T. R. ABHILASHI MEMORIAL INSTITUTE OF ENGINEERING AND TECHNOLOGY (POLYTECHNIC)

Tanda, P.O. Balt, Distt. Mandi (H.P)

Academic Lecture Plan

Session : Aug 2019 - Nov 2019

Lesson Plan of **ENGLISH AND COMMUNICATION SKILLS -I**

Paper Code : 01

Class : 1ST year, (Polytech)

Teacher Name : **Gaurav Sharma**   Semester : 1st

Branch: C.E & M.E

Reference Book :- English & Communication Skills : Kuldip Jaidka, Alwinder Dhillon,
Pramod Kumar Singla

S. No	Topic Detail	Planned Date	Actual Date	Remarks
1	Introduction, Glossary of Administrative terms.	01-08-19		
2	Glossary of Administrative terms.	02-08-19		
3	Translation from Hindi to English	05-08-19		
4	Translation from English to Hindi	08-08-19		
5	Homecoming(Short Story)	09-08-19		
6	Homecoming(Short Story)	16-08-19		
7	The Diamond Necklace(Short Story)	19-08-19		
8	The Diamond Necklace(Short Story)	22-08-19		
9	I Have a Dream (Prose)	23-08-19		
10	Test-I	26-08-19		
11	On Habits (Prose)	29-08-19		
12	Ozymandias (Poems)	30-08-19		
13	Daffodils (Poem)	05-09-19		
14	Stopping by the woods on a snowy Evening (Poem)	06-09-19		
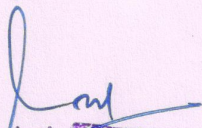
15	Parts of speech	09-09-19		
16	Parts of speech	12-09-19		
17	Parts of speech	13-09-19		
18	Identification of a tense	16-09-19		
19	Test-2	19-09-19		
20	Correction of incorrect sentences	20-09-19		
21	Correction of incorrect sentences	23-09-19		
22	One word substitution	26-09-19		
23	One word substitution	27-09-19		
24	Active & Passive Voice	30-09-19		
25	Active & Passive Voice	03-10-19		
26	Active & Passive Voice	04-10-19		
27	Paragraph of 100-150 words	07-10-19		
28	Paragraph of 100-150 words	10-10-19		
29	Paragraph of 100-150 words	11-10-19		
30	Comprehension	14-10-19		
31	Comprehension	17-10-19\		
32	Definition, Elements of communication	18-10-19		
33	Process of Communication	21-10-19		
34	Levels of Communication	31-10-19		
35	Objectives of Communication	01-11-19		
36	Objectives of Communication	04-11-19		

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Session : Aug 2019 - Nov 2019

Academic Lecture Plan

Lesson Plan : Applied mathematics-I

Course Code: 02

Class: 1ST Year Polytechnic

Teacher Name: Suman kumari

Branch: ME, CE

Semester: 1st

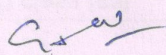| S.NO.	Topic Detail	Planned Date	Actual Date	Remarks
1	**Algebra:** Complex Numbers: Definition, real and imaginary parts of a Complex number,	1-8-19		
2	polar and Cartesian, representation of a complex number and its conversion from one form to other,	3-8-19		
3	conjugate of a complex number, modulus and amplitude of a complex numbe	4-8-19		
4	Addition, Subtraction, Multiplication and Division of a complex number	5-8-19		
5	De-movier's theorem, its application	6-8-19		
6	Partial fractions (linear factors, repeated linear factors	7-8-19		
7	Partial fractions (linear factors, repeated linear factors	8-8-19		
8	Partial fractions (linear factors, repeated linear factors	12-8-19		
9	Permutations and Combinations: Value of npr ncr. Simple problems	13-8-19		

