

Lesson Plan

Name of the Faculty- Kunal Goel

Semester- 1st

Subject- Applied Physics-I

Lesson Plan Duration- 16 weeks, (From 30-07-2026 to 23-11-2026)

Work Load(Lecture/Practical)per week (in hours)- 02+02

Week	Theory		Practical	
	Lecture Day	Topic(Including Assignments)	Practical Day	Topic
1st	1	Unit1:- Unit and Dimensions Definition of Physics,Physical quantities:Fundamental and Derived	1	1) Familiarization of measuring instruments and their parts (e.g.,Vernier Caliper, screw gauge spherometer ,travelling microscope etc.)(Group-1)
	2	Units: Fundamental and Derived,system of units: CGS,FPS,MKS,SI	2	1) Familiarization of measuring instruments and their parts (e.g.,Vernier Caliper ,screw gauge spherometer ,travelling microscope etc.)(Group-2)
2nd	1	Dimensions,dimensional formulae and SI units of physical quantities:Distance,displacement,area,volume,density,velocity,acceleration,linear momentum,force,impulse,work,power,energy,pressure,surface tension,stress,strain	1	2)To find diameter of solid cylinder using a vernier caliper(Group-1)
	2	Dimensional equation,principle of Homogeneity of dimensional equation.Application of dimensional analysis	2	2)To find diameter of solid cylinder using a vernier caliper(Group-2)
3rd	1	Checking of correctness of physical equation, conversion of system of units(Force ,work, acceleration)	1	3) To find internal diameter and depth of a beaker using a vernier caliper and hence find its volume(Group-1)
	2	UNIT2:- Force and Motion Scalar and vector quantities:Definition and examples ,representation of vector,types of	2	3) To find internal diameter and depth of a beaker using a

		vector(unit vector,position vector,cointial vector,collinear vector,coplanar vector)		vernier caliper and hence find its volume(Group-2)
4th	1	Vector Algebra:Addition of vector,Triangle and parallelogram law(statement and formula only)	1	4) To find the diameter of a wire using a screw gauge.(Group-1)
	2	Scalar and Vector product(statement and formula only),Force and its units,Resolution of force(statement and formula only)	2	4) To find the diameter of a wire using a screw gauge.(Group-2)
5th	1	Newton’s law of Motion(statement and examples)	1	Revision and Viva(Group-1)
	2	Linear momentum,Law of conservation of linear momentum(statement and example),Impulse Revision of syllabus	2	Revision and Viva(Group-2)
6th	1	First Sessional Test(Tentative)	1	First Sessional Test(Tentative)
	2	First Sessional Test(Tentative	2	First Sessional Test(Tentative
7th	1	Circular Motion: Definition of Angular Displacement,Angular velocity,Angular acceleration,Frequency,Time period, Relation between linear and angular velocity	1	5) To find the thickness of a paper using screw gauge(Group-1)
	2	Centripetal and centrifugal force(Definition and formula only),Application of centripetal force in banking of road	2	5) To find the thickness of a paper using screw gauge(Group-2)
8th	1	Rotational Motion :Definition with example, Definition of Torque angular momentum, Moment of inertia and its physical significance	1	6) To determine the thickness of a glass strip using a spherometer(Group-1)
	2	Unit3:- Work,Power and Energy Work:definition,symbol,formula and SI unit ,Types of work(zero work,positive work and negative work)with example	2	6) To determine the thickness of a glass strip using a spherometer(Group-2)
9th	1	Friction:Definition and its simple daily life applications ,Power:Definition formula and units,Energy: definition and its SI units,Example of transformation of energy.	1	7) To determine the radius of curvature of a given spherical surface by a spherometer(Group-1)
	2	Kinetic Energy: Definition example formula and its derivation,Potential Energy: Definition example formula and its derivation	2	7) To determine the radius of curvature of a given spherical surface by a spherometer(Group-2)
10th	1	Law of conservation of Mechanical energy for freely falling body(with derivation),simple numerical problems based on formula of power and energy	1	8) To verify parallelogram law of force.(Group-1)

