**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

**(A State Government University)**

FIRST SEMESTER PAPERS/SUBJECTS

1. ENGINEERING DRAWING

**SEMESTER : I**

**COURSE TITLE : ENGINEERING DRAWING**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
| **THEORY** | **P** | **THEORY** | | | **PRACTICAL** |
| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | 2 | 2 | 3 | 80 | 20 | 100 | 100 | 200 |  |

RATIONAL:

DETAILED COURSE CONTENTS

1. Introduction:

#### Introduction to drawing equipments, instruments and their uses

* Planning of drawing sheet as per I.S. 696 – 1972
* Indian standard practices of laying out and folding of drawing
* Different types of lines used in engineering drawing
* Standard practice for writing single stroke vertical and inclined capital and lower

case letters (practice to be done on sketch book)

* Standard practice of writing numerals (practice to be done on sketch book)

1. Dimensioning techniques and standard conventions:

#### Identification and representation of various symbols used in Mechanical and

#### Electrical Drawing

* Drawing Identification and representation of various symbols of building elements,

materials and sanitary fittings

* Principles, system and arrangement of dimensioning
* Practice problems of current method of dimensioning

1. Engineering curves and scales:

#### Form associated with engineering curves

* Types of engineering curves
* Method of construction of Engineering Curves
* Practice problems of drawing various Engineering Curves.
* Importance of scale in Engineering drawing
* Types of scales- plain, diagonal etc.
* Practical problems for constructing various types of scale.

1. Orthographic projection of points, lines and planes:

#### Definitions of various terms associated with orthographic projections.

* Planes of projections
* Concept of Quadrants
* First and third angle method of projection
* Projection of line in different positions with respects to H.P. V.P. and X- Y line
* Projection of planes in different position with respect to reference planes
* Practice problems on projection of points, lines and planes.

1. Projections of simple machine parts and components:

#### Procedure for drawing projections and sectional views of simple machine components

* Practice problems of sketching and drawing the projections and sections of simple machine components.

1. Projections of solids:

#### Types of solids and associated terminology

* Position of solid with respect to reference planes
* Drawing projections of solid in different position with respect to reference planes
* Practice problems to draw projections of solid in different positions.

1. Section of solids

#### Concept of sectioning planes

* Auxiliary planes and true shape of section
* Practice problems for drawing projections and section of solids.

1. Development of surfaces

#### Concept and importance of surface development in engineering field

* Development of surfaces for the following
  + Cube
  + Cylinder
  + Prism
  + Cone and Frustum cone

#### Practice problems.

1. Isometric projections

#### Limitations of orthographic projections

* Definitions of the terms axonometric, oblique, Isometric and diametric projections
* Procedure for preparing isometric oblique
* Isometric view of geometrical solids and simple machine parts
* Practice problems.

INSTRUCTIONAL STRATEGIES

* Lecture Method
* Demonstration and use of instrument used in drawing.
* Classroom practices for different typical exercises.
* Use of computer for developing drawing
* OHP Transparencies for complicated drawing objects

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ENGINEERING DRAWING LAB

LIST OF PRACTICAL WORK

* Problems on Scales and Letterings
* Problems on Curves
* Simple Orthographic Projections- One for First Angle and One for Third

Angle Projection

* Orthographic projections with sections
* Isometric projection for two objects
* Projection of Points and Lines
* Projection of Planes
* Projection of Solids
* Section of Solids
* Development of surface

LEARNING RESOURCES

#### a) Reference Books

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Title** | **Author/Publisher** |
| 1. | I.S. 696. (Latest revision). | BIS, India |
| 2. | Engineering Drawing | N.D. Bhatt, Charoter Publisher,Anand |
| 3. | Engineering Drawing & Machine Drawing | R. K. Dhawan, Kumar |
| 4. | Engineering Drawing | R.B. Gupta, Satya Prakashan, Delhi |
| 5. | Geometrical Drawing | P.S. Gill , ketson & Sons |
| 6. | Machine Drawing | By P.S. Gill, ketson & Sons |
| 7. | Engineering Drawing | Gujral & Shende, Khanna Pub. N.Delhi |
| 8. | Work Book in Mechanical Drafting | TTTI, Bhopal |
| 9. | Engineering Drawing & Graphics Using AutoCAD 2000 | T. Jeyapoovan, Vikas Publishing House Pvt. Ltd, New Delhi. |

**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

**(A State Government University)**

1. ELECTRICAL TECHNOLOGY & ELECTRONICS

**SEMESTER : I**

**COURSE TITLE : ELECTRICAL TECHNOLOGY &**

**: ELECTRONICS**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
| **THEORY** | **P** | **THEORY** | | | **PRACTICAL** |
| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | 3 | 2 | 3 | 80 | 20 | 100 | 100 | 200 |  |

Rationale: The superiority of electricity as power over other means in use in home or industry can not be denied. So it is imperative to introuce the mechanical engineering students with electrical machines and their various uses.

