|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY: Jashanpreet Kaur** |
| **DISCIPLINE: Comp, Mech A, Mech B** |
| **SEMESTER: Fourth** |
| **SUBJECT: English & Communication Skills-II** |
| **LESSION PLAN DURATION : 16 WEEKS** |
| **WORK LOAD PER WEEK: Lectures= 2+2** |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC (WITH ASSIGNMENT & TESTS)** | **PRACTICAL DAY** | **TOPIC** |
| **1** | 1 | The Portrait of a Lady - Khushwant Singh  |  | Reading Practice of the above lessons in the Lab Activity classes.  |
| 2 | Modern means of Communication (Video Conferencing), e- mail, Teleconferencing |
| **2** | 3 | Effective Communication Skills: 7 C’s of Communication  |  | Comprehension exercises of unseen passages along with the given lessons.  |
| 4 | Correspondence: Enquiry letters, Placing orders, Complaint letters |
| **3** | 5 | Report Writing |  | Vocabulary enrichment and grammar exercises based on the above selective readings.  |
| 6 | Memos |
| **4** | 7 | Prepositions, Conjunctions |  | Situational Conversation: Requesting and responding to requests; Expressing sympathy and condolence.  |
| 8 | Presentation Skills: How to prepare and deliver a good presentation, Telephone Etiquettes  |
| 1st Sessional Test |
| **5** | 9 | The Doctor’s Word by R K Narayan  |  | Warning; Asking and giving information.  |
| 10 | Speech by Dr Kiran Bedi at IIM Indore2007 Leadership Concepts  |
| **6** | 11 | Non-verbal Communication – Significance  |  | Getting and giving permission.  |
| 12 | Types and Techniques for Effective Communication  |
| **7** | 13 | Circulars, Press Release |  | Asking for and giving opinions.  |
| 14 | Inspection Notes and tips for Note-taking |
| **8** | 15 | Punctuation, Idioms and Phrases  |  | A small formal and informal speech.  |
| 16 | Importance of developing employable and soft skills  |
| **9** | 17 | Resume Writing: Definition, Kinds of Resume |  | Seminar |
| 18 | Difference between Bio-data and Curriculum Vitae and Preparing a Resume for Job/ Internship |
| 2nd Sessional |
| **10** | 19 | The Bet - by Anton Chekhov |  | Debate.  |
| 20 | Barriers and Effectiveness in Listening Skills  |
| **11** | 21 | Barriers and Effectiveness in Speaking Skills  |  | Interview Skills: Preparing for the Interview and guidelines for success in the Interview and significance of acceptable body-language during the Interview.  |
| 22 | Corrigendum writing |
| **12** | 23 | Pairs of words (Words commonly misused and confused),  |  | Written and Oral Drills will be undertaken in the class to facilitate a holistic linguistic competency among learners.  |
| 24 | Translation of Administrative and Technical Terms in Hindi or Mother tongue  |
| **13** | 25 | Group discussions: Concept  |  | Participation in a GD, Functional and Non-functional roles in GD, Case studies and Role plays.  |
| 26 | Group discussions Fundamental |
| **14** | 27 | learning Group Dynamics.  |  | Presentations, using audio-visual aids (including power-point).  |
| 28 | Case Studies and Role Plays  |
| **15** | 29 | Cover Letter |  | Telephonic interviews, face to face interviews.  |
| 30 | Doubt Session |
| **16** | 31 | Revision |  | Presentations as Mode of Communication: Persuasive Presentations using multi-media aids.  |
| 32 | Revision |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY: Neetu Gupta** |
| **DISCIPLINE: Civil A, Civil B, Elect, Comp** |
| **SEMESTER: Fourth** |
| **SUBJECT: English & Communication Skills-II** |
| **LESSION PLAN DURATION : 16 WEEKS** |
| **WORK LOAD PER WEEK: Lectures= 2+2** |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC (WITH ASSIGNMENT & TESTS)** | **PRACTICAL DAY** | **TOPIC** |
| **1** | 1 | The Portrait of a Lady - Khushwant Singh  |  | Reading Practice of the above lessons in the Lab Activity classes.  |
| 2 | Modern means of Communication (Video Conferencing), e- mail, Teleconferencing |
| **2** | 3 | Effective Communication Skills: 7 C’s of Communication  |  | Comprehension exercises of unseen passages along with the given lessons.  |
| 4 | Correspondence: Enquiry letters, Placing orders, Complaint letters |
| **3** | 5 | Report Writing |  | Vocabulary enrichment and grammar exercises based on the above selective readings.  |
| 6 | Memos |
| **4** | 7 | Prepositions, Conjunctions |  | Situational Conversation: Requesting and responding to requests; Expressing sympathy and condolence.  |
| 8 | Presentation Skills: How to prepare and deliver a good presentation, Telephone Etiquettes  |
| 1st Sessional Test |
| **5** | 9 | The Doctor’s Word by R K Narayan  |  | Warning; Asking and giving information.  |
| 10 | Speech by Dr Kiran Bedi at IIM Indore2007 Leadership Concepts  |
| **6** | 11 | Non-verbal Communication – Significance  |  | Getting and giving permission.  |
| 12 | Types and Techniques for Effective Communication  |
| **7** | 13 | Circulars, Press Release |  | Asking for and giving opinions.  |
| 14 | Inspection Notes and tips for Note-taking |
| **8** | 15 | Punctuation, Idioms and Phrases  |  | A small formal and informal speech.  |
| 16 | Importance of developing employable and soft skills  |
| **9** | 17 | Resume Writing: Definition, Kinds of Resume |  | Seminar |
| 18 | Difference between Bio-data and Curriculum Vitae and Preparing a Resume for Job/ Internship |
| 2nd Sessional |
| **10** | 19 | The Bet - by Anton Chekhov |  | Debate.  |
| 20 | Barriers and Effectiveness in Listening Skills  |
| **11** | 21 | Barriers and Effectiveness in Speaking Skills  |  | Interview Skills: Preparing for the Interview and guidelines for success in the Interview and significance of acceptable body-language during the Interview.  |
| 22 | Corrigendum writing |
| **12** | 23 | Pairs of words (Words commonly misused and confused),  |  | Written and Oral Drills will be undertaken in the class to facilitate a holistic linguistic competency among learners.  |
| 24 | Translation of Administrative and Technical Terms in Hindi or Mother tongue  |
| **13** | 25 | Group discussions: Concept  |  | Participation in a GD, Functional and Non-functional roles in GD, Case studies and Role plays.  |
| 26 | Group discussions Fundamental |
| **14** | 27 | learning Group Dynamics.  |  | Presentations, using audio-visual aids (including power-point).  |
| 28 | Case Studies and Role Plays  |
| **15** | 29 | Cover Letter |  | Telephonic interviews, face to face interviews.  |
| 30 | Doubt Session |
| **16** | 31 | Revision |  | Presentations as Mode of Communication: Persuasive Presentations using multi-media aids.  |
| 32 | Revision |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY: Sharmila Sharma** |
| **DISCIPLINE: ECE, Arch, Auto, Plastic** |
| **SEMESTER: Fourth** |
| **SUBJECT: English & Communication Skills-II** |
| **LESSION PLAN DURATION : 16 WEEKS** |
| **WORK LOAD PER WEEK: Lectures= 2+2** |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC (WITH ASSIGNMENT & TESTS)** | **PRACTICAL DAY** | **TOPIC** |
| **1** | 1 | The Portrait of a Lady - Khushwant Singh  |  | Reading Practice of the above lessons in the Lab Activity classes.  |
| 2 | Modern means of Communication (Video Conferencing), e- mail, Teleconferencing |
| **2** | 3 | Effective Communication Skills: 7 C’s of Communication  |  | Comprehension exercises of unseen passages along with the given lessons.  |
| 4 | Correspondence: Enquiry letters, Placing orders, Complaint letters |
| **3** | 5 | Report Writing |  | Vocabulary enrichment and grammar exercises based on the above selective readings.  |
| 6 | Memos |
| **4** | 7 | Prepositions, Conjunctions |  | Situational Conversation: Requesting and responding to requests; Expressing sympathy and condolence.  |
| 8 | Presentation Skills: How to prepare and deliver a good presentation, Telephone Etiquettes  |
| 1st Sessional Test |
| **5** | 9 | The Doctor’s Word by R K Narayan  |  | Warning; Asking and giving information.  |
| 10 | Speech by Dr Kiran Bedi at IIM Indore2007 Leadership Concepts  |
| **6** | 11 | Non-verbal Communication – Significance  |  | Getting and giving permission.  |
| 12 | Types and Techniques for Effective Communication  |
| **7** | 13 | Circulars, Press Release |  | Asking for and giving opinions.  |
| 14 | Inspection Notes and tips for Note-taking |
| **8** | 15 | Punctuation, Idioms and Phrases  |  | A small formal and informal speech.  |
| 16 | Importance of developing employable and soft skills  |
| **9** | 17 | Resume Writing: Definition, Kinds of Resume |  | Seminar |
| 18 | Difference between Bio-data and Curriculum Vitae and Preparing a Resume for Job/ Internship |
| 2nd Sessional |
| **10** | 19 | The Bet - by Anton Chekhov |  | Debate.  |
| 20 | Barriers and Effectiveness in Listening Skills  |
| **11** | 21 | Barriers and Effectiveness in Speaking Skills  |  | Interview Skills: Preparing for the Interview and guidelines for success in the Interview and significance of acceptable body-language during the Interview.  |
| 22 | Corrigendum writing |
| **12** | 23 | Pairs of words (Words commonly misused and confused),  |  | Written and Oral Drills will be undertaken in the class to facilitate a holistic linguistic competency among learners.  |
| 24 | Translation of Administrative and Technical Terms in Hindi or Mother tongue  |
| **13** | 25 | Group discussions: Concept  |  | Participation in a GD, Functional and Non-functional roles in GD, Case studies and Role plays.  |
| 26 | Group discussions Fundamental |
| **14** | 27 | learning Group Dynamics.  |  | Presentations, using audio-visual aids (including power-point).  |
| 28 | Case Studies and Role Plays  |
| **15** | 29 | Cover Letter |  | Telephonic interviews, face to face interviews.  |
| 30 | Doubt Session |
| **16** | 31 | Revision |  | Presentations as Mode of Communication: Persuasive Presentations using multi-media aids.  |
| 32 | Revision |

