

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester )

Name of the Paper:- Ecology

Class: BSc III

Name of the Teachers (Section Wise) : Nidhan Singh

WEEK	DATE	TOPICS
1	September (6-10)	
		Introduction to Ecology
		Scope of Ecology
Levels of Organisation, Environment		
SUNDAY - 11.09.2022		
2	September (12-17)	
		Environmental Components
		Climatic Factors- Water
Climatic Factors- Water, Humidity		
SUNDAY - 18.09.2022		
3	September (19-24)	
		Climatic Factors- Wind and Light
		Climatic Factors- Light
HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)		
SUNDAY - 25.09.2022		
HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)		
4	September (27-30) October (1)	
		Edaphic Factors- Soil Complex
		Soil- Physico-chemical Properties
Soil-Profiles		
SUNDAY - 02.10.2022 & Holiday (Mahatma Gandhi Jayanti)		
5	October (3-8)	
		Hydrophytes- Adaptations
		Hydrophytes- Adaptations
Xerophytes- Adaptations		
HOLIDAY - 05.10.2022 (Dussehra)		
SUNDAY - 09.10.2022 & Holiday (Maharishi Valmiki Jayanti)		

6	October (10-15)	
		Halophytes- Adaptations
		Population Characteristics-Qualitative
		Population Characteristics-Qualitative
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	
		Biotic Potential
		Growth Curves, Ecotypes, Ecads
		Community Characteristics-I
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	
		Community Characteristics-I
		Community Characteristics-II
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	
		Community Characteristics-II
		Ecological Succession
		Ecological Succession
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	
		Ecological Succession
		Ecosystem Structure
		Ecosystem Structure
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	
		Ecosystem Structure
		Ecosystem -Food Chains, webs
		Ecosystem -Food Chains, webs
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	
		Assignments
		Ecological Pyramids
		Test
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30)	
	December (1-3)	Ecological Pyramids
		Ecological Pyramids
		Ecological Pyramids
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	
		Revision, Discussion and Doubts
		Energy Flow
		Energy Flow
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Assignments

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( V Semester)

Name of the Paper:- Web Designing

Class: BSC(cs)

Name of the Teacher(Section Wise) : Milan Sharma

WEEK	DATE	TOPICS
1	September (6-10)	
		Introduction to Internet and World Wide Web
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	
		Evolution and History of World Wide Web
		Basic Features; Web Browsers
		Basic Features;Web Servers;
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	
		URLs; Searching
		Search Engines and Search Tools
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	
		Steps for Developing Website
		Choosing the Contents; Home Page
		Domain Names
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	
		Internet Service Provider
		Planning and Designing Web Site
		Creating a Website
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	
		Web Publishing>>>>Assignment
		Hosting Site
		Introduction to HTML
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	
		Hypertext Transfer Protocol
		<b>UNIT- TEST</b>
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	Web- Casting Techniques
		Hypertext and HTML;
		HTML Document Features
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	
		HTML Tags; Header, Title
		Body, Paragraph,
		Ordered/Unordered Line
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	
		Creating Links;Headers
		Text Styles; ;
		Text Colors
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	
		Background
		Formatting Text,Page layouts
		Insertion of Text,Movement of Text>>>>Assignment
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	
		Images: Types of Images,Insertion of Image
		Movement of Image
		Ordered and Unordered lists
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	
		Inserting Graphics
		Table Handling Functions like Columns, Rows
		Width, Colours
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	
		Frame Creation and Layouts
		Working with Forms and Menus
		Working with Buttons like Radio, Check Box
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- Database Management System

Class: BSC(cs)

Name of the Teacher (Section Wise) : Milan Sharma

WEEK	DATE	TOPICS
1	September (6-10)	
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Basic Concepts – Data, Information
		Records and files
		Traditional file Based Approach- Limitations of Traditional File Based Approach
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Database Approach-Characteristics of Database Approach,
		Database Management System (DBMS)
		Components of DBMS Environment
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	DBMS Functions and Components
		Advantages and Disadvantages of DBMS
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Data and Database Administrator, Database Designers
		End users Applications Developers and Workers behind the Scene
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	Database System Architecture
		Three Levels of Architecture :--> <b>ASSIGNMENT</b>
		Schemas – External, Conceptual and Internal Level,
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	Database Languages – VDL, DDL,
		SDL, DML
		SQL, Mappings – External/Conceptual
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Data Independence – Logical and Physical Data Independence
		Data Models: High Level, Low Level
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Records- based Data Models, Object-based Data Models, Physical Data Models and Conceptual Models>>>> <b>ASSIGNMENT</b>
		Entity-Relationship Model – Concepts, Entity Types
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Entity Sets, Attributes, Relationships
		Constraints, Keys , Degree, Cardinality etc.
		ER Diagrams of any Database Organization- Inventory System
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	Payroll System, Reservation System
		Online Book Store
		<b>TEST</b>
<b>SUNDAY - 27.11.2022</b>		



13	November (28-30) December (1-3)	Classification of Database Management System
		Centralized and Client Server architecture :--> <b>ASSIGNMENT</b>
		Relational Data Model:-Brief History
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Terminology in Relational Data Structure
		Relations, Properties of Relations
		Keys – Primary, Secondary
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Keys--Composite, Candidate, Alternate and Foreign Key
		Domains
		Integrity Constraints over Relations.

