I.B. (PG) COLLEGE, PANIPAT

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Quantum mechanics **CLASS :** B.Sc III

Name of the Teacher : Ms. GARIMA TARIKA

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Unit - I overview, scale of quantum physics,
		boundary between classical and Quantum phenomena
		Photon, photoelectric effect
SUNDAY - 08.11.2020		
2	November (9-13)	Compton effect, franck hertz experiment
		de Broglie hypothesis, division and Germer experiment
		GP Thomson experiment phase velocity
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	group velocity and their relation
		Heisenberg uncertainty principle ,uncertainty principle
		from de Broglie wave, Gamma ray microscope
		electron diffraction from a slit
SUNDAY - 22.11.2020		
4	November (23-28)	derivation of 1D time dependent schrodinger wave equation
		time independent schrodinger wave equation
		eigenvalues and eigenfunction
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	wave function and its significance
		orthogonality and normalisation of function
		concept of observer and operator
SUNDAY - 06.12.2020		

6	**December (07-12)**	expectation values of dynamical quantities, probability
		current density
		Unit -II Free particle in one dimensional box
SUNDAY - 13.12.2020		
7	**December (14-19)**	one dimensional step potential E> V• (Reflection
		and Transmission coefficient),
		E < V (penetration depth calculation)
		one dimensional step barrier E>V
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	E < V (penetration depth calculation)
		solution of schrodinger equation for harmonic oscillator
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	Unit-III Laser Physics: absorption and emission of radiation
		main features of a laser: directionality, high intensity
		high degree of coherence, spatial and temporal coherence
SUNDAY - 03.01.2021		
10	**January (4-9)**	Einstein's coefficient and possibility of amplification
		momentum transfer, lifetime of a level
		kinetics of optical absorption
SUNDAY - 10.01.2021		
11	**January (11-16)**	population inversion, resonance cavity, laser pumping
		threshold condition for laser emission
		Unit test
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	line broadening mechanism , homogenous and
		inhomogeneous line broadening
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Unit -IV Laser Physics II
		He-Ne laser , RUBY Laser
		Assignment 2
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	optical properties of semiconductor
		semiconductor laser
		applications of laser in the field of medicine and industry
SUNDAY - 07.02.2021		
15	**February (08-13)**	Revision
		Revision
		Revision
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	Revision
		Revision
		Revision

I.B. (PG) COLLEGE, PANIPAT

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Nuclear Physics **CLASS :** B.Sc III

Name of the Teacher : Ms. SONIA

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Nuclear Structure and Properties of Nuclei: Nuclear composition
		Nuclear properties : Nuclear size , spin, parity, statistics
		magnetic dipole moment
SUNDAY - 08.11.2020		
2	November (9-13)	quadrupole moment (shape concept)
		Determination of mass by Bain-Bridge ,Bain-Bridge and Jordan mass spectrograph
		Determination of charge by Mosley Law
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	Determination of size of nuclie by Rutherford Back
		Scattering,binding energy,systematics of nuclear binding energy,nuclear stability
		Numericals
SUNDAY - 22.11.2020		
4	November (23-28)	**Nuclear Radiation decay Processes:**
		alpha-disintegration and it's theory,
		Energetics of alpha-decay
		Origin of Continuous beta spectrum (neutrino hypothesis)
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	types of beta decay and energetics of Beta-decay
		Nature of Gamma Rays ,Energetics of Gamma-Rays
SUNDAY - 06.12.2020		

6	December (07-12)	
		numericals
		Interaction of heavy charged particles (Alpha particles)
		Energy loss of heavy charged particle (idea of Bethe
		formula, no derivation)
SUNDAY - 13.12.2020		
7	December (14-19)	Range and straggling of alpha particles
		Geiger-nuttal law
		Interaction of light charged particles (Beta-particles)
SUNDAY - 20.12.2020		
8	December (21-24) (26)	numericals, Energy loss of Beta particles
		range of electrons
		absorption of beta-particles
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	December (28-31) January (1-2)	Interaction of Gamma rays , Passage of Gamma radiations
		through matter (photoelectric effect, Compton effect,
		Pair production effect)
SUNDAY - 03.01.2021		
10	January (4-9)	numericals, electron-positron annihilation
		absorption of Gamma rays
		(Mass attenuation Coefficient) and its application
SUNDAY - 10.01.2021		
11	January (11-16)	Nuclear Accelerators
		Linear accelerator, Tandom accelerator
		cyclotron
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	Betatron accelerators
		Nuclear Radiation Detectors : Gas filled counters,
		Ionization Chambers , Proportional counter
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	conditional test
		G.M counter
		Scintillation counter,semiconductor detector
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Nuclear Reactions,Elastic Scattering , inelastic scattering , Nuclear
		disintegration , photonuclear reaction
		Radiative Capture , Direct reaction
		Heavy Ion reactions and spallation
SUNDAY - 07.02.2021		
15	**February (08-13)**	
		Conservation laws, Q-value
		reaction threshold
		Nuclear reactors , General aspects of Reactor Design
		Nuclear fission and fusion reactor
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	Revision
		Revision
		Revision

