GOVT. COLLEGE KHUNDIAN

DISTT. KANGRA (H.P.) 176030

Prospectus-Cum-Hand Book of Information
2024-25

Phone:- 01970-272006
e-mail: gckhundian@gmail.com

ADMISSION SCHEDULE

Admission Timing :10:30 A.M. to 2:30 P.M

B.A./ B.SC./B.COM. 1st Year

S.No.	Particulars	Period
1	Submission of Admission forms for the session 2024-25	03.06.2024 -15.07.2024
2	Pre – admission counseling of students	03.06.2024 -15.06.2024
3	Display of 1st Merit List (UG 1st year student)	16.07.2024 (up to 1:00 P.M)
4	Fee Deposit	16.07.2024 -19.07.2024
5	Display of 2nd Merit List	20.07.2024 (up to 11:00 A.M)
6	Fee Deposit	20.07.2024 (up to 5:00 P.M)
7	Orientation of 1st year students	22.07.2024
8	Admission of UG 2nd & 3rd year students on roll on Basis	06.06.2024 – 15.07.2024
9	Fee Deposit	06.06.2024 – 19.07.2024

Post Admission Counselling :	(20.07.2024) (22.07.2024)
Regular Teaching :	23rd July 2024 Onwards

Annexure-A

Schedule of Admission/Teaching/Examination and Vacation for the Academic Session 2024-25 in r/o all Govt./Private/GIA Degree/ Sanskrit Colleges affiliated to HPU/SPU

Sr. No.	Particulars	Period	Working Days
	Submission of admission forms for the session 2024-25	03.06.2024 to 15.07.2024	34 days
	Pre-admission counselling of students	03.06.2024 to 15.06.2024	12 days
	Display of 1st Merit List (UG 1st year students)	16.07.2024 up to 01:00 PM	
	Fee to be deposited	16.07.2024 to 19.07.2024	03 days
	Display of 2nd Merit List	20.07.2024 up to 11.00 AM	
	Fee to be deposited	20.07.2024	02 days
	Orientation for 1st Year Students	22.07.2024	01 day
	Admission of UG 2nd year & final year students on Roll On Basis	06.06.2024 to 15.07.2024	31 days
	Fee to be deposited	06.06.2024 to 19.07.2024	34 days
	Post admission counselling	20.07.2024 & 22.07.2024	02days
	Regular Teaching	23.7.2024 to 28.10.2024	79 days
		04.11.2024 to 31.12.2024	48 days
		05.02.2025 to 29.03.2025	45 days
		Remedial Classes beyond normal teaching hours (atleast 54 hours)	09 days
		Total Teaching Days	**181 Working days**
	Summer Vacation for the Academic Year 2023-24		
	Summer Vacation	18-06-2024 to 12.07.2024	25 days
	Vacation Schedule for the Academic Year 2024-25		
	Diwali Break	29.10.2024 to 02.11.2024	=05 days
	Winter Vacation	01.01.2025 to 04.02.2025	=35 days
	Summer Vacation	19.05.2025 to 12.06.2025	=25 Days
		Total Vacation period	**=65 days**
	Examinations	01.04.2025 to 14.05.2025	44 days
	Evaluation of answer scripts	10.04.2025 to 17.05.2025	38 days
	Results of all UG Classes	Up to 30.06.2025	

Note: - Results of all Under Graduate Classes of "Academic Year 2023-24" should be declared on or before 31st July 2024 positively. Result of re-evaluation should be declared up to 07th September, 2024. Supplementary Exams for the Academic Year 2023-24 may be conducted in September 2024 and result of the same be declared in October, 2024.

B.Com.: Year II

Paper BC 2.5: COST ACCOUNTING

GDC Khundian

TEACHER: SURINDER KUMAR

Learning outcome: The objective of this paper is to acquaint the students with basic concepts used in cost accounting, various methods involved in cost ascertainment and cost accounting bookkeeping systems.