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## LESSON PLAN

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UG ( Vth Semester)

Name of the Paper: Animal Biotechnology

Class: B.Sc. III

Name of the Teachers (Section Wise) :

WEEK	DATE	TOPICS
1	September (6-10)	Animal Cell & Tissue Culture
		Animal Cell & Tissue Culture
		Animal Cell & Tissue Culture
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Culture Media
		Culture Media
		Primary Cell Culture techniques
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Primary Cell Culture techniques
		Primary Cell Culture techniques
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	Secondary cell culture
		Secondary cell culture
		Secondary cell culture
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Organ Culture: technique
		Organ Culture: technique
		Transfection methods
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	
		Transfection methods
		Selectable markers
		Selectable markers
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	
		Cloning and expression :genes
		Cloning and expression :genes
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	
		Production of vaccines in animal cells
		Hybridoma Technology
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	
		Assignment
		Embryo transfer technology
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	
		Embryo transfer technology
		Embryo transfer technology
		Transgenic Animals
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	
		Transgenic Animals
		Therapeutic products
		Therapeutic products
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	
		Gene Therapy
		Gene Therapy
		Test
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30)	
		Scope and Applications
	December (1-3)	
		Scope and Applications
		Scope and Applications
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	
		Expressed proteins
		Expressed proteins
		Expressed proteins
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	
		Revision Test
		Revision Test

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## LESSON PLAN

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(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- Plant Biotechnology Paper II

Class: BSc.III

Name of the Teachers (Section Wise) : Rajni

WEEK	DATE	TOPICS
1	September (6-10)	Plant Tissue Culture: Introduction/Concept, History, Scope and Applications along with major achievements
		Plant Tissue Culture: Introduction/Concept, History, Scope and Applications along with major achievements
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Plant Tissue Culture Laboratory
		Plant Tissue Culture Laboratory
		Aseptic Techniques
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Aseptic Techniques
		maintenance of aseptic conditions
		maintenance of aseptic conditions
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	maintenance of aseptic conditions
		In-vitro methods in plant tissue culture
		In-vitro methods in plant tissue culture
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Callus and suspension culture techniques
		Callus and suspension culture techniques
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	Somaclonal variation.
		Somaclonal variation.
		Organ culture
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	Organ culture
		Organ culture
		Protoplast culture
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Protoplast culture
		Production of secondary metabolites in vitro
		Production of secondary metabolites in vitro
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Biotransformation
		Biotransformation
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Plant germ plasm conservation and cryopreservation
		Plant germ plasm conservation and cryopreservation
		Introduction, Plant transformation
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	Introduction, Plant transformation
		Transgenic Plants: Introduction and applications
		Transgenic Plants: Introduction and applications
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	Transgenic Plants: Introduction and applications
		Applications of Plant tissue cultures
		Applications of Plant tissue cultures
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Applications of Plant tissue cultures
		Applications of Plant tissue cultures
		Applications of Plant tissue cultures
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Test
		Revision

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

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(Odd Semester)

UG ( V Semester)

Name of the Paper:- Paper - 1 Plant Physiology

Class: B.Sc. Medical

Name of the Teachers (Section Wise) : KIRAN BHATIA

WEEK	DATE	TOPICS
1	September (6-10)	Plant-water Relations: Importance of water to plant life
		Imbibition
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Imbibition
		Diffusion
		Diffusion
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Osmosis
		Osmosis
		Plasmolysis
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	Absorption and transport of water
		Absorption and transport of water
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Test
		Transpiration-types
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		



6	October (10-15)	Transpiration-types
		Transpiration-types
		Transpiration-types
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	Mineral Nutrition: Essential macro and micro elements and their role
		Assignment
		Mineral uptake; deficiency symptoms
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Test
		Transport of Organic Substances: Mechanism of phloem transport
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Source-sink relationship; factors affecting translocation
		Photosynthesis: Significance; historical aspects; photosynthetic pigments; action spectra and enhancement effects
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Concept of two photosystems; Z-scheme
		Photo-phosphorylation; Calvin cycle
		C4 pathway; CAM plants
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	Photorespiration.
		Test
		Respiration: ATP–the biological energy currency; aerobic and anaerobic respiration
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	Krebs cycle
		Electron transport mechanism (chemi-osmotic theory); redox - potential
		Oxidative phosphorylation; pentose phosphate pathway
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Seed dormancy;
		Plant movements
		Plant movements
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Photoperiodism
		Physiology of senescence
		Fruit ripening.

