RPS Degree College, Balana (Mahendergarh)

esson Plan

Class and Section: B.Sc Med. 1st

Subject: Diversity of Microbes

Lecture	Topics
1	Bacteria Structure, nutrition,
2	Bacteria Structure, nutrition,
3	Reproduction
4	Reproduction
5	Economic importance, Cyanobacteria ; life history of Nostoc. Algae: General characters, Organisation of thalus.
6	Economic importance, Cyanobacteria ; life history of Nostoc. Algae: General characters, Organisation of thalus.
7	Algae: Classification and Economic importance.
8	Algae: Classification and Economic importance.
9	Important features and life history of Volvox and Oedogonium.
10	Important features and life history of Volvox and Oedogonium.
11	Important features and Life history of Vaucheria,
12	Important features and Life history of Vaucheria,
13	Ectocarpus
14	Polysiphonia (Rhodophyceae).
15	
16	Viruses:General account of Viruses.
17	Viruses:General account of Viruses.
18	Structure of TMV
19	Structure of TMV
20	Bacteriophages.
21	Bacteriophages.
22	Fungi: characters,
23	Fungi: characters,
24	Fungi: classification.
25	Fungi: classification.
26	Economic importance of Fungi.

27	Economic importance of Fungi.
28	General account of Lichens
29	
30	Important features and life history of Phytopthora(Mastigomycotina)
31	Important features and life history of Phytopthora(Mastigomycotina)
32	Important features and life history of Mucor.
33	Important features and life history of Mucor.
34	Penicillium(Ascomycotina)
35	Penicillium(Ascomycotina)
36	Puccinia, Agaricus(Basidiomycotina)
37	Puccinia, Agaricus(Basidiomycotina)
38	Colletotrichum(Deuteromycotina)
39	Colletotrichum(Deuteromycotina)
40	Revision

RPS Degree College, Balana (Mahendergarh)

son Plan

2020-21(Odd Semester)

Class and Section: B.Sc Med. 1st Sem

Subject: Cell biology 1.2

Lecture	Topics
1	Introduction of Cell Biology
2	Cell Wall Structure Primary Cell wall
3	Secondary Cell Wall structure
4	Difference between Primary and Secondary cell wall
5	Functions of Cell wall
6	Cell Membrane Structure
7	Models of Plasma Membrane
8	Fluid Mosaic Model
9	PM function and its Modification
10	Endoplasmic Reticulum Introduction
11	ER Structure
12	ER Functions
13	Golgi Body Introduction
14	Golgi body Structure and function
15	Peroxisomes Str.and function
16	Lysosomes Str.
17	Lysosomes type and function
18	Vacuole Str.and function
19	Nucleus Introduction
20	Nuclear Envelope
21	Nuclear pore
22	Chromatin Str.and type
23	Nucleolus
24	Functions of Nucleus
25	Mitochondria Introduction
26	Mitochondria Str. and function
27	Chloroplast Introduction
28	chloroplast Str.and function
29	Chromosome Morphology
30	Chromosome Ultrastructure - Kinetochore
31	Centromere and Telomere
32	Cell Cycle Introduction
33	Cell cycle Types
34	Mitosis stages -Prophase and Metaphase
35	Anaphase and telophase

		36	Meiosis Stages -Meiosis -1-Prophase-1	
		37	Metaphase-1 and Anaphase-1	
		38	Telophase -1	
		39	Meiosis -2 stages	
		40	Difference between Mitosis and Meiosis	
		41	Significance of Mitosis and Meiosis	
		42	Mutation And its Types	
		43	Chromosomal aberrations -Structural -Deletion	
		44	Duplication	
		45	Translocation	
		46	Inversion	
		47	Numerical Aberration -Aneuploidy	
		48	Polyploidy	
		49	Sex chromosome	
		50	X chromosome str.	
		51	Y Chromosome str.	
		52	Sex Determination in plants	
		53	Sex determination in Drosophila	
		54	Revision Unit 1st Half	
		55	Revision Unit 1st complete	
		56	Revision Unit 2nd Half	
		57	Revision Unit 2nd complete	
		58	Revision Unit 3rd complete	
		59	Revision Unit 4th complete	
		60	Complete Syllabus Revision	

RPS Degree College, Balana (Mahendergarh)

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2020-21(Odd Semester)

