Lesson Plan for Session 2021-22 (Even Semester)

B. Sc. 1st Year (2nd Semester)

Paper-V (CH-104) Inorganic Chemistry (Theory)

Name of Assistant Professor: Dr. Rajiv Kumar

Sr. No.	Time Periods	Topics/Chapters to be covered	Topic of Assignment/ Tests to be given to students
1	21/03/22-31/03/22	**Hydrogen Bonding & Vander Waals Forces** Hydrogen Bonding – Definition, Types, effects of hydrogen bonding on properties of substances, application Brief discussion of various types of Vander Waals Forces	Assignment
2	01/04/22-30/04/22	**Metallic Bond and Semiconductors** Metallic Bond- Brief introduction to metallic bond, band theory of metallic bond. Semiconductors- Introduction, types and applications. **s-Block Elements** Comparative study of the elements including, diagonal relationships, salient features of hydrides (methods of Preparation excluded), solvation and complexation tendencies including their function in biosystems. **Chemistry of Noble Gases** Chemical properties of the noble gases with emphasis on their low chemical reactivity, chemistry of xenon, structure and bonding of fluorides, oxides & oxyfluorides of xenon.	Test of chapter-**Hydrogen Bonding & Vander Waals Forces and Metallic Bond and Semiconductors**
3	01/05/22-30/05/22	**p-Block Elements**Emphasis on comparative study of properties of p-block elements (including diagonal relationship and excluding methods of preparation). **Boron family (13th group)** Diborane – properties and structure (as an example of electron deficient compound and multicentre bonding). Borazene – chemical properties and structure Trihalides of Boron – Trends in fewis acid character structure of aluminium (III) chloride. **Carbon Family (14th group)** Catenation, pπ– dπ bonding (an idea), carbides, fluorocarbons, silicates (structural aspects), silicons– general methods of preparations, properties and uses. **Nitrogen Family (15th group)** Oxides – structures of oxides of N,P. oxyacids – structure and relative acid strengths of oxyacids of Nitrogen and phosphorus. Structure of white, yellow and red phosphorus.	Assignment
4	01/06/22-15/06/22	**Oxygen Family (16th group)** Oxyacids of sulphur – structures and acidic strength H_2O_2– structure, properties and uses. **Halogen Family (17th group)** Basic properties of halogen, interhalogens types properties, hydro and oxyacids of chlorine – structure and comparison of acid strength.	Test of p-block elements
5	15/06/22 to till exam	Revision	Test

Rajiv

(Dr. Rajiv Kumar)

Lesson Plan for Session 2021-22 (Even Semester)

B. Sc. 2nd Year (4th Semester)

Paper-XIII (CH-206) Organic Chemistry (Theory)

Name of Assistant Professor: Dr. Rajiv Kumar

Sr. No.	Time Periods	Topics/Chapters to be covered	Topic of Assignment/ Tests to be given to students
1	21/03/22-31/03/22	**Amines** Structure and nomenclature of amines, physical properties. Separation of a mixture of primary, secondary and tertiary amines. Structural features affecting basicity of amines. Preparation of alkyl and aryl amines reduction of nitro compounds, nitriles, reductive amination of aldehydic and ketonic compounds. Gabriel-phthalimide reaction, Hofmann bromamide reaction. electrophilic aromatic substitution in aryl amines, reactions of amines with nitrous acid.	Assignment
2	01/04/22-30/04/22	**Diazonium Salts** Mechanism of diazotisation, structure of benzene diazonium chloride, Replacement of diazo group by H, OH, F, Cl, Br, I, NO2 and CN groups, reduction of diazonium salts to hyrazines, coupling reaction and its synthetic application.	Test of chapter-**Amines**
3	01/05/22-30/05/22	**Infrared (IR) absorption spectroscopy** Molecular vibrations, Hooke's law, selection rules, intensity and position of IR bands, measurement of IR spectrum, fingerprint region, characteristic absorptions of various functional groups and interpretation of IR spectra of simple organic compounds. Applications of IR spectroscopy in structure elucidation of simple organic compounds. **Carboxylic Acids & Acid Derivatives** Nomenclature of Carboxylic acids, structure and bonding, physical properties, acidity of carboxylic acids, effects of substituents on acid strength. Preparation of carboxylic acids. Reactions of carboxylic acids. Hell-Volhard-Zelinsky reaction. Reduction of carboxylic acids.	Assignment
4	01/06/22-15/06/22	**Carboxylic Acids & Acid Derivatives** Mechanism of decarboxylation. Structure . nomenclature and preparation of acid chlorides, esters, amides and acid anhydrides. Relative stability of acyl derivatives. Physical properties, interconversion of acid derivatives by nucleophilic acyl substitution. Mechanisms of esterification and hydrolysis (acidic and basic).	Test of Diazonium salts and IR Spectroscopy
5	15/06/22 to till exam	Revision	Test

