GATEWAY INSTITUE OF ENGINEERING & TECHNOLOGY,SONEPAT

LESSON PLAN

Name of the Faculty : Mr. SUSHIL KUMAR (Theory + Practical)
Discipline : APPLIED SCIENCE
Semester : 2nd
Subject : APPLIED PHYSICS-2
Lesson Plan Duration:15 WEEKS(JANUARY TO APRIL)
Work Load (L/P) per Week (in hours): L-04, P-02

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC (INCLUDING ASSIGNMENT,TEST	PRACTICAL DAY	TOPIC
1st	1	Wave motion, transverse and longitudinal wave motion with examples	1st	To find the time period of a simple pendulum
	2	Terms used in wave motion like displacement, amplitude, time period,frequency,wavelength,wave velocity		
	3	Relationship among wave velocity, frequency and wave length .		
	4	Simple Harmonic Motion (SHM): definition,examples		
2nd	5	Cantilever (definition ,formula of time period(without derivation).	2nd	To determine and verify the time period of Cantilever
	6	Free, forced and resonant vibrations with examples		
	7	Acoustics of buildings – reverberation, reverberation time, echo, noise,		
	8	Coefficient of absorption of sound, methods to control reverberation time.		
3rd	9	Ultrasonics – Introduction and their engineering applications(cold welding,drilling,SONAR)	3rd	Revision
	10	Revision		
	11	Test		
	12	Reflection and refraction with laws, refractive index		
4th	13	Lens formula(no derivation),power of lens(related numerical problems)	4th	To verify ohm's laws by plotting a graph between voltage and current.
	14	Total internal reflection and its applications, Critical angle and conditions for total internal reflection		
	15	Microscope,Telescope(definition),Uses of microscope and telescope.		
	16	Revision		
5th	17	Assignment	5th	To verify laws of resistances in series combination.
	18	Test		
	19	Introduction on electrostatics		
	20	Coulombs law, unit charge,Electric field,		
6th	21	Electric lines of force(definition and properties)	6th	Revision
	22	Electric flux,Electric Intensity and Electric potential (definition,formula).		
	23	Electric field intensity due to a point charge.		
	24	Gauss law(Statement and derivation)		

7th	**25**	Capacitor and Capacitance (with formula and units),	7th	Test
	26	Series and parallel combination of capacitors		
	27	Simple numerical problems on Series and parallel combination of capacitors		
	28	Revision		
8th	**29**	Test	8th	To verify laws of resistance in parallel combination.
	30	Electric Current and its Unit, Direct and alternating current		
	31	Resistance and Specific Resistance(definition and units) Conductance,		
	32	Series and Parallel combination of Resistances.		
9th	**33**	Numerical Problems	9th	To find resistance of galvanometer by half deflection method
	34	Ohm's law (statement and formula), superconductivity		
	35	Heating effect of current,		
	36	Electric power, Electric energy and its units		
10th	**37**	Kirchhoff's laws(statement and formula)	10th	Revision
	38	Revision		
	39	Assignment		
	40	Introduction to magnetism, Types of magnetic materials		
11th	**41**	Dia, para and ferromagnetic materials with examples.	11th	To verify laws of reflection of light using mirror
	42	Magnetic field,magnetic intensity,		
	43	magnetic lines of force, magnetic flux and their units		
	44	Electromagnetic induction (definition)		
12th	**45**	Revision	12th	To identify different components like resistance,capacitor,diode
	46	Test		
	47	Energy bands, Types of materials (insulator, semi conductor, conductor),		
	48	intrinsic and extrinsic semiconductors		
13th	**49**	p-n junction diode and its V-I characteristics	13th	To study colour coding scheme of resistance.
	50	Diode as rectifier – half wave and full wave rectifier		
	51	Semiconductor transistor; pnp and npn		
	52	Revision		
14th	**53**	Lasers: full form, characteristics, engineering and medical applications of lasers.	14th	Revision
	54	Fibre optics: Introduction to optical fibers(definition ,parts)		
	55	applications of optical fibers in different fields.		
	56	Introduction to nanotechnology (definition of nanomaterials with examples)		
15th	**57**	applicationns of nanotechnology	15th	Test
	58	Revision		
	59	Test		
	60	Assignment		