Class and Section: B.Sc.Medical 1st Semester

Subject: Inorganic Chemistry

Lecture	Topics
1	Idea of de Broglie matter wave
2	Heisenberg uncertainty principle
3	Atomic orbitals
4	Quantum numbers
5	Radial and angular wave functions
6	Probability distribution curves
7	shapes of s, p, d orbitals
8	shapes of s, p, d orbitals
9	General principles of periodic table
10	Aufbau principles
11	Pauli exclusion principles
12	Hund's multiplicity rule
13	Electronic configurations of the elements
14	effective nuclear charge
15	Slater's rules
16	Atomic and ionic radii- definition
17	Atomic and ionic radii- methods of determination or evaluation
18	Atomic and ionic radii- trends in periodic table (in s &p block elements)
19	Ionization energy definition
20	Ionization energy methods of determination or evaluation
21	Ionization energy trends in periodic table (in s &p block elements)
22	Electron affinity definition
23	Electron affinity methods of determination or evaluation
24	Electron affinity trends in periodic table (in s &p block elements)
25	Electronegativity definition
26	Electronegativity methods of determination or evaluation
27	Electronegativity trends in periodic table (in s &p block elements)
28	Valence bond theory and its limitations
29	Valence bond theory and its limitations
30	directional characteristics of covalent bond,
31	Various types of hybridization
32	Shapes of simple inorganic molecules
33	Shapes of simple inorganic molecules
34	Valence shell electron pair repulsion (VSEPR)5 theory
35	Valence shell electron pair repulsion (VSEPR)5 theory
36	MO theory of heteronuclear (CO and NO) diatomic.molecules

37	MO theory of heteronuclear (CO and NO) diatomic.molecules
38	Bond strength
39	Bond energy
40	Percentage ionic character from dipole moment
41	Percentage ionic character from dipole moment
42	Ionic structures (NaCl,CsCl, ZnS(Zinc Blende), CaF2)
43	Ionic structures (NaCl,CsCl, ZnS(Zinc Blende), CaF2)
44	Ionic structures (NaCl,CsCl, ZnS(Zinc Blende), CaF2)
45	Radius ratio effect
46	Radius ratio effect
47	Coordination number
48	Coordination number
49	Limitation of radius ratio rule
50	Limitation of radius ratio rule
51	Limitation of radius ratio rule
52	Lattice defects
53	Semiconductors
54	Lattice energy
55	Born-Haber cycle
56	Solvation ene rgy
57	Solvation ene rgy& its relation with solubility of ionic solids
58	Polarizing power
59	Polarisability of ions
60	Fajan's rule

RPS Degree College, Balana (Mahendergarh)

Lesson Plan

2020-21(Odd Semester)

Class and Section: B.Sc. 1st Sem Medical
Subject: Physical Chemistry(Code: CH102)

Lecture	Topics
1	Introduction to Course, Scheme of Exam & Learning Objectives
2	Discussion to check the previous knowledge of students
3	Introduction to Gaseous state and Maxwell's distribution
4	Maxwell's distribution of velocities and energies
5	Root mean, average and most probable velocities
6	Root mean, average and most probable velocities
7	Collision diameter and collision number
8	Collision frequency and mean free path
9	Concept of ideal and real gases
10	Deviation of real gases from ideal behaviour
11	Derivation of Van der Waal's equation of state
12	Boyle's temperature and compression factor
13	Application of Van der Waal's equation to calculate Boyle's temperature
14	Explanation of behaviour of real gases using Van der Waal's equation
15	Explanation of behaviour of real gases using Van der Waal's equation
16	Critical temperature and pressure
17	Critical temperature and pressure
18	Determination of Critical temperature and pressure
19	Critical volume and its determination
20	PV isotherms of real gases
21	PV isotherms of real gases
22	Continuity of states
23	Continuity of states
24	Isotherms of Van der Waal's equation
25	Relationship between critical constants and van der waal's constants
26	Relationship between critical constants and van der waal's constants
27	Practice problems related to calculation of critical constants
28	Critical compressibility factor and Law of corresponding states
29	Liquifaction of gases
30	Liquifaction of gases
31	Introduction to liquid state
32	Structure of liquids
33	Structure of liquids
34	Properties of liquids
35	Surface tension