**PERFORMA OF LESSON PALN**

NAME OF THE FACULTY: Preetpal Kaur

DISCPLINE: Arch, Auto, Civil, Comp, Elect, ECE, Mech, Plastic

SEMESTER: 6th

SUBJECT: SOFT SKILLS

LESSON PLAN DURATION: 16 WEEKS

WORK LOAD PER WEEK PRACTICAL......

|  |  |
| --- | --- |
| WEEK | PRACTICAL |
| PRACTICAL DAY | TOPIC |
| 1 | 1 | Introduction to Soft Skills |
| 2 | Importance of Soft Skills |
| 2 | 1 | Communication Skills  |
| 2 | Types of Communication |
| 3 | 1 | Verbal Communication |
| 2 | Non-Verbal Communication |
| 4 | 1 | Presentation  |
| 2 | Activity regarding presentation |
| 5 | 1 | Time Management |
| 2 | Setting goals and objectives |
| 6 | 1 | Activity regarding aims |
| 2 | Improvements |
| 7 | 1 | Stress Managements |
| 2 | Consequences of external stress  |
| 8 | 1 | Activity – Stress Management |
| 2 | Problem Solving |
| 9 | 1 | Problem Solving Techniques |
| 2 | Activity- Problem Solving  |
| 10 | 1 | Career Opportunities |
| 2 | Current Opportunities |
| 11 | 1 | Future Opportunities |
| 2 | Activities regarding Career |
| 12 | 1 | Entrepreneurial Skills |
| 2 | Successful stories of Entrepreneurs  |
| 13 | 1 | Activity - Entrepreneurial Skills |
| 2 | Viva -Voce |
| 14 | 1 | Quality and Quality Tools used in Industry |
| 2 | Examples regarding Quality Tools |
| 15 | 1 | Activity regarding Quality Tools |
| 2 | Revision of Topics |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY : Dr. Sunita Rani (Sr. Lecturer)** |
| **DISCIPLINE :Mech A, Mech B**  |
| **SEMESTER : SECOND** |
| **SUBJECT : APPLIED CHEMISTRY (Theory)** |
| **LESSION PLAN DURATION : 15 WEEKS** |
| **WORK LOAD PER WEEK :Lectures= 3+3** |
| **WEEK** | **THEORY** |
| **LECTURE DAY** |  | **TOPIC (WITH ASSIGNMENT & TESTS)** |
| 1 | 1 |  | Introduction of Atomic Structure, Bohr’s model of atom |
| 2 |  | Dual character of matter: derivation of de-Broglie’s equation Heisenberg’s Principle of Uncertainty, modern concept of atomic structure |
| 3 |  | Definition of orbitals shapes ofs,pandd-orbitals |
| 2 | 4 |  | Quantum number sandtheirsignificance |
| 5 |  | AufbauandPauli’sexclusionprinciples Hund’srule |
| 6 |  | Electronic configurationofelementsuptoatomicnumber 30. |
|  3 | 7 |  | Periodic TableModernPeriodiclawandPeriodictable, Classificationofelementsintos,p |
| 8 |  | Classificationofelementsintod, f-blocks,metals,non-metalsandmetalloids |
| 9 |  | Chemicalbonding:causeofbonding,ionicbond Physicalproperties ofionic, |
| 4 | 10 |  | Covalentbond,andmetallicbond(electronseaorgasmodel), Physicalproperties covalentandmetallic substances. |
| 11 |  | Doubt Quarries and Revision |
| 12 |  | Metals: mechanical properties of metals such as conductivity, elasticity, strength and stiffness,luster, hardness, toughness, ductility, malleability |
| **1st Sessional test** |
| 5 | 13 |  | Metals: mechanical properties of metals such as, brittleness, and impact resistance and theiruses. Definition of a mineral, ore, gangue, flux and slag |
| 14 |  |  Metallurgy of iron from haematite using ablastfurnace Commercialvarieties ofiron |
| 15 |  | Alloys: definition, necessity of making alloys, composition, properties and uses of duralumin andsteel.Heattreatmentofsteel-normalizing,annealing,quenching,tempering. |
| 6 | 16 |  | Doubt Quarries and Revision |
| 17 |  | Solutions: definition, expression of the concentration of a solution in percentage (w/w, w/v andv/v),normality,molarityandmolalityandppm. |
| 18 |  | Simpleproblemsonsolutionpreparation |
| 7 | 19 |  | Arrhenius concept of acids and bases, strong and weak acids and bases, pH value of a solutionanditssignificance,pHscale |
| 20 |  | Simplenumericalproblems onpHofacidsandbases. |
| 21 |  | Hard and soft water, causes of hardness of water, types of hardness– temporary and permanent hardness |
| 8 | 22 |  | Expression of hardness of water, ppm unit of hardness; disadvantages of hard water;removal of hardness |
| 23 |  | Removal of temporary hardness by boiling and Clark’smethod; removalofpermanent hardness of water by Ion-Exchange method |
| 24 |  | Boiler problems caused byhard water: scale and sludge formation, priming and foaming, caustic embrittlement;watersterilizationbychlorine,UVradiationandRO |
| 9 | 25 |  | Doubt Quarries and Revision |
| 26 |  | Fuels:definitionandclassificationofhigherandlowercalorificvalues,unitsofcalorificvalue |
| 27 |  | Characteristics of an ideal fuel. Petroleum: composition and refining of petroleum |
|  2nd Sessional Test |
| 10 | 28 |  | Gaseousfuels: composition, properties and uses of CNG, PNG, LNG, LPG |
| 29 |  | Relative advantages of liquidandgaseousfuels oversolidfuels.Scopeofhydrogenasfuturefuel. |
|  30 |  | Lubricants-Functionsandqualitiesofagoodlubricant,classificationoflubricants |
| 11 | 31 |  | Lubrication mechanism (brief idea only |
| 32 |  | Physical properties (brief idea only) of alubricant: oiliness, viscosity, viscosity index, flash and fire point, ignition temperature, pourpoint. |
| 33 |  | Doubt Quarries and Revision |
| 12 | 34 |  | PolymersandPlastics:definitionofpolymer,classification,additionandcondensationpolymerization |
| 35 |  | Preparationpropertiesandusesofpolythene,PVC,Nylon-66 |
| 36 |  | Preparationpropertiesanduses Bakelite;definition of plastic |
| 13 | 37 |  | Thermoplastics and thermosetting polymers; natural rubber and neoprene,othersyntheticrubbers (names only). |
| 38 |  | Corrosion: definition, dry and wet corrosion |
| 39 |  | Factors affecting rate of corrosion, methods ofpreventionofcorrosion—hotdipping |
| 14 | 40 |  | Preventionofcorrosion metalcladding,cementation,quenching,cathodicprotectionmethods |
| 41 |  | Introductionandapplicationofnanotechnology:nano-materials |
| 42 |  | Classification,applications ofnanotechnologyinvarious engineeringapplications(brief) |
| **3rd Sessional test** |
| 15 | 43 |  | Doubt Quarries and Revision |
| 44 |  | Revision and discussion of previous year Q. Papers |
| 45 |  | Revision and discussion of previous year Q. Papers |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY :Sunita Rani (Lecturer)** |
| **DISCIPLINE :Mech A, Mech B**  |
| **SEMESTER : Second** |
| **SUBJECT : APPLIED CHEMISTRY (Practical)** |
| **LESSION PLAN DURATION : 15 WEEKS** |
| **WORK LOAD PER WEEK :Practicals = 4+4** |
| **WEEK** | **Practical** |
| **LECTURE DAY** |  | **Name of Practical**  |
|  |  |  |
| 1 | 1 |  |  | Topreparestandardsolutionofoxalicacid |
| 2 | 2 |  |  | To dilutethe givenKMnO4solution |
| 3 | 3 |  |  | To find outthestrengthingrams perlitreofanunknownsolutionofsodiumhydroxideusingastandard(N/10)oxalicacidsolution |
| 4 | 4 |  |  | To find outthestrengthingrams perlitreofanunknownsolutionofsodiumhydroxideusingastandard(N/10)oxalicacidsolution |
| 5 | 5 |  |  | To findoutthetotalalkalinityinpartspermillion(ppm)ofawatersample withthe help ofastandardsulphuricacidsolution. |
| 6 | 6 |  |  | To findoutthetotalalkalinityinpartspermillion(ppm)ofawatersample withthe help ofastandardsulphuricacidsolution. |
| 7 | 7 |  |  | To determinethetotalhardnessofgivenwatersamplebyEDTA method |
| 8 | 8 |  |  | To determinethetotalhardnessofgivenwatersamplebyEDTA method |