Rajiv

(Dr. Rajiv Kumar)

Lesson Plan for Session 2021-22 (Even Semester)

B. Sc. 3rd Year (6th Semester)

Paper-XX (CH-306) Organic Chemistry (Theory)

Name of Assistant Professor: Dr. Rajiv Kumar

Sr. No.	Time Periods	Topics/Chapters to be covered	Topic of Assignment/ Tests to be given to students
1	21/03/22-31/03/22	**Organosulphur Compounds** Nomenclature, structural features, Methods of formation and chemical reactions of thiols, thioethers, sulphonic acids, sulphonamides and sulphaguanidine. Synthetic detergents alkyl and aryl sulphonates.	Assignment
2	01/04/22-30/04/22	**Heterocyclic Compounds** Introduction: Molecular orbital picture and aromatic characteristics of pyrrole, furan, thiophene and pyridine. Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reactions in pyridine derivatives. Comparison of basicity of pyridine, piperidine and pyrrole. Introduction to condensed five and six- membered heterocycles. Prepration and reactions of indole, quinoline and isoquinoline with special reference to Fisher indole synthesis, Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of, quinoline and isoquinoline.	Test of chapter-**Organosulphur Compounds**
3	01/05/22-30/05/22	**Amino Acids, Peptides& Proteins** Classification, of amino acids. Acid-base behavior, isoelectric point and electrophoresis. Preparation of α-amino acids. Structure and nomenclature of peptides and proteins. Classification of proteins. Peptide structure determination, end group analysis, selective hydrolysis of peptides. Classical peptide synthesis, solid–phase peptide synthesis. Structures of peptides and proteins: Primary & Secondary structure. **Organic Synthesis via Enolates** Acidity of α-hydrogens, alkylation of diethyl malonate and ethylacetoacetate. Synthesis of ethyl acetoacetate: the Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate.	Assignment
4	01/06/22-15/06/22	**Synthetic Polymers** Addition or chain-growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization. Ziegler-Natta polymerization and vinyl polymers.	Test of Chapter-**Heterocyclic Compounds**
5	15/06/22 to till exam	Revision	Test

Rajiv

(Dr. Rajiv Kumar)