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

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(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- INORGANIC CHEMISTRY

Class: B.SC III

Name of the Teachers (Section Wise) : PROF SIMRAN

WEEK	DATE	TOPICS
1	September (6-10)	Metal- Ligand Bonding in Transition Metal complexes Limitations of valence bond theory, an elementary idea of crystal field theory,
SUNDAY - 11.09.2022		
2	September (12-17)	crystal field splitting in octahedral
SUNDAY - 18.09.2022		
3	September (19-24)	crystal field splitting in tetrahedral
HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)		
SUNDAY - 25.09.2022		
HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)		
4	September (27-30) October (1)	crystal field splitting in square planer complexes, factors affecting the crystal field parameters.
SUNDAY - 02.10.2022 & Holiday (Mahatma Gandhi Jayanti)		
5	October (3-8)	Thermodynamics and Kinetic Aspects of metal complexes A brief outline of thermodynamic stability of metal complexes and factors affecting the stability
HOLIDAY - 05.10.2022 (Dussehra)		
SUNDAY - 09.10.2022 & Holiday (Maharishi Valmiki Jayanti)		

6	October (10-15)	Irving William Series, substitution reactions of square planer complexes of Pt[II]
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	substitution reactions of square planer complexes of Pt[II], Trans effect.
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	Magnetic properties of Transition metal complexes Types of magnetic materials, magnetic susceptibility
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Method of determining magnetic susceptibility, spin only formula, L-S coupling
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Correlation of $\mu_s$ and $\mu_{eff}$ values, orbital contribution to magnetic moments
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Application of magnetic moment data for 3d metal complexes.
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	Electronic spectra of Transition metal complexes Selection rules for d-d transition, spectroscopic ground states
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	Spectrochemical series, Orgel energy level diagram for d1 and d9 states
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Discussion of electronic spectrum of $[\text{Ti}(\text{H}_2\text{O})_6]^{+3}$ complex ion.
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	CLASS TEST, RIVISION

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

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Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- ORGANIC CHEMISTRY

Class: B.SC III YEAR

Name of the Teachers (Section Wise) : PROF RANJANA SHARMA

WEEK	DATE	TOPICS
1	September (6-10)	<b>NMR Spectroscopy</b> Principle of nuclear magnetic resonance, the PMR spectrum, number of signals, peak areas
SUNDAY - 11.09.2022		
2	September (12-17)	Equivalent and nonequivalent protons positions of signals and chemical shift, shielding and deshielding of protons
SUNDAY - 18.09.2022		
3	September (19-24)	Proton counting, splitting of signals and coupling constants, magnetic equivalence of protons
HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)		
SUNDAY - 25.09.2022		
HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)		
4	September (27-30) October (1)	Discussion of PMR spectra of the molecules: ethyl bromide, n-propyl bromide, isopropyl bromide,
SUNDAY - 02.10.2022 & Holiday (Mahatma Gandhi Jayanti)		
5	October (3-8)	Discussion of PMR spectra of the molecules: 1,1-dibromoethane, ethanol, acetaldehyde, ethyl acetate
HOLIDAY - 05.10.2022 (Dussehra)		
SUNDAY - 09.10.2022 & Holiday (Maharishi Valmiki Jayanti)		

6	October (10-15)	Discussion of PMR spectra of the molecules: toluene, benzaldehyde and acetophenone
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	Simple problems on PMR spectroscopy for structure determination of organic compounds.
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	<b>Carbohydrates</b> Classification and nomenclature of Monosaccharides, mechanism
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Chain lengthening and chain shortening of aldoses. Configuration of monosaccharides. Erythro and threo diastereomers
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Conversion of glucose into mannose. Formation of glycosides, Determination of ring size of glucose and fructose. Open chain and cyclic structure of D(+)-glucose & D(-) fructose. Mechanism of mutarotation.
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Structures of ribose and deoxyribose. An introduction to disaccharides (maltose, sucrose and lactose) and polysaccharides (starch and cellulose) without involving structure determination.
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	<b>Organometallic Compounds</b> Organomagnesium compounds: the Grignard reagents-formation, structure and chemical reactions.
<b>SUNDAY - 27.11.2022</b>		

<b>13</b>	<b>November (28-30) December (1-3)</b>	Organozinc compounds: formation and chemical reactions.
<b>SUNDAY - 04.12.2022</b>		
<b>14</b>	<b>December (5-10)</b>	Organolithium compounds: formation and chemical reactions
<b>SUNDAY - 11.12.2022</b>		
<b>15</b>	<b>December (12-14)</b>	CLASS TEST ,RIVISION



# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( V Semester)

Name of the Paper:- PHYSICAL CHEMISTRY

Class: B.SC III

Name of the Teachers (Section Wise) : DR. VIKRAM KUMAR

WEEK	DATE	TOPICS
1	September (6-10)	<b>Spectroscopy</b> Introduction: Electromagnetic radiation, regions of spectrum, basic features of spectroscopy, statement of Born-oppenheimer approximation, Degrees of freedom
SUNDAY - 11.09.2022		
2	September (12-17)	<b>Rotational Spectrum</b> Selection rules, Energy levels of rigid rotator (semi-classical principles), rotational spectra of diatomic molecules
SUNDAY - 18.09.2022		
3	September (19-24)	Spectral intensity distribution using population distribution (Maxwell-Boltzmann distribution), determination of bond length and isotopic effect .
HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)		
SUNDAY - 25.09.2022		
HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)		
4	September (27-30) October (1)	<b>Vibrational spectrum</b> Selection rules, Energy levels of simple harmonic oscillator, pure vibrational spectrum of diatomic molecules
SUNDAY - 02.10.2022 & Holiday (Mahatma Gandhi Jayanti)		
5	October (3-8)	Determination of force constant and qualitative relation of force constant and bond energy, idea of vibrational frequencies of different functional groups.
HOLIDAY - 05.10.2022 (Dussehra)		
SUNDAY - 09.10.2022 & Holiday (Maharishi Valmiki Jayanti)		

6	October (10-15)	Raman Spectrum Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	Quantum theory of Raman spectra. Give more stress on numerical problems of all spectroscopy.
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	<b>Quantum Mechanics-I</b> Black-body radiation, Plank's radiation law, photoelectric effect, postulates of quantum mechanics, quantum mechanical operators,
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	commutation relations, Hamiltonian operator, Hermitian operator, average value of square of Hermitian as a positive quantity
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Role of operators in quantum mechanics, To show quantum mechanically that position and momentum cannot be predicated simultaneously
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Determination of wave function & energy of a particle in one dimensional box.
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	<b>Physical Properties and Molecular Structure</b> Optical activity, polarization – (Clausius – Mossotti equation derivation excluded ). Orientation of dipoles in an electric field, dipole moment, induced dipole moment
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	Measurement of dipole moment-temperature method and refractivity method, dipole moment and structure of molecules
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Magnetic permeability, magnetic susceptibility and its determination. Application of magnetic susceptibility
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	magnetic properties – paramagnetism, diamagnetism and ferromagnetism.

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- Groups & Rings

Class: B.Sc. III

Name of the Teachers (Section Wise) : Dr. Arpana Garg

WEEK	DATE	TOPICS
1	September (6-10)	BINARY OPERATION AND ALGEBRAIC STRUCTURE
		SEMI GROUP AND MONOID
		GROUP
		EXAMPLES
		EXAMPLES
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	ADDITION MODULO
		MULTIPLICATION MODULO
		BASIC PROPERTIES OF GROUP
		BASIC PROPERTIES OF GROUP
		ORDER OF ELEMENT
		THEOREMS ON ORDER OF ELEMENT
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	THEOREMS ON ORDER OF ELEMENT
		PROBLEM DISCUSSION
		SUBGROUPS
		THEOREMS
		ALGEBRA OF SUBGROUPS
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martyrdom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	NORMALISER
		COSETS
		THEOREMS ON COSETS
		LAGRANGES THEOREM
		CYCLIC GROUPS
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	THEOREMS ON CYCLIC GROUPS
		EXAMPLES
		NORMAL SUBGROUP AND SIMPLE GROUP
		THEOREMS ON NORMAL SUBGROUPS
		QUOTIENT GROUP
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	HOMOMORPHISM
		KERNAL OF HOMOMORPHISM
		THEOREMS ON HOMOMORPHISM
		FUNDAMENTAL THEOREM OF HOMOMORPHISM
		CENTRE OF A GROUP
		AUTOMORPHISM ON A GROUP
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	INNER AUTOMORPHISM
		PROPERTIES OF AUTOMORPHISM
		NORMALISER OF AN ELEMENT
		GROUP OF AUTOMORPHISM
		CHARACTERISTIC SUBGROUP
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	COMMUTATOR SUBGROUP
		PROBLEM DISCUSSION
		PERMUTATION GROUP
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	PERMUTATION OF FINITE SETS
		EXAMPLES
		TWO-ROWED REPRESENTATION OF A PERMUTATION
		TOTAL NUMBER OF PERMUTATIONS ON A FINITE SETS
		COMPOSITION OF PERMUTATIONS
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	INVERSE OF A PERMUTATION
		TOTAL NUMBER OF EVEN PERMUTATIONS OF DEGREE N
		CAYLEYS THEOREM
		PROBLEM DISCUSSION
		RING
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	RING EXAMPLES
		FIELD
		EXAMPLES
		INTEGRAL DOMAIN
		THEOREMS
		CHARACTERISTIC OF A RING
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	THEOREMS
		SUBRING OF A RING
		IDEALS OF A RING
		IDEALS IN DIVISION RINGS AND FIELDS
		THEOREMS
		QUOTIENT RINGS
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	RING HOMOMORPHISMS
		IMBEDDING OF RINGS
		IMBEDDING OF RING INTO A RING WITH UNITY
		IMBEDDING OF RING INTO A RING OF ENDOMORPHISM
		DIVISIBILITY
EUCLIDEAN DOMAIN		
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	THEOREMS
		RING OF POLYNOMIALS
		THEOREMS ON POLYNOMIALS
		RING OF POLYNOMIALS OVER N SYMBOLS
		RING OF POLYNOMIALS OVER N SYMBOLS
UNIQUE FACTORIZATION DOMAIN		
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	PREMITIVE POLYNOMIAL
		PROBLEM DISCUSSION
		REVISION