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Computer Programming & Thermodynamics **CLASS :** B.Sc III

Name of the Teacher : Ms. SONIA

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Thermodynamic-1 : Thermodynamic system and Zeroth law of thermodynamics.
		First law of thermodynamics and its limitations
		Reversible and irreversible process.
SUNDAY - 08.11.2020		
2	November (9-13)	Second law of thermodynamics significance, Carnot theorem
		Absolute scale of temperature, Absolute Zero and magnitude of each division on work scale and perfect gas scale
		Joule's free expansion, , Joule Thomson effect, Joule-Thomson (Porous plug) experiment, conclusions and explanation
		Analytical treatment of Joule Thomson effect. Entropy, calculations of entropy of reversible and irreversible process
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	T-S diagram, entropy of a perfect gas, Nernst heat law(third law of thermodynamics), Liquefaction of gases, (oxygen, air, hydrogen and helium)
		Solidification of He below 4K, Cooling by adiabatic demagnetization,NUMERICALS
		Derivation of Clausius-Clapeyron and Clausius latent heat equation and their significance
SUNDAY - 22.11.2020		
4	November (23-28)	Specific heat of saturated vapours,phase diagrame and triple point of a substance
		Development of Maxwell thermodynamical relations,Thermodynamical functions:
		Internal energy (U)
		Helmholtz function (F), Enthalpy (H), Gibbs function (G)
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Relations between Thermodynamical functions
		Derivation of Maxwell thermodynamical relations from thermodynamical functions
		Application of Maxwell relations: relations between two specific heats of gas
SUNDAY - 06.12.2020		

6	December (07-12)	Derivation of Clausius-Clapeyron and Clausius equation
		Variation of intrinsic energy with volume for (i) perfect gas
		Variation of intrinsic energy with volume for (ii)Vanderwall gas
SUNDAY - 13.12.2020		
7	December (14-19)	Variation of intrinsic energy with volume for (iii)solids and liquids
		Derivation of Stefans law
		Adiabatic compression and expention of gas
SUNDAY - 20.12.2020		
8	December (21-24) (26)	deduction of theory of Joule Thomson effect.
		Numericals,Rivision
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	December (28-31) January (1-2)	**Computer Programming** : Computer organization,
		Binary representation, Algorithm development
		Flow charts and their interpretation.
SUNDAY - 03.01.2021		
10	January (4-9)	FORTRAN Preliminaries: Integer and floating point arithmetic expression
		built in functions, executable and non-executable statements
		input and output statements
SUNDAY - 10.01.2021		
11	January (11-16)	Formats, IF statement
		DO statement and GO TO statement
		Conditional Test
SUNDAY - 17.01.2021		
12	January (18-19) (21-23)	Dimension arrays,Statement function
		function subprogram.**Application of Fortran Programming**: Flow Chart
		and Programming for Print out of Natural numbers
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		

13	**January (25) (27-30)**	Range of the set of given numbers
		Ascending and descending order
		Mean and standard deviation,
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Least square fitting of curve,
		Roots of quadratic equation
		Product of two matrices,
SUNDAY - 07.02.2021		
15	**February (08-13)**	Numerical integration by Simpson 1/3 rule
		Numerical integration by Trapezoidal rule
		REVISION
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	REVISION
		REVISION
		REVISION

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Organic Chemistry **CLASS :** B.Sc III

Name of the Teacher : Prof. RANJANA SHARMA

WEEK	DATE	TOPICS
1	**November (2 -3), (5 - 7)**	Amino Acids, Peptides& ProteinsClassification, of amino acids. Acid- base behavior, isoelectric point and electrophoresis. Preparation of a- amino acids.
SUNDAY - 08.11.2020		
2	**November (9-13)**	Structure and nomenclature of peptides and proteins. Classification of proteins. Peptide structure determination, end group analysis, selective hydrolysis of peptides.
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	**November (16-21)**	Classical peptide synthesis, solid– phase peptide synthesis. Structures of peptides and proteins: Primary & Secondary structure.
SUNDAY - 22.11.2020		
4	**November (23-28)**	Synthetic Poly mers, Addition or chain- growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization, Ziegler- Natta polymerization and vinyl polymers.
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	**December (1-5)**	Condensation or step growth polymerization. Polyesters, polyamides,
SUNDAY - 06.12.2020		
6	**December (07-12)**	Phenol formaldehyde resins. Natural and synthetic rubbers.
SUNDAY - 13.12.2020		
7	**December (14-19)**	Organic Synthesis via Enolates Acidity of a- hydrogens, alkylation of diethyl malonate and ethyl acetoacetate.
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	Synthesis of ethyl acetoacetate: the Claisen condensation. Keto- enol tautomerism of ethyl acetoacetate.
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	Heterocyclic CompoundsIntroduction: Molecular orbital picture and aromatic characteristics of pyrrole, furan, thiophene and pyridine.
SUNDAY - 03.01.2021		