Contents

UNIT	TOPIC	DETAILS	Days and Months
1	**Introduction**	Meaning, objectives and advantages of cost accounting; Relationship between cost accounting and financial accounting;	15 July to 31 July
		Cost concepts and classifications; Elements of cost; Cost Sheet, Installation of a costing system; Role of a cost accountant in an organisation.	1 Aug to 15 Aug
2	**Elements of Cost:Material**	Material/inventory control techniques. Accounting and control of purchases, storage and issue of materials. Methods of pricing of materials issues — FIFO, LIFO, Simple Average, Weighted Average.	16 Aug to 31 Aug
		Replacement, Standard Cost. Treatment of Material Losses.	1 Sep to 15 Sep
3	**Elements of Cost: Labour**	Accounting and Control of labour cost. Time keeping and time booking. Concept and treatment of idle time, over time, labour turnover and fringe benefits.	1 Oct to 15 Oct
		Methods of wage payment and the Incentive schemes- Halsey, Rowan, Taylor's Differential piece wage.	16 Oct 31 Oct
4	**Elements of Cost: Overheads. Book Keeping in Cost Accounting**	Classification, allocation, apportionment and absorption of overheads; Under- and over-absorption; Capacity Levels and Costs; Treatments of certain items in costing like interest on capital, packing expenses, bad debts, research and development expenses; Activity based Costing & Service Costing (brief overview).	1 Nov to 15 Nov
		Reconciliation of cost and financial accounts	16 Nov to 30 Nov
5	**Methods**	Job costing, Contract costing,	1 Dec to 15 Dec
		Process costing (process losses, valuation of work-in-progress, joint and by-products)	16 Dec to 31 Dec

Revision of Syllabus: February to April

TEACHING PLAN
Session 2024-25
B.Com: Year I
Paper BC 1.1: FINANCIAL ACCOUNTING

GDC Khundian **TEACHER: SHIVANI SHARMA**

Learning Outcome: The objective of this paper is to help students to acquire conceptual knowledge of the financial accounting and to impart skills for recording various kinds of business transactions.

CONTENTS

UNIT	TOPIC	DETAILS	Days and Month
1	(a) Theoretical Frame work	i. Accounting as an information system, the users of financial accounting information and their needs. Qualitative characteristics of accounting, information. Functions, advantages and limitations of accounting. Branches of accounting. Bases of accounting; cash basis and accrual basis.	15th Jul to 31st July
		ii. The nature of financial accounting principles – Basic concepts and conventions: entity, money measurement, going concern, cost, realization, accruals, periodicity, consistency, prudence (conservatism), materiality and full disclosures.	1st August to 15th August
		iii. Financial accounting standards: Concept, benefits, procedure for issuing accounting standards in India. Salient features of First-Time Adoption of Indian Accounting Standard (Ind-AS) 101. International Financial Reporting Standards (IFRS): - Need and procedures.	16th August to 31st August
	(b) Accounting Process	From recording of a business transaction to preparation of trial balance.	1st September to 15th September
2	(a) Business Income	i. Measurement of business income-Net income: the accounting period, the continuity doctrine and matching concept. Objectives of measurement. ii. Revenue recognition: Recognition of expenses. iii. The nature of depreciation. The accounting concept of depreciation. Factors in the measurement of depreciation. Methods of computing depreciation: straight line method and diminishing balance method; Disposal of depreciable assets-change of method. iv. Inventories: Meaning, Significance of inventory valuation. Inventory Record Systems: periodic and perpetual. Methods: FIFO, LIFO and Weighted Average. Salient features of Indian Accounting Standard (IND-AS): 2 (Theory only)	16th September to 30th September

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Distt. Kangra (H.P.)