| 9 | 9 |  |  | Todetermine theamountoftotaldissolved solids(TDS)inppminagivensample ofwatergravimetrically |
| 10 | 10 |  |  | TodeterminethepHofdifferentsolutionsusingadigitalpHmeter |
| 11 | 11 |  |  | Todeterminethecalorificvalueofasolid/liquidfuelusingaBombcalorimeter |
| 12 | 12 |  |  | To determine theviscosityofalubricatingoilusingaRedwoodviscometer |
| 13 | 13 |  |  | To determine theviscosityofalubricatingoilusingaRedwoodviscometer |
| 14 | 14 |  |  | ToprepareasampleofPhenol-formaldehyderesin(Bakelite)/Nylon-66inthelab |
| 15 | 15 |  |  | ToprepareasampleofPhenol-formaldehyderesin(Bakelite)/Nylon-66inthelab |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY : Ravinder Kumar (Lecturer)** |
| **DISCIPLINE : Automobile** |
| **SEMESTER : Second** |
| **SUBJECT : APPLIED CHEMISTRY (Theory)** |
| **LESSION PLAN DURATION : 15 WEEKS** |
| **WORK LOAD PER WEEK : Lectures = 3**  |
| **WEEK** | **THEORY** |
| **LECTURE DAY** |  | **TOPIC (WITH ASSIGNMENT & TESTS)** |
| 1 | 1 |  | Introduction of Atomic Structure, Bohr’s model of atom |
| 2 |  | Dual character of matter: derivation of de- Broglie’s equation Heisenberg’s Principle of Uncertainty, modern concept of atomic structure |
| 3 |  | Definition of orbitals shapes of s, p and d-orbitals |
| 2 | 4 |  | Quantum numbers and their significance |
| 5 |  | Aufbau and Pauli’s exclusion principles Hund’s rule |
| 6 |  | Electronic configuration of elements up to atomic number 30. |
|  3 | 7 |  | Periodic Table Modern Periodic law and Periodic table, Classification of elements into s, p |
| 8 |  | Classification of elements into d, f-blocks, metals, non-metals and metalloids |
| 9 |  | Chemical bonding: cause of bonding, ionic bond Physical properties of ionic, |
| 4 | 10 |  | Covalent bond, and metallic bond (electron sea or gas model), Physical properties covalent and metallic substances. |
| 11 |  | Doubt Quarries and Revision |
| 12 |  | Metals: mechanical properties of metals such as conductivity, elasticity, strength and stiffness, luster, hardness, toughness, ductility, malleability |
| **1st Sessional test** |
| 5 | 13 |  | Metals: mechanical properties of metals such as, brittleness, and impact resistance and their uses. Definition of a mineral, ore, gangue, flux and slag |
| 14 |  |  Metallurgy of iron from haematite using a blast furnace Commercial varieties of iron |
| 15 |  | Alloys: definition, necessity of making alloys, composition, properties and uses of duralumin and steel. Heat treatment of steel- normalizing, annealing, quenching, tempering. |
| 6 | 16 |  | Doubt Quarries and Revision |
| 17 |  | Solutions: definition, expression of the concentration of a solution in percentage (w/w, w/v and v/v), normality, molarity and molality and ppm. |
| 18 |  | Simple problems on solution preparation |
| 7 | 19 |  | Arrhenius concept of acids and bases, strong and weak acids and bases, pH value of a solution and its significance, pH scale |
| 20 |  | Simple numerical problems on pH of acids and bases. |
| 21 |  | Hard and soft water, causes of hardness of water, types of hardness – temporary and permanent hardness |
| 8 | 22 |  | Expression of hardness of water, ppm unit of hardness; disadvantages of hard water; removal of hardness |
| 23 |  | Removal of temporary hardness by boiling and Clark’s method; removal of permanent hardness of water by Ion-Exchange method |
| 24 |  | Boiler problems caused by hard water: scale and sludge formation, priming and foaming, caustic embrittlement; water sterilization by chlorine, UV radiation and RO |
| 9 | 25 |  | Doubt Quarries and Revision |
| 26 |  | Fuels: definition and classification of higher and lower calorific values, units of calorific value |
| 27 |  | Characteristics of an ideal fuel. Petroleum: composition and refining of petroleum |
|  2nd Sessional Test |
| 10 | 28 |  | Gaseous fuels: composition, properties and uses of CNG, PNG, LNG, LPG |
| 29 |  | Relative advantages of liquid and gaseous fuels over solid fuels. Scope of hydrogen as future fuel. |
|  30 |  | Lubricants- Functions and qualities of a good lubricant, classification of lubricants |
| 11 | 31 |  | Lubrication mechanism (brief idea only |
| 32 |  | Physical properties (brief idea only) of a lubricant: oiliness, viscosity, viscosity index, flash and fire point, ignition temperature, pour point. |
| 33 |  | Doubt Quarries and Revision |
| 12 | 34 |  | Polymers and Plastics: definition of polymer, classification, addition and condensation polymerization |
| 35 |  | Preparation properties and uses of polythene, PVC, Nylon-66 |
| 36 |  | Preparation properties and uses Bakelite; definition of plastic |
| 13 | 37 |  | Thermoplastics and thermosetting polymers; natural rubber and neoprene, other synthetic rubbers (names only). |
| 38 |  | Corrosion: definition, dry and wet corrosion |
| 39 |  | Factors affecting rate of corrosion, methods of prevention of corrosion—hot dipping |
| 14 | 40 |  | Prevention of corrosion metal cladding, cementation, quenching, cathodic protection methods |
| 41 |  | Introduction and application of nanotechnology: nano-materials |
| 42 |  | Classification, applications of nanotechnology in various engineering applications (brief) |
| **3rd Sessional test** |
| 15 | 43 |  | Doubt Quarries and Revision |
| 44 |  | Revision and discussion of previous year Q. Papers |
| 45 |  | Revision and discussion of previous year Q. Papers |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY : Ravinder Kumar (Lecturer)** |
| **DISCIPLINE : Automobile**  |
| **SEMESTER : Second** |
| **SUBJECT : APPLIED CHEMISTRY (Practical)** |
| **LESSION PLAN DURATION : 15 WEEKS** |
| **WORK LOAD PER WEEK : Practicals = 4** |
| **WEEK** | **Practical** |
| **LECTURE DAY** | **Coverage date** | **Name of Practical**  |
| **G1** | **G2** |  |
| 1 | 1 |  |  | To prepare standard solution of oxalic acid  |
| 2 | 2 |  |  | To dilute the given KMnO4 solution |
| 3 | 3 |  |  | To find out the strength in grams per litre of an unknown solution of sodium hydroxide using a standard (N/10) oxalic acid solution |
| 4 | 4 |  |  |  Checking of Practical Files  |
| 5 | 5 |  |  | To find out the total alkalinity in parts per million (ppm) of a water sample with the help of a standard sulphuric acid solution. |
| 6 | 6 |  |  | To determine the total hardness of given water sample by EDTA method |
| 7 | 7 |  |  | Checking of Practical Files |
| 8 | 8 |  |  | To determine the total hardness of given water sample by EDTA method |
| 9 | 9 |  |  | To determine the amount of total dissolved solids(TDS) in ppm in a given sample of water gravimetrically |
| 10 | 10 |  |  | To determine the pH of different solutions using a digital pH meter |
| 11 | 11 |  |  | To determine the calorific value of a solid/liquid fuel using a Bomb calorimeter |
| 12 | 12 |  |  | Checking of Practical Files & Viva |
| 13 | 13 |  |  | To determine the viscosity of a lubricating oil using a Redwood viscometer |
| 14 | 14 |  |  | To prepare a sample of Phenol-formaldehyde resin (Bakelite)/Nylon-66 in the lab |
| 15 | 15 |  |  | Checking of Practical Files & Viva |