	2	Revision of above topics	2	8) To verify parallelogram law of force.(Group-2)
11th	1	Second Sessional Tests(Tentative)	1	Second Sessional Tests(Tentative)
	2	Second Sessional Tests(Tentative)	2	Second Sessional Tests(Tentative)
12th	1	Unit4:- Properties of Matter Elasticity and Plasticity – definition ,deforming force, restoring force ,example of elastic and plastic body, Definition of stress and strain ,Hook’s law ,Modules of elasticity	1	9) To determine the atmospheric pressure at a place using Fortin’s Barometer(Group-1)
	2	Pressure- Definition, atmospheric pressure, gauge pressure, absolute pressure, Pascal’s law ,Surface Tension- Definition, SI unit applications of surface tension, effect of temperature on surface tension	2	9) To determine the atmospheric pressure at a place using Fortin’s Barometer(Group-2)
13th	1	Viscosity: Definition, unit, examples, effect of temperature on viscosity Unit5: Heat and Temperature Definition of Heat and Temperature (on the basis of Kinetic theory),Difference between Heat and Temperature	1	10) To determine force constant of a spring using Hook’s Law(Group-1)
	2	Principle and working of Mercury Thermometer, Modes of Transfer of heat : conduction, convection and Radiation with examples.	2	10) To determine force constant of a spring using Hook’s Law(Group-2)
14th	1	Properties of Heat Radiations , Different scales of Temperature and their relationship	1	11) Measuring Room temperature with the help of a Thermometer and its conversion in different scales(Group-1)
	2	Third Sessional Test(Tentative)	2	Third Sessional Test(Tentative)
15th	1	Revision of syllabus	1	11) Measuring Room temperature with the help of a Thermometer and its conversion in different scales(Group-2)
	2	Revision of syllabus	2	Revision
16th	1	Revision of syllabus	1	Revision
	2	Revision of syllabus	2	Revision

Govt. Polytechnic Shergarh (Kaithal)

Lesson Plan

Applied Mathematics-1

Name- Anju Lohan (Lect. Mathematics)

Department- Applied Science

Duration- 16 Week (30/07/26 to 23/11/26)

Week	Theory/Practical		Date
	Lecture Day	Topic Including(assignment/Test)	
Ist	1	Introduction to syllabus and evaluation scheme	
	2	Unit1 :-Algebra Complex Numbers Definition of Complex Number, Real and Imaginary Parts of Complex Numbers	
	3	Polar and Cartesian form and their interconversion	
	4	Conjugate of Complex Number, Modulus and Amplitude	
IIInd	1	Addition Subtraction of Complex Numbers	
	2	Multiplication and Division	
	3	Revision of Complex Numbers	
	4	Logarithm Logrithm and their basic property	
IIIrd	1	Logrithm and their basic property	
	2	Revision of Logarithm	
	3	Unit2:-Binomial Theorem Permutation and Combination Meaning of nP_r and nC_r	
	4	Examples basis on nP_r and nC_r	
IVth	1	Binomial Theorem Binomial theorem for positive integral index without proof	
	2	Expansion and General form of Binomial Theorem	
	3	Binomial theorem for any index without proof expansion upto three terms	
	4	Binomial theorem for any index without proof expansion upto three terms	
Vth	1	First Binomial Approximation with application engineering problem	
	2	Revision of Binomial Theorem	
	3	Determinant and Matrices Evaluation of Determinants (upto second order)	
	4	Solution of Equation upto 2 unknown by Cramer's rule	
VIth	1	First Sessional Test(Tentative)	
	2	First Sessional Test(Tentative)	
	3	First Sessional Test(Tentative)	
	4	Definition of Matrices and its types	
VIIth	1	Addition and Subtraction of Matrices (upto second order)	
	2	Multiplication of Matrices (upto second order)	
	3	Revision of Determinants and Matrices	
	4	Unit3:- Trignometry Concept of angle ,Measurement of angle in degree , grades, radians	
VIIIth	1	Interconversion of Degree ,grade ,and Radian	
	2	T-ratios of Allied Angles(without proof)	
	3	Sum,Difference formulae and their applications(without proof)	