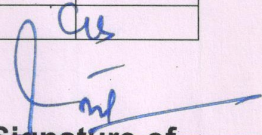|			
10	Permutations and Combinations: Value of npr ncr. Simple problems	14-8-19	
11	Permutations and Combinations: Value of npr ncr. Simple problems	15-8-19	
12	Binomial theorem (without proof) for positive integral index (expansion and general form);	17-8-19	
13	Binomial theorem (without proof) for positive integral index (expansion and general form);	19-8-19	
14	binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to engineering problems	20-8-19	
15	binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to engineering problems	21-8-19	
16	binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to engineering problems	22-8-19	
17	1st class test	24-8-19	
18	binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to engineering problems	26-8-19	
19	binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to engineering problems	27-8-19	
20	binomial theorem for any index (expansion without proof) first and second binomial	28-8-19	

	approximation with applications to engineering problems			
21	**Trigonometry** : Concept of angles, measurement of angles in degrees	29-8-19		
22	grades and radians and their conversions	31-8-19		
23	grades and radians and their conversions	2-9-19		
24	T-Ratios of Allied angles (without proof), Sum,	3-9-19		
25	difference formulae and their applications (without proof).	4-9-19		
26	difference formulae and their applications (without proof).	5-9-19		
27	Product formulae (Transformation of product to sum, difference and vice versa	7-9-19		
28	Product formulae (Transformation of product to sum, difference and vice versa	9-9-19		
29	Product formulae (Transformation of product to sum, difference and vice versa	10-9-19		
30	T-Ratios of multiple angles, sub-multiple angles (2A, 3A, A/2).	11-9-19		
31	Graphs of sinx	12-9-19		
32	Graphs of cosx,tanx,e^x	16-10-19		
33	2nd class test	17-9-19		
34	**Differential Calculus** (30 hrs) 3.1 Definition of function; Concept of limits.	18-9-19		
35	Four standard limits	19-9-19		
36	Four standard limits	21-9-19		
37	Four standard limits	23-9-19		
38	Four standard limits	24-9-19		
39	Four standard limits	25-9-19		
40	Differentiation by definition ofx^n,sinx	26-9-19		
41	Differentiation by definition of cosx,tanx	28-9-19		
42	Differentiation by definition of e^x(logx)	30-9-19		
43	Differentiation of sum	1-10-19		
44	product and quotient of functions	3-10-19		
45	Differentiation of trigonometric inverse functions.	5-10-19		
46	Differentiation of trigonometric inverse functions.			
47	Logarithmic differentiation	7-10-19		

48	Logarithmic differentiation.	8-10-19		
49	Exponential differentiation	9-10-19		
50	Exponential differentiation	10-10-19		
51	Successive differentiation	14-10-19		
52	Successive differentiation(excluding nth order	15-10-19		
53	Applications: Maxima	16-10-19		
54	Applications: minima	17-10-19		
55	Applications: Maxima and minima	19-10-19		
56	Equation of tangent	28-10-19		
57	Equation of tangent	29-10-19		
58	normal to a curve (for explicit functions only)	30-10-19		
59	normal to a curve (for explicit functions only)	31-10-19		
60	normal to a curve (for explicit functions only)	4-11-19		
61	normal to a curve (for explicit functions only)	5-11-19		

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Session: Aug 2019 - Nov 2019

Academic Lecture Plan

Lesson Plan of **APPLIED PHYSICS – I**

Course Code: 03

Class: 1ST Year Polytechnic

Teacher Name: Pratibha Thakur

Branch: ME, CE

Semester: 1st

S.NO.	Topic Detail	Planned Date	Actual Date	Remarks
1.	**Units and Dimensions:** Physical quantities Units.	01-08-19		
2.	Dimensions and dimensional formulae of physical quantities.	5-08-19		
3.	Principle of homogeneity of dimensions.	6-08-19		
4.	Dimensional equations and their applications.	7-08-19		
5.	Checking of dimensional equations and derivation of simple equations.	8-08-19		
6.	Limitations of dimensional analysis.	13-08-19		
7.	Error in measurement, absolute error, relative error.	14-08-19		
8.	Rules for representing significant figures in calculation.	19-08-19		
9.	**Force and Motion:** Scalar and vector quantities – examples, representation of vector	20-08-19 21-08-19		
10.	Types of vectors	22-08-19		
11.	Addition and Subtraction of Vectors.	26-08-19		
12.	Class Test	27-08-19		
13.	Resolution of Vectors and its application to lawn roller.	28-08-19 29-08-19		
14.	Force, Momentum.	2-09-19		
15.	Statement and Derivation of Conservation of linear momentum.	3-09-19 4-09-19		
16.	Impulse and its Applications	9-09-19		
17.	Circular motion, definition of angular	11-09-19		