10	**January (4-9)**	Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution.
SUNDAY - 10.01.2021		
11	**January (11-16)**	derivatives. Comparison of basicity of pyridine, piperidine and pyrrole.
SUNDAY - 17.01.2021		
12	**January (18-19) (21-23)**	Introduction to condensed five and six- membered heterocycles.
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Prepration and reactions of indole,
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Prepration and reactions of quinoline and isoquinoline with special reference to Fisher indole synthesis,
SUNDAY - 07.02.2021		
15	**February (08-13)**	Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of, quinoline and isoquinoline.
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	**Revision**

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Physical & Inorganic Chemistry **CLASS :** B.Sc III

Name of the Teacher : Dr. Vikram Kumar

WEEK	DATE	TOPICS
1	**November (2 -3), (5 - 7)**	Introduction: Electromagnetic radiation, regions of spectrum, basic features of spectroscopy, statement of Born- oppenheimer approximation, Degrees of freedom.
SUNDAY - 08.11.2020		
2	**November (9-13)**	Selection rules, Energy levels of rigid rotator (semi-classical principles), rotational spectra of diatomic molecules ,
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	**November (16-21)**	spectral intensity distribution using population distribution (Maxwell-Boltzmann distribution), determination of bond length and isotopic effect .
SUNDAY - 22.11.2020		
4	**November (23-28)**	Selection rules, Energy levels of simple harmonic oscillator, pure vibrational spectrum of diatomic molecules, determination of force constant and qualitative relation of force constant and bond energy, idea of vibrational frequencies of different functional groups.
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	**December (1-5)**	Concept of polarizibility, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules, Quantum theory of Raman spectra.
SUNDAY - 06.12.2020		
6	**December (07-12)**	Black- body radiation, Plank' s radiation law, photoelectric effect, postulates of quantum mechanics, quantum mechanical operators, commutation relations, Hamiltonian operator, Hermitian operator, average value of square of Hermitian as a positive quantity
SUNDAY - 13.12.2020		
7	**December (14-19)**	Role of operators in quantum mechanics, To show quantum mechanically that position and momentum cannot be predicated simultaneously, Determination of wave function & energy of a particle in one dimensional box.
SUNDAY - 20.12.2020		

8	**December (21-24) (26)**	Optical activity, polarization – (Clausius – Mossotti equation- derivation excluded) . Orientation of dipoles in an electric field, dipole moment, induced dipole moment, measurement of dipole moment- temperature method and refractivity method
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	dipole moment and structure of molecules, Magnetic permeability, magnetic susceptibility and i ts determination. Application of magnetic susceptibility, magnetic properties – paramagnetism, diamagnetism and ferromagnetism.
SUNDAY - 03.01.2021		
10	**January (4-9)**	Limitations of valence bond theory, an elementary idea of crystal field theory, crystal field splitting in octahedral, tetrahedral and square planer complexes, factors affecting the crystal field parameters.
SUNDAY - 10.01.2021		
11	**January (11-16)**	A brief outline of thermodynamic stability of metal complexes and factors affecting the stability, Irving William Series, substitution reactions of square planer complexes of Pt[II], Trans effect.
SUNDAY - 17.01.2021		
12	**January (18-19) (21-23)**	Types of magnetic materials, magnetic susceptibility, method of determining magnetic susceptibility, spin only formula, L-S coupling,
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	correlation of μs and μeff values, orbital contribution to magnetic moments, application of magnetic moment data for 3d metal complexes.
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Selection rules for d-d transition, spectroscopic ground states, spectrochemical series, orgel energy level diagram for d1 and d9 states, discussion of electronic spectrum of [Ti(H2O)6]+3 complex ion.
SUNDAY - 07.02.2021		
15	**February (08-13)**	Revision
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	**Revision**

I.B. (PG) COLLEGE, PANIPAT

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Ist **CLASS :** B.Sc III (Zoollogy)

Name of the Teacher : Mr. PAWAN KUMAR

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Basic concepts of ecology Basic concepts of ecology Basic concepts of ecology
SUNDAY - 08.11.2020		
2	November (9-13)	Basic concepts of ecology Basic concepts of ecology Basic concepts of ecology
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	Basic concepts of ecology Factors affecting environment Factors affecting environment
SUNDAY - 22.11.2020		
4	November (23-28)	Factors affecting environment Factors affecting environment Factors affecting environment
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
	December (1-5)	Factors affecting environment Factors affecting environment Factors affecting environment
SUNDAY - 06.12.2020		