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

(UG Vth Semester)

Name of the Paper:- Numerical Analysis

Class: B.sc. III Maths

Name of the Teachers (Section Wise) : Ms. Sumit

WEEK	DATE	TOPICS
1	September (6-10)	Finite Difference Operators
		Forward and Backward Differences
		Properties Of Operators
		Questions based on Forward and Backward Differences
		Effect of an Error in a Tabular Value
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Effect of an Error in a Tabular Value
		One or More Missing Term
		Problem Discussion
		Interpolation with Equal Intervals
		Newton's Formula for Forward Interpolation
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Questions based on Interpolation with Equal Intervals
		Subdivision of Intervals
		Problem Discussion
		Interpolation with Unequal Intervals
		Theorems
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	Newton's Divided Difference Formula
		Questions based on Newton's Divided Difference Formula
		Questions based on Newton's Divided Difference Formula
		Lagrange's Interpolation Formula
		Questions based on Lagrange's Interpolation Formula
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Hermite's Interpolation Formula
		Class test based on the topics covered
		Central Difference Interpolation Formulae
		Central Difference Interpolation Formulae
		Bessel's Formula
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	Sterling's Formula
		Sterling's Formula
		Problem discussion
		Numerical Differentiation
		Numerical Differentiation
		Formulae for Numerical Differentiation
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	Questions based on Numerical Differentiation
		Questions based on Numerical Differentiation
		Class test based on the topics covered
		Numerical Integration
		Formula for numerical integration
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	Trapezoidal rule
		Trapezoidal rule
		Simpson's Rule
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Questions based on Simpson's Rule
		Gauss Quadrature Formula
		Questions based on Gauss Quadrature Formula
		Problem Discussion
		Numerical Solution of ODE
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Numerical Solution of ODE
		Euler's Method
		Euler's Method
		Euler's Modified Method
		Euler's Modified Method
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Runge-Kutta and Taylor's Series Method
		Runge-Kutta and Taylor's Series Method
		Picard's Method
		Picard's Method
		Predictor-Corrector Method
		Predictor-Corrector Method
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	Problem Discussion
		Probability Distributions
		Probability Distributions
		Probability Distribution of a random variable
		Probability Distribution of a random variable
		Mean and Variance
<b>SUNDAY - 27.11.2022</b>		



13	November (28-30) December (1-3)	Mean and Variance
		Binomial Distribution
		Binomial Distribution
		Problem Discussion
		Poisson and Normal Distribution
Poisson and Normal Distribution		
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Problem Discussion
		Problem Discussion
		Eigen Value Problems
		Eigen Value Problems
		Eigen Value Problems
Eigen Value Problems		
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Problem discussion
		Problem discussion
		Problem Discussion

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester)

