Govt. Polytechnic Kangra(HP)
Department of Applied Sciences & Humanities

Lesson Plan (Session: April - July 2021)
Subject: English & Communication Skills-II; Semester: 2nd
Planned Theory: 16 weeks *4 hours/week= 64 hours, Planned Practical: 32 Hours

Sr No.	Lecture No.	Topic	Detailed Contents	Instruction Reference/ Additional Study Recommended
1	15 hours (1-15)	Facets of Literature	**1.1 Short Stories** 1.1.1 The Portrait of a Lady - Khushwant Singh 1.1.2 The Refugees –Pearl S.Buck **1.2 Prose** 1.2.1 Forgetting- Robert Lynd 1.2.2 Walking Tours- Robert Louis Stevenson **1.3 Poems** 1.3.1 All The World's A Stage -William Shakespeare 1.3.2 No Men are Foreign- James Kirkup	Text Book
2	5 hours (16-20)	Precis Writing	The Art of Precis Writing	Text Book, English Grammar by Thomson and Marlinet,
3	15 hours (21-35)	Grammar and Usage	3.1 Narration 3.2 Idioms and Phrases 3.3 One Word Substitution	Text Book, Wren and Martin High School English Grammar
4	8 hours (36-43)	Correspondence	4.1 Business Letters 4.2 Personal letters 4.3 Application for Job (Resume & Covering Letter)	Text Book, Business Correspondence and Report Writing by RC Sharma and Krishna Mohan
5	5 hours (44-48)	Drafting	5.1 Essentials of Report Writing 5.2 Inspection Notes 5.3 Memos, Circulars 5.4 Press Release 5.5 Agenda and Minutes of Meetings	Text Book, Business Correspondence and Report Writing by RC Sharma and Krishna Mohan
6	5 hours (49-53)	Glossary	Glossary of Technical & Scientific Terms	Text Book
7	11 hours (54-64)	Communication	7.1 Media and Modes of Communication 7.2 Channels of Communication 7.3 Barriers to Communication 7.4 Listening Skills-Types of Listening 7.5 Body language	Text Book, Essentials of Business Communication by Pal & Rorualling

Sr. No.	Period(2 hours per student/week)	Detail of Practical
1	4hours	Exercises on conversion of Phonetic Transcriptions to words & vice-versa
2	4hours	Group Discussions
3	4hours	Mock Interviews
4	2hours	Telephone Etiquette-demonstration and practice
5	4hours	Situational Conversations with feedback through video recording
6	4hours	Presentation on a given theme (using Powar Point)
7	2hours	Exercises leading to personality development like mannerism, etiquette, body language etc.
8	2hours	Reading unseen passages
9	2hours	Writing (developing) a paragraph
10	4hours	Just a minute session – Extempore Speech.

(Parveen Kumari)
Lecturer in English (AS & H)
Govt Polytechnic Kangra(HP)

(Meenakshi Saini)
Sr. Lect. (AS & H)
Govt Polytechnic Kangra(HP)

Approved by HOD(AS & H) Dated: 31.03.2021

PLANNED SYLLABUS COVERAGE (THEORY)

G P Kangra	Department: Applied Sciences & Humanities Subject- Applied Chemistry II				
	Branch – Electrical Engineering / Mechanical Engg. Semester- Second				
SYLLABUS COVERAGE	Planned Theory Periods- 64 Hrs.				
Sr No	Lect. No./ Period-	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	15 Hrs (1-15)	Metallurgy	General metallurgical Terms /operations and principles, extraction of pure iron and copper, aluminum from their chief ores . Manufacture of steel by open hearth process . Alloys:Type of alloys,purpose of alloying, composition, properties and uses of different alloys such as Invar, stainless steel, alnico, nichrome, brass, bronze, duralumin, magnalium and solder .	Engg. Chem.by Shashi Chawla, Eagle Publications, Hiteshi Publications	NCERT(+1, +2 Chemistry books), Pradeep Publications,Dinesh Publications	
2	10 Hrs (16-25)	Corrosion	Definition and electrochemical theory of corrosion passivity of metals. Preventions and control on measure :internal measure, external measure.(a)metallic –sacrificial anodic and cathodic protection (b)non metallic coating-chemical coating and painting (c) Application of inhibitors and alteration of corrosive environment.			
3	20Hrs (26-45)	Fuels	Introduction, combustion, and classification of fuels, characteristics of good fuel calorific value, determination of calorific value by bomb calorimeter and dulong's formula, numerical problems related to dulong's formula only. Fuel rating : octane number, Cetane number, influence of chemical composition and structure on fuel rating. Gases fuels : natural gas, L.P.G. , CNG, hydrogen , composition, manufacture and uses of water gas , producer gas , bio gas , merits and demerits of gases fuels over solid and liquid fuels .			
4	7 Hrs. (46-52)	Lubricants	Definition and classification of lubricants , mechanism of lubrication ,characteristics of good lubricants , properties of lubricants : such as oiliness , emulsification ,flash and fire point , volatility , viscosity and viscosity index , cloud and pour point acidity value,saponification value & coke number.			