36	Surface tension and its determination
37	Viscosity
38	Determination of Viscosity
39	Vapour pressure
40	Vapour pressure
41	Determination of vapour pressure
42	Optical rotation
43	Method for determining optical rotation
44	Introduction to solid state
45	Classification of solids
46	Law of constancy of interfacial angles and rationality of indices
47	Law of symmetry
48	Symmetry elements of crystals
49	Unit cell and space lattice
50	Bravais lattice
51	Crystal systems
52	Crystal systems
53	X ray diffraction of crystals
54	X ray diffraction of crystals
55	Derivation of Bragg equation
56	Practice problems related to Bragg equation
57	Determination of crystal structure of NaCl, KCl
58	Liquid crystals
59	Difference between solids, liquids and liquid crystals
60	Applications of liquid crystals

RPS Degree College, Balana (Mahendergarh)

Lesson Plan

Class : B.Sc. Medical 1st Sem

Subject : Organic Chemistry

Lecture	Topics
1	Introduction of Syllabus
2	Localized and delocalised chemical bond
3	Van der Waals Interaction
4	Resonance concept condition, energy
5	Resonance effect and its application
6	Hyperconjugation
7	Inductive effect and its application
8	Electromeric effect and its comparison
9	Concept of isomerism and types
10	Optical isomerism , elements of Symmetry
11	Optical activity and Enantiomerism
12	Diastereomers and its types , meso compounds
13	Resolution of enantiomers
14	Inversion , retention and racemization
15	Relative and absolute configuration, sequence Rule
16	R and S system of nomenclature
17	Geometric isomerism and its configuration
18	E and Zsystem of nomenclature
19	Conformational isomerism
20	Conformational analysis of ethane and n-butane
21	Conformations of Cyclohexane
22	Axial and equatorial bonds
23	Newman projection concept
24	Sawhorse projections concept
25	Difference between Configuration and conformation
26	Different types of arrow notation
27	Half headed and double headed arrow
28	Drwaing electron movement with arrows
29	Homolytic and heterolytic bond cleavage
30	Electrophile reagent
31	Nucleophilic Reagent
32	Types of Organic Reaction
33	Types of Organic Reaction
34	Energy Consideration
35	Energy Consideration
36	Carbocation - formation and Structure
37	Stablity of Carbocation
38	Carboanion - Formation, structure and stablity
39	Free radicals - formation, structure and stability

40	Carbenes - formation, structure and stability
41	Arynes - Formation, structure and stability
42	Nitrenes - Formation, structure and stability
43	Assigning formal charges on intermediate and ionic species
44	Alkanes - Nomenclature
45	Classification of carbon atom in alkanes
46	Isomerism in alkanes
47	Physical properties of alkanes
48	Methods of formation of alkanes
49	Methods of formation of alkanes
50	Nomenclature of cycloalkanes
51	Synthesis of cycloalkanes and its derivatives
52	Photochemical (2 + 2) Cycloaddition reactions
53	Dehalogenation and pyrolysis reaction
54	Baeyer's strain theory and its limitations
55	Baeyer's strain theory and its limitations
56	Theory of strainless rings
57	Revision
58	Revision
59	Revision
60	Revision

RPS Degree College, Balana (Mahendergarh)

son Plan

2020-21(Odd Semester)

Class and Section: B.Sc. Medical 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 language and literature
4	One third of 1st poem W. SHAKESPEARE
5	Two third of the 1st poem
6	Poem complete
7	Doubt class regarding 1st poem
8	2nd poem one third J. DONNE
9	2nd poem two third
10	2nd poem complete
11	Doubt class regarding 2nd poem
12	3rd poem one third J.MILTON
13	3rd poem two third
14	3rd poem complete
15	Doubt class
16	fourth poem one third A POPE
17	fourth poem two third
18	fourth poem complete
19	Doubt class
20	5th poem one third W. BLAKE
21	5th two third
22	5th poem complete
23	Doubt class
24	6th poem one third W. Wordsworth
25	6th poem two third
26	6th poem complete
27	Doubt class
28	7th poem one third H.Vaughan
29	7th poem two third
30	7th poem Complete
31	doubt class
32	8th poem one third L.Tennyson
33	8th poem two third
34	8th poem complete

35	Doubt class
36	Introduction to Grammar concepts
37	Translation structure (Present)
38	Translation structure (Past)
39	Translation structure (Future)
40	Translation structure (outside tense)
41	Paragraph writing
42	Paragraph Important
43	common errors 1
44	common errors 2
45	common errors 3
46	common errors 4
47	common errors 5
48	common errors 6
49	common errors 7
50	Important phrasal verbs
51	Important prepositions
52	Revision
53	Revision
54	Revision
55	Revision
56	Revision
57	Revision
58	Revision
59	Revision
60	Revision

