/20	Examples of major introductions, Domestication of crop plants, Genetic diversity in plants
5	5	17/02/20 to 21/02/20	Loss of Genetic diversity, Evolution of crops, Evolution of new varieties using different techniques
6	17/02/20 to 21/02/20		1st Class Test
7	5	24/02/20 to 28/02/20	Concepts of weeds, Uses of weeds for human welfare, Germplasm diversity, Importance of weeds in germplasm diversity
8	5	02/03/20 to 06/03/20	Cultivation & economic importance of wheat, Rice, Potato, Tomato & Chilli
9	5	09/03/20 to 13/03/20	Common Adulterants of spices, Processing & Adulterants of Tea & Coffee
10	5	16/03/20 to 20/03/20	Role of ethanobotany in conservation of indigenous plant wealth, drug discovery, Intellectual Property Rights and issues
11	5	23/03/20 to 27/03/20	Legumes : General account Importance of legumes to man & Ecosystem, Importance of Pulses grown in India
12	23/03/20 to 27/03/20		2nd Class Test
13	3	30/03/20 to 03/04/20	Spices grown in India & their uses : Black pepper & Turmeric, Fennel & Clove & saffron
14	3	06/04/20 to 10/04/20	Distribution, description & uses of Aloe, Azadirachta, Commifora
15	5	13/04/20 to 17/04/20	Distribution, description & uses of Emblica, Rauwolfia, Withani & Andrographis
16	20/04/20 to 24/04/20		Final Semester Test



RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2019-20 (Even Semester)

Class and Section: B.Sc. (H.C.) 4th Sem I.O.C.

Subject: Inorganic Chemistry

Name of the Faculty : MR. AMIT KUMAR

Week	Lecture	Date	Topics
1	1	17-Jan-20	introduction to the syllabus
	2	17-Jan-20	Chemistry of Lanthanide Elements, electronic conf.
	3	20-Jan-20	oxidation states and ionic radii
	4	21-Jan-20	lanthanide contraction
	5	22-Jan-20	complex formation
	6	24-Jan-20	occurrence and isolation
2	7	27-Jan-20	occurrence and isolation
	8	28-Jan-20	lanthanide compounds
	9	29-Jan-20	Chemistry of Actinides
	10	31-Jan-20	General features
	11	31-Jan-20	chemistry of separation of Np, Pu and Am
3	12	03-Feb-20	similarities between the later actinides and the later lanthanides
	13	04-Feb-20	previous year question and doubt class
	14	05-Feb-20	section B - Acids and Bases
	15	07-Feb-20	Arrhenius, Bronsted- Lowry
	16	07-Feb-20	Lux- Flood
4	17	10-Feb-20	solvent system and Lewis concepts
	18	11-Feb-20	relative strength of acids and bases
	19	12-Feb-20	the levelling effect
	20	14-Feb-20	Isopolyacids of Mo and W
	21	14-Feb-20	aqueous chemistry of Mo and W(VI).
5	22	17-Feb-20	isopoly molybdates
	23	18-Feb-20	isopolytungstates
	24	19-Feb-20	Section-A Chemistry of Second and Third Transition Series
	25	20-Feb-20	first class test
6	2/20/2020		1st Class Test
7	26	24-Feb-20	General characteristics
	27	25-Feb-20	comparison with their 3d-analogues in respect of ionic radii
	28	26-Feb-20	oxidation states
	29	28-Feb-20	magnetic behaviour
	30	28-Feb-20	spectral properties
	31	02-Mar-20	stereochemistry
	32	03-Mar-20	Chemistry of Mo and W in different oxidation states
	33	04-Mar-20	Chemistry of Mo and W in different oxidation states
	34	06-Mar-20	revision
	35	06-Mar-20	previous year question and doubt class
8	36	09-Mar-20	Section C- General principles of metallurgy
	37	11-Mar-20	occurrence of metals
	38	13-Mar-20	mineral wealth of India discussion
	39	13-Mar-20	calcination roasting
9	40	16-Mar-20	smelting, bessimerization,
	41	17-Mar-20	various methods of concentration
	42	18-Mar-20	purification and refining
	43	20-Mar-20	parting process
	44	20-Mar-20	zone refining
10	3/23/2020		2nd Class Test
11	45	24-Mar-20	oxidation refining
	46	25-Mar-20	electrolytic refining and solvent extraction)
	47	27-Mar-20	metallurgy of Ag, Au
	48	27-Mar-20	metallurgy of Zn, Cu, Ni
	49	30-Mar-20	Previous year questions and doubt class
	50	31-Mar-20	Revision
	51	01-Apr-20	Revision
	52	03-Apr-20	Revision
12	53	03-Apr-20	Revision
	54	06-Apr-20	Revision
	55	07-Apr-20	Revision
	56	08-Apr-20	Revision
	57	10-Apr-20	Revision
	58	10-Apr-20	Revision
13	59	13-Apr-20	Revision
	60	14-Apr-20	Revision
	61	15-Apr-20	Revision
	62	17-Apr-20	Revision
	63	17-Apr-20	Revision
14			
16			
17	Final Sessional Test		