Name of the Paper:-REAL ANALYSIS

Class: B.Sc. III

Name of the Teachers (Section Wise) : KOMAL

WEEK	DATE	TOPICS
1	September (6-10)	INTRODUCTION TO RIEMANN INTEGRAL
		DEFINITION IF PARTITION,NORM, REFINEMENT ,UPPER SUM AND LOWER SUMS
		EXAMPLES BASED UPON LOWER SUM AND UPPER SUM
		DOUBT CLEARING SESSION
		UPPER INTEGRAL AND LOWER INTEGRAL
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	RIEMANN INTEGRAL AND EXAMPLES BASED UPON INTEGRAL FUNCTION
		THEOREM BASED UPON INTEGRABILITY ,DARBOUX 'S THEOREM
		CONDITIONS OF INTEGRABILITY
		INTEGRABILITY OF CONTINUOUS FUNCTIONS
		SOME THEOREM AND EXAMPLES
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	FUNDAMENTAL THEOREM OF INTEGRAL CALCULUS
		MEAN VALUE THEOREM OF INTEGRAL CALCULUS AND EXAMPLES
		INTRODUCTION TO IMPROPER INTEGRALS
		IMPROPER INTEGRALS AND THEIR TYPES & THEIR CONVERGENCE
		EXAMPLES AND EXERCISE 2.1
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	CAMPARISION TESTS AND EXAMPLES BASED ON COMPARISION TESTS
		EXERCISE 2.2
		ABEL'S AND DRICHLET'S TEST
		FRULLANI;S INTEGRAL
		INTRODUCTION TO INTEGRAL AS A FUNCTION OF A PARAMETER
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	CONTINUITY OF THE INTEGRAL,DIFFERENTIABILITY OF THE INTEGRAL,
		EXAMPLES AND EXERCISE 3.1
		DOUBT CLEARING SESSION
		INTRODUCTION TO METRIC SPACES
		EXAMPLES BASED UPON DIFFERENT TYPES OF METRIC SPACES
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	BOUNDED SEQUENCE ,BOUNDED FUNCTION ,INDUCED METRIC
		PSEUDO METRIC SPACES AND EXAMPLES BASED ON IT
		BETWEEN TWO SETS
		BOUNDED AND UNBOUNDED METRIC SPACES AND EXAMPLES
		EXERCISE 4.1& ALL DOUBTS OF CHAPTER 4
SETS		
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	THEOREM BASED ON LIMIT POINT ,OPEN SET, INTERIOR POINT
		CLOSED SETS,CLOSURE AND INTERIOR,BOUNDARY POINTS
		THEOREM BASED UPON CLOSED SET, BOUNDARY POINT
		REVISION AND PROBLEMS
		DERIVED SET,EXTERIOR POINTS AND EXTERIOR OF A SETS
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	THEOREM BASED UPON EXTERIOR SETS
		EXAMPLES
		THEOREM BASED UPON EXTERIOR SETS
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	CAUCHY SEQUENCE , COMPLETE METRIC SPACE AND EXAMPLES
		THEOREM BASED UPON COMPLETE METRIC SPACES
		COMPLETENESS OF R
		CANTOR'S INTERSECTION THEOREM
		CONVERSE OF CANTOR'S INTERSECTION THEOREM
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	CATEGORY SPACE
		BAIRE 'S CATEGORY THEOREM
		CONTRACTION PRINCIPLE IN A METRIC SPACE
		FIXED POINT, BANACH'S FIXED POINT THEOREM
		DOUBTS AND QUICK REVISION OF CHAPTER 6
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	CONTINUOUS FUNCTION IN METRIC SPACES
		EXAMPLES, THEOREMS BASED UPON CONTINUITY IN METRIC SPACES
		UNIFORM CONTINUITY IN METRIC SPACES
		EXAMPLES BASED UPON U.C.
		ISOMETRY AND SOME MAPPINGS
EXAMPLES		
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	DEFINITIONS OF COVERS , EXAMPLES
		BOLZANO WEIERSTRASS PROPERTY (BWP)
		SEQUENTIALLY COMPACT METRIC SPACE
		THEOREM BASED UPON SEQUENTIALLY COMPACT METRIC SPACE
		FINITE INTERSECTION PROPERTY (FIP)
ASSIGNMENT 1		
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	SEPARATED SETS ,CONNECTED AND DISCONNECTED SETS
		SETS
		SETS
		SETS
		TEST
ASSIGNMENT2		
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	COMPONENTS
		CONTINUITY AND CONNECTEDNESS
		EXERCISE 9.1
		PROBLEM DISCUSSION
		TEST
REVISION AND PROBLEMS		
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	REVISION AND PROBLEMS
		REVISION AND PROBLEMS
		REVISION AND PROBLEMS