**PERFORMA OF LESSON PLAN**

**NAME OF THE FACULTY : RAVINDER KUMAR (LECTURER)**

**DISCIPLINE : Arch, Civil A, Civil B, Comp, Elect, ECE,**

**SEMESTER :2nd**

**SUBJECT :ESDM**

**LESSION PLAN DURATION : 15 WEEKS**

**WORK LOAD PER WEEK : Lectures = 02+02+02+02+02+02**

|  |  |  |
| --- | --- | --- |
| **WEEK** |  | **THEORY** |
| **LECTURE DAY** |  | **TOPIC (WITH ASSIGNMENT & TESTS)** |
| **1** | 1 |  | **Introduction** |
| 2 |  | Basics of ecology , Eco system- concept |
| **2** | 3 |  | Sustainable development |
| 4 |  | Renewable and non-renewable Sources of energy and their advantages& disadvantages  |
| **3** | 5 |  | Rain water harvesting |
| 6 |  | Deforestation – its effects & control measures |
| **4** | 7 |  | Air Pollution: Source of air pollution |
| 8 |  | Effect of air pollution on human health, economy, Air pollution control methods |
| **5** | 9 |  | Defination and Source of noise pollution, Unit of noise, Effect of noise pollution, Acceptable noise level, Different method of minimizing noise pollution |
| 10 |  | Revision of Air and Noise Pollution  |
| **1st sessional test** |
| **6** | 11 |  | Water Pollution: Impurities in water, Cause of water pollution |
| 12 |  | Source of water pollution. Effect of water pollution on human health, Concept of DO, BOD, COD |
| **7** | 13 |  | Prevention of water pollution- Water treatment processes, Sewage treatment |
| 14 |  | Water quality standard. Defination and Sources of soil pollution |
| **8** | 15 |  | Effects and Control of soil pollution, Types of Solid waste- House hold, Industrial, Agricultural, Biomedical, |
| 16 |  | Disposal of solid waste, Solid waste management E-waste, E – waste management |
| **9** | 17 |  | Impact of Energy Usage on Environment Global Warming |
|  | 18 |  | Green House Effect, Depletion of Ozone Layer, Acid Rain |
| **10** | 19 |  | Eco-friendly Material, Recycling of Material, Concept of Green Buildings |
|  | 20 |  | Concept of Carbon Credit & Carb on footprint. |
| **11** | 21 |  | Revision of Impact of Energy Usage on Environment |
| **2nd sessional test** |
|  | 22 |  | Natural Disaster: such as Flood, Cyclone |
| **12** | 23 |  | Natural Disaster: Earthquakes and Land slides etc |
|  | 24 |  | Man-made Disaster: such as Fire, Industrial Pollution |
| **13** | 25 |  | Man-made Disaster: Nuclear Disaster, Biological Disasters, Accidents (Air, Sea Rail & Road) |
|  | 26 |  | Man-made Disaster: Structural failures (Building and Bridge),War& Terrorism etc. |
| **14** | 27 |  | Disaster Preparedness Plan Prediction, Disaster Preparedness Early Warnings and Safety Measures of Disaster |
|  | 28 |  | Psychological response and Management(Trauma, Stress), Psychological response and Management(Rumour and Panic) |
|  3rd Sessional test |
| **15** | 29 |  | Revision and discussion of previous year Q. Papers |
|  | 30 |  | Revision and discussion of previous year Q. Papers |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY : Roshan Lal** |
| **DISCIPLINE : Computer** |
| **SEMESTER : SECOND** |
| **SUBJECT : APPLIED MATHEMATICS** |
| **LESSION PLAN DURATION : 16 WEEKS** |
| **WORK LOAD PER WEEK :Lectures= 20**  |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC (WITH ASSIGNMENT & TESTS)** | **PRACTICAL DAY** | **TOPIC** |
| **1** | 1 | Definition of function, its types | **\_****\_** | **\_****\_****\_****\_** |
| 2 | Concept of Algebraic limits |
| 3 | Concept of Trigonometric, Exponential & log-limits |
| 4 | Numericals |
| **2** | 5 | Differentiation of xn , sin x by first principle | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 6 | Differentiation of cos x, tan x by first principle |
| 7 | Differentiation of sum and difference of function |
| 8 | Differentiation of product of function |
| **3** | 9 | Differentiation of quotient of functions | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 10 | Differentiation of trigonometric functions |
| 11 | Differentiation of inverse trigonometric function |
| 12 | Differentiation of Logarithmic function  |
| **4** | 13 | Successive differentiation | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 14 | Application of diff. in Rate measures |
| 15 | Maxima and minima |
| 16 | Assignment-1 and Numericals |
| **5** | 17 | Numericals | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 18 | 1st Sessional Test (Tentative) |
| 19 | 1st Sessional Test (Tentative) |
| 20 | 1st Sessional Test (Tentative) |
| **6** | 21 | Integration as inverse operation of differentiation | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 22 | Simple standard integrals  |
| 23 | Numericals |
| 24 | Integration by substitution method |
| **7** | 25 | Integration by Parts | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 26 | Evaluation of |
| 27 | Numericals |
| 28 | Assignment-2 |
| **8** | 29 | Applications of integration Area under a curve and axis | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 30 | Numerical integration by Trapezoidal Rule |
| 31 | Numerical integration by Simpson’s 1/3rd    Rule  |
| 32 | Numericals |
| **9** | 33 | Differential, order, degree, type linearity | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 34 | Function of O.D.E. (upto 1st order) |
| 35 | Solution of O.D.E. (1st order) by variable |
| 36 | Assignment-3 |