MONTHLY LESSON PLAN
B.SC. 2nd SEMESTER
SUBJECT: CHEMISTRY, SESSION 2021-2022

CMG GCW BHOIA KHERA, FATEHABAD	
NAME OF THE ASSISTANT PROFESSOR	MR. SATISH CHANDER
CLASS AND SECTION:	BSC Ist 2ND SEMESTER
SUBJECT:	CHEMISTRY
NOMENCLATURE:	ORGANIC CHEMISTRY
WEEK	TOPICS
21 MARCH 2022	**Alkenes** : Nomenclature of alkenes, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halide. The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes.
APRIL 2022	**Alkenes** : Mechanisms involved in—Chemical reactions of alkenes hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration–oxidation, oxymercurationreduction, ozonolysis, hydration, hydroxylation and oxidation with KMnO4 . **Arenes and Aromaticity** : Nomenclature of benzene derivatives: Aromatic nucleus and side chain. Aromaticity: the Huckel rule, aromatic ions, annulenes up to 10 carbon atoms, aromatic, anti-aromatic and non-aromatic compounds. REVISION AND DOUBTS TEST ASSIGNMENT
MAY 2022	**Arenes and Aromaticity** : General pattern of the—Aromatic electrophilic substitution mechanism, mechansim of nitration, halogenation, sulphonation, and Friedel-Crafts reaction. Energy profile diagrams. Activating , deactivating substituents and orientation. **Dienes and Alkynes** : Nomenclature and classification of dienes: isolated, conjugated and —cumulated dienes. Structure of butadiene. Chemical reactions 1,2 and 1,4 additions (Electrophilic & free radical mechanism), Diels-Alder reaction, Nomenclature, structure and bonding in alkynes. Methods of formation. Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and nucleophilic addition reactions, hydroboration-oxidation of alkynes.
JUNE 2022	**Alkyl and Aryl Halides** :Nomenclature and classes of alkyl halides, methods of formation, chemical reactions. Mechanisms and stereochemistry of nucleophilic substitution reactions of alkyl halides, S N2 and S N1 reactions with energy profile diagrams. Methods of formation and reactions of a ryl halides, The additionelimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions. Relative reactivities of alkyl halides vs allyl, vinyl and aryl halides REVISION AND DOUBTS: COMPLETE SYLLABUS REVISION WORK
JULY 2022	REVISION AND DOUBTS: COMPLETE SYLLABUS REVISION WORK

MONTHLY LESSON PLAN
B.SC. 4TH SEMESTER
SUBJECT: CHEMISTRY, SESSION 2021-2022

CMG GCW BHOIA KHERA, FATEHABAD	
NAME OF THE ASSISTANT PROFESSOR	MR. SATISH CHANDER
CLASS AND SECTION:	BSC IInd 4TH SEMESTER
SUBJECT:	CHEMISTRY
NOMENCLATURE:	PHYSICAL CHEMISTRY
WEEK	TOPICS
21 MARCH 2022	**Thermodynamics:** Second law of thermodynamics, need for the law, different statements of the law, Carnot's cycles and its efficiency, Carnot's theorm, Thermodynamics scale of temperature.
APRIL 2022	**Thermodynamics:** Concept of entropy – entropy as a state function, entropy as a function of V & T, entropy as a function of P & T, entropy change in physical change, entropy as a criteria of spontaneity and equilibrium. Third law of thermodynamics: Nernst heat theorem, statement of concept of residual entropy, evaluation of absolute entropy fro m heat capacity data. Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities, G as criteria for thermodynamic equilibrium and spontaneity, its advantage over entropy change. Variation of G with P, V and T. REVISION AND DOUBTS TEST ASSIGNMENT
MAY 2022	**Electrochemistry** :Electrolytic and Galvanic cells – reversible & irreversible cells, conventional representation of electrochemical cells. Calculation of thermodynamic quantities of cell reaction (▲G, ▲H & K). Types of reversible electrodes – metal- metal ion, gas electrode, metal –insoluble salt- anion and redox electrodes.
JUNE 2022	**Electrochemistry** :Electrode reactions, Nernst equations, derivation of cell EMF and single electrode potential. Standard Hydrogen electrode, reference electrodes, standard electrode potential, sign conventions, Concentration cells with and without transfe rence, liquid junction potential and its measurement.Applications of EMF measurement in solubility product and potentiometric titrations using glass electrode. More stress on numerical problems. REVISION AND DOUBTS: COMPLETE SYLLABUS REVISION WORK
JULY 2022	REVISION AND DOUBTS: COMPLETE SYLLABUS REVISION WORK