	displacement.		
18.	Relation between linear and angular velocity	12-09-19	
19.	linear acceleration and angular acceleration	16-09-19	
20.	Expression and Applications of Centripetal and centrifugal forces	17-09-19	
21.	**Work, Power and Energy:** Work: and its units, examples of zero work,	18-09-19 19-09-19	
22.	Class Test	23-09-19	
23.	Positive work and negative work.	25-09-19	
24.	Friction: modern concept, types,	26-09-19	
25.	laws of limiting friction.	30-09-19	
26.	Work done in moving an object on horizontal and inclined plane for rough and plane surfaces with its applications.	30-09-19	
27.	Energy and its units.	1-10-19	
28.	Principle of conservation of mechanical energy for freely falling bodies.	3-10-19	
29.	Power and its units, calculation of power in numerical problems.	7-10-19	
30.	**Rotational Motion:** Concept of translatory and rotatory motions with examples.	9-10-19	
31.	Definition of torque and angular momentum and their examples.	9-10-19	
32.	Conservation of angular momentum (quantitative) and its examples.	10-10-19	
33.	Moment of inertia and its physical significance Radius of gyration for rigid body,	14-10-19	
34.	Theorems of parallel and perpendicular axes.	14-10-19	
35.	**Properties of Matter:** Elasticity: definition of stress and strain.	15-10-19	
36.	Pressure: definition, its units, atmospheric pressure.	16-10-19	
37.	Fortin's Barometer and its applications.	17-10-19	
38.	Surface tension: concept. Ascent Formula (No derivation),	21-10-19	
39.	Effect of temperature and impurity on surface tension	22-10-19	
40.	**Thermometry:** Difference between heat and temperature.	23-10-19	
41.	Modes of transfer of heat	24-10-19	
42.	Types of Thermometer.	30-10-19	
43.	Expansion of solids, liquids and gases	31-10-19	
44.	Concept of Co-efficient of thermal conductivity.	04-11-19	
45.	surface and cubical expansions and relation amongst them	05-11-19	

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Lesson Plan : Applied Chemistry - I

Course Code: 04

Class: 1ST Year Polytechnic

Teacher Name: Monika Kumari

Branch: ME, CE

Semester: 1st

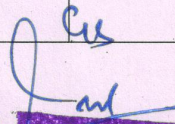| S.NO.	Topic Detail	Planned Date	Actual Date	Remarks
1	**Basic concepts of Chemistry** Matter, element, compound and mixtures,	1-8-19		
2	atom, molecule, ion, symbols and formulae	6-8-19		
3	Atomic mass (A), molar mass, mole concept, molar volume of gases	7-8-19		
4	Solution, strength of solutions in grams per liter, molarity (M), molality (m), mass fraction and mole fraction (numerical problems)	8-8-19		
5	Chemical equations, thermo-chemical equations,	12-8-19		
6	balancing of chemical equations (using partial equation method)	13-8-19		
7	Numerical problems based on mole concept	14-8-19		
8	Brief introduction and concept of Volumetry Analysis, Numerical problem	19-8-19		
9	**Atomic structure and Chemical Bonding** Postulates of Bohr model of atom,	20-8-19		
10	success and failures of Bohr model of atom Heisenberg's uncertainty principle	21-8-19		
11	Ist class test	22-8-19		
12	Elementary idea of modern concept of atom, quantum numbers (significance only),	26-8-19		
13	definition of shells, sub shells and orbitals, concept of orbitals, shapes of s & p orbitals only.	27-8-19		
14	Electronic configuration of elements (atomic number 1 to 30 only) on the basis of Aufbau principle, Pauli's principle and Hund's rule	28-8-19		