6	**December (07-12)**	Factors affecting environment
		Test
		Introduction to major ecosystemt of the world.
SUNDAY - 13.12.2020		
6	**December (14-19)**	Introduction to major ecosystemt of the world.
		Introduction to major ecosystemt of the world.
		Ecosysytem
SUNDAY - 20.12.2020		
7	**December (21-24) (26)**	Ecosysytem
		Ecosysytem
		Ecosysytem
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
8	**December (28-31) January (1-2)**	Ecosysytem
		Ecosysytem
		Biogeochemical cycles
SUNDAY - 03.01.2021		
9	**January (4-9)**	Biogeochemical cycles
		Biogeochemical cycles
		Biogeochemical cycles
SUNDAY - 10.01.2021		
10	**January (11-16)**	Biogeochemical cycles
		Population
		Population
SUNDAY - 17.01.2021		

11	**January (18-19) (21-23)**	Concept of biodiversity
		Concept of biodiversity
		Concept of biodiversity
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
12	**January (25) (27-30)**	Test
		conservation of natural resources
		conservation of natural resources
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
13	**February (01-06)**	Migration in fishes and birds
		Migration in fishes and birds
		Parental care in animals
SUNDAY - 07.02.2021		
14	**February (08-13)**	Population interactions
		Population interactions
		Environmental Pollution
SUNDAY - 14.02.2021		
15	**February (15 - 20)**	Environmental Pollution
		Environmental Pollution
		Revision

I.B. (PG) COLLEGE, PANIPAT

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Evolution and developmental biology **CLASS :** B.Sc III (Zoology)

Name of the Teacher : Ms. MONIKA

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	
		Origin of life
		Origin of life
		Origin of life
SUNDAY - 08.11.2020		
2	November (9-13)	
		Origin of life
		Origin of life
		Origin of life
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	
		Concept of organic evolution
		Concept of organic evolution
		Concept of species
SUNDAY - 22.11.2020		
4	November (23-28)	
		Phylogeny of horse
		Phylogeny of horse
		Evolution of man
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	
		Evolution of man
		Evolution of man
		Historical perspectives of developmental biology
SUNDAY - 06.12.2020		

6	December (07-12)	
		Historical perspectives of developmental biology
		Aims and scope of developmental biology
		Aims and scope of developmental biology
SUNDAY - 13.12.2020		
7	December (14-19)	
		Mammalian ovum
		Mammalian sperm
		Spermatogenesis
SUNDAY - 20.12.2020		
8	December (21-24) (26)	
		Oogenesis
		Fertilisation
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	December (28-31) January (1-2)	
		Parthenogenesis
		Types of eggs
		Types of eggs
SUNDAY - 03.01.2021		
10	January (4-9)	
		Patterns of cleavage
		Process of blastulation
		Process of blastulation
SUNDAY - 10.01.2021		
11	January (11-16)	
		Gastrulation in frog and chick
		Gastrulation in frog and chick
		Gastrulation in frog and chick
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	
		Primary organizers
		Primary organizers
		Primary organizers
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	
		Extra embryonic membranes
		Extra embryonic membranes
		Extra embryonic membranes
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	
		Concept of Competence
		Concept of Competence
		Determination
SUNDAY - 07.02.2021		
15	**February (08-13)**	
		Determination
		Differentiation
		Differentiation
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	
		Concept of regeneration
		Concept of regeneration
		Concept of regeneration

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Plant Physiology **CLASS :** B.Sc III

Name of the Teacher : Ms. RAJNI

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Plant water Relations
		Plant water Relations continued
		Plant water Relations continued
SUNDAY - 08.11.2020		
2	November (9-13)	absorption of water active and passive
		absorption of water active and passive
		Transpiration and its type
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	Mechanism of opening and closing of stomata
		Mechanism of opening and closing of stomata
		Importance of transpiration
SUNDAY - 22.11.2020		
4	November (23-28)	Mineral nutrition
		Mineral nutrition
		Mineral nutrition
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Uptake of mineral nutrients
		Uptake of mineral nutrients
SUNDAY - 06.12.2020		

6	**December (07-12)**	Translocation of organic substances
		Translocation of organic substances
		Translocation of organic substances
SUNDAY - 13.12.2020		
7	**December (14-19)**	Photosynthesis
		Photosynthesis
		Photosynthesis
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	Photosynthesis
		Photosynthesis
		Photosynthesis
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	Photosynthesis
		Photosynthesis
		Respiration
SUNDAY - 03.01.2021		
10	**January (4-9)**	Respiration
		Respiration
		Respiration
SUNDAY - 10.01.2021		
11	**January (11-16)**	Assignment
		Seed Germination and Seed dormancy
		Seed Germination and Seed dormancy
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	Plants Movements
		Photoperiodism
		Photoperiodism
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Physiology of Flowering
		Senescence And Fruit Ripening
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Senescence And Fruit Ripening
		Senescence And Fruit Ripening
		Revision Test
SUNDAY - 07.02.2021		
15	**February (08-13)**	Revision
		Revision
		Revision
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	Revision
		Revision
		Revision

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Evolution and developmental biology **CLASS :** B.Sc III (Botany)