Department of English

Govt. Degree College Khundian, Kangra (H.P)

Teaching Plan Session 2024-25

Class : B.A/ B.Com 2nd Year Credit : 6

Course Title : English -2 Core English (compulsory) Course Code : ENG CE 201

Unit	Topic	Details of the syllabus under said units	Days of the Month	Method of Teaching	Learning Outcomes (S)
	Essays	i. —The Power of Prayerl by A. P. J. Abdul Kalam ii. —Vivekananda: The Great Journey to the Westl by Romain Rolland iii. More Than 100 Million Women are Missing by Amartya Sen iv. —On the Ignorance of the Learnedl (Excerpts by William Hazlitt) v. Simply Living (Excerpts by Ruskin Bond). vi. "Towards Creating a Poverty-Free Worldl by Muhammad Yunus vii. "Climatic Change and Human Strategyl by E.K. Federov.	July to Sept.	Blended	By the end of this course, students are expected to be able to : i) Introduce themselves to reflections i.e careful thoughts and ideas by eminent personalities from the east and the west on issues of great human and social significance. ii) Develop their understanding of spirituality, socio-political issues across th world, and issues of gender discriminatio prevalent both in the east and West.
I	Poetry	i. —A Psalm of Lifel by Henry Wadsworth Longfellow ii —Animalsl by Walt Whitman iii —When I am Dead My Dearestl by Christina Rossetti iv. If by Rudyard Kipling v. —The Lake Isle of Innisfreel by W.B. Yeats vi. —The Olive Treel by Mark O' Conner vii. Refugee Mother and Childl by Chinua Achebe	Sept. to Nov.	Blended	iii) Develop their understanding of different facets of human experience ranging from the personal, emotional, a inspirational to the contemplative, deep philosophical and overtly political throu a variety of poems. Iv) Identify a variety of voices, tone, st and cultural contexts through the poem this collection
III	Applied Grammar	1. One Word Substitution 2. Words used as Nouns &Verbs 3. Transformation of sentences 4. Homonyms, Homographs and Homophones	Feb to March	Blended (Lect., PPT, You tube videos)	v) Enhance their language efficiency b developing insight into the structure o language.

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Annexur - 1.2.1,ii

प्रयोजनमूलक हिंदी (HIND101)

मासिक शिक्षण योजना (Teaching Plan) – सत्र 2024-25

अवधि : जुलाई 2024 से फरवरी 2025 तक

मध्यावधि परीक्षा : 15 दिसंबर के बाद

जनवरी : शीतकालीन अवकाश (छुट्टियाँ)

माह	अध्ययन इकाई / विषयवस्तु	शिक्षण कार्य / गतिविधियाँ	मूल्यांकन / टिप्पणी
जुलाई 2024	इकाई – 1 : पत्र लेखन, प्रारूपण, टिप्पणी, प्रतिवेदन, प्राचार्य अर्थ एवं प्रकार	पत्र लेखन के प्रकारों की व्याख्या, नमूना लेखन, अभ्यास कार्य	प्रारंभिक मूल्यांकन / गृहकार्य
अगस्त 2024	• व्यावहारिक, व्यावसायिक एवं सरकारी पत्र लेखन • अनुवाद : परिभाषा, विशेषता एवं उपयोगिता	उदाहरण सहित अभ्यास, समूह चर्चा, प्रस्तुति	मौखिक मूल्यांकन
सितंबर 2024	इकाई – 2 : मुहावरे और लोकोक्तियाँ, शब्द-शुद्धि, वाक्य शुद्धि और शब्द ज्ञान	अभ्यास-पत्र, लोकोक्तियों का प्रयोग, लेखन अभ्यास	लघु परीक्षण
अक्टूबर 2024	इकाई – 3 : पर्यायवाची, विलोम, अनेकार्थी, नामकरण, मानकीकरण	शब्दावली अभ्यास, शब्द-सुधार, परिभाषा लेखन	आंतरिक मूल्यांकन – 1
नवंबर 2024	इकाई – 4 : कंप्यूटर में हिंदी प्रयोग, पारिभाषिक शब्दावली, कार्यालयी हिंदी और अनुवाद	कंप्यूटर पर हिंदी लेखन का अभ्यास, पारिभाषिक शब्दों की सूची तैयार करना	कक्षा परीक्षण
दिसंबर 2024 (15 तक)	• इकाई 1 से 4 तक की पुनरावृत्ति • प्रश्नोत्तर अभ्यास, संभावित प्रश्नों पर चर्चा	मॉडल प्रश्नपत्र अभ्यास	आंतरिक मूल्यांकन – 2
दिसंबर 2024 (15 के बाद)	मध्यावधि परीक्षा (Mid Term Exam)	इकाई 1 से 2 तक का कवरेज	लिखित परीक्षा

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(H.P.)