MONTHLY LESSON PLAN
B.SC. 6TH SEMESTER
SUBJECT: CHEMISTRY, SESSION 2021-2022

CMG GCW BHOIA KHERA, FATEHABAD	
NAME OF THE ASSISTANT PROFESSOR	MR. SATISH CHANDER
CLASS AND SECTION:	BSC III rd 6TH SEMESTER
SUBJECT:	CHEMISTRY
NOMENCLATURE:	PHYSICAL CHEMISTRY
WEEK	TOPICS
21 MARCH 2022	ELECTRONIC SPECTRUM Concept of potential energy curve for bonding and antibonding molecular orbitals, qualitative description of selection rules and Frank- Condon principle. qualitative description of sigma and pi and n molecular orbital(MO) their energy level and respective transitions.
APRIL 2022	**Photochemistry** :Interaction of radiation with matter, difference between thermal and photochemical processes. Laws of photochemistry: Grotthus-Drapper law, StarkEinstein law (law of photochemical equivalence), Jablonski diagram depiciting various processes occurring in the excited state, qualitative description of fluorescence, phosphorescence, non-radiative processes (internal conversion, intersystem crossing), quantum yield, photosensitized reactions-energy transfer processes (simple examples). REVISION AND DOUBTS TEST ASSIGNMENT
MAY 2022	**Solutions**:Dilute Solutions and Colligative Properties Ideal and non-ideal solutions, methods of expressing concentrations of solutions, Dilute solutions, Raoult's law. Colligative properties: (i) relative lowering of vapour pressure (ii) Elevation in boiling point (iii) depression in freezing point (iv) osmotic pressure. Thermodynamic derivation of relation between amount of solute and elevation in boiling point and depression in freezing point..
JUNE 2022	**Solutions** :Applications in calculating molar masses of normal, dissociated and associated solutes in solution. **Phase Equillibrium**: Statement and meaning of the terms – phase, component and degree of freedom, thermodynamic derivation of Gibbs phase rule, phase equilibria of one component system –Example – water system. Phase equilibria of two component systems solid-liquid equilibria, simple eutectic Example Pb-Ag system, desilverisation of lead.
JULY 2022	REVISION AND DOUBTS: COMPLETE SYLLABUS REVISION WORK

Lession Plan for Session 2021-22(Even Semester)

B. Sc. Ist Year (IInd Semester)

Paper-V (CH-105) Physical Chemistry (Theory)

Name of Assistant Professor: Mr. Parveen Kumar

Sr. No.	Time Periods	Topics/Chapters to be covered	Topic of Assignment/ Tests to be given to students
1	21/03/22-09/04/22	Kinetics Rate of reaction, rate equation and its types, factors influencing the rate of a reaction – concentration, temperature, pressure, solvent, light, catalyst. Order of a reaction, integrated rate expression for zero order, first order, second and third order reactions. Half life period of a reaction. Effect of temperature on the rate of reaction – Arrhenius equation.	Test of kinetics
2	29/04/22-13/05/22	Theories of reaction rate – Simple collision theory for unimolecular collision. Transition state theory of bimolecular reactions.	Assignment
3	14/05/22-21/05/22	Electrochemistry Electrolytic conduction, factors affecting electrolytic conduction, specific conductance, molar conductance, equivalent conductance and relation among them, their variation with concentration.	
4	21/05/22-01/06/22	Arrhenius theory of ionization, Ostwald's Dilution Law. Debye Huckel – Onsager's equation for strong electrolytes (elementary treatment only), Application of Kohlrausch's Law in calculation of conductance of weak electrolytes at infinite dilution. Applications of conductivity measurements: determination of degree of dissociation, determination of Ka of acids determination of solubility product of sparingly soluble salts, conductometric titrations	Test
5	02/06/22-09/06/22	Concepts of pH and pKa , Buffer solution, Buffer action, Henderson – Hazel equation, Buffer mechanism of buffer action.	
9	10/06/22 to till exam	Revision	

(Parveen Kumar)

Lession Plan for Session 2021-22(Even Semester)

B. Sc. II Year (IVth Semester)

Paper-XI (CH-204) Inorganic Chemistry (Theory)

Name of Assistant Professor: Mr. Parveen Kumar

Sr. No.	Time Periods	Topics/Chapters to be covered	Topic of Assignment/ Tests to be given to students
1	21/03/2022-08/04/2022	Chemistry of f-Block elements Lanthanides: Electronic structure, oxidation states, magnetic properties, complex formation, colour, ionic radii and lanthanide contraction, occurrence, separation of lanthanides, Lanthanide compounds.	Test
2	14/04/22-29/04/22	Actinides: General characteristics of actinides, chemistry of separation of Np, Pu and Am from uranium, Transuranic elements, comparison of properties of Lanthanides and actinides with transition elements.	Assignment
3	05/05/22-20/05/22	Theory of Qualitative and Quantitative Analysis Chemistry of analysis of various groups of basic and acidic radicals, chemistry of identification of acid radicals in typical combination.	
4	26/05/22-10/06/22	chemistry of interference of acid radicals including their removal in the analysis of basic radicals,	Test
5	02/06/22-09/06/22	Common ion effect, solubility product, theory of precipitation, co-precipitation, post precipitation, purification of precipitates.	
6	10/06/22 to till Exam	Revision	