Name of the Teacher : Dr. Nidhan Singh

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	
		Introduction to Ecology
		Introduction to Ecology
SUNDAY - 08.11.2020		
2	November (9-13)	
		Environmental factors
		Edaphic factors
		topographic and biotic factor
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	
		Adaptations of plants to water stress in hydrophytes
		Adaptations of plants to water stress in xerophytes
		Adaptations of plants to water stress in Halophytes
SUNDAY - 22.11.2020		
4	November (23-28)	
		Adaptations of plants to Salinity Hydrophytes
		Adaptations of plants to Salinity xerophytes
		Adaptations of plants to Salinity Halophytes
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	
		Revision
		Revision
		Test
SUNDAY - 06.12.2020		

6	**December (07-12)**	
		Population Ecology
		Population Ecology
		Growth curve
SUNDAY - 13.12.2020		
7	**December (14-19)**	
		Community Ecology Characteristics
		Community Ecology qualitative analysis
		Community Ecology quantitative analysis
SUNDAY - 20.12.2020		
8	**December (21-26)**	Ecological succession
		Ecological succession
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	
		Revision
		Ecosystem: Structure
		Food chain, Food web
SUNDAY - 03.01.2021		
10	**January (4-9)**	
		Trophic levels
		Ecological pyramids, and energy flow
		Class test
SUNDAY - 10.01.2021		
11	**January (11-16)**	
		Biogeochemical Cycle
		Biogeochemical Cycle
		Biogeochemical Cycle
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	
		Water cycle
		Phyto-geographical regions of India
		Phyto-geographical regions of India
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	
		Phyto-geographical regions of India
		Revision
		Test
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Vegetation types of India (forest)
		Vegetation types of India (forest)
		Air Pollution
SUNDAY -		
15	**February (08-13)**	Water Pollution
		Greenhouse effect and greenhouse gases
		Impacts of global warming
SUNDAY -		
16	**February (15 - 20)**	Carbon trading
		Revision
		Revision

I.B. (PG) COLLEGE, PANIPAT

SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Animal & Plant Bio-tech **CLASS :** B.Sc III (Biotechnology)

Name of the Teacher : Ms. POOJA JAIN

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	
		Plant tissue Culture
		Plant tissue Culture
SUNDAY - 08.11.2020		
2	November (9-13)	Plant tissue Culture
		Plant tissue Culture
		Plant tissue Culture
		Invitro Culture in plant tissue Culture
		Invitro Culture in plant tissue Culture
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	cutlture media
		some basic definitions
		Tissue Culture laboratory
		prepration of media
		Somatic embryogenesis
		Somatic embryogenesis
SUNDAY - 22.11.2020		
4	November (23-28)	Callus Culture
		Suspension Culture
		Protoplast isolation
		Protoplast isolation
		Practical application of somatic hybridization
		symmetric and assymetric test
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Basics of animal tissue culture
		Animal Tissue Culture :Media
		culture technique
		Culture techniques
		Growth curve
SUNDAY - 06.12.2020		

6	**December (07-12)**	Cell lines
		Cell repository
		Cryopreservation
		Organ culture
		Artificial Skin
		Disaggregation of tissue
SUNDAY - 13.12.2020		
7	**December (14-19)**	transfection of Animal Cells
		Method of Cell fusion
		Selectable Markes
		Genetic model
		HAT selection
		Antibiotic Resistance
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	Production of Vaccine in Animals
		Test
		Hybridoma Technology
		Embryo transfer Technology
		Transgenesis
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	Transgenic Animals
		Production of Transgenic Mice
		Production of Transgenic Mice
		Production of Transgenic Mice
		Production of secondary metabolites
		Plant germ Plasm Conservation
SUNDAY - 03.01.2021		
10	**January (4-9)**	Biotransformation
		Biotransformation
		Genetic Engineering in plants
		Genetic Engineering in plants
		Gene transfer Technology in plants
		Gene transfer Technology in plants
SUNDAY - 10.01.2021		
11	**January (11-16)**	Transgenic Plants
		Transgenic Plants
		Transgenic Plants
		Transgenic Plants
		Plants as bioreactor
		Plants as bioreactor
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	Cloning and expression of Foreign genes
		Cloning and expression of Foreign genes
		Cloning and expression of Foreign genes
		Test
		Therauptic products
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Therauptic products
		Therauptic products
		Revision test
		Gene therapy
		Gene therapy
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Micropropagation
		Micropropagation
		Micropropagation
		Organ Culture
		Revision
		revision
SUNDAY - 07.02.2021		
15	**February (08-13)**	Organ Culture
		Organ Culture
		Cybrids
		Cybrids
		Organogenesis
		Organogenesis
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	Hormones of Tissue Culture
		Industry and Medicines
		Industry and Medicines
		Revision
		Revision
		Revision

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Numerical Analysis **CLASS :** B.Sc III