	Lect. No.	Topic	Details	Instruction Reference	Additional Study Recommended	Remark
5	6 Hrs. (53-58)	Paints & Varnishes	Constituents of paints , characteristics of good paint, Constituents and characteristics of varnishes ,constituents of enamels Uses of paints, varnishes and enamels	Engg. Chem.by Shashi Chawla, Eagle Publications, Hiteshi Publications	NCERT(+1,+ 2 Chemistry books), Pradeep Publications, Dinesh Publications	
6	6 Hrs. (59-64)	Refractories	Introduction of good refractory materials, types and chemical composition of acidic, basic and neutral refractory, application of refractories.			

Signature of Teacher with name: Aman Saini
Anil Kumar

APPROVED	SIGN. HOD/PPL
DATE 31.03.2021	

PLANNED SYLLABUS COVERAGE

GP Kangra	Department: Applied Sciences & Humanities Subject: App. Mathematics -II				
	Course : All Courses (Common)		Semester : 2nd		
SYLLABUS COVERAGE	Total Periods :80 Hours		Session: April-July 2021		

Sr No	Period No.	Topic	Details	Instruction Reference	Additional Study Recommended	Remark
1	1-12	Algebra	1.1Determinants: Elementary properties of determinants upto 3rd order, consistency of equations, Crammer's rule. 1.2 Matrix: Algebra of matrices, Inverse of a matrix, matrix inverse method to solve a system of linear equations in 3 variables.			
2	13-30	Co-ordinate Geometry	2.1 Equations of straight line in various standard forms (without proof), inter section of two straight lines, angle between two lines. Parallel and perpendicular lines, perpendicular distance formula 2.2 General equation of a circle and its characteristics. To find the equation of a circle, given: * Centre and radius * Three points lying on it * Coordinates of end points of a diameter; 2.3 Definition of conics (Parabola, Ellipse, Hyperbola) their standard Equations without proof. Problems on conics when their foci, directrices and vertices are given.			
3	31-64	Integral Calculus	3.1 Integration as inverse operation of differentiation 3.2 Simple integration by substitution, by parts and by partial fractions (for linear factors only) 3.3 Use of formulas $\int_0^{\pi/2} \sin^n x\,dx$, $\int_0^{\pi/2} \cos^n x\,dx$, $\int_0^{\pi/2} \sin^n x \cos^n x\,dx$ For solving problems where m, n are positive integers 3.4 Applications of integration for: (a) Simple problem on evaluation of area bounded by a curve and axes. (b) Calculation of Volume of a solid formed by revolution of an area about axes. (Simple problems).			
4	65-74	Vector Algebra	4.1 Definition notation and rectangular resolution of a vector 4.2 Addition and subtraction of vectors. 4.3 Scalar and vector products of 2 vectors. 4.4 Simple problems related to work, moment and angular velocity .			

GP Kangra	Department: Applied Sciences & Humanities Subject: App. Mathematics -II				
	Course : All Courses (Common)		Semester : 2nd		
SYLLABUS COVERAGE	Total Periods :80 Hours		Session: April-July 2021		
Sr No	Period No.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
5	75-80	Differential Equations	5.1 Solution of first order and first degree differential equation by variable separation method (simple problems). MATLAB - Simple Introduction.			

Signature of Teacher
(Reema Choudhary)

Dated:	Approved By
	HOD,AS & H 31.03.2021

PLANNED SYLLABUS COVERAGE (Theory)

GP Kangra	Department: Applied Sciences and Humanities Subject :Applied Physics-II					
	Course : Common		Semester: Second			
SYLLABUS COVERAGE	Total Period: 64 Hours					
Sr. No.	Lect. Nos	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	10 Hrs. (1-10)	Waves and vibrations	Wave motion with examples, generation of waves by vibrating particles Types of wave motion - transverse and longitudinal wave motion, velocity, frequency and wave length of a Wave. Relationship between wave velocity, frequency and wave length. Simple harmonic motion: definition, expression for displacement, velocity, acceleration, time period, frequency In S.H.M. Free, forced and resonant vibrations with examples Numerical based on S.H.M.wave motion with examples,			
2	08 Hrs. (11-18)	Applications of waves	Sound Waves, Beats, Doppler effect of sound, apparent frequency, determination of apparent frequency (when the source of sound moving towards and away from stationary observer). Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound, methods to control reverberation time. Simple numerical on reverberation time. Ultrasonic– production (magnetostriction and piezoelectric methods) and their engineering applications			
3	09 Hrs. (19-27)	Light	Laws of reflection and refraction, Refractive index, power of lens, Magnification of a lens Total internal reflection and its applications, Critical angle and conditions for total internal reflection. Simple and compound microscope, simple telescope. Magnifying power of Simple telescope. Coherent and non-coherent sources of light. Interference of light, superposition principle, constructive &destructive interference.			
4	07 Hrs. (28-34)	Electro statics	Coulombs law, unit charge. Electric flux and Gauss's Law, Electric field intensity and electric potential at any Point due to a point charge. Capacitance, Principle of capacitor, capacitance of parallel plate capacitor, series and parallel combination of capacitors			