DETAILED COURSE CONTENTS

1. ELECTRIC INDUCTION:

Faraday's Laws of electromagnetic induction. Self and mutual induction. Statically and Dynamically induced e.m.f., Lenz's law. Fleming's left hand and right hand rule.

1. A. C. THEORY:

Production of alternating e.m.f. Definition of cycle, Frequency, Amplitude, Time period, Instantaneous, Average, R.M.S. maximum values of sinusoidal wave. Form factor, peak factor.

Representation of a sinusoidal quantity by a mathematical expression and phasor, phase and phase difference, Relationship of voltage and current for pure resistance, pure inductance and pure capacitive reactance, impedance. Solution and phasor diagrams of simple R.L.C. series and parallel circuits. Active and reactive power. Significance of P.F.

1. THREE PHASE CIRCUITS:

Production of Three phase voltage, advantages of three phase supply. Concept of star and delta connections. Relationship between phase and line values of currents and voltages, Power in three phase circuits, simple numerical problems.

1. MEASUREMENT & MEASURING INSTRUMENTS:
   1. Primary and secondary instruments-Indicating, Recording and Integrated instruments.
   2. Working principle and construction of the following instruments.
      1. Ammeter & Voltmeter (Moving coil & Moving Iron).Extension of their ranges.
      2. Dynamometer type wattmeter.
      3. Single Phase A. C. Engery Meter.
   3. Measurement of power in a single phase and three phase circuits by wattmeter, Use fo digital multimeter for measurement of voltage, Current and testing of devices.
2. ELECTRONICS:

Basic idea of semi conductors P & N type. Semi conductor diodes, Zener diodes and their applications in rectifiers. Transistors-PNP and NPN-their characteristics and uses at an amplifier (Brief description only). Prniciple characteristics and application of SCR. Devices like UJT, FET, DIAC, TRIAC (Brief introduction, Introduction to operational amplifier, Introduction to basic logic gates and microprocessors.

1. D. C. MACHINES:

A.C. Generator: Working principle, Constructional details, e.m.f. equation, Types of generators and their applications.

D. C. Motor: Working principle, Back e.m.f., Types of D. C. motor and elementary idea of their characteristics. Torque equation, Methods of speed control (Description Only).

1. TRANSFORMERS:

Working principle and constructional details of a single phase and 3 phase transformers, e.m.f. equation, Losses and efficiency, Cooling of transformers, Elementry idea of auto transformers and welding transformers.

1. SYNCHRONOUS MACHINES:
2. Alternators: Working principle, Types of alternators, Constructional details, E.M.F. equation,

Condition for parallel operation.

1. Synchronous Motors: Working principle, Constructional details, Vector diagram, Effect of excitation on armature current and power factor, Synchronous condenser.
2. INDUCTION MOTORS:
3. Three Phase Induction Motors: Working principle and constructional details-Types of induction motors-Slipring and Squirrel cage. Slip in induction motors. Speed torque characteristic, Starting and speed control. Application of induction motors in industry. General faults and their remedies.
4. Single Phase Induction Motors: Working principle and constructional details and application of single phase motors (Split phase, Capacitor start and Run Motor). A. C. series motors, General faults and their remedies.
5. Electrical cables, Earthing, Soft Starters, Isolation of electric circuits, Lock-out and Tag-out, communication systems in underground and opencast mines. Provisions of Chapter IX of Central Electricity Authority Regulations, 2010.
6. Electrical braking in heavy dumpers.