Name of the Teacher : Ms. KANAK SHARMA

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Finite Difference Operators
		Forward and Backward Differences
		Properties of Operators
		Fundamental Theorem of Difference Calculus
		Questions based on Forward and Backward Differences
SUNDAY - 08.11.2020		
2	November (9-13)	Questions based on Forward and Backward Differences
		Effect of an Error in a Tabular Value
		Effect of an Error in a Tabular Value
		One or More Missing Term
		Problem Discussion
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	Interpolation with Equal Intervals
		Newton's Formula for Forward Interpolation
		Newton's Formula for Backward Interpolation
		Questions based on Interpolation with Equal Intervals
		Questions based on Interpolation with Equal Intervals
		Subdivision of Intervals
SUNDAY - 22.11.2020		
4	November (23-28)	Subdivision of Intervals
		Problem Discussion
		Interpolation with Unequal Intervals
		Theorems
		Newton's Divided Difference Formula
		Questions based on Newton's Divided Difference Formula
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Questions based on Newton's Divided Difference Formula
		Lagrange's Interpolation Formula
		Questions based on Lagrange's Interpolation Formula
		Questions based on Lagrange's Interpolation Formula
		Hermite's Interpolation Formula
SUNDAY - 06.12.2020		

6	December (07-12)	Central Difference Interpolation Formulae
		Central Difference Interpolation Formulae
		Problem Discussion
		Bessel's Formula
		Sterling's Formula
		Problem Discussion
SUNDAY - 13.12.2020		
7	December (14-19)	Numerical Differentiation
		Numerical Differentiation
		Formulae for Numerical Differentiation
		Formulae for Numerical Differentiation
		Questions based on Numerical Differentiation
		Questions based on Numerical Differentiation
SUNDAY - 20.12.2020		
8	December (21-24) (26)	Questions based on Numerical Differentiation
		Numerical Integration
		Formulae for Numerical Integration
		Trapezoidal rule
		Trapezoidal rule
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	December (28-31) January (1-2)	Simpson's Rule
		Questions based on Simpson's Rule
		Gauss Quadrature Formula
		Gauss Quadrature Formula
		Questions based on Gauss Quadrature Formula
		Questions based on Gauss Quadrature Formula
SUNDAY - 03.01.2021		
10	January (4-9)	Problem Discussion Numerical Solution of ODE
		Euler's Method
		Euler's Method
		Euler's Modified Method
		Euler's Modified Method
SUNDAY - 10.01.2021		
11	January (11-16)	Runge-Kutta and Taylor's Series Method
		Runge-Kutta and Taylor's Series Method
		Runge-Kutta and Taylor's Series Method
		Problem Discussion
		Picard's Method
		Picard's Method
SUNDAY - 17.01.2021		

12	January (18-19) (21-23)	Predictor-Corrector Method
		Predictor-Corrector Method
		Predictor-Corrector Method
		Predictor-Corrector Method
		Problem Discussion
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	January (25) (27-30)	Probability Distributions
		Probability Distributions
		Probability Distribution of a Random Variable
		Probability Distribution of a Random Variable
		Probability Distribution of a Random Variable
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	February (01-06)	Mean and Variance
		Mean and Variance
		Problem Discussion
		Binomial Distribution
		Binomial Distribution
		Binomial Distribution
SUNDAY - 07.02.2021		
15	February (08-13)	Problem Discussion
		Poisson and Normal Distribution
		Poisson and Normal Distribution
		Poisson and Normal Distribution
		Problem Discussion
		Problem Discussion
SUNDAY - 14.02.2021		
16	February (15 - 20)	Eigen Value Problems
		Eigen Value Problems
		Eigen Value Problems
		Eigen Value Problems
		Eigen Value Problems
		Problem Discussion

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Group and Rings **CLASS :** B.Sc III

Name of the Teacher : Dr. ARPANA GARG

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Group Theory
		Group Theory
		Group Theory
		Group Theory
		Group Theory
SUNDAY - 08.11.2020		
2	November (9-13)	Group Theory
		Group Theory
		Subgroup
		Subgroup
		Subgroup
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	Subgroup
		Algebra of subgroups
		Algebra of subgroups
		Cosets
		Cosets
		Lagranges theorem
SUNDAY - 22.11.2020		
4	November (23-28)	Cyclic group
		Cyclic group
		Normal Subgroup
		Normal Subgroup
		Quotient Group
		Quotient Group
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Permutation Group
		Permutations of Finite sets
		Two-rowed representation of a Permutation
		Total number of Permutations on a finite set
		Product(composition) of permutations
SUNDAY - 06.12.2020		