| **10** | 37 | 2nd Sessional Test (Tentative) | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 38 | 2nd Sessional Test (Tentative) |
| 39 | 2nd Sessional Test (Tentative) |
| 40 | 2nd Sessional Test (Tentative) |
| **11** | 41 | Measure of central tendency: mean | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 42 | Measure of central tendency: median |
| 43 | Measure of central tendency: mode |
| 44 | Numericals |
| **12** | 45 | Measure of dispersion: Mean Deviation | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 46 | Measure of dispersion: Standard Deviation |
| 47 | Numericals |
| 48 | Assignment-4 |
| **13** | 49 | Software- Theoretical Introduction | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 50 | Basic Diff. Between MATLAB and Sclab software |
| 51 | Calculation with MATLAB or ScLab Representation of Matrix (2X2 order) |
| 52 | Add, sub of Matrices (2x2 order) in MATLAB or ScLab |
| **14** | 53 | 3rd Sessional Test (Tentative) | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 54 | 3rd Sessional Test (Tentative) |
| 55 | 3rd Sessional Test (Tentative) |
| 56 | 3rd Sessional Test (Tentative) |
| **15** | 57 | Revision  | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 58 | Practice of Previous Question papers |
| 59 | Practice of Previous Question papers |
| 60 | Revision  |
| **16** | 61 | Practice of Previous Question papers | **\_** | **\_** |
| 62 | Practice of Previous Question papers |
| 63 | Revision  |
| 64 | Revision |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY : KANUPRIYA** |
| **DISCIPLINE : AUTO, CIVIL-A, CIVIL-B, ELTX, MECH-B** |
| **SEMESTER : SECOND** |
| **SUBJECT : APPLIED MATHEMATICS** |
| **LESSION PLAN DURATION : 16 WEEKS** |
| **WORK LOAD PER WEEK :Lectures= 20**  |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC (WITH ASSIGNMENT & TESTS)** | **PRACTICAL DAY** | **TOPIC** |
| **1** | 1 | Definition of function, its types | **\_****\_** | **\_****\_****\_****\_** |
| 2 | Concept of Algebraic limits |
| 3 | Concept of Trigonometric, Exponential & log-limits |
| 4 | Numericals |
| **2** | 5 | Differentiation of xn , sin x by first principle | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 6 | Differentiation of cos x, tan x by first principle |
| 7 | Differentiation of sum and difference of function |
| 8 | Differentiation of product of function |
| **3** | 9 | Differentiation of quotient of functions | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 10 | Differentiation of trigonometric functions |
| 11 | Differentiation of inverse trigonometric function |
| 12 | Differentiation of Logarithmic function  |
| **4** | 13 | Successive differentiation | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 14 | Application of diff. in Rate measures |
| 15 | Maxima and minima |
| 16 | Assignment-1 and Numericals |
| **5** | 17 | Numericals | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 18 | 1st Sessional Test (Tentative) |
| 19 | 1st Sessional Test (Tentative) |
| 20 | 1st Sessional Test (Tentative) |
| **6** | 21 | Integration as inverse operation of differentiation | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 22 | Simple standard integrals  |
| 23 | Numericals |
| 24 | Integration by substitution method |
| **7** | 25 | Integration by Parts | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 26 | Evaluation of |
| 27 | Numericals |
| 28 | Assignment-2 |
| **8** | 29 | Applications of integration Area under a curve and axis | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 30 | Numerical integration by Trapezoidal Rule |
| 31 | Numerical integration by Simpson’s 1/3rd    Rule  |
| 32 | Numericals |
| **9** | 33 | Differential, order, degree, type linearity | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 34 | Function of O.D.E. (upto 1st order) |
| 35 | Solution of O.D.E. (1st order) by variable |
| 36 | Assignment-3 |
| **10** | 37 | 2nd Sessional Test (Tentative) | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 38 | 2nd Sessional Test (Tentative) |
| 39 | 2nd Sessional Test (Tentative) |
| 40 | 2nd Sessional Test (Tentative) |
| **11** | 41 | Measure of central tendency: mean | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 42 | Measure of central tendency: median |
| 43 | Measure of central tendency: mode |
| 44 | Numericals |
| **12** | 45 | Measure of dispersion: Mean Deviation | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 46 | Measure of dispersion: Standard Deviation |
| 47 | Numericals |
| 48 | Assignment-4 |
| **13** | 49 | Software- Theoretical Introduction | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 50 | Basic Diff. Between MATLAB and Sclab software |
| 51 | Calculation with MATLAB or ScLab Representation of Matrix (2X2 order) |
| 52 | Add, sub of Matrices (2x2 order) in MATLAB or ScLab |
| **14** | 53 | 3rd Sessional Test (Tentative) | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 54 | 3rd Sessional Test (Tentative) |
| 55 | 3rd Sessional Test (Tentative) |
| 56 | 3rd Sessional Test (Tentative) |
| **15** | 57 | Revision  | **\_****\_****\_****\_** | **\_****\_****\_****\_** |
| 58 | Practice of Previous Question papers |
| 59 | Practice of Previous Question papers |
| 60 | Revision  |
| **16** | 61 | Practice of Previous Question papers | **\_** | **\_** |
| 62 | Practice of Previous Question papers |
| 63 | Revision  |
| 64 | Revision |