15	Modern periodic law, periods and groups, Division of the periodic table into s, p, d, and f blocks (details excluded	29-8-19		
16	Chemical bond and cause of bonding, Different type of Hybridzation (sp, sp_2, sp_3)	2-9-19		
17	Ionic bond, covalent bond, orbital concept of covalent bonding, valence bond theory, sigma (σ) and pi (π) bonds.	3-9-19		
18	Metallic bonding (electron sea model) Coordinate bond with examples of ozone, ammonium chloride, H_3N-BF_3 complex	4-9-19		
19	**Water** Sources of water Hard water, soft water, types of hardness, action of soap on hard water	5-9-19		
20	Degree of hardness in terms of calcium carbonate, Units of hardness in Clark degree, French degree and ppm, Numerical problems.	9-9-19		
21	Principle of hardness by EDTA method,	11-9-19		
22	Disadvantages of hard water in domestic and industrial uses Boiler water: causes and prevention of scale and sludge formation, corrosion,	12-9-19		
23	priming & foaming and caustic embitterment Softening of hard water by premutit and ion exchange processes	16-9-19		
24	Qualities of drinking water and purification of available water for drinking purposes, Reverse osmosis and drinking water purification through reverse osmosis unit.	17-9-19		
25	2nd class test	18-9-19		
26	**Equilibrium, Acids and Bases.** Equilibrium state, equilibrium constant and statement of Le-chatelier's principle with illustration	19-9-19		
27	Ionization of electrolyte in aqueous solution, ionic equilibrium, degree of ionization,	23-9-19		
28	self-ionization of water and ionic product of water (K_w),Concept of pH and pH scale, solubility product.	24-9-19		
29	Arrhenius concept of acids/bases; strong acids/bases, weak acids/bases, dissociation constants of acids/bases.	25-9-19		
30	Neutralization, acid base titration, choice of	26-9-19		

	indicators for acid base titration		
31	Hydrolysis of salts, buffer solutions (acidic and basic), buffer action of a buffer solution, applications of buffer solution Simple numerical problems on pH, and degree of ionisation.	1-10-19	
32	**Electrochemistry.** Electronic concept of oxidation and reduction, redox reactions	3-10-19	
33	Electrolytes and non electrolytes Electrolysis, Faradays laws of electrolysis	7-10-19	
34	Applications of electrolysis in electrometallurgy, electro-refining and electroplating.	9-10-19	
35	Galvanic cells (elementary idea) brief description of Daniel cell, Ni-Cd cell, dry cell and lithium iodide cell	10-10-19	
36	Lead storage batteries and maintenance free batteries Simple numerical problems related to Faraday's laws	14-10-19	
37	**Organic Chemistry.** Tetra covalency of carbon, catenation (definition only) Homologous series,	15-10-19	
38	functional groups and following organic families: (a) alkanes (b) alkenes (c) alkynes (d) alcohols (e) ethers (f) aldehydes and ketones (g) Carboxylic acids (h) esters (i) amides (with structure and IUPAC names).	16-10-19	
39	Organic Reaction mechanism, cleavage of covalent bond(Homolytic and heterolytic) attacking reagents (Electrophilles and Nucleophiles), Types of organic reaction(substitution, Addition, elimination and rearrangement reactions).	17-10-19	
40	Brief introduction concept of isomerism and stereo isomerism (definition and geometrical isomerism in alkenes).	28-10-19	
41	**Environmental Pollution and its control** Introduction,Causes and control of air, water, and soil pollutions	29-10-19	
42	Noise pollution and its control	30-10-19	
43	Radio active pollution and its control	31-10-19	
44	Sewage and its treatment	4-11-19	
45	Green Chemistry (a new route to the environmental Pollution).	5-11-19	

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