GATEWAY INSTITUTE OF ENGINEERING AND TECHNOLOGY,SONIPAT

LESSON PLAN

Name of Faculty: Ms. Sonika

Discipline:- CE & ME

Semester: 2nd

Subject : Applied Chemistry II

Lession Plan Duration: 15 Weeks (from January,2018 to April,2018

Workload(Lecture/Practical) per week (in hours) : Lecture-03 ,Practicals -02 hours

Week	Theory		Practical	
	Lecture Da	Topic (including assignment/test)	Practical Day	Topic
1st	1st	General metallurgical terms and operations with reference to iron, copper and aluminium	1st	1. Gravimetric analysis and apparatus used in gravimetric analysis
	2nd	Manufacture of steel- Open hearth process. Alloys- definition and purpose of alloying, Type of alloys – ferrous and nonferrous		
	3rd	alloys, properties and applications of ferrous alloys-invar, nichrome, bronze, duralumin, magnalium and solder.		
2nd	4th	stainless steel, alnico and non-ferrous alloys – brass,	2nd	2. Determination of percentage purity of commercial sample of blue vitriol using N/20 Na2S2O3.
	5th	bronze, duralumin, magnalium and solder.		
	6th	test		
3rd	7th	Definition of corrosion, its types and factors affecting corrosion rate	3rd	Test
	8th	Theories of a) Dry (chemical) corrosion- Pilling Bedworth rule		
	9th	b) Wet corrosion in acidic atmosphere by hydrogen evolution mechanism		
4th	10th	Corrosion control: a) Metal coatings – Cathodic protection(Sacrificial protection and impressed current voltage).	4th	3. Gravimetric estimation of moisture in the given coal sample (proximate analysis)
	11th	Definition of passivity in metals as per galvanic series		
	12th	test		
5th	13th	Corrosion control: a) Metal coatings – Cathodic protection(Sacrificial protection and impressed current voltage)	5th	4. Determination of percentage composition of volatile/non volatile matter in the given coal sample
	14th	Cementation on Base Metal Steel – Application of Metal Zn (Sheradizing),Cr (Chromozing) and Al (Calorizing).		
	15th	b) Inorganic coatings – Anodizing and phosphating,		
6th	16th	c) Organic coatings - use of paints varnishes and enamels	6th	Test
	17th	d) Internal corrosion preventive measures		
	18th	alloying (with reference to passivating, neutralizing and inhibition)		
7th	19th	heat treatment	7th	.5. Gravimetric estimation of ash content in the given coal sample (proximate analysis)
	20th	quenching, annealing		
	21st	Definition of fuel, classification of fuels, characteristics of good fuel, relative merits of gaseous, liquid and solid fuels		
8th	22nd	Calorific value-higher calorific value, lower calorific value, determination of calorific value of solid or liquid fuel using Bomb calorimeter and numerical examples	8th	6. Determination of viscosity of given liquid using Redwood viscometers
	23rd	test		
	24th	Coal - types of coal and proximate analysis of coal		
9th	25th	Fuel rating – Octane number and Cetane number, fuel-structural influence on Octane and Cetane numbers	9th	Test
	26th	Gaseous fuels – chemical composition, calorific value and applications of natural gas (CNG), LPG, producer gas, water gas and biogas		
	27th	Elementary ideal on – hydrogen as future fuels, nuclear fuels.		
10th	28th	Definition of Lubricant and lubrication, type of lubrications –hydrodynamic, boundary lubrication with illustrative diagrams	10th	7. Determination of flash point of given lubricating oil using Able's flash point apparatus
	29th	Classification of lubricants –liquid lubricants, solid lubricants, semi-solid lubricants and synthetic lubricants with examples		