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ELECTRICAL TECHNOLOGY & ELECTRONICS LAB

LIST OF PRACTICALS

1. To change the speed and direction of rotation of d.c.shunt motor by
   1. Armature control method.
   2. Field control method.
2. To change the speed and direction of rotation of d.c. compound motor by
   1. Armature control method.
   2. Field control method.
3. To measure the terminal voltage with variation of load current of
   1. D.C. shunt generator.
   2. D.C. compound generator.
4. To perform load test on a single phase transformer and determine its efficiency.
5. To start and run a induction motor by
   1. Star Delta Starter.
   2. Auto Transformer Starter.
6. To measure slip of an induction motor by direct loading.
7. To start and change the direction of rotation of an induction motor.
8. To measure transformation ratio of a single phase transformer.
9. To measure power and P.F. in a single phase circuit by Ammeter, Voltmeter and Wattmeter.
10. To measure power and P.F. in a 3 phase/A.C. circuit by two wattmeter method.
11. To calibrate a single phase energy meter at different P.F.’s and different loads.
12. To locate the faults in an electrical machine by a megger.
13. Testing of electrical devices – Zenor, Diode, Transistor, FET, UJT, SCR.
14. Use of operational amplifier as adder, substractor, comparator, differentiator and integrators.

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**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

**(A State Government University)**

1. MECHANICAL ENGINEERING

**SEMESTER : I**

**COURSE TITLE : MECHANICAL ENGINEERING**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
| **THEORY** | **P** | **THEORY** | | | **PRACTICAL** |
| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | 3 | 1 | 3 | 80 | 20 | 100 | 100 | 200 |  |

**Rationale:** The subject General Mechanical Engineering is basically introduced to give knowledge to mining engineering students about the various mechanical engineering fundamentals like properties of steam, steam generators, turning, shaping, planning, slotting and grinding operations. The students are expected to be well known and equip with the above knowledge.

DETAILED COURSE CONTENTS

1. ELEMENTS OF ENGINEERING THERMODYNAMICS:

Basic definition of heat, work. Thermodynamic process. Parameters of working body & their units. Equation of state. Universal gas constant. Relation between heat capacity & temperature. Determination of quantity of heat. Elementary concept of laws of Thermodynamics. First law & Second law. Change in the state of ideal gas - Isochoric, Isothermal & Adiabatic process. Carnot cycle.

1. PROPERTIES OF STEAMS:

Generations of steam at constant pressure, phases of transformation. Pressure-temperature, curve for steam. Latent Heat-external work of evaporation, Sensible heat of water,dry & saturated steam. Dryness fraction,Latent heat of wet steam, detail of wet steam, total heat of super-heated steam.

1. Introduction to Steam Boilers and Generators.
2. I.C. ENGINES:

Definition. Classification, Principles of operation of 4 stroke engine, Names of different parts of I.C. engine & their functions. Purpose of cooling & Lubrication. Ignition system of S.I. engines.

Euro Standards in IC engines, DGMS guidelines on diesel particulate matters, turbo charger and its’ function and primary and secondary braking systems in HEMMs.

1. AIR COMPRESSORS :

Description and working of reciprocations and rotary compressor, single and multi stage compressor, conditions of maximum efficiency, efficiency of compressor, volumetric efficiency, effect of cylinder clearance and altitude on efficiency of compressors, advantage of using compressed air in mines, portable compressor air motor.

1. POWER TRANSMISSION :

Power transmission by belts, velocity ratio, compound belt drive, centrifugal tension in belts, maximum power transmitted by belts, speed at maximum horse power

1. REFRIGERATION AND AIRCONDITIONING :

Bell Coleman refrigerator. Vapor compression and absorption refrigerators. Psychormetry chart. Introduction to comfort air conditioning.

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MECHANICAL ENGINEERING LAB

LIST OF PRACTICALS

1. Study the principle of working of 4-stroke and 2 stroke diesel engines.
2. Study of reciprocation air compressor in respect of the following construction features, operation, starting and stopping, safety devices.
3. Study of rotary air compressor in respect of the following construction features, operation,

starting and stopping, safety devices.

1. To find the power and efficiency of a compressor and quality and quantity of air required for

compressed air machines.

1. To find the loss of air pressure in pipes and hoses of various diameters.
2. Brake test on diesel engine and calculation of horse power.

**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

**(A State Government University)**

1. CIVIL ENGINEERING

**SEMESTER : I**

**COURSE TITLE : CIVIL ENGINEERING**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
| **THEORY** | **P** | **THEORY** | | | **PRACTICAL** |
| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | 2 | 2 | 3 | 80 | 20 | 100 | 100 | 200 |  |

RATIONAL: The Diploma holders in Mining Engineering will be responsible for the use of materials in mines. Diploma holders should have sufficient knowledge of hydraulics so that efficient planning, development of mines and optimal production is achieved.

The course content of the subject provides elementary as well as essential knowledge related to above mentioned subject including shear, compression, bending, fluid properties and flow of fluids.

The teachers while teaching are supposed to give practical examples related to the strength of material and various sites within the mines.