	4	Product Formulae(Transformation of Product to Sum,Difference and vice versa)	
IXth	1	Revision of Trigonometry sums	
	2	Application of Trigonometric terms in Engineering problem such as to find an angle of elevation,Height ,Distance etc.,	
	3	Application of Trigonometric terms in Engineering problem such as to find an angle of elevation,Height ,Distance etc.,	
	4	Revision of Heights and Distance Sums	
Xth	1	Unit4:- Co ordinate Geometry Distance between two points	
	2	Mid Point Formulae ,Centroid of vertices of a triangle	
	3	Slope of line	
	4	Equation of straight line in various standard forms(without proof)	
XIth	1	Second Sessional Test(Tentative)	
	2	Second Sessional Test(Tentative)	
	3	Second Sessional Test(Tentative)	
	4	Slope intercept form , intercept form , one point form	
XIIth	1	Two point form ,Symmetric form ,Normal form and General form of a straight line	
	2	Intersection of two straight lines	
	3	Concurrency of lines, Angle between two straight lines	
	4	Parallel and Perpendicular lines, Perpendicular distance formula	
XIIIth	1	Conversion of general form of equation to various forms	
	2	Revision of Straight lines	
	3	Unit5:- Geometry of Circles and softwares Introduction to circles :-General equation of circle and its characteristics	
	4	To find equation of circle given centre and radius	
XIVth	1	To find equation of circle given three points lying on it.	
	2	To find equation of circle given coordinates of end points of a diameter.	
	3	MAT Lab or SciLab software Theoretical introduction of MAT LAB or SciLab	
	4	Simple calculator(Addition and subtraction of value – Trigonometry and inverse Trigonometry function)/General Practice	
XVth	1	Simple calculator(Addition and subtraction of value – Trigonometry and inverse Trigonometry function)/General Practice	
	2	Third Sessional Test(Tentative)	
	3	Third Sessional Test(Tentative)	
	4	Third Sessional Test(Tentative)	
XVIth	1	Revision of Syllabus	
	2	Revision of Syllabus	
	3	Discussion of Assignments	
	4	Discussion of Previous Papers	

LESSONPLAN

Name of the Faculty: Smt. Pooja Rani

Discipline: Mechanical Engg.

Semester: 1st

Subject: Environmental Studies & Disaster Management

Lesson Plan Duration: 16 weeks (From 30/07/2026 to 23/11/2026)

Work Load (Lecture/Practical) per week (in hours): Lectures – 02

Week	Date	Lecture Day	Theory
1 st		1 st	• Unit–I Ecology –Introduction • Basics of Ecology
		2 nd	• Ecosystem
2 nd		3 rd	• Sustainable Development
		4 th	• Sources & Advantages of Renewable & Non-renewable sources of energy • Disadvantages of Renewable & Non-renewable sources of energy
3 rd		5 th	• Rainwater Harvesting • Deforestation – effects & control measures
		6 th	• Class Test • Assignment
4 th		7 th	• Unit–II Air & Noise Pollution –Introduction • Air Pollution • Sources of Air Pollution
		8 th	• Effect of Air Pollution on Human Health • Effect of Air Pollution on Human Economy
5 th		9 th	• Air Pollution Control Methods • Solution of problems
		10 th	• 1st Sessional Test
6 th		11 th	• Analysis of Sessional test • Noise Pollution – Sources, Units, Effects
		12 th	• PTM • Acceptable Noise Level • Different methods of minimizing noise pollution
7 th		13 th	• Unit–III Water & Soil Pollution –Introduction • Water Pollution – Cause & Sources • Impurities present in Water
		14 th	• Effect of Water Pollution on Human Health • Concept of DO, BOD, COD
8 th		15 th	• Prevention of Water Pollution – Water treatment Processes
		16 th	• Sewage Treatment

	Date		• WaterQualityStandard • ClassTest
9 th		17 th	• Assignment • SoilPollution-Sources,Effects,Control
		18 th	• TypesofSolidWaste • DisposalofSolidWaste • SolidWaste Management
10 th		19 th	• E-waste, E-wasteManagement • Solutionofproblems
		20 th	• 2nd Sessional Test
11 th		21 st	• AnalysisofSessionaltest • Unit –IV Impact of Energy Usage on Environment– Introduction • GlobalWarming, GreenHouse Effect
		22 nd	• PTM • DepletionofOzone Layer • AcidRain
12 th		23 rd	• Eco-friendlyMaterial • Recycling ofMaterial
		24 th	• Concept ofGreenBuildings • Concept ofCarbonCredit • Concept ofCarbonfootprint
13 th		25 th	• ClassTest • Unit–V DisasterManagement–Introduction • NaturalDisaster:Flood,Cyclone,Earthquakes&Landslides etc.
		26 th	• Man-madeDisaster:Fire,IndustrialPollution,Nuclear Disaster • BiologicalDisasters,Accidents(Air,Sea,Rail&Road) • StructuralFailures(Building&Bridge), War&Terrorismetc.
14 th		27 th	• DisasterPreparednessPlan • Prediction,EarlyWarnings&SafetymeasuresofDisasters
		28 th	• Psychologicalresponse • PsychologicalManagement (Trauma,Stress,Rumour,Panic)
15 th		29 th	• Assignment • Solutionofproblems
		30 th	• 3rd Sessional Test
16 th		31 th	• AnalysisofSessionaltest • PTM
		32 th	• Practiceofsamplepapers (Revision)