(Parveen Kumar)

Lession Plan for session 2021-22(Even Semester)

B.Sc. IIIrd Year (VI Semester)

Paper XVIII (Theory) Inorganic Chemistry (CH-304)

Name of Assistant Professor: Mr. Parveen Kumar

Sr. No.	Time Periods	Topics/Chapters to be covered	Topic of Assignment/ Tests to be given to students
1	22/03/22-06/04/22	**Organometallic Chemistry** Definition, nomenclature and classification of organometallic compounds.	Test
2	11/04/22-20/04/22	Preparation, properties, and bonding of alkyls of Li, Al, Hg, and Sn a brief account of metal-ethylenic complexes, mononuclear carbonyls and the nature of bonding in metal carbonyls.	Assignment
3	25/04/22-18/05/22	Concept of Hard and Soft Acids & Bases	
4	23/05/22-08/06/22	**Bioinorganic Chemistry** Essential and trace elements in biological processes, metalloporphyrins with special reference to haemoglobin and myoglobin. Biological role of alkali and alkaline earth metal ions with special reference to Ca2+. Nitrogen fixation.	
5	13/06/22-22/06/22	**Silicones and Phosphazenes** Silicones and phosphazenes as examples of inorganic polymers, nature of bonding in triphosphazenes.	Assignment
6	23/06/22 to till exam	Revision	

(Parveen Kumar)

Lesson Plan (Session 2021-22)

Name of Deptt. Psychology

Name of Teacher: Dr. Nirmala Kaushik

Subject: Develpomental Psychology

Class : B.A. 4TH SEM

Month	Topics to be taught
March	Human Development: Concepts and Principals. Biological, Social and Cultural factors of Human development.
April	Prenatal Development: Stages and determinants. Infancy : Characteristics, hazards and adjustment.
May	Childhood: Characteristics, Perceptual, Motor and cognitive Development. Adolescents: Characteristics, problems and Adjustment of adolescents.
June	Adulthood: Early adulthood, late adulthood and aging- changing Pattern and problems. Measures of Variability: Quartile Deviation and standard deviation.
July	Revision and tests.

Note: The teaching methodology is used like power point presentation, models, charts, videos etc. The group discussion, tests and quiz etc are also planned.

Dr. Nirmala Kaushik

Lesson Plan (Session 2021-22)

Name of Deptt. Psychology

Name of Teacher: Dr. Nirmala Kaushik

Subject: Applied Psychology

Class : B.A. 6TH SEM

Month	Topics to be taught
March	Applied Psychology: Meaning and history.
April	Careers in Psychology, Organisational Psychology- Nature, Scope, objectives and development.
May	Guidance: Objectives, Principles, types of guidance. Organisation of guidance programme.
June	Counselling: Need, Principles, special areas and types of Counselling.
July	Revision and tests.

Note: The teaching methodology is used like power point presentation, models, charts, videos etc. The group discussion, tests and quiz etc are also planned.

Dr. Nirmala Kaushik

Lesson Plan

(CMG Govt. College for Women, Bhodia Khera, Ftb)

Department of Mathematics Session: 2021-22

Name of the Teacher: Sonu Ram Designation: Assistant Professor

Class and Section: BA/BSC-I (2nd sem.)