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

2019-20 (Even Semester)

Class and Section: B.Sc. (H.C.) 4th Sem O.C.

Subject: Organic Chemistry

Name of the Faculty : Hitesh Gupta

Week	Lecture	Date	Topics
1	1	16-Jan-20	introduction to the syllabus
	2	20-Jan-20	Section A - infrared spectroscopy types of molecular vibration
	3	21-Jan-20	selection rule, Hooke's law, position and intensity of IR band
	4	22-Jan-20	measurement of IR spectrum
	5	23-Jan-20	fingerprint and functional group region
	6	23-Jan-20	fingerprint and functional group region
2	7	27-Jan-20	factors affecting vibration frequency
	8	28-Jan-20	characteristic spectra of different functional groups
	9	29-Jan-20	characteristics Spectra of different functional group
	10	30-Jan-20	characteristics IR spectrum
3	11	30-Jan-20	application of infrared spectroscopy
	12	03-Feb-20	application of infrared spectroscopy
	13	04-Feb-20	previous year question and doubt class
	14	05-Feb-20	section B - Amines
	15	06-Feb-20	structure and Nomenclature of amines,
4	16	06-Feb-20	Physical properties of amines, Basicity of Amines and Factors affecting it.
	17	10-Feb-20	separation of mixture of primary secondary and tertiary amines
	18	11-Feb-20	preparation of aryl and alkyl amines
	19	12-Feb-20	preparation of aryl and alkyl amines
	20	13-Feb-20	reaction of Amines
	21	13-Feb-20	reaction of amines
5	22	17-Feb-20	ESR of Aryl amines
	23	18-Feb-20	Amines as PTC
	24	19-Feb-20	Name Reactions of Amines
	25	20-Feb-20	first class test
6	2/20/2020		1st Class Test
7	26	24-Feb-20	Section - C Diazonium and Nitro Compounds
	27	25-Feb-20	Mechanism of Diazotisation
	28	26-Feb-20	Reactions of Diazonium compounds, Replacement by any atom or grup
	29	27-Feb-20	Couplong reaction and its synthetic application
	30	27-Feb-20	Preparation of Nitro Compounds
	31	02-Mar-20	Reactions of Nitro Compounds
	32	03-Mar-20	Reactions of Nitro compounds
	33	04-Mar-20	ESR and Reduction reactions of Nitroarenes
	34	05-Mar-20	Pieric acid and halonitroarenes
	35	05-Mar-20	previous year question and doubt class
8	36	09-Mar-20	Section D - Aldehyde and ketones
	37	11-Mar-20	Nomenclature and structure of carbonyl group, Methods pf Preparation
	38	12-Mar-20	Methods pf Preparation of Aldehydes and ketones
	39	12-Mar-20	Sarett Oxidation, PCC, PDC
9	40	16-Mar-20	Name reactions for preparation pf aldehydes and ketones
	41	17-Mar-20	Physical Properties and Reactions of Aldehydes amd ketons
	42	18-Mar-20	NAR of Aldehydes and ketones
	43	19-Mar-20	Aldol, Perkin Cannizaro, Benzoin and Other Name reactions
	44	19-Mar-20	Condensation Reactions
10	3/23/2020		2nd Class Test
11	45	24-Mar-20	Acetals as Protecting groups
	46	25-Mar-20	Oxidations of aldehydes, BVO and other oxidation Reactions
	47	26-Mar-20	Reduction of Aldehydes and ketones using LAH and sodiumborohydride
	48	27-Mar-20	Introduction to alpha beta unsaturated carbonyl compounds
	49	30-Mar-20	Previous year questions and doubt class
	50	31-Mar-20	Revision
	51	01-Apr-20	Revision
	52	02-Apr-20	Revision
12	53	03-Apr-20	Revision
	54	06-Apr-20	Revision
	55	07-Apr-20	Revision
	56	08-Apr-20	Revision
	57	09-Apr-20	Revision
	58	10-Apr-20	Revision
13	59	13-Apr-20	Revision
	60	14-Apr-20	Revision
	61	15-Apr-20	Revision
	62	16-Apr-20	Revision
	63	17-Apr-20	Revision
14			
16			
17	Final Sessional Test		