LESSONPLAN

Name of the Faculty: Smt. Pooja Rani

Discipline: Civil and Agriculture Engg.

Semester: 1st

Subject: Applied Chemistry

Lesson Plan Duration: 16 weeks (From 30/07/2026 to 23/11/2026)

Work Load (Lecture/Practical) Per Week (In Hours): Lectures – 03, Practicals – 04

		Theory		Practical	
Week	Date	Lecture Day	Topic (Including assignment/Test)	Practical Day	Topic
1 st		1 st	Unit – 1 Atomic Structure, Periodic Table & Chemical Bonding - Introduction	1 st	To prepare standard solution of oxalic acid – introduction (G-1).
		2 nd	Bohr’s Model of an Atom	2 nd	To prepare standard solution of oxalic acid – introduction (G-2).
		3 rd	Dual character of matter – derivation of de-Broglie’s equation		
2 nd		4 th	Heisenberg’s Principle of Uncertainty	3 rd	Perform the experiment & prepare std. solution of oxalic acid (G-1).
		5 th	Modern concept of atomic structure: Definition & shape of orbitals (s, p & d)	4 th	Perform the experiment & prepare std. solution of oxalic acid (G-2).
		6 th	Quantum numbers & their significance		
3 rd		7 th	Electronic configuration: Aufbau, Pauli Exclusion Principles & Hund’s rule.	5 th	To dilute the given KMnO ₄ solution – introduction (G-1).
		8 th	Electronic configuration of elements up to Z = 30.	6 th	To dilute the given KMnO ₄ solution – introduction (G-2).
		9 th	Modern Periodic Law & Table, Classification of elements s, p, d, & f-blocks Class Test		
4 th		10 th	Metals, Non-metals & Metalloids	7 th	Perform the experiment & dilute the given solution (G-1).
		11 th	Chemical Bonding: cause & types of bonding	8 th	Perform the experiment & dilute the given solution (G-2).
		12 th	Physical properties of ionic, covalent & metallic substances.		
5 th		13 th	Assignment Solution of problems	9 th	To find out the strength in g/l of an unknown solution of NaOH using a std. (N/10) oxalic acid solution – introduction (G-1)
		14 th	1 st Sessional Test	10 th	To find out the strength in g/l of an unknown solution of NaOH using a std. (N/10) oxalic acid solution – introduction (G-2).
		15 th	Analysis of Sessional test Unit-2 Metals & Alloys - introduction Metals: Mechanical properties, Impact resistance & their uses		
6 th		16 th	PTM Def. of mineral, ore, gangue, flux & slag Commercial varieties of Fe	11 th	Perform the experiment and find out the strength of given NaOH Solution (G-1).
		17 th	Metallurgy of Fe from Hematite using Blast furnace,	12 th	Perform the experiment and find out the strength of given NaOH Solution (G-2).
		18 th	Alloy: Def., necessity, composition, properties & uses of Duralumin & steel		
7 th		19 th	Heat treatment of steel - normalizing, annealing, quenching, tempering	13 th	To find out the total alkalinity in ppm of a water sample with the help of a std. sulphuric acid solution – introduction (G-1).
		20 th	Unit – 3 Water, Solutions, Acids & Bases - introduction Solutions: Def., expression of the conc. of a solution in % (w/w, w/v, v/v), normality, molarity, molality & ppm	14 th	To find out the total alkalinity in ppm of a water sample with the help of a std. sulphuric acid solution – introduction (G-2).
		21 th	Arrhenius concept of Acids & Bases, Strong and weak acids & bases		
8 th		22 th	pH value & its significance	15 th	Perform the experiment and find out the