RPS Degree College, Balana (Mahendergarh)

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2020-21(Odd Semester)

Class and Section: B.Sc Medical 1st Sem

Subject: Life and Diversity from Protozoa to Helminthes (1.1)

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 Animal World
4	Characters of living things
5	Biodiversity and Classification
6	Kingdom Protista
7	Basis of classification of kingdom Animal
8	Classification of kingdom Animal
9	General Characters of Protozoans
10	Classification of Protozoans
11	Protozoan Biodiversity
12	Economic Importance of Protozoa
13	Introduction to Plasmodium
14	Life cycle of Plasmodium- In Human
15	Life cycle of Plasmodium-In Mosquito
16	Graphical representation of life history of Plasmodium
17	Types of Malaria
18	Control of Malaria
19	Parasitism and Kind of Parasite
20	Entamoeba
21	Trypanosoma
22	Leishmania
23	Giardia
24	General Characters of Phylum Porifera
25	Classification of sponges
26	Biodiversity in Porifera
27	Economic Importance of Sponges
28	Introduction to Scypha(sycon)
29	Morphology of sycon
30	Physiology of sycon
31	Reproduction in sycon
32	Canal system in Sponges
33	Skeleton system in Sponges
34	Introduction to Colenterata
35	General Characters of Phylum Colenterata

		36	Classification of Phylum Coelenterata	
		37	Coelenterates Biodiversity	
		38	Economic Importance of Coelenterata	
		39	Introduction to Obelia	
		40	Morphology of the Obelia Colony	
		41	Histology of Obelia Colony	
		42	General Physiology of Obelia Colony	
		43	Medusa	
		44	Life History of Obelia	
		45	Difference between obelia and medusa	
		46	Coral, structure and Types	
		47	Coral Reef	
		48	Polymorphism in Colenterata	
		49	General Characters of Phylum Platyhelminths	
		50	Classification of Phylum Platyhelminths	
		51	Biodiversity and Classification of Platyhelminths	
		52	General Characters of Phylum Nematoda	
		53	Introduction to Fasiola Hepatica	
		54	Digestive system in Fasiola Hepatica	
		55	Excretory and Nervous system in Fasiola Hepatica	
		56	Reproduction in Fasiola Hepatica	
		57	Schistosoma (Blood Fluke)	
		58	Ancylostoma (Hookworm)	
		59	Trichinella and Wuchereia	
		60	Oxyuris (The Pin Worm)	

RPS Degree College, Balana (Mahendergarh)

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2020-21(Odd Semester)

Class and Section: B.Sc Medical 1st Sem.
Subject:Cell Biology -I (Zoology)

Lecture	Topics
1	Introduction to Syllabus, Scheme of Exam & Learning Objectives/Outcomes
2	Plasma Membrane- Introductiom
3	Unit Membrane Model, Fluid Mosaic model
4	Transport- Passive transport
5	Active Transport
6	Endocytosis
7	Exocytosis
8	E.R- Structure, Types
9	Role of ER in Protein synthesis and transportation in cell
10	Golgi Complex- Structure
11	Enzymes in Golgi Complex, Role of Golgi - complex in cell
12	Ribosome: Structure, Types
13	Biogenesis of Ribosome
14	Role of Ribosome in animal cell
15	Lysosome: Structure , Polymorphism
16	Enzymes in lysosome
17	Function of lysosome
18	Mitochondria: Mitochondia DNA
19	Mitochondria as semiautonomous organelle
20	Biogenesis of Mitochondria, Mitochondrial Enzymes
21	Role of mitochondria in animal cell
22	Cytoskelton- Microtubules
23	Microfilament
24	Centriole and Basal body
25	Cilia and Flagella
26	Ultrstructure of Nucleus _ Nucleus, Nuclear Membrane
27	Nuclear lamina, nucleolus
28	Function of Nucleus
29	Chromosome, Nucleosome, role of histone
30	Euchromatin, Heterochromatin
31	Lambrush Chromosome
32	Polytene chromosome
33	Cell Reproduction: Introduction
34	Mitosis
35	Meiosis

36	Cancer- Introduction
37	Types of Cancer
38	Cause , symptoms and Treatment of cancer
39	Introduction of Immunology
40	An elementary idea of cellular basis of immunity