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- Nuclear Physics

Class: B.Sc

Name of the Teachers (Section Wise) : Ms. Sonia

WEEK	DATE	TOPICS
1	September (6-10)	Nuclear Structure and Properties of Nuclei: Nuclear composition
		Nuclear properties : Nuclear size , spin, parity, statistics
		magnetic dipole moment, quadrupole moment (shape concept)
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Determination of mass by Bain-Bridge ,Bain-Bridge and Jordan mass spectrograph
		Determination of charge by Mosley Law
		Determination of size of nuclide by Rutherford Back
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Scattering, binding energy, systematics of nuclear binding energy, nuclear stability
		Numericals
		Nuclear Radiation decay Processes: alpha-disintegration and its theory,
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martyrdom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	Energetics of alpha-decay
		Origin of Continuous beta spectrum (neutrino hypothesis)
		types of beta decay and energetics of Beta-decay
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Nature of Gamma Rays ,Energetics of Gamma-Rays
		Interaction of heavy charged particles (Alpha particles)
		Energy loss of heavy charged particle (idea of Bethe formula, no derivation)
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	Range and straggling of alpha particles
		Geiger-nuttal law
		Interaction of light charged particles (Beta-particles) numericals, Energy loss of Beta particles
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	range of electrons
		absorption of beta-particles
		Interaction of Gamma rays , Passage of Gamma radiations through matter (photoelectric effect, Compton effect, Pair production effect )
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	electron-positron annihilation
		absorption of Gamma rays (Mass attenuation Coefficient ) and its application
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Nuclear Accelerators
		Linear accelerator
		Conditional Test
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	Tandom accelerator
		cyclotron
		Betatron accelerators
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Nuclear Radiation Detectors : Gas filled counters, Ionization Chambers , Proportional counter
		G.M counter, Scintillation counter
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	semiconductor detector
		Nuclear Reactions, Elastic Scattering , inelastic scattering
		Nuclear disintegration , photonuclear reaction
		Radiative Capture , Direct reaction
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	Heavy Ion reactions and spallation
		Conservation laws, Q-value , Reaction threshold
		Nuclear reactors , General aspects of Reactor Design
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Nuclear fission and fusion reactor
		Revision
		Revision
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester )

Name of the Paper:- Quantum and Laser Physics

Class: B.Sc

Name of the Teachers (Section Wise) : Prof. Garima Tarika

WEEK	DATE	TOPICS
1	September (6-10)	Unit I :Overview, scale of quantum physics
		boundary between classical and quantum phenomena
		Photon, Photoelectric effect
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Compton effect (theory and result)
		FrankHertz experiment
		de-Broglie hypothesis. Davisson and Germer experiment
		Numericals
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	G.P.Thomson experiment
		Phase velocity, group velocity and their relation
		Heisenberg's uncertainty principle
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	Uncertainty principle from de Broglie wave. (Wave-particle duality)
		Gamma Ray Microscope
		Electron diffraction from a slit
		Numericals
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Derivation of 1-D time-dependent Schrodinger wave equation (subject to force, free particle)
		Numericals
		Time-independent Schrodinger wave equation
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		



6	October (10-15)	eigen values, eigen functions
		wave functions and its significance
		Orthogonality and Normalization of function
		Numericals
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	concept of observer and operator
		Expectation values of dynamical quantities
		Numericals
		probability current density
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	Revision
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Unit II: Application of Schrodinger wave equation:
		(i) Free particle in one-dimensional box
		(ii) One dimensional step potential $E > V_0$ (Reflection and Transmission coefficient)
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	(iii) One dimensional step potential $E < V_0$ (penetration depth calculation).
		(iv) One dimensional potential barrier, $E > V_0$ (Reflection and Transmission coefficient)
		(v) One-dimensional potential barrier, $E < V_0$
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	(vi) Solution of Schrodinger equation for harmonic oscillator
		Unit III: Absorption and emission of radiation
		Main features of a laser,
		Einstein's coefficients and possibility of amplification
		momentum transfer, life time of a level, kinetics of optical absorption
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	population inversion, resonance cavity, laser pumping
		Threshold condition for laser emission
		line broadening mechanism, homogeneous and inhomogeneous line broadening
		Unit IV: He-Ne laser
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30) December (1-3)	RUBY laser (Principle, Construction and working)
		Optical properties of semiconductor
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	Semiconductor laser
		Applications of lasers in the field of medicine and industry
		Revision
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Revision
		Revision

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester )

Name of the Paper:- Environmental Biology

Class: B.Sc. III

Name of the Teachers (Section Wise) : Pawan Kumar

WEEK	DATE	TOPICS
1	September (6-10)	
		Basic concepts of Ecology
		Basic concepts of Ecology
SUNDAY - 11.09.2022		
2	September (12-17)	
		Environmental Factors
		Environmental Factors
SUNDAY - 18.09.2022		
3	September (19-24)	
		Environmental Factors
		Environmental Factors
HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martydom Day)		
SUNDAY - 25.09.2022		
HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)		
4	September (27-30) October (1)	
		Major ecosystem of the world
		Major ecosystem of the world
SUNDAY - 02.10.2022 & Holiday (Mahatma Gandhi Jayanti)		
5	October (3-8)	
		Ecosystem
		Ecosystem
HOLIDAY - 05.10.2022 (Dussehra)		
SUNDAY - 09.10.2022 & Holiday (Maharishi Valmiki Jayanti)		