|  |
| --- |
| **PERFORMA OF LESSON PLAN** |
| **NAME OF THE FACULTY : PUSHPENDRA PRATAP** |
| **DISCIPLINE : ELECTRICAL, MECH-A** |
| **SEMESTER : SECOND** |
| **SUBJECT : APPLIED MATHEMATICS** |
| **LESSION PLAN DURATION : 16 WEEKS** |
| **WORK LOAD PER WEEK :Lectures = 12**  |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC (WITH ASSIGNMENT & TESTS)** | **PRACTICAL DAY** |
| **1** | 1 | Definition of function, its types | **\_** |
| 2 | Concept of Algebraic limits |
| 3 | Concept of Trigonometric, Exponential & log-limits |
| 4 | Numericals |
| **2** | 5 | Differentiation of xn , sin x by first principle | **\_** |
| 6 | Differentiation of cos x, tan x by first principle |
| 7 | Differentiation of sum and difference of function |
| 8 | Differentiation of product of function |
| **3** | 9 | Differentiation of quotient of functions | **\_** |
| 10 | Differentiation of trigonometric functions |
| 11 | Differentiation of inverse trigonometric function |
| 12 | Differentiation of Logarithmic function  |
| **4** | 13 | Successive differentiation | **\_** |
| 14 | Application of diff. in Rate measures |
| 15 | Maxima and minima |
| 16 | Assignment-1 and Numericals |
| **5** | 17 | Numericals | **\_** |
| 18 | 1st Sessional Test (Tentative) |
| 19 | 1st Sessional Test (Tentative) |
| 20 | 1st Sessional Test (Tentative) |
| **6** | 21 | Integration as inverse operation of differentiation | **\_** |
| 22 | Simple standard integrals  |
| 23 | Numericals |
| 24 | Integration by substitution method |
| **7** | 25 | Integration by Parts | **\_** |
| 26 | Evaluation of |
| 27 | Numericals |
| 28 | Assignment-2 |
| **8** | 29 | Applications of integration Area under a curve and axis | **\_** |
| 30 | Numerical integration by Trapezoidal Rule |
| 31 | Numerical integration by Simpson’s 1/3rd    Rule  |
| 32 | Numericals |
| **9** | 33 | Differential, order, degree, type linearity | **\_** |
| 34 | Function of O.D.E. (upto 1st order) |
| 35 | Solution of O.D.E. (1st order) by variable |
| 36 | Assignment-3 |
| **10** | 37 | 2nd Sessional Test (Tentative) | **\_** |
| 38 | 2nd Sessional Test (Tentative) |
| 39 | 2nd Sessional Test (Tentative) |
| 40 | 2nd Sessional Test (Tentative) |
| **11** | 41 | Measure of central tendency: mean | **\_** |
| 42 | Measure of central tendency: median |
| 43 | Measure of central tendency: mode |
| 44 | Numericals |
| **12** | 45 | Measure of dispersion: Mean Deviation | **\_** |
| 46 | Measure of dispersion: Standard Deviation |
| 47 | Numericals |
| 48 | Assignment-4 |
| **13** | 49 | Software- Theoretical Introduction | **\_** |
| 50 | Basic Diff. Between MATLAB and Sclab software |
| 51 | Calculation with MATLAB or ScLab Representation of Matrix (2X2 order) |
| 52 | Add, sub of Matrices (2x2 order) in MATLAB or ScLab |
| **14** | 53 | 3rd Sessional Test (Tentative) | **\_** |
| 54 | 3rd Sessional Test (Tentative) |
| 55 | 3rd Sessional Test (Tentative) |
| 56 | 3rd Sessional Test (Tentative) |
| **15** | 57 | Revision  | **\_** |
| 58 | Practice of Previous Question papers |
| 59 | Practice of Previous Question papers |
| 60 | Revision  |
| **16** | 61 | Practice of Previous Question papers | **\_** |
| 62 | Practice of Previous Question papers |
| 63 | Revision  |
| 64 | Revision |

|  |  |
| --- | --- |
|  | **PERFORMA OF LESSON PLAN** |
|  | **NAME OF THE FACULTY : SARITA MANN** |
|  | **DISCIPLINE : MECHANICAL-A,AUTO, ELECTRICAL** |
|  | **SEMESTER : SECOND** |
|  | **SUBJECT : APPLIED PHYSICS** |
|  | **LESSION PLAN DURATION : 16 WEEKS** |
|  | **WORK LOAD PER WEEK : Lectures= 2+2+2Practicals = 4+4 +4** |
| **WEEK** |  | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** |  | **TOPIC (WITH ASSIGNMENT & TESTS)** |  | **TOPIC** |
| **1** | 1 |  | UNIT-1. Waves: definition, types (mechanical and electromagnetic wave)Wave motion- transverse and longitudinal with examples | 1 | Familiarization with apparatus (resistor, rheostat, key, ammeter, voltmeter, telescope,microscope etc.) |
| 2 |  | Wave motion-transverse and longitudinal, terms used in wave motion and relation between wave velocity, frequency and wavelength |
| **2** | 3 |  | Simple harmonic motion (SHM): definition, examples, Cantilever | 2 | To find the time period of a simple pendulum. |
| 4 |  | Free, forced and resonant vibrations with examples |
| **3** | 5 |  | Sound waves: types (infrasonic, audible, ultrasonic) coefficient of absorption of sound, echo, noise | 3 | To study variation of time period of a simple pendulum with change in length ofpendulum. |
| 6 |  | UNIT-2. Reflection and refraction of light with laws, refractive index |
| **4** | 7 |  | Lens: introduction, lens formulae (no derivation), power of lens and simple numerical problems | 4 | File checking and viva-voce |
| 8 |  | Total internal reflection and its applications, critical angle and conditions for total internal reflection |
| **5** | 9 |  | Revision | 5 | To determine and verify the time period of Cantilever. |
| 10 |  | 1st sessional test |
| **6** | 11 |  | Superposition of waves (concept only), definition of interference, Diffraction and Polarization of waves | 6 | To verify Ohm’s laws by plotting a graph between voltage and current. |
| 12 |  | Introduction to Microscope, Telescope and their applications |
| **7** | 13 |  | Unit-3. Electrostatics and Electricity-Electric charge, unit of charge, conservation of charge | 7 | File checking and viva-voce |
| 14 |  | Coulomb’s law of electrostatics, Electric field, electric lines of force (definition and properties), electric field intensitydue to a point charge |
| **8** | 15 |  | Definition of electric flux, Gauss law (statement and formula), Capacitor and capacitance  | 8 | To study colour coding scheme of resistance. |
| 16 |  | Electric current and its SI Unit, direct and alternating current |
| **9** | 17 |  | Resistance, conductance , Series and parallel combination of resistances, Ohm’s law  | 9 | To verify laws of resistances in series combination. |
| 18 |  | Numerical problems |
| **10** | 19 |  | Revision | **10** | To verify laws of resistance in parallel combination. |
| 20 |  | 2nd sessional test |
| **11** | 21 |  | Definition of energy level, energy bands, Types of materials (conductor, semiconductor, insulator and dielectric) with examples , Intrinsic and extrinsic semiconductors  | 11 | To find resistance of galvanometer by half deflection method |
| 22 |  | Introduction to magnetism, type of magnetic materials: diamagnetic, paramagnetic and ferromagnetic materials with examples |
| **12** | 23 |  | Magnetic field, magnetic lines of force, magnetic flux Electromagnetic induction (definition) | 12 | To verify laws of reflection of light using mirror. |
| 24 |  | Laser-introduction, principle of laser, Engineering and medical applications of laser |
| **13** | 25 |  | Fibre optics: Introduction to optical fibres (definition, principle), Fibre types (mono-mode, multi-mode) |  13 | To verify laws of refraction using glass slab. |
| 26 |  | applications of fibre optics in medical, telecommunication and sensors |
| **14** | 27 |  | Nanotechnology: introduction, definition of nanomaterials with examples, properties at nanoscale, applications of nanotechnology |  14 | To find the focal length of a concave lens, using a convex lens. |
| 28 |  | 3rd sessional test |
| **15** | 29 |  | Discussion of sessional test |  15 | File checking and viva-voce |
| 30 |  | Numerical problems |
| **16** | 31 |  | Revision of question papers of last year | 16 | File checking and viva-voce |
| 32 |  | Revision of question papers of last year |