Lesson plan

Name of the Assistant Professor: Uttam Nain

Class and Section: B.Sc Honors Chemistry 4th sem

Subject: **Optional Paper-II**

Sub. Code- **CH (H) -405**

Week	Day No.	Topics	Remarks
1	Day 1	Introduction	
	Day 2	Statistical Mechanics :Probability	
	Day 3	Some Probability consideration,Combination Possessing Maximum Probability	
2	Day 4	Distribution of Molecules in Two Boxes,Case with Weightage(General)	
	Day 5	Phase Space,Microstate and Macrostate,Statistical Fluctuations constraints	
	Day 6	accessible states,thermodynamical probability	
3	Day 7	postulates of statistical Physics,division of phase space into cells	
	Day 8	condition of equilibrium between two system	
	Day 9	Boltz mann law	
4	Day 10	B.E. statistics	
	Day 11	derivation of Planck's-Radiation law	
	Day 12	B.E. Gas	
5	Day 13	class test	
	Day 14	Test distribution and test solution	
	Day 15	introduction of quantum mechanics	
6	Day 16	Failure of classical mechanics, old quantum theory	
	Day 17	photoelectric effect,einstein photoelectric effect equation	
	Day 18	Compton effect	
7	Day 19	result of Compton effect	
	Day 20	Major revision and assignment	
	Day 21	Continue...	
8	Day 22	Davision & Germer experiment	
	Day 23	G.P. Thomsan Experiment, Phase & Group velocity	
	Day 24	Heisenberg's uncertainty principle,Time Energy and angular momentum	
9	Day 25	Position Uncertainty,Uncertainty Principle from De-	

		broglie	
	Day 26	Duality Nature	
	Day 27	Gama Ray Microscope,Electron Diffraction From a Slit	
10	Day 28	Derivation of Time dependent Schrodinger wave Equation	
	Day 29	Unit Test	
	Day 30	Introduction of computer programming	
11	Day 31	Computer Programming	
	Day 32	Computer Organisation, Binary Representation	
	Day 33	Executable & Non-Executable Statements	
12	Day 34	Input & Output Statements,Formats	
	Day 35	I.F. DO and GO TO Statements,Dimesion Arrays	
	Day 36	Statement function	
13	Day 37	Function Subprogram,Problem Discussion	
	Day 38	Revision	
	Day 39	Test	
14	Day 40	Test distribution and discussion	
	Day 41	(Revision)& discussion of previous paper (Unit I)	
	Day 42	(Revision)& discussion of previous paper (Unit II)	