	30th	test		
11th	31st	Properties of lubricant a. Physical properties –viscosity and viscosity index, cloud point and pour point, flash point and fire point, oiliness.	11th	8. To study the effect of metal coupling on corrosion of iron
	32nd	Chemical properties- total acid value or number (TAV or TAN), carbon residue, emulsification factor and iodine value		
	33rd	Designation of lubricating oils according to Society of Automotive Engineers (SAE)		
12th	34th	test	12th	Test
	35th	Cutting fluids – applications of cutting fluids, types and the factors that govern the selection of cutting fluids		
	36th	Definition and types with suitable examples and applications of- Ceramics, Refractory and Composite materials		
13th	37th	Glass-chemical composition and application of Soda, Borosilicate and lead glasses only	13th	9. Detection of iron metal in the given solution of rust(solution of rust in HCl be provided)
	38th	Paint, varnish and enamels- definition, constituents and advantages of these organic coatings		
	39th	test		
14th	40th	Definition of polymer, monomer	14th	Revise
	41st	degree of polymerization		
	42nd	Brief introduction to addition and condensation polymers with suitable examples (PE, PS, PVC, Teflon, Nylon -66 and Bakelite)		
15th	43rd	Definition of plastics, thermo plastics and thermo setting plastics with suitable examples, distinctions between thermo plastics and thermo settings	15th	TEST
	44th	Applications of polymers in industry and daily life		
	45th	test		

GATEWAY INSTITUTE OF ENGINEERING AND TECHNOLOGY,SONIPAT

LESSON PLAN

Name of Faculty: Ms REKHA MANN

Discipline:- DIPLOMA

Semester: 2nd

Subjects: COMMUNICATION SKILLS IN ENGLISH II

Lession Plan Duration: 15 Weeks (from January,2018 to April,2018

Workload(Lecture/Practical) per week (in hours) : Lecture-03 ,Practicals -02 hours

Week	Theory		Practical	
	Lecture Da	Topic (including assignment/test)	Practical Day	Topic
1st	1st	Introduction to unit-1	1st	Listening comprehension
	2nd	Preposition		
	3rd	Pronoun		
2nd	4th	Determiners	2nd	Locating main idea in listening extract
	5th	Conjuctions		
	6th	Test		
3rd	7th	Question making	3rd	Test
	8th	Question tags		
	9th	Introduction to Tenses		
4th	10th	Present simple tense	4th	Note-taking
	11th	Past simple Tense		
	12th	Test		
5th	13th	Introduction to Unit-2	5th	offering responding to the offers
	14th	Meaning of unseen passage		
	15th	Example of unseen passage		
6th	16th	Revision of unseen passage	6th	Test
	17th	Revision of unseen passage		
	18th	Test		
7th	19th	Intrduction to section-c	7th	Responding to request
	20th	Explanation of the meaning of writing skills		
	21st	Writing Notice		
8th	22nd	Writing circular	8th	Congratulating
	23rd	Writing Memo		
	24th	Agenda for a meetng		
9th	25th	Minutes of meeting	9th	Test
	26th	Revision		
	27th	ORAL TEST		
10th	28th	Written test	10th	Expressing sympathy and condolences
	29th	Telephonic message		
	30th	paragraph writing		
11th	31st	P.W	11th	Expressing disappointments
	32nd	P.W		
	33rd	Revision of P.W		
12th	34th	Test	12th	polite responses and apologizing ,forgiving
	35th	Revision of section-A		
	36th	Test of section-a		
13th	37th	Revision of section-B	13th	Complanins, persuading,warning, giving information
	38th	Revision of section-b		
	39th	Test		
14th	40th	Revision of section-c	14th	Giving instruction , permission and opinions
	41st	Test		
	42nd	Revision of full syllabus		
15th	43rd	Revision of full syllabus	15th	TEST
	44th	Revision of full syllabus		
	45th	Test		

GATEWAY INSTITUTE OF ENGINEERING & TECHNOLOGY, SONEPAT

LESSON PLAN

Name of Faculty: Aarti Bansal

Discipline: Applied Science

Semester: 2nd

Subject: Mathematics-2

Lesson Plan Duration: 16 weeks (January to April)