GDC Khundian

DEPARTMENT OF ECONOMICS

TEACHING PLAN

Academic Session: 2024-25

Name of Teacher: Smriti

Subject: ECONOMICS

Paper: Principles of Microeconomics-II

Paper Code: ECONA102

Class: B.A-Ist Year

Nature of Course: DSC – II

Number of credits: 6

UNIT	CHAPTER	SUB-TOPIC	MONTH	LEARNING OUTCOME(S)
I	Theory of a Monopoly Firm	Concept of imperfect competition; Monopoly: features, short run and long run price and output decisions of a monopoly firm; concept of a supply curve under monopoly; comparison of perfect competition and monopoly, price discrimination; Dumping; remedies for monopoly: Antitrust laws, natural monopoly.	July to August	Daily review from students for the last class Know about monopoly firm
II	Monopolistic Competition and Oligopoly	Monopolistic competition: Assumptions, short run & long run price and output determination under monopolistic competition, economic efficiency and resource allocation. Oligopoly: Assumptions, oligopoly model: kinked demand curve and price rigidity.	September	Daily review Understand the concept of monopolistic and oligopoly markets

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Teaching Plan for the Session 2025-2026

Name of Teacher: Pradeep Kumar Subject: Pol Science

Paper: Introduction to Political Theory Paper Code: POLS 101

Class: B.A.1st

S.No	Chapter	topic	Days of the month
1	What is politics and what is Political Theory? What is its relevance?	Meaning of Politics, Politics is Science, Politics is Art.	15July to 31st July
2	Politics and Political Theory	Area/Scope of politics, Meaning of political Theory, its relevance?	1st August to 15 August
3	State, Civil Society, Liberty, Equality, Justice, Rights.	Meaning of State, Difference with the Nation, Country, Elements of state and Working of State.	16th August to 31st August
4	Civil Society, Liberty,	Meaning of civil society, features and is india a civil society, Meaning of Liberty, features. Kinds of liberty and their features	1st Sept. 15 Sept.
5	Liberty and Equality,	Kinds of liberty and their features, meaning of equality, features and different kinds of equality like social equality.	16th sept to 30th sept
6	Equality, Justice	Political, economic, legal equality and their features. Meaning of justice and different kinds of justice like social, political.	1st oct to 15 oct
7	Justice and Rights	Economic, and legal justice, safeguards of justice. Meaning of rights and fundamental rights, different fundamental rights.	15th oct., to 31st oct.
8	Rights	Political, economic, legal cultural and social rights	1st Nov., to 15th NOV
9	Debates: (a) Democracy and Economic Growth, (b) Liberal and Socialist Perspectives.	Meaning of Democracy, its merits and demerits and democracy helpful for economic growth.	16TH TO 30th Nov.
10	Liberal and Socialist Perspectives.	Meaning of liberalism its merits and demerits in r/o Indian context, Meaning of socialism its features.	1st Dec., to 15th Dec
11	Socialism and Protective Discrimination	Criticism of socialism, Protective discrimination its merits and demerits.	6th Feb., to 15 Feb.
12	Principles of Fairness. State intervention	Meaning principal of fairness. State intervention.	15th feb to 28th Feb.
13	the Institution of Family	Meaning of family, The Institution of Family, its formation and social acceptance. arguments against and in favour of state intervention in family	1st March, to 15th March
14		arguments against and feavour of state intervention in family	15th March, to 31st March 2025

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DEPARTMENT OF MUSIC (Instrumental)

TEACHING PLAN

Academic Session:2024-2025

Name of Teacher: Sandeepa

Subject: Music (I)