DETAILED COURSE CONTENTS

1. STRENGTH OF MATERIALS:

Bending moment and shear force. B.M and S.F. diagrams for static loads concentrated uniformly distributed and uniformly varying loads on cantilevers simply supported and overhanging beams. Bending and shear stress distribution in simple beams under dead loads. Concept of isotropy and anisotropy to mining. Definition of torque and angle of twist. Derivation of Torsion equation. Strength of hollow and solid circular shaft .

1. HYDRAULICS :

Fluid properties, measurement of pressure, types of fluid flow, Bernoulli's theorem, venturimeter ( horizontal and inclined) and orifice platemeter. Flow through pipes, Flow through open channels.

1. BUILDING MATERIALS:

A. An introduction of building materials namely stone, brick and lime.

B. Cement: Types of cement, properties and uses. Cement mortar: Preparation of cement mortar and its uses. Proportions of constituents of cement mortar used for different works. Cement concrete: Preparation of cement concrete and its uses. Different grades of concrete mixes as per I.S. code.

1. SOIL MECHANICS:

Introduction, Fundamental definition and their relationship, permeability of soils, Earth pressure

Physico-mechanical properties of soil: physical properties including consistency and gradation: classification of engineering soils; engineering properties of soils compressibility, consolidation, compaction and strength.

1. ESTIMATING:

Preparation of detailed estimates for the following:

1. Foundation for head gear, winder, haulage, tippler and pump.
2. Mine dam, ventilation stopping, air crossing, doors and regulators.

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CIVIL ENGINEERING LAB

LIST OF PRACTICALS:

1. Determination of the modulus of elasticity by Searles's apparatus.
2. Tensile test on mild steel for failure.
3. Compression test on cast iron and timber.
4. Bending test on mild steel and timber.
5. Torsion test on mild steel and brass.
6. Verification of Bernoulli's theorem.
7. Determination of the co-efficient of a Venturimeter.
8. Determination of the Cc, Cv and Cd for an orifice.
9. Determination of the co-efficient of frication in pipes.
10. Study of pumps (i) Centrifugal (ii) Reciprocating.
11. Sheave analysis.
12. Sizing of soil by hydrometer.
13. Attenburg limits and plasticity.

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REFERENCE BOOKS

1. Strength of Materials B. C. Punmia
2. Hydraulics K. R. Arora
3. Building Construction Susil Kumar
4. Construction Material T. D. Soni
5. A book on Soil Mechanic Alam Singh/B C Punamia

**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

**(A State Government University)**

1. ELEMENTS OF MINE SURVEYING

**SEMESTER : I**

**COURSE TITLE : ELEMENTS OF MINE SURVEYING**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
| **THEORY** | **P** | **THEORY** | | | **PRACTICAL** |
| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | 3 | 3 | 3 | 80 | 20 | 100 | 100 | 200 |  |

RATIONAL:

DETAILED COURSE CONTENTS

1. INTRODUCTION:

Introduction to surveying, Definition and object of surveying, Primary division of survey, Classification of survey, Principles of surveying, Linear measurements, Angular measurements, Units of measurements, Linear and Angular, Purpose of survey, degree of precision required for the purpose; nature and extent of survey, sources of error, time available for both field and office work, cost for survey.

* 1. Measurements of distances:
     1. Methods of determining the distances.
        1. Direct (ii) Commutative methods.
     2. Direct measurements - methods and instruments used for measuring distance.
     3. Pacing, Passometer, Pedometer, Odometer, Speedometer, Perambulator, Judging distance, Time measurement.

1. CHAIN SURVEYING:
   1. Introduction, Purpose of chain surveying, principles of chain surveying.
   2. Equipments used in chain surveying: chain, tapes, ranging rods, arrows, pegs, mallet, cross, staff, optical square, construction of optical square and uses. Different operations in chain surveying, ranging-direct and indirect, chaining on flat and slopping ground, offsetting perpendicular and oblique, Conducting chain survey over the given area, Recording field data, Plotting the chain survey, Conventional signs, Obstacles in chaining, Errors in chain surveying., corrections for in-correct length of chain., Simple examples on corrections. Test and Adjustments of chain.