|  |  |
| --- | --- |
|  | **PERFORMA OF LESSON PLAN** |
|  | **NAME OF THE FACULTY : LAVANEY MAHAJAN** |
|  | **DISCIPLINE : COMP, CIVIL -B, ECE** |
|  | **SEMESTER : SECOND** |
|  | **SUBJECT : APPLIED PHYSICS** |
|  | **LESSION PLAN DURATION : 16 WEEKS** |
|  | **WORK LOAD PER WEEK : Lectures= 2+2+2Practicals = 4+4 +4** |
| **WEEK** |  | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** |  | **TOPIC (WITH ASSIGNMENT & TESTS)** |  | **TOPIC** |
| **1** | 1 |  | UNIT-1. Waves: definition, types (mechanical and electromagnetic wave)Wave motion- transverse and longitudinal with examples | 1 | Familiarization with apparatus (resistor, rheostat, key, ammeter, voltmeter, telescope,microscope etc.) |
| 2 |  | Wave motion-transverse and longitudinal, terms used in wave motion and relation between wave velocity, frequency and wavelength |
| **2** | 3 |  | Simple harmonic motion (SHM): definition, examples, Cantilever | 2 | To find the time period of a simple pendulum. |
| 4 |  | Free, forced and resonant vibrations with examples |
| **3** | 5 |  | Sound waves: types (infrasonic, audible, ultrasonic) coefficient of absorption of sound, echo, noise | 3 | To study variation of time period of a simple pendulum with change in length ofpendulum. |
| 6 |  | UNIT-2. Reflection and refraction of light with laws, refractive index |
| **4** | 7 |  | Lens: introduction, lens formulae (no derivation), power of lens and simple numerical problems | 4 | File checking and viva-voce |
| 8 |  | Total internal reflection and its applications, critical angle and conditions for total internal reflection |
| **5** | 9 |  | Revision | 5 | To determine and verify the time period of Cantilever. |
| 10 |  | 1st sessional test |
| **6** | 11 |  | Superposition of waves (concept only), definition of interference, Diffraction and Polarization of waves | 6 | To verify Ohm’s laws by plotting a graph between voltage and current. |
| 12 |  | Introduction to Microscope, Telescope and their applications |
| **7** | 13 |  | Unit-3. Electrostatics and Electricity-Electric charge, unit of charge, conservation of charge | 7 | File checking and viva-voce |
| 14 |  | Coulomb’s law of electrostatics, Electric field, electric lines of force (definition and properties), electric field intensitydue to a point charge |
| **8** | 15 |  | Definition of electric flux, Gauss law (statement and formula), Capacitor and capacitance  | 8 | To study colour coding scheme of resistance. |
| 16 |  | Electric current and its SI Unit, direct and alternating current |
| **9** | 17 |  | Resistance, conductance , Series and parallel combination of resistances, Ohm’s law  | 9 | To verify laws of resistances in series combination. |
| 18 |  | Numerical problems |
| **10** | 19 |  | Revision | **10** | To verify laws of resistance in parallel combination. |
| 20 |  | 2nd sessional test |
| **11** | 21 |  | Definition of energy level, energy bands, Types of materials (conductor, semiconductor, insulator and dielectric) with examples , Intrinsic and extrinsic semiconductors  | 11 | To find resistance of galvanometer by half deflection method |
| 22 |  | Introduction to magnetism, type of magnetic materials: diamagnetic, paramagnetic and ferromagnetic materials with examples |
| **12** | 23 |  | Magnetic field, magnetic lines of force, magnetic flux Electromagnetic induction (definition) | 12 | To verify laws of reflection of light using mirror. |
| 24 |  | Laser-introduction, principle of laser, Engineering and medical applications of laser |
| **13** | 25 |  | Fibre optics: Introduction to optical fibres (definition, principle), Fibre types (mono-mode, multi-mode) |  13 | To verify laws of refraction using glass slab. |
| 26 |  | applications of fibre optics in medical, telecommunication and sensors |
| **14** | 27 |  | Nanotechnology: introduction, definition of nanomaterials with examples, properties at nanoscale, applications of nanotechnology |  14 | To find the focal length of a concave lens, using a convex lens. |
| 28 |  | 3rd sessional test |
| **15** | 29 |  | Discussion of sessional test |  15 | File checking and viva-voce |
| 30 |  | Numerical problems |
| **16** | 31 |  | Revision of question papers of last year | 16 | File checking and viva-voce |
| 32 |  | Revision of question papers of last year |

|  |  |
| --- | --- |
|  | **PERFORMA OF LESSON PLAN** |
|  | **NAME OF THE FACULTY : Mayur Rohilla** |
|  | **DISCIPLINE : MECHANICAL-B, CIVIL-A** |
|  | **SEMESTER : SECOND** |
|  | **SUBJECT : APPLIED PHYSICS** |
|  | **LESSION PLAN DURATION : 16 WEEKS** |
|  | **WORK LOAD PER WEEK : Lectures= 2+2 Practicals = 4+4**  |
| **WEEK** |  | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** |  | **TOPIC (WITH ASSIGNMENT & TESTS)** |  | **TOPIC** |
| **1** | 1 |  | UNIT-1. Waves: definition, types (mechanical and electromagnetic wave)Wave motion- transverse and longitudinal with examples | 1 | Familiarization with apparatus (resistor, rheostat, key, ammeter, voltmeter, telescope,microscope etc.) |
| 2 |  | Wave motion-transverse and longitudinal, terms used in wave motion and relation between wave velocity, frequency and wavelength |
| **2** | 3 |  | Simple harmonic motion (SHM): definition, examples, Cantilever | 2 | To find the time period of a simple pendulum. |
| 4 |  | Free, forced and resonant vibrations with examples |
| **3** | 5 |  | Sound waves: types (infrasonic, audible, ultrasonic) coefficient of absorption of sound, echo, noise | 3 | To study variation of time period of a simple pendulum with change in length ofpendulum. |
| 6 |  | UNIT-2. Reflection and refraction of light with laws, refractive index |
| **4** | 7 |  | Lens: introduction, lens formulae (no derivation), power of lens and simple numerical problems | 4 | File checking and viva-voce |
| 8 |  | Total internal reflection and its applications, critical angle and conditions for total internal reflection |
| **5** | 9 |  | Revision | 5 | To determine and verify the time period of Cantilever. |
| 10 |  | 1st sessional test |
| **6** | 11 |  | Superposition of waves (concept only), definition of interference, Diffraction and Polarization of waves | 6 | To verify Ohm’s laws by plotting a graph between voltage and current. |
| 12 |  | Introduction to Microscope, Telescope and their applications |
| **7** | 13 |  | Unit-3. Electrostatics and Electricity-Electric charge, unit of charge, conservation of charge | 7 | File checking and viva-voce |
| 14 |  | Coulomb’s law of electrostatics, Electric field, electric lines of force (definition and properties), electric field intensitydue to a point charge |
| **8** | 15 |  | Definition of electric flux, Gauss law (statement and formula), Capacitor and capacitance  | 8 | To study colour coding scheme of resistance. |
| 16 |  | Electric current and its SI Unit, direct and alternating current |
| **9** | 17 |  | Resistance, conductance , Series and parallel combination of resistances, Ohm’s law  | 9 | To verify laws of resistances in series combination. |
| 18 |  | Numerical problems |
| **10** | 19 |  | Revision | **10** | To verify laws of resistance in parallel combination. |
| 20 |  | 2nd sessional test |
| **11** | 21 |  | Definition of energy level, energy bands, Types of materials (conductor, semiconductor, insulator and dielectric) with examples , Intrinsic and extrinsic semiconductors  | 11 | To find resistance of galvanometer by half deflection method |
| 22 |  | Introduction to magnetism, type of magnetic materials: diamagnetic, paramagnetic and ferromagnetic materials with examples |
| **12** | 23 |  | Magnetic field, magnetic lines of force, magnetic flux Electromagnetic induction (definition) | 12 | To verify laws of reflection of light using mirror. |
| 24 |  | Laser-introduction, principle of laser, Engineering and medical applications of laser |
| **13** | 25 |  | Fibre optics: Introduction to optical fibres (definition, principle), Fibre types (mono-mode, multi-mode) |  13 | To verify laws of refraction using glass slab. |
| 26 |  | applications of fibre optics in medical, telecommunication and sensors |
| **14** | 27 |  | Nanotechnology: introduction, definition of nanomaterials with examples, properties at nanoscale, applications of nanotechnology |  14 | To find the focal length of a concave lens, using a convex lens. |
| 28 |  | 3rd sessional test |
| **15** | 29 |  | Discussion of sessional test |  15 | File checking and viva-voce |
| 30 |  | Numerical problems |
| **16** | 31 |  | Revision of question papers of last year | 16 | File checking and viva-voce |
| 32 |  | Revision of question papers of last year |