Paper: Stage-Performance

Paper Code: MUSA202PR

Class: B.A IInd Year

UNIT	SUB-TOPIC	DAYS OF THE MONTH	LEARNING OUTCOME(S)
PRACTICAL	Rāga –, Malkauns Brief introduction aroh avroh pakad of raag	23rd july to 15th August	understand the different musical notes and learn to perform ragas in different taal and laya
PRACTICAL	Drut gat of raag malkauns toda	16th to 31st August	Students can learn the theoretical details of raag
PRACTICAL	Raga-marubihag Brief introduction aroh avroh pakad of raag	1st to 15th September	
PRACTICAL	Drut gat of Maru Bihag taan		
PRACTICAL	Introduction of Raag Vrindavani Sarang	16th to 30th September	Can compare the different raagas
PRACTICAL	Drut gat of Raag Vrindavani Along with taans	1st to 15th October	
PRACTICAL	Technique of playing alap	16th to 28th October	
PRACTICAL	Chautāla, Dhamar, with its ekgun dugun tigun chaugun	4th to 15th November	Learn to play alap jod alap
	Ability to recite the Roopak, Jhaptal along with its ekgun dugun tigun chaugun	16th to 25th November	
PRACTICAL	Basic knowledge of playing Harmonium with Alankars or Bhajan.	1ST TO 15TH December	Learn about the Music Notation System on harmonium and sitar
	Midterm Exam	16th to 31st December	
PRACTICAL	Revision Rāga –Tāla	5th Feb to 28th feb	Understand relationship between sounds
PRACTICAL	Annual Practical	March	
	Annual Exam	APRIL/MAY	

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Department of Sociology

Govt. Degree College Khundian

Teaching Plan

Class: BA I

Title: Introduction to sociology (SOCL- A 101)

Unit	Topic	Detail	Month	Method of Teaching
I	Basic Introduction about Sociology	Meaning, Definition & Origin of Sociology; Development of Sociology in world & India; Nature & importance of Sociology	July- August	Lectures
II	Scope and Subject Matter of Sociology	Scope of Sociology Subject matter of Sociology Relationship of Sociology with History, Psychology & Anthropology.	September - October	Lectures
III	Basic Concepts	Society, Community: Institutions and Associations (meaning and features); Status and Role (Meaning, Features and Relationship)	November- December	Lectures
IV	Sociological Concepts	Socialization (Meaning and Agencies); Culture (Meaning, Characteristics and types) Social Change(Meaning, Characteristics and factors of social change); Social Groups (Meaning, Characteristics and types- Primary & Secondary Groups)	December to March 1st week	Lectures

Note: Class test, Assignments and midterm will be taken during the session

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Distt. Kangra (H.P.)

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DEPARTMENT OF ZOOLOGY

TEACHING PLAN

Academic Session: 2024-25

Name of Teacher: Asha

Subject: ZOOLOGY

Paper: Animal Diversity

Paper Code: ZOOL101

Class: B.Sc-Ist Year

	Lesson content	Month	Learning Outcomes
	Kingdom Protista General characters and classification up to classes; Locomotory Organelles and locomotion in Protozoa **Phylum Porifera** General characters and classification up to classes; Canal System in Sycon **Phylum Cnidaria** General characters and classification up to classes; Polymorphism in Hydrozoa **Phylum Platyhelminthes** General characters and classification up to classes; Life history of *Taenia solium*	July-August	• Understand the taxonomic position of protozoa to Platyhelminthes. • Understand the general characteristics of animals belonging to protozoa to Platyhelminthes. • Identify animals based on special identifying characters
	Phylum Nemathelminths General characters and classification up to classes; Life history of *Ascaris lumbricoides* and its parasitic adaptations **Phylum Annelida** General characters and classification up to classes; Metamerism in Annelida **Phylum Arthropoda** General characters and classification up to classes; Vision in Arthropoda; Metamorphosis in Insects **Phylum Mollusca** General characters and classification up to classes; Torsion in gastropods **Phylum Echinodermata** General characters and classification up to classes; Water-vascular system in Asteroidea	September-October	• Discuss the importance of parasitic adaptations specially in the larval stages. • Understand the structural organization of animals phylum from Nemathelminths to Echinodermata. • Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscans
3	**Protochordates** General features and Phylogeny of Protochordata **Agatha** General features of Agnatha and classification of cyclostomes up to classes **Pisces** General features and Classification up to orders; Osmoregulation in Fishes **Amphibia** General features and Classification up to orders; Parental care	November	• Understand the differences between chordates and nonchordates • Describe general taxonomic rules on animal classification of chordates • Understand the general characteristics of cartilage nous and bony fishes • Understand the importance of parental care in case of amphibians
4	**Reptiles** General features and Classification up to orders; Poisonous and non-poisonous snakes. Biting mechanism in snakes **Aves** General features and Classification up to orders; Flight adaptations in birds **Mammals** Classification up to orders; Origin of mammals	December	• Understand the structural differences between poisonous and non-poisonous snakes • Understand development of feathers and flight adaptations in case of aves • Understand the origin and evolutionary relationship of different phyla • Understand the importance of preservation of museum specimens