Subject: Ordinary differential Equation

Week	Topics
1 21-3-22 to 27-3-22	Introduction to ordinary differential equation order and degree. Formation of the exact differential equation, integrating factor, and rule to find the integrating factor for the solution of the differential equation.
2 28-3-22 to 3-4-22	To special rule for finding the integrating factor equation solvable for p equation solvable for x equation to y.
3 4-4-22 to 10-4-22	Lagrange equation Clairaut's equation is reducible to clearout's form singular solution discriminant solution.
4 11-4-22 to 17-4-22	Doubts discussion and test of above chapters and assignment as given.
5 18-4-22 to 22-4-22	Introduction of orthogonal trajectories with cartesian coordinates and polar coordinate's introduction to a linear differential equation with constant coefficients with a complete solution rule to solve an equation and theorem to find the particular integral of special cases.
6 23-4-22 to 29-4-22	Case second third fourth fifth order with constant coefficients for the solution of the linear differential equation.
7 30-4-22 to 6-5-22	Introduction to homogeneous equation method of solution equation reducible to homogeneous linear form introduction to the linear differential equation of second order by changing the dependent variable when an integral included in the CF is known.
8 7-5-22 to 13-5-22	Doubt discussion and test
9 14-5-22 to 20-5-22	Method for finding the integral of second order equation by removing the first derivative and changing dependent variable and by changing the independent variable.

10 21-5-22 to 27-5-22	Method of variation of parameters of undetermined constants introduction to ordinary simultaneous linear differential equations.
11 28-5-22 to 3-6-22	Method of solving simultaneous linear differential equations with constant coefficients special form of simultaneous linear differential equations for second order with the help of order 1.
12 4-6-22 to 10-6-22	Doubt, test and discussion and assignment.
13 11-6-22 to 17-6-22	Introduction to total differential equation method of solving of total differential equation method of second regarding one variable as constant out of 3 variables
14 18-6-22 to 24-6-22	Method of solving homogenous equation method 4^{th} of auxiliary equation special form of solution of total differential equation.
15 25-6-22 to 02-7-22	Doubt discussion and test
16 3-7-22 to 8-7-22	Revision and problem discussion

Lesson Plan

(CMG Govt. College for Women, Bhodia Khera, Ftb)

Department of Mathematics Session: 2021-22

Name of the Teacher: Sonu Ram, Designation: Assistant Professor of Maths

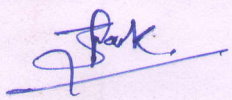
Class and Section: BA/BSC-II (4th sem)

Subject : Sequence and Series

Week	Topics
1 21-3-22 to 27-3-22	chapter1 topology of real numbers, various definitions sets, finite set, infinite set ,interval, subset, bounded above set and bounded above set , bounded below set, unbounded below set, bounded set , unbounded set, greatest element, least element, least upper bound, some theorems on supremum of a set, greatest lower bound or infimum, some theorems on infimum of a set
2 28-3-22 to 3-4-22	completeness axiom, archimedean property of reals, examples and exercise 1.1, neighbourhood of a point, deleted neighbourhood, interior of a set, open set, some theorems on open set, theorems on interior of a set, closed set, some theorems on closed sets, examples and exercise 1.2.
3 4-4-22 to 10-4-22	limit point of a set ,isolated point ,adherent point ,closure of a set ,bolzano weierstrass theorem, some theorems on closure of a set, examples and exercise 1.3 ,compact set, Heine borel property, Heine borel theorem ,Converse of Heine borel theorem, example and exercise 1.4
4 11-4-22 to 17-4-22	chapter 2 sequences, definition of sequence, representation of a sequence ,methods to describe a sequence, range of a sequence,constant sequence convergent sequence, some theorems on convergent sequences, divergent sequence, oscillatory sequence ,null sequence ,examples and exercise 2.1 ,some basic theorems on limits ,Cauchy''s first theorem on limits.
5 18-4-22 to	Cauchy's second theorem on limits, examples and exercise 2.2, monotonic sequence, monotone convergence theorem, nested