	Date	23 th	pHscale NumericalproblemsonpH		totalalkalinity(G-1).
		24 th	ClassTest Typesofwater&causesofhardnessofwater, Types of hardness Disadvantagesofhardwater	16 th	Performtheexperimentandfindoutthe total alkalinity (G-2).
		25 th	Expressionofhardnessofwater –ppmunitof hardness, RemovalofTemporaryhardness–boiling& Clark’s method		
9 th		26 th	RemovalofPermanenthardness–Ion- exchange method	17 th	To determine the total hardness of given water sample by EDTA method (G-1).
		27 th	Boilerproblemscausedbyhardwater –scale & sludge formation, Priming&foaming	18 th	Todeterminethetotalhardness ofgiven water sample by EDTA method (G-2).
		28 th	Causticembrittlement, WatersterilizationbyCl,UVradiationand RO		
10 th		29 th	Assignment Solutionofproblems	19 th	To determine the TDS in ppm in a given sample of water gravimetrically (G-1).
		30 th	2ndSessionalTest	20 th	TodeterminetheTDSinppminagiven sampleofwatergravimetrically(G-2).
		31 th	AnalysisofSessionaltest		
11 th		32 th	PTM Unit–4Fuels&Lubricants -introduction Fuels: def., Calorific value – def., types &units Characteristicsofanaidealfuel	21 th	To determine the pH of different solutions using a digital pH meter (G-1).
		33 th	Petroleum:composition&refining Gaseousfuels:Composition,properties& uses of CNG, PNG, LNG, LPG	22 th	TodeterminethepHofdifferent solutions using a digital pH meter (G-2).
		34 th	Relativeadvantagesofliquid&gaseousfuels over solid fuels ScopeofHydrogenasfuturefuel		
12 th		35 th	Lubricants:classification,functions& Qualities of lubricants	23 th	Todeterminethecalorificvalueofa solid/liquid fuel using a Bomb calorimeter (G-1).
		36 th	Mechanism of Lubrication PhysicalpropertiesofLubricant	24 th	To determine the calorific value of a solid/liquidfuelusingaBombcalorimete r (G-2).
		37 th	ClassTest Unit–5Polymer&Electrochemistry - introduction		
13 th		38 th	Polymers:Def.,classification	25 th	Todeterminetheviscosityoflubricating oil using a Redwood viscometer – introduction (G-1).
		39 th	Preparationproperties&usesofpolythene, PVC, Nylon-66, Bakelite	26 th	Todeterminetheviscosityoflubricatingoil usinga Redwoodviscometer – introduction (G-2).
		40 th	Plastic:Def. &types Naturalrubber,neoprene&othersynthetic rubber		
14 th		41 th	Corrosion:Def.,types&factorsaffectingrate of corrosion	27 th	Performtheexperimentandfindoutthe viscosity of given lubricant oil (G-1).
		42 th	Methodsofpreventionofcorrosion–Hot dipping, metal cladding, cementation	28 th	Performtheexperimentandfindoutthe viscosity of given lubricant oil (G-2).
		43 th	Quenching&cathodicprotection Nanotechnology:intro&applications Nano-materials & their classification		
15 th		44 th	Applicationsofnanotechnologyinvarious engineering applications. Assignment Solutionofproblems	29 th	To prepare a sample of Phenol- formaldehyderesin(Bakelite)/Nylon- 66 in the lab (G-1).
		45 th	3rdSessionalTest	30 th	To prepare a sample of Phenol- formaldehyderesin(Bakelite)/Nylon- 66in the lab (G-2).
		46 th	AnalysisofSessionaltest		
16 th		47 th	TakingProblems&solvethem PTM	31 th	Revision
		48 th	Practiceofsamplepapers	32 th	Revision
			Revision		

Lesson Plan

Name of the Faculty- Neeru Dhull

Discipline- Electrical Engg.