6	October (10-15)	
		Biogeochemical cycles
		Biogeochemical cycles
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	
		Population : Growth & regulation
		Population : Growth & regulation
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	Concept of Biodiversity
		Concept of Biodiversity
		Concept of Biodiversity
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	
		Concept of Biodiversity
		Concept of Biodiversity
		Class Test
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	
		Migration of Birds
		Parental care in animals
		Parental care in animals
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	
		Population interactions
		Population interactions
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	
		Population interactions
		Population interactions
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30)	
	December (1-3)	Environmental pollution
		Environmental pollution
		Environmental pollution
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	
		Class Test
		Revision
		Revision
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	

# I.B. (PG) COLLEGE, PANIPAT

## LESSON PLAN

SESSION 2022-23 (01.09.2022 to 14.12.2022)

Weekly Lesson Plan

(Odd Semester)

UG ( Vth Semester)

Name of the Paper:- Evolution and Developmental Biology

Class: B.sc (Medical)

Name of the Teachers (Section Wise) : Monika

WEEK	DATE	TOPICS
1	September (6-10)	Origin of life
		Origin of life
		Origin of life
		Origin of life
		Concept and evidences of organic evolution
<b>SUNDAY - 11.09.2022</b>		
2	September (12-17)	Concept and evidences of organic evolution
		Concept and evidences of organic evolution
		Concept and evidences of organic evolution
		Theories of organic evolution
		Theories of organic evolution
		Theories of organic evolution
<b>SUNDAY - 18.09.2022</b>		
3	September (19-24)	Concept of micro, macro-and mega-evolution
		Concept of micro, macro-and mega-evolution
		Concept of micro, macro-and mega-evolution
		Concept of micro, macro-and mega-evolution
		Concept of species
<b>HOLIDAY - 23.09.2022 (Shaheedi Divas/ Haryana War Heroes' Martyrdom Day)</b>		
<b>SUNDAY - 25.09.2022</b>		
<b>HOLIDAY - 26.09.2022 (Maharaja Agrasen Jayanti)</b>		
4	September (27-30) October (1)	Concept of species
		Concept of species
		Concept of species
		Phylogeny of horse
		Phylogeny of horse
<b>SUNDAY - 02.10.2022 &amp; Holiday (Mahatma Gandhi Jayanti)</b>		
5	October (3-8)	Evolution of man
		Evolution of man
		Historical perspectives of developmental biology
		aims and scope of developmental biology
		aims and scope of developmental biology
<b>HOLIDAY - 05.10.2022 (Dussehra)</b>		
<b>SUNDAY - 09.10.2022 &amp; Holiday (Maharishi Valmiki Jayanti)</b>		

6	October (10-15)	structure of mammalian ovum & sperm
		structure of mammalian ovum & sperm
		spermatogenesis and Oogenesis
		spermatogenesis and Oogenesis
		parthenogenesis
		different types of eggs and patterns of cleavage
<b>SUNDAY - 16.10.2022</b>		
7	October (17-21)	different types of eggs and patterns of cleavage
		different types of eggs and patterns of cleavage
		different types of eggs and patterns of cleavage
		different types of eggs and patterns of cleavage
		Revision test
<b>Diwali Break - 22.10.2022 to 26.10.2022</b>		
8	October (27-29)	Proces of blastulation
		Proces of blastulation
		Proces of blastulation
<b>SUNDAY - 30.10.2022</b>		
9	October (31) November (1-5)	Proces of blastulation
		Proces of blastulation
		fate-map construction in frog and chick
		fate-map construction in frog and chick
		fate-map construction in frog and chick
<b>HOLIDAY - 01.11.2022 (Haryana Day)</b>		
<b>SUNDAY - 06.11.2022</b>		
10	November (7-12)	fate-map construction in frog and chick
		fate-map construction in frog and chick
		Gastrulation in frog and chick
		Gastrulation in frog and chick
		Gastrulation in frog and chick
<b>HOLIDAY - 08.11.2022 (Guru Nanak Dev Jayanti)</b>		
<b>SUNDAY - 13.11.2022</b>		
11	November (14-19)	Gastrulation in frog and chick
		Gastrulation in frog and chick
		Gastrulation in frog and chick
		Gastrulation in frog and chick
		Revision test
		Elementary knowledge of primary organizers
<b>SUNDAY - 20.11.2022</b>		
12	November (21-26)	Elementary knowledge of primary organizers
		Elementary knowledge of primary organizers
		Elementary knowledge of primary organizers
		Extra embryonic membranes
		Extra embryonic membranes
		Extra embryonic membranes
<b>SUNDAY - 27.11.2022</b>		

13	November (28-30)	Extra embryonic membranes
		Extra embryonic membranes
	December (1-3)	Concepts of competence
		Concepts of competence
		Concepts of competence
<b>SUNDAY - 04.12.2022</b>		
14	December (5-10)	determination
		determination
		differentiation
		differentiation
		differentiation
<b>SUNDAY - 11.12.2022</b>		
15	December (12-14)	Concept of regeneration
		Concept of regeneration
		Concept of regeneration