|  |
| --- |
| **GOVT. POLYTECHNIC, AMBALA CITY** |
| **LESSON PLAN** |
| **NAME OF FACULTY** | **MR. MAYUR ROHILA** |
| **DISCIPLINE** | **AUTOMOBILE ENGG.** |
| **SEMESTER** | **2ND** |
| **SUBJECT** | **APPLIED MECHANICS** |
| **LESSON PLAN DURATION:** | **16 WEEKS** |
| **WORKLOAD(LECTURE/PRACTICAL):03LECTURES/WEEK, PRACTICALS-02HOURS/TURN/WEEK** |
| **DATE OF START LESSON PLAN** | **15/02/2024 TO 14/06/2024** |
| **WEEK** | **THEORY** | **PRACTICAL** |
| **LECTURE DAY** | **TOPIC** | **PRACTICAL DAY** | **TOPIC** |
| 1st | 1st | Concept of mechanics, Classification of mechanics, utility of mechanics in engineering field | 1st | Verification of polygon law of forces using universal force table/Gravesend apparatus |
| 2nd | Concept of rigid body, scalar and vector quantities. |
| 3rd | Definition of force, measurement of force in SI units, its representation, types of force: Point force/concentrated force & Uniformly distributed force, effects of force, characteristics of a force |
| 2nd | 4th | Different force systems (coplanar and non-coplanar), principle of transmissibility of forces | 2nd | Verification of Lami’s theorem |
| 5th | Law of super position, Freebody diagram, Composition and resolution of coplanar concurrent forces, resultant force, |
| 6th | Method of composition offorces, laws of forces, parallelogram law of forces (with derivation), |
| 3rd | 7th | Triangle law offorces | 3rd | To verify law of moments by using Bell crank lever |
| 8th | polygon law of forces - graphically, analytically, resolution of forces, resolving a force into two rectangular components |
| 9th | Lami's theorem, Simple numericals, Equilibrium of forces and its determination. |
| 4th | 10th | Concept of moment, Moment of a force and units of moment, Varignon's theorem (definition only), | 4TH | Revision of previous practical |
| 11th | Principle of moment and its applications (Levers–simpleAnd compound |
|  | 12th | **REVISION** |  |  |
| 5th |  | **SESSIONALTEST** |
| 6th | 13th | steelyard, safety valve | 6th | To verify the forces in different member sofjib crane. |
| 14th | Simple Numericals |
| 15th | Parallel forces (like and unlike parallel force), calculating their resultant, Concept of couple, its properties and effects |
| 7th | 16th | General conditions of equilibrium of bodies under coplanar forces, Position of resultant force by moment. | 7th | To determine coefficient of friction between three pairs of given surface  |
| 17th | Definition and concept of friction, types of friction, force of friction, Laws of static friction, coefficient of friction, angle of friction, angle of repose, coneoffriction, |
| 18th | Equilibrium of a body lying on a horizontal plane, equilibrium of a body lying onaroughinclined plane. |
| 8th | 19th | Calculation of least force required to maintain equilibrium of a body on a rough inclined plane subjected to aforceacting alongThe inclined plane | 8th | To find out center of gravity of regular lamina. |
| 20th | Subjected to a forecasting at some angle with the inclined plane, Simple Numericals |
| 21st | Concept, definition of centroid of plain figures and centre of gravity of symmetrical solid bodies. AxisOf symmetry,Referenceaxis. |
| 9th | 22nd | Determination of centroid of plain and compo site lamina (T,L,Cand I shape) using moment method only,centroid of bodies with removed portion. | 9th | To find out center of gravity of irregular lamina. |
| 23rd | Determination of centerOf gravity of solid bodies-cone, cylinder, hem is phere and sphere; composite bodies and bodies withPortion removed. |
| 24th | **Simple numericals** |
| 10th |  | **SESSIONALTEST** |
| 11th | 25th | Newton’s laws of motion and their applications, Concept of momentum. Derivation offorce equation from second law of motion, | 11th | To find the mechanical advantage, velocity ratio and efficiency of a screw jack. |
| 26th | Conservation of momentum, impulse and impulsive force. |
| 27th | Numerical problems on second law of motion. Bodies tied with string,Newton’s third law of motion, numerical problems, |
| 12th | 28th | Definition of effort, velocity ratio, mechanical advantage and efficiency of a machine and their relationship, law of machines, Simple and compound machine (Examples) | 12th | To find the mechanical advantage, velocity ratio and efficiency of worm and worm wheel. |
| 29th | Definition ofideal machine, rever |
| 30th | Effortlostinfriction, Loadlostin |
| 13th | 31st | System of pulleys first determination of velocityratio, mechanical advantage and efficiency | 13th | Revision of previous practical |
| 32nd | System of pulleys second determination of velocityratio, mechanical advantage and efficiency |
| 33rd | System of pulleys third, determination of velocity ratio, mechanical advantage and efficiency |
| 14th | 34th | Determination of velocity ratio, mechanical advantage and efficiency. Working principle and application of Wheelan axle, |  | 14th | To find mechanical advantage, velocity ratio and efficiency of single purchase crab. |
| 35th | Determination of velocity ratio, mechanical advantage and efficiency. Working principle and application of Weston’s Differential Pulley Block, |
| 36th | Determination of velocity ratio, mechanical advantage and efficiency.Working principle and application simple screw jack |
| 15th | 37th | Determination of velocity ratio, mechanical advantage and efficiency. Working principle and application worm and worm wheel, | 15th | ivaVoice |
| 38th | Determination of velocity ratio, mechanical advantage and efficiency. Working principle and application single winch crab |
| 39th | Determination of velocity ratio, mechanical advantage and efficiency. Working principle and application double winch crab |
| 16 |  | **SESSIONALTEST** |