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DEPARTMENT OF BOTANY

Subject: Botany

Paper: Biodiversity

Paper Code: BOTA 101

Class: B.Sc-1st Year

Sr. No.	Lesson content	Month	Learning Outcomes
1.	Virus introduction, discovery, structure of TMV and Bacteriophage, Lifecycle and economic importance of virus. Bacteria structure, types, nutrition and reproduction	july	1. Define what a virus is and differentiate between viruses and other microorganisms. 2. Describe the structural features of Tobacco Mosaic Virus and Bacteriophage. Describe the lytic and lysogenic cycles of Bacteriophages .Describe the basic structural components of bacteria. Describe the different modes of bacterial nutrition.
2.	General characteristics; Ecology and distribution; Range of thallus organization and reproduction; Classification of algae; Morphology and lifecycle of some algae. Fungi General characteristics, ecology and significance, range of thallus organization, cell wall composition, nutrition, reproduction and classification;	Aug-Oct	1. Analyze the ecological roles of algae in various environment 2.Identify and describe different types of thallus organization in algae.Describe the morphology of selected algal groups, including structure and function of thalli, chloroplasts, and reproductive structures. 3. Understand the significance of fungi in ecosystems as decomposers. Identify the different forms of fungal thallus organization. Explain the modes of nutrition in fungi. Classify fungi into major groups based on their reproductive structures and life cycles.
3	Life cycle of some fungi, Lichens Bryophytes General characteristics, adaptations to land habit, Range of thallus organization. Classification of Bryophytes; Morphology, anatomy and reproduction of Marchantia and Funaria. Ecology and economic importance of bryophytes (Sphagnum)	Oct	1. Illustrate the process of alternation of generations in fungi. 2. Explain the various growth forms of lichens. 3. Describe the general characteristics of bryophytes, including their non-vascular nature, life cycle, and ecological roles. 4.Describe the morphology and anatomy of Marchantia (liverwort) and Funaria (moss), focusing on their structures and functions. Discuss the ecological roles of bryophytes, particularly Sphagnum moss, in wetland ecosystems and soil formation.
4	Pteridophytes General characters and Classification.Heterospory and Seed habit; Stelar system, ecological evolution. Gymnosperms characters and classification, Cycas and Pinus morphology, anatomy, and reproduction. Economic importance.	Nov-Dec Feb	1. Define heterospory and explain its significance in the evolutionary transition towards seed plants. 2. Describe the stelar system in pteridophytes, including the types of steles. 3. Describe the general characteristics of gymnosperms, including their reproductive structures, leaf types, and vascular adaptations. 4. Explain the morphology and anatomy of Cycas and Pinus.Discuss the economic importance of gymnosperms

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Govt. College Khundian
Distt. Kangra (H.P.)