22-4-22	sequence examples and exercise 2.3 ,limit point or cluster point ,some theorems on limit point, bolzano theorem, cauchy's sequence. Assignment 1
6 23-4-22 to 29-4-22	cauchy's general principle of convergence examples and exercise 2.4 subsequence ,theorems on subsequence. class test of chapter 1
7 30-4-22 to 6-5-22	chapter 3infinite series, definition of infinite series convergence and divergence of an infinite series ,oscillate finitely or infinite ,examples and theorems exercise 3.1
8 7-5-22 to 13-5-22	cauchy's general principle of convergence ,convergence or divergence of geometric series, general test for the convergence of positive term series, comparison test, hyper harmonic series or p-test series, class test of chapter 2
9 14-5-22 to 20-5-22	examples and exercise 3.2., chapter 4 infinite series continued, D'Alembert Ratio test, examples and exercise 4.1, cauchy's root test. examples and exercise 4.2 class test of chapter 3.
10 21-5-22 to 27-5-22	logarithmic test for the convergence of a series examples and exercise 4.3. De morgan's and Bertrand''s test. examples and exercise 4.4. gauss test exercise and examples, cauchy's integral test for the convergence of a series, Cauchy's condensation test. examples and exercise
11 28-5-22 to 3-6-22	chapter 5, alternating series, Leibnitz 's test for the convergence of alternating series. examples, absolute convergence ,conditional convergence, exercise 5.1, assignment 2
12 4-6-22 to 10-6-22	chapter 6 arbitrary series, Abel test, Dirichlet''s test, exercise and its examples of 6.1, insertion and removal of parenthesis, example and exercise 6.2, multiplication of series ,Cauchy's product, Mertin''s theorem, Cesaro's theorem.
13 11-6-22 to 17-6-22	Abel's theorem, infinite product, absolute convergence of an infinite product theorems and examples
14	class test

18-6-22 to 24-6-22	
15 25-6-22 to 02-7-22	Class test solved and revision
16 3-7-22 to 8-7-22	revision



Lesson Plan

Department of Mathematics Session:2021-22

Name of the Teacher: Sonu Ram, Designation: Assistant Professor

Class and Section: BA/BSC-II (4th sem.)

Subject: Special functions and Integral Transform

Week	Topics
1 21-3-22 to 27-3-22	Chapter -1 Convergence of power series, operation on power series analytic function, ordinary and singular points of differential equation, existence of power series solution
2 28-3-22 to 3-4-22	Chapter -1 Previous method of power series, discuss different cases of solution of power series examples and exercises
3 4-4-22 to 10-4-22	Chapter-2 Bessel's equation (definition), solution of Bessel's equation, Bessel's function, reductions of Bessel's function in the form of series, recurrence relation for Bessel's function.
4 11-4-22 to 17-4-22	Generating function for Jn(x), representation of Jn(x) in integral, Jacobi series, equations reducible to Bessel equation, orthogonality relation of Bessel function.
5 18-4-22 to 22-4-22	Chapter 3 Legend's equation (definition), solution of Legendre's equation, Rodrigue's formula, derivation of Legendre polynomial from Rodrigues's formula, recurrence relation, orthogonality of Legendre polynomial.
6 23-4-22 to 29-4-22	Chapter -4 Hermite's equation (definition), Hermite polynomial, generating function for Hermite's polynomial, Rodrigue's formula for Hn(x), recurrence relation, orthogonal property of Hermite's polynomial. Assignment
7 30-4-22 to 6-5-22	Chapter -5 Laplace transforms (definition), Laplace transform of some elementary functions, some standard results obtained by applying shifting property, function of

	exponential order, second shifting theorem, related examples.
8 7-5-22 to 13-5-22	Laplace transform of derivatives, related examples, transform of a periodic function, Laplace transform of integrals, Laplace transform of some important functions,
9 14-5-22 to 20-5-22	Chapter -6 Inverse Laplace transform (definition), other methods for finding inverse transform, convolution theorem, related examples and exercise
10 21-5-22 to 27-5-22	Test, Assignment and viva.
11 28-5-22 to 3-6-22	Chapter -7 Use of Laplace transform in integral equations, example and exercise, Method to solve different types of equations, related examples and exercise
12 4-6-22 to 10-6-22	Chapter-8 Solution of differential equation by Laplace transformation. linear differential equation with constant coefficient by transform method, solution of ordinary differential equation with variable coefficients by transform method, solution of simultaneous linear equation with constant coefficient by transform method.
13 11-6-22 to 17-6-22	Chapter -9 Fourier transforms (definition), Fourier sine transform & cosine transform, properties of Fourier transforms, example based on Fourier sine and cosine transform.
14 18-6-22 to 24-6-22	Example based on the use of inverse transforms, convolution theorem Fourier transform, Fourier transform of the derivative, relation between Fourier and Laplace transform. Solution of differential equation by Fourier transforms.
15 25-6-22 to 02-7-22	Parseval's identity for Fourier transform, Parseval's identity for Fourier sine and cosine transform, finite sine and cosine transform. test
16 3-7-22 to 8-7-22	Revision and discuss problems