3 COMPASS SURVEYING:

Purpose of compass surveying, Construction and working of prismatic compass, Uses of surveyors and prismatic compass, Constructional details of surveyor's compass, Setting up the compass and taking observations, Concept of (i) Meridians; true, Magnetic and arbitrary meridians (ii) Bearings - True, Magnetic and arbitrary, magnetic dip and declination, Systems of measuring the bearings - whole circle bearing, reduced bearing (Q.B.), numerical problems on conversions of bearing, Fore bearing back bearing of a line, Concept of a traverse - open and closed traverse, Traversing with prismatic compass, Local attraction causes detection error and corrections, Local attraction causes detection error and corrections.

Checks for and open and closed traverse, Calculation of included angles from bearing. Problems on effect of local attraction, Closing errors, plotting a traverse by included angles and deflection angles method, Error, precautions and adjustments in compass surveying.

4. PLANE TABLE SURVEYING:

* 1. General Introduction, Purpose of plane table surveying. Equipments used in plane table surveying, plane table, Alidade - plane and telescopic, Operation of plane table, centering, leveling, orientation. Important precautions while plane table surveying.
  2. Introduction about methods of plane table survey : (i) Radiation (ii) Intersection (iii) Traversing (iv) Resection., advantages and disadvantages of plane table surveying.

### 5 COMPUTATION OF AREAS AND VOLUMES:

* 1. Computation of areas and volume of Irregular shapes by Simpson's Rule and by Bowdich Rule, Calculation of Volume of Heaps.

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#### INSTRUCTIONAL STRATEGIES:

Lecture Method Demonstration Field Practice

ELEMENTS OF MINE SURVEYING LAB

LIST OF PRACTICALS

1. To lay a chain line in the field.
2. To range a chain line by 3 ranging rod system and checking it with the Line ranger.
3. To take offsets by tape on either side of a chain line by swinging method and its booking.
4. To take offsets by Open cross staff and checking its accuracy by Optical square.
5. To conduct a chain triangulation survey of an area by erecting - (a) Base line (b) Check line (c) Type line and its plotting.
6. To Perform the temporary adjustments of a Prismatic compass and taking bearings of given lines.
7. To conduct compass traverse survey for closed traverse, taking fore bearing and back bearing of each line and calculation of Included angles.
8. To conduct a plane table survey by - (i) Radiation method (ii) Intersection method (iii) Traversing method and calculation of area by various method.

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#### LEARNING RESOURCES:

* 1. Reference Books:

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| --- | --- | --- |
| **Sl.No.** | **Title** | **Author, Publisher, Edition & Year** |
| 1. | Surveying & Leveling, Vol-I | Kanetkar & Kulkarni |
| 2. | Advance Surveying | Alam chand |
| 3. | Surveying, Vol-I | B.C. Punamia |
| 4. | Mine Surveying, Vol-I & II | S. Ghatak |
| 5. | Surveying, Vol-I | Arora |

* 1. Others:
     + VCDs
     + Video Cassettes
     + Learning Packages

**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

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* 1. 6. WORKSHOP TECHNOLOGY

**SEMESTER : I**

**COURSE TITLE : WORKSHOP TECHNOLOGY**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
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| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | - | 3 | 3 | - | - | = | 100 | 100 |  |

RATIONAL:

DETAILED COURSE CONTENTS

PRACTICALS:

Fitting:

Simple exercises involving following operations - Filing, chipping, drilling, tapping, threating with dies and hacksawing. Manufacturing any one utility article involving the use of above operations.

Plumbing:

Cutting and threating of water pipes, bending of pipes with simple pipe fittings viz; sockets, elbow,tee, reducer, nipple, plug, bend, float valve, valve and taps, union, coupling.PVC pipe fitting work. Fitting of tap stop valve and water meter, repair of bib cock and stop valve.

Smithy:

Simple exercies involving following operations- Drawing, jumping, upsetting, bending, riveting, and forge welding. Manufacturing any two utility article involving the use of above operations.

Carpentry:

Simple exercises involving following operation- Marketing, sawing, planing, chiseling, drilling, boring, grooving rebeting,moduling.

Preparations of simple joint-cross half lap joint, devetail joint, mortise joint, tennon joint, mitre joint, exercise involving polishing operation. Manufacturing any one utility article involving the use of above operation and fixig laminates.

Welding:

Preparations of edges for arc and gas welding and preparing following joints- lap joints, butt joint, tee joint. Manufacturing any one utility article involving above operations. Exercises on soldering and brazing.

Sheet Metal:

Simple exercises involving basic operations - cutting, riveting, soldering and brazing.

Workshop layout, access to workshop, hazards and safety in workshop.

Note:

Students have to prepare a practical note book showing the names, specifications and uses of tools and equipment for each shop with figures.

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