GDC Khundian

DEPARTMENT OF **PHYSICS**

TEACHING PLAN

Session: **2024-2025**

Name of Teacher: **Jyotika**

Subject: **Physics**

Paper: **Mechanics**

Code: **PHYS101**

Class: **B.Sc 1st Year**

Unit	Chapter	Sub-Topic	Days of Month	Learning Outcomes
1	Ordinary Differential Equations	1st order Homogeneous differential equation, 2nd order Homogeneous differential equations with constant coefficient	23rd to 31st July	Identify & classify Ordinary Differential Equations and its application in Mechanical Physics
1	Co-ordinate Systems and motion of Particle, Space time symmetry	Volume, velocity and acc in cartesian and Spherical co-ordinate systems, solid angle	1st to 15th Aug	Able to evaluate the choice of co-ordinate system, limitations of co-ordinate system and transformation from one co-ordinate system to other
1	Conservation Laws	Relationship of conservation laws and symmetries of space and time	16th to 31st Aug	Understanding conservation laws and its importance to solve different problem in physics, Familiar with its assumption and limitation while solve problem
1	Frame of reference	Inertial frame of reference, Galilean transformation and Galilean invariance. Non-Inertial frames, Coriolis force and it's applications, Foucault's Pendulum	1st to 15th Sept	Identify and choose the appropriate Frame of reference, visualize and interpret motion in various frames
2	Gravitational and Inverse Square Force Law	Newton's Law of Gravitation, Various forces in nature, Central and non-central forces, inverse square force,	16th to 30th Sept	Understand the concept of Gravitation & it's history,
2	Gravitational and Inverse Square Force Law	C.O.M, Equivalent to one body problem, Reduced mass, angular momentum in central force field, Equation of motion under a force law	1st to 15th Oct	Concept of C.O.M and its use to solve the numerical problems
2	Gravitational and Inverse	Equation of orbit and turning points, Relationships between	16th to 28th Oct	Gravitational interactions (Earth- satellite, Planets - sun), Real world system

Govt. College
Distt. Kangra (H.P.)

Govt. Degree College Khundian

Teaching Plan [Session-2024-25]

Tutor: Virender Singh B. Sc. 1st Year **Subject: Mathematics** **Course Title: Differential Equations [Code: MATH1021T]:**

Unit	Chapter	Sub-topic	Period	Learning Outcome(s)
Unit-I:(19 hrs.) Basic Theory of Linear Differential Equations	Introduction	Basic theory of linear differential equations, Wronskian and its properties.	**23/7/2024 to 31/7/2024**	Understanding the fundamental concepts of linear differential equations and the properties of the Wronskian.
	First Order Differential Equations	First order exact differential equations.	**1/8/2024 to 31/8/2024**	Learn to solve exact differential equations using appropriate techniques.
	Integrating Factors	Finding integrating factors.		Application of methods to find integrating factors for solving exact equations.
	Higher Degree Equations	First order higher degree equations solvable for x, y, p.		Solve higher-degree equations and interpret solutions in various forms.
	Clairut's Form	Clairut's form, solving equations.		Mastery in solving Clairut's differential equations.
	Higher-Order Differential Equations	Methods for solving higher-order differential equations.		Learn various methods to solve higher-order differential equations.
	Order Reduction	Solving a differential equation by reducing its order.		Application of order-reduction techniques to solve complex differential equations.
	Homogeneous Equations	Linear homogeneous equations with constant coefficients.		Understanding linear homogeneous equations and constant coefficients solutions.
	Non-Homogeneous Equations	Linear non-homogeneous equations, methods of solution.		Solve non-homogeneous differential equations using appropriate techniques.
	Practice Problems and Revision	Practice and discussion on complex problems from Unit-II.		Solidifying understanding of higher-order differential equations through problem-solving.
Unit-III: (19 hrs.) Method of Variation of Parameters	Variation of Parameters	The method of variation of parameters with constant coefficients.	**1/10/2024 to 31/10/2024**	Understand the method of variation of parameters for solving differential equations.
	Cauchy-Euler Equation	Cauchy-Euler equation.		Solve Cauchy-Euler equations and understand their application in various contexts.
	Legendre Equation	Legendre equation and methods of solving it.		Learn about Legendre equations and develop techniques to solve them effectively.
	Simultaneous Differential Equations	Introduction to simultaneous differential equations.		Apply methods to solve simultaneous differential equations.
	Total Differential Equations	Solving total differential equations.		Master techniques for solving total differential equations and analyzing solutions.

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