			Numerical based on combination of capacitor.			
	06 Hrs. (35-40)	DC Circuit	Current, voltage and resistance, potential difference, Electric power, electrical energy and their units. Ohm's law Series and parallel combination of resistors, specific resistance, effect of Temperature on resistance. Kirchhoff's laws Numerical based upon combination of resistances.			
6	08 Hrs. (41-48)	Electro magnet ism	Magnetic field and its units Biot-Savart Law, magnetic field around a current carrying straight conductor, Force on a moving charge and current carrying conductor in a magnetic field. Classification of material on the basis of Magnetism.			
7	06 Hrs. (49-54)	Semico nductor Physics	Energy bands, definition of conductor, semiconductor & insulator on the basis of band theory, intrinsic and extrinsic semiconductors, p-n junction diode and its characteristics Diode as rectifier – half wave and full wave rectifier			
8	10 Hrs. (55-64)	Moder n Physics	Lasers: (i) Concept of energy levels, ionization, excitation and de-excitation of laser; (ii) Spontaneous and stimulated emission, pumping scheme, population inversion, (iii) Ruby, He-Ne lasers, (iv) Applications of Laser Fiber optics: (i) Optical fibre and its types, (ii) Optical fibre materials, (iii) Acceptance angle and numerical aperture (iv) light propagation in optical fibre (v) Advantages of optical fibre over copper wires in communications. (vi) Applications of optical fibre			

(SAROOP CHAND)

Rakhi

Signature of Teacher with name: Rakhi Sharma

Approved	HOD Sign.
Date:	3/2/2021

Department of Applied Sciences & Humanities

Lesson Plan (Session: April - July 2021)

Subject: Environmental Studies & Disaster Management; Semester: 2nd

Planned Theory: 16 weeks *3 hours/week= 48 hours

Sr No.	Lecture No.	Topic	Detailed Contents	Instruction Reference/ Additional Study Recommended
1	02 hours (1-2)	Basics of Ecology	Eco system and Sustainable Development	Ecology and Environment by PD Sharma
2	4 hours (3-6)	Conservation of Land and Preservation	Conservation of land, preservation of species, prevention of advancement of deserts and lowering of water-table, rain water harvesting, deforestation – its effects and control measures	Ecology and Environment by PD Sharma, Environmental Studies by Erach Bharucha
3	10 hours (7-16)	Pollution	Pollution: Sources of pollution - causes, effects and control measures of pollution (air, water, noise, soil, radioactive and nuclear). Units of measurement. Prevention of Pollution, Introduction to Cleaner Production Technologies, Introduction to Waste Minimization Techniques	Ecology and Environment by PD Sharma, Environmental Pollution by Dr. RK Khitoliya; S Chand Publishing, New Delhi
4	6 hours (17-22)	Waste Management	Solid waste management, classification of refuse material, sources, effects and control measures. Introduction to E-waste Management.	Ecology and Environment by PD Sharma
5	8 hours (23-30)	Energy Conservation	Introduction to Energy Management, Energy Conservation, Energy efficiency & its need. Introduction to Energy Conservation Act 2001 and Energy Conservation (Amendment) Act 2010 & its importance. Role of Non-Conventional Energy Resources (Solar Energy, Wind Energy, Bio Energy, Hydro Energy) in environmental protection.	Ecology and Environment by PD Sharma, Environmental Studies by Erach Bharucha
6	6 hours (31-36)	Impact of Energy Usage on Environment	Global Warming, Green House Effect, Depletion of Ozone Layer, Acid Rain. Eco-friendly Material, Recycling of Material, Concept of Green Buildings.	Ecology and Environment by PD Sharma, Environmental Studies by Erach Bharucha

12 hours (37-48)	**Basics of Disaster Management**	7.1 Disasters- Basic Terminology: Concepts and definitions of Disaster, Hazard, Vulnerability, Risk, Capacity – Disaster and Development, and Disaster Management. 7.2 Types, Trends, Causes, Consequences and Control of Disaster Geological Disasters: earthquakes, landslides, tsunami, mining; Hydro-Meteorological Disasters: floods, cyclones, lightning, thunder-storms, hail storms, avalanches, droughts, cold and heat waves. Disasters: epidemics, pest attacks, forest fire; Technological Disasters: chemical, industrial, radiological, nuclear; Manmade Disasters: building collapse, rural and urban fire, road and rail accidents, nuclear, radiological, chemicals and biological disasters. Global Disaster Trends – Emerging Risks of Disasters – Climate Change and Urban Disasters 7.3 Disaster Management Disaster Management, Disaster risk reduction Pre- Disaster – Risk Assessment and Analysis, Risk Mapping, zoning and Micro-zoning Prevention and Mitigation of Disasters, Early Warning System; Preparedness, Capacity Development	Ecology and Environment by PD Sharma, Environmental Studies by Erach Bharucha

(Anil Kumar)
Lecturer in Chemistry (AS & H)
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Approved by HOD(AS & H) Dated: 21/03/2022