Semester- 1st

Subject- English & Communication Skills-I

Lesson Plan Duration- 16 weeks, (From 30-07-2026 to 23-11-2026)

Work Load(Lecture/Practical)per week (in hours)- 04

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/ test)	Practical Day	Topic
Ist	1	Introduction to syllabus. Unit1:- Techniques of reading skimming and scanning	1	Reading:- Comprehension exercises of unseen passages along with the lesson prescribed.(Group-1)
	2	Extensive and intensive reading : Textual study	2	Reading:- Comprehension exercises of unseen passages along with the lesson prescribed.(Group-2)
2nd	1	Revision of above chapters	1	Reading:- Vocabulary enrichment and grammar exercises based on the selected readings(Group-1)
	2	Homecoming(R.N.Tagore)-	2	Reading:- Comprehension exercises of unseen passages along with the lesson prescribed.(Group-2)
3rd	1	Life sketch of Sir Mokshagundam Visvesvarayya	1	Reading:- Reading aloud newspaper headlines and important articles(Group-1)
	2	Revision of above topics	2	Reading:- Reading aloud newspaper headlines and important articles (Group-2)
4th	1	Unit3:- Nouns	1	Fundamentals of Communication:- Introducing oneself,others and leave taking(talking about yourself)(Group 1)
	2	Pronouns	2	Fundamentals of Communication:- Introducing oneself, others and leave taking(talking about yourself)(Group 2)

5th	1	Unit4:- Significance, essentials and effectiveness of written communication, Netiquettes	1	Fundamentals of Communication:- Just a Minute(JAM) sessions :speaking extempore for one minute on given topics(Group 1)
	2		2	Fundamentals of Communication:- Just a Minute(JAM) sessions :speaking extempore for one minute on given topics (Group 2)
6th	1	First Sessional Test(Tentative)	1	First Sessional Test(Tentative)
	2	First Sessional Test(Tentative)	2	First Sessional Test(Tentative)
7th	1	Unit1:-Life sketch of Dr Abdul Kalam	1	Fundamentals of Communication:- Situational conversation :offering responding to offers :congratulating: Apologising and forgiving :Complaining: Talking about likes and dislikes self introduction: Mock interviews(Group 1)
	2	Unit1:- Concept and process of communication	2	Fundamentals of Communication:- Situational conversation: offering responding to offers :congratulating: Apologising and forgiving: Complaining :Talking about likes and dislikes self introduction: Mock interviews (Group 2)
8th	1	Types of Communication(verbal communication)	1	Grammar and usage:- Written and oral drills will be undertaken in the class to facilitate holistic linguistic competency among learners (Group-1)
	2	Revision of above chapters	2	Grammar and usage:- Written and oral drills will be undertaken in the class to facilitate holistic linguistic competency among learners (Group-1)
9th	1	Unit2:-Barriers to communications	1	Grammar and usage:- Exercise on the prescribed grammar topics (Group-1)
	2	Speaking skills :Significance and essentials of spoken communication ,Listening Skills: Significance and essentials of listening	2	Grammar and usage:- Exercise on the prescribed grammar topics (Group-1)

10th	1	Revision of the above chapters	1	Writing Skills:- Students should be given frequent practice in the groups so as to inculcate team-spirit and collaborative learning(Group-1)
	2	Unit3:- Articles, Verbs(Main and Auxiliary) Unit-4 Notice Writing	2	Writing Skills:- Students should be given frequent practice in the groups so as to inculcate team-spirit and collaborative learning(Group-2)
11th	1	Second Sessional Test(Tentative)	1	Second Sessional Test(Tentative)
	2	Second Sessional Test(Tentative)	2	Second Sessional Test(Tentative)
12th	1	Unit-1 Narayan Murthy’s speech at LBSNA,Dehradun	1	Writing Skills:- Group exercises on writing paragraphs on given topics (Group-1)
	2	Unit-3 Tenses	2	Writing Skills:- Group exercises on writing paragraphs on given topics (Group-2)
13th	1	Unit4:- Official Letters and E-mail Frequently used Abrevations used in Letter-Writing,	1	Writing Skills:- Opening an e-mail account receiving and sending e-mails (Group-1)
	2	Paragraph writing	2	Writing Skills:- Opening an e-mail account receiving and sending e-mails (Group-2)
14th	1	Netiquettes	1	Revision and copy checking
	2	Revision of above topics	2	Revision and copy checking
15th	1	Third Sessional Test(Tentative)	1	Third Sessional Test(Tentative)
	2	Third Sessional Test(Tentative)	2	Third Sessional Test(Tentative)
16th	1	Revision	1	Viva-voce
	2	Revision	2	Viva-voce