Work Load (L) per week (in Hours): L=05

Week	Lecture Number	Name of Unit	Lecture Plan
1	1	Differential Calculus	Definition of function
	2		Definition of function
	3		Concept of limits
	4		Concept of limits
	5		Concept of limits
2	6		Concept of limits
	7		problems related to four standard limits
	8		problems related to four standard limits
	9		problems related to four standard limits
	10		problems related to four standard limits
3	11		problems related to four standard limits
	12		problems related to four standard limits
	13		problems related to four standard limits
	14		Differentiation of x^n
	15		Differentiation of x^n
4	16		Differentiation of sin x
	17		Differentiation of sin x
	18		Differentiation of cos x
	19		Differentiation of cos x
	20		Differentiation of tan x
5	21		Differentiation of tan x
	22		Differentiation of e^x
	23		Differentiation of e^x
	24		Differentiation of sum
	25		Differentiation of sum
6	26		Differentiation of Product
	27		Differentiation of Product
	28		Differentiation of quotient of functions.
	29		Differentiation of quotient of functions.
	30		Differentiation of trigonometric functions
7	31		Differentiation of trigonometric functions
	32		Differentiation of inverse trigonometric functions
	33		Differentiation of inverse trigonometric functions
	34		Differentiation of logarithmic differentiation
	35		Differentiation of logarithmic differentiation
8	36		Differentiation of successive differentiation
	37		Application of differential calculus in Rate measures
	38		Application of differential calculus in Rate measures

	39		Application of differential calculus in Maxima and minima
	40		Application of differential calculus in Maxima and minima
9	41	Integral Calculus	Integration as inverse operation of differentiation with simple examples
	42		Integration as inverse operation of differentiation with simple examples
	43		Integration as inverse operation of differentiation with simple examples
	44		Integration as inverse operation of differentiation with simple examples
	45		Integration as inverse operation of differentiation with simple examples
10	46		Integration as inverse operation of differentiation with simple examples
	47		Simple standard integrals and related problems
	48		Simple standard integrals and related problems
	49		Simple standard integrals and related problems
	50		Simple standard integrals and related problems
11	51		Simple standard integrals and related problems
	52		Evaluation of definite integrals with given limits
	53		Evaluation of definite integrals with given limits
	54		Evaluation of definite integrals with given limits
	55		Evaluation of definite integrals with given limits
12	56		Evaluation of definite integrals with given limits
	57		Applications of integration: for evaluation of area under a curve and axes
	58		Applications of integration: for evaluation of area under a curve and axes
	59		Applications of integration: for evaluation of area under a curve and axes
	60		Applications of integration: for evaluation of area under a curve and axes
13	61		Applications of integration: for evaluation of area under a curve and axes
	62		Numerical integration by Trapezoidal Rule
	63		Numerical integration by Trapezoidal Rule
	64		Numerical integration by Simpson’s 1/3rd Rule using pre-existing
	65		Numerical integration by Simpson’s 1/3rd Rule using pre-existing
14	66	Differential Equations	Definition of an ordinary differential equation
	67		Order of an ordinary differential equation
	68		Degree of an ordinary differential equation
	69		Linearity of an ordinary differential equation
	70		Linearity of an ordinary differential equation
15	71	Statistics	Measures of Mean
	72		Measures of Mean
	73		Measures of Median
	74		Measures of Median
	75		Measures of Mode
16	76		Measures of Mode
	77		Measures of Dispersion
	78		Measures of Mean deviation
	79		Measures of Standard deviation
	80		Co-efficient of rank correlation

GATEWAY INSTITUE OF ENGINEERING & TECHNOLOGY,SONEPAT

Name of the Faculty :Mr. AJAY KUMAR (Practical)

Discipline : MECHANICAL & CIVIL

Semester :2ND

Subject : ENGINEERING DRAWING -II

Lesson Plan Duration:13 WEEKS(JANUARY TO APRIL)