Lesson Plan

CMG Govt. College for Women, Bhodia Khera (Ftb)

Department of Mathematics Session: 2021-22

Name of the Teacher: Sonu Ram Designation: Assistant Professor of Maths

Class and Section: BA/BSC-III (6th sem.)

Subject: Linear Algebra

Week	Topics
1 21-3-22 to 27-3-22	Chapter 1: Vector spaces and subspaces, properties of vector spaces, subspaces, Exercise.
2 28-3-22 to 3-4-22	Chapter 1: Theorems on vector-subspaces, Examples, Linear sum of subspaces, Direct sum, Disjoint subspaces, Examples and Exercise.
3 4-4-22 to 10-4-22	Chapter 2: Linear combination of vectors, linear dependence and independence of vectors, Spanning sets, Basis of vector space, Ordered basis, Minimal generating set, Maximal linearly, Independent set.
4 11-4-22 to 17-4-22	Chapter 2: Dimensions of a vector space, Identical spaces complementary subspaces
5 18-4-22 to 22-4-22	Chapter 3: Quotient space, Dimension of quotient spaces, Test, Assignments-I
6 23-4-22 to 29-4-22	Chapter 4: Linear transformations, Properties of L.T. vector space isomorphism, Find L.T.
7 30-4-22 to 6-5-22	Chapter 5: Null space, Range or Image of L.T., Fundamental theorem of vector space homomorphism, Rank and nullity of a L.T.
8 7-5-22 to 13-5-22	Chapter 6: Algebra of L.T.,Sum of L.T., Composition of two L.T., Singular and non-singular L.T., Invertible L.T.
9 14-5-22 to 20-5-22	Chapter 7: Matrix of a L.T. relative to ordered basis, Matrices of identity and zero transformations change of basis
10 21-5-22 to 27-5-22	Chapter 8: Dual space, Vector space of all L.T., Bidual of a Vector space, Test and assignment- II

11 28-5-22 to 3-6-22	Chapter 9: Eigen values and eigen vectors of a L.T., Eigen space, Simplar matrices, Diagonalisation, Minimal polynomial
12 4-6-22 to 10-6-22	Chapter 10: Inner product spaces, Normal of a vector, Triangle inequality, Schwarz inequality, Normal linear space, Examples and theorms.
13 11-6-22 to 17-6-22	Chapter 10: Orthonormal set, Bessel's inequality, Gram-schmidt orthogonalization process, Theorems and Exercise.
14 18-6-22 to 24-6-22	Chapter 11: Linear operations on inner product spaces, Adjoint operator , Same theorems on linear operators
15 25-6-22 to 02-7-22	Revision and problems discussion
16 3-7-22 to 8-7-22	Revision and problems

Lesson plan B.A II nd Year IV Sem. (Economics)
Session - 2021-22

Sr. No	Date	Topic
	~~21-03-22 to 31-03-22~~	
1.	13-04-22 to 20-04-22	Credit control.
2.	21-04-22 to 30-04-22	Nature and scope of Public finance.
3.	01-05-22 to 10-05-22	Principle of maximum social advantage Public Expenditure.
4.	11-05-22 to 20-05-22	Taxation system Assignment.
5.	21-05-22 to 31-05-22	Impact and Incidence of Taxation.
6.	01-06-22 to 10-06-22	Unit test, Investment multiplier Correlation
7.	11-06-22 to 20-06-22	Correlation, Accelaration Principal.
8.	21-06-22 to 30-06-22	Public debt
9.	01-07-22 to 07-07-22	Trade cycles.

Raman
Assist. Prof. Economics