6	**December (07-12)**	Inverse of a permutation
		Total number of even Permutations of degree N
		Total number of even Permutations of degree N
		Caley's theorem
		Rings introduction
		Integral Domain
SUNDAY - 13.12.2020		
7	**December (14-19)**	Theorems on integral domain
		Theorems on integral domain
		Theorems on integral domain
		Characteristic of a ring
		Characteristic of a ring
		Characteristic of a ring
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	Subring of a ring
		Subring of a ring
		Ideals of a ring
		Ideals of a ring
		Ideals of a ring
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	Algebra of Ideals
		Algebra of Ideals
		Ideals in Division Rings and Fields
		Ideals in Division Rings and Fields
		Quotient rings
		Quotient rings
SUNDAY - 03.01.2021		
10	**January (4-9)**	Homomorphisms
		Automorphism on a group
		Properties of an Automorphism
		Group of Automorphism
		Characteristic subgroup
		Commutator subgroup
SUNDAY - 10.01.2021		
11	**January (11-16)**	Ring Homomorphism
		Imbedding of Rings
		Imbedding of Rings
		Imbedding of a Ring into a ring with unity
		Imbedding of a Ring into a ring with unity
		Imbedding of Ring into a Ring of Endomorphism
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	Imbedding of Ring into a Ring of Endomorphism
		Imbedding of an integral domain into a field
		Imbedding of an integral domain into a field
		Divisibility
		Divisibility
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Euclidean Domain
		Euclidean Domain
		Euclidean Domain
		Euclidean Domain
		Euclidean Domain
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Euclidean Domain
		Polynomial Rings
		Ring of a Polynomial
		Ring of a Polynomial
		Ring of a polynomials over N symbols
		Ring of a polynomials over N symbols
SUNDAY - 07.02.2021		
15	**February (08-13)**	Unique Factorization domain
		Unique Factorization domain
		Unique Factorization domain
		Primitive polynomial
		Primitive polynomial
		Primitive polynomial
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	Revision
		Revision
		Revision
		Revision
		Revision
		Revision

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Statics **CLASS :** B.Sc III

Name of the Teacher : Ms. KANAK SHARMA

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	Mechanics and its Branches,Definitions related to Statics
		Forces Acting at a Point
		Resultant and Components
		Parallelogram Law of Forces
		Questions based on Parallelogram Law of Forces
SUNDAY - 08.11.2020		
2	November (9-13)	Questions based on Parallelogram Law of Forces
		Resolved parts of a force
		Resolved parts of a force
		Triangle Law of Forces
		Triangle Law of Forces
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	Lami's Theorem
		Questions based on Lami's Theorem
		Questions based on Lami's Theorem
		Theorem of Resolved Parts
		Theorem of Resolved Parts
		Conditions of Equilibrium of Concurrent Forces
SUNDAY - 22.11.2020		
4	November (23-28)	Conditions of Equilibrium of Concurrent Forces Equilibrium of Bodies on Inclined Plane
		Problem Discussion
		Parallel Forces
		Resultant of Parallel Forces
		Resultant of Parallel Forces
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Centre of Parallel Forces
		Theorem of Resolved Parts and related questions
		Theorem of Resolved Parts and related questions
		Theorem of Resolved Parts and related questions Problem Discussion
SUNDAY - 06.12.2020		

6	December (07-12)	Moment of a Force
		Moment of a Force
		Varignon's Theorem and related articles
		Varignon's Theorem and related articles
		Questions based on Varignon's Theorem
		Questions based on Varignon's Theorem
SUNDAY - 13.12.2020		
7	December (14-19)	Centre of a number of Parallel Forces
		Centre of a number of Parallel Forces
		Couples
		Couples
		Problem Discussion
		Friction(Introduction)
SUNDAY - 20.12.2020		
8	December (21-24) (26)	Laws of Friction
		Articles based on Friction
		Articles based on Friction
		Questions based on Friction
		Questions based on Friction
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	December (28-31) January (1-2)	Equilibrium of Rods and Ladders
		Equilibrium of Rods and Ladders
		Problem Discussion
		Centre of Gravity
		Articles based on Centre of Gravity
		Articles based on Centre of Gravity
SUNDAY - 03.01.2021		
10	January (4-9)	Articles based on Centre of Gravity
		Questions based on Centre of Gravity
		Questions based on Centre of Gravity
		Centre of Gravity by Integration
		Centre of Gravity by Integration
		Centre of Gravity by Integration
SUNDAY - 10.01.2021		
11	January (11-16)	Centre of Gravity by Integration
		Questions based on Centre of Gravity by Integration
		Questions based on Centre of Gravity by Integration
		Questions based on Centre of Gravity by Integration
		Problem Discussion
		Forces in Three Dimensions
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	Axis of Couple
		Theorem based on Forces in Three Dimensions
		Theorem based on Forces in Three Dimensions
		Questions based on Forces in Three Dimensions
		Questions based on Forces in Three Dimensions
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Questions based on Forces in Three Dimensions
		Wrenches and related theorems
		Wrenches and related theorems
		Questions based on Wrenches
		Questions based on Wrenches
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	Null Lines and Null Planes
		Null Lines and Null Planes
		Null Lines and Null Planes
		Null Lines and Null Planes
		Analytical Conditions of Equilibrium of Coplanar Forces
		Analytical Conditions of Equilibrium of Coplanar Forces
SUNDAY - 07.02.2021		
15	**February (08-13)**	Analytical Conditions of Equilibrium of Coplanar Forces
		Virtual Work
		Virtual Work
		Virtual Work
		Virtual Work
		Problem Discussion
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	Stable,Unstable and Neutral Equilibrium
		Stable,Unstable and Neutral Equilibrium
		Stable,Unstable and Neutral Equilibrium
		Stable,Unstable and Neutral Equilibrium
		Stable,Unstable and Neutral Equilibrium
		Problem Discussion