Work Load (L/P) per Week (in hours): L-00, P-06

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC (INCLUDING ASSIGNMENT,TEST)
1st	1	Principle and utility of detail and assembly drawings
	2	Wooden joints- corner mortice and tenon joint
2nd	3	Tee halving joint&Mitre faced corner joint,
	4	Tee bridle joint & Crossed wooden joint
3rd	5	Cogged joint &Dovetail joint
	6	Through Mortice & Tenon joint
4th	7	Thread Terms and Nomenclature
	8	Types of threads-External and Internal threads
5th	9	V threads -B.S.W threads & B.A thread
	10	American National and Metric thread
6th	11	Square threads -Square & Acme
	12	Buttress and Knuckle thread
7th	13	Revision
	14	Test
8th	15	Different views of hexagonal and square nuts
	16	Hexagonal headed bolt
9th	17	Assembly of Hexagonal headed bolt and Hexagonal nut with washer
	18	Assembly of square headed bolt with hexagonal and with washer.
10th	19	Different types of locking devices , Foundations bolts & type of stud
	20	Various types of keys and cotters & Spigot and socket joint
11th	21	Gib and cotter joint & Knuckle joint
	22	Types of general purpose-rivets heads Caulking and fullering of riveted joints
12th	23	Lap joint-Single riveted, double riveted
	24	Single riveted, Single cover plate butt joint (chain and zig-zag type)
13th	25	Single riveted, double cover plate butt joint (chain type
	26	Single riveted, double cover plate butt joint (chain type)
14th	27	Flange coupling (Protected and non-protected)
	28	Muff coupling and half-lap muff coupling
15th	29	Revision
	30	Test

GATEWAY INSTITUE OF ENGINEERING & TECHNOLOGY,SONEPAT

LESSON PLAN

Name of the Faculty :Mr. Abhishek Anand (Theory)

Discipline : Mechanical engineering

Semester : 2nd

Subject : EVS

Lesson Plan Duration:16 WEEKS(AUGUST TO NOVEMBER

Work Load (L) per Week (in hours): L-03

WEEK	THEORY	
	LECTURE DAY	TOPIC (INCLUDING ASSIGNMENT,TEST
1st	1	Basics of ecology, eco system- concept
	2	structure and importance of ecosystem,Carbon, Nitrogen, Sulphur cycle. Sustainable development
	3	revision of 1st unit
2nd	4	Conservation of land reforms,preservation of species,
	5	prevention of advancement of deserts and lowering of water table
	6	rain water harvesting, Acid Rain,
3rd	7	maintenance of ground water
	8	Water supply engineering
	9	Test
4th	10	Deforestation – its effects and control measures.
	11	Pollution: Sources of pollution - natural and man made
	12	Classification of pollutants, Causes, effects
5th	13	and control measures of pollution (air, water, noise, soil, radioactive and nuclear)
	14	Prevention of Pollution: Introduction to Cleaner Production Technologies
	15	Assignment
6th	16	physical, chemical technique
	17	biological treatment of pollutants,
	18	photocatalytic degradation of pollutants,
7th	19	Waste Minimization Techniques – Chemical degradation of waste, Concept of Zero Discharge
	20	Revision of 3rd unit
	21	Solid waste management, classification of refuse material,sources, effects and control measures.
8th	22	Introduction to E-waste Management
	23	Environmental Legislation - Water (prevention and control of pollution) Act 1974
	24	Air (Prevention and Control of Pollution) Act 1981
9th	25	Environmental Protection Act 1986
	26	Role and Function of State Pollution Control Board,
	27	Environmental ImpactAssessment (EIA).
10th	28	Introduction to Energy Conservation Act 2001
	29	and Energy Conservation (Amendment) Act 2010 & its importance.
	30	test of unit 1-3
11th	31	Energy Conservation: Introduction to Energy Management,
	32	Energy Conservation,
	33	energy efficiency and its needs
12th	34	Role of Non-conventional Energy Resources (Solar Energy, Wind Energy, Bio Energy, Hydro Energy) in environmental protection
	35	Impact of Energy Usage on Environment – Global Warming, Green House Effect,
	36	Depletion of Ozone Layer.
13th	37	Assignment
	38	revision of unit 6 and 5
	39	revision of unit 4

14th	40	test of unit 4 and 5
	41	test of unit 6
	42	introduction to ecofriendly substances.
15th	43	Eco-friendly Material
	44	Recycling of Material
	45	Concept of Green Buildings
16th	46	revision of unit 7
	47	test of unit 7
	48	doubt clearance of students.