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Web Designining **CLASS :** B.Sc III

Name of the Teacher : Mr. AJMER SINGH

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	
SUNDAY - 08.11.2020		
2	November (9-13)	
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	
SUNDAY - 22.11.2020		
4	November (23-28)	
		Introduction to Internet and World Wide Web (WWW)
		Evolution and History of WWW
		Web Browsers and Web Servers
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	
		Hyper Text Transfer Protocol (HTTP)
		Uniform Resource Locator (URL)
		Searching and Webcasting Techniques
SUNDAY - 06.12.2020		

6	**December (07-12)**	
		Types of Webcasting services
		Search engines and searching tools
		Steps of developing website
SUNDAY - 13.12.2020		
7	**December (14-19)**	
		Choosing the contents of a website
		Home page and domain names
		Internet service provider
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	
		Planning and designing website
		Creating a website
		Web publishing
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	
		Hosting a website
		Introduction to HTML
		Hyper text and HTML
SUNDAY - 03.01.2021		
10	**January (4-9)**	
		HTML Document Features
		HTML Tags
		Header, Title, Body HTML tags
SUNDAY - 10.01.2021		
11	**January (11-16)**	
		Paragraph, Ordered/Unordered line HTML tags
		Creating links
		Headers, Text styles
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	
		Text structuring
		Text colors and background
		Formatting text
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	
		Page layout
		Insertion of Text
		Movement of Text
HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	
		Images: Types of images
		Insertion of images
		Movement of image
SUNDAY - 07.02.2021		
15	**February (08-13)**	
		Ordered and unordered lists
		Inserting graphics
		Table handling funcitons like columns, rows, width, colors
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	
		Frame creation and layouts
		Working with forms and menues
		Working with buttons like Radio and Checkbox

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SESSION 2020-2021

Weekly Lesson Plan (Odd Semester) **(5th Semester)**

Name of the Paper:- Fundamental of Database Systems **CLASS :** B.Sc III

Name of the Teacher : Mr. AJMER SINGH

WEEK	DATE	TOPICS
1	November (2 -3), (5 - 7)	
SUNDAY - 08.11.2020		
2	November (9-13)	
HOLIDAY - 14.11.2020 (Diwali)		
SUNDAY - 15.11.2020		
3	November (16-21)	
SUNDAY - 22.11.2020		
4	November (23-28)	Basic Concepts – Data, Information, Records and files
		Traditional file Based Approach
		Limitations of Traditional File Based Approach
SUNDAY - 29.11.2020		
HOLIDAY - 30.11.2020 (Guru Nanak Dev Jayanti)		
5	December (1-5)	Database Approach-Characteristics of Database Approach
		Database Management System (DBMS)
		Components of DBMS Environment
SUNDAY - 06.12.2020		

6	**December (07-12)**	DBMS Functions and Components
		Advantages and Disadvantages of DBMS
		Actors on the Scene - DBA, Database Designer, Users
SUNDAY - 13.12.2020		
7	**December (14-19)**	Database System Architecture
		Three Levels of Architecture
		Schemas – External, Conceptual and Internal Level
SUNDAY - 20.12.2020		
8	**December (21-24) (26)**	Database Languages – VDL, DDL, SDL, DML, SQL,
		Mappings – External/ Conceptual and Conceptual/Internal
		Data Independence – Logical and Physical Data Independence
HOLIDAY - 25.12.2020 (Christmas)		
SUNDAY - 27.12.2020		
9	**December (28-31) January (1-2)**	Data Models: High Level, Low Level and Representational – Records- based Data Models,
		Object-based Data Models, Physical Data Models and Conceptual Models
		Introduction to Entity-Relationship Model
SUNDAY - 03.01.2021		
10	**January (4-9)**	Introduction to Entity Types, Entity Sets, Attributes
		Relationships, Constraints, Keys , Degree, Cardinality etc.
		ER Diagrams of any Database Organization
SUNDAY - 10.01.2021		
11	**January (11-16)**	Classification of Database Management System
		Centralized and Client Server architecture
SUNDAY - 17.01.2021		

12	**January (18-19) (21-23)**	Relational Data Model
		Terminology in Relational Data Structure
		Relations, Properties of Relations,
HOLIDAY - 20.01.2021 (Guru Gobind Singh Jayanti)		
SUNDAY - 24.01.2021		
13	**January (25) (27-30)**	Introduction to Keys – Primary, Secondary, Composite, Candidate
		Alternate and Foreign Key
		Domains, Integrity Constraints over Relations

HOLIDAY - 26.01.2021 (Republic Day)		
SUNDAY - 31.01.2021		
14	**February (01-06)**	
SUNDAY - 07.02.2021		
15	**February (08-13)**	
SUNDAY - 14.02.2021		
16	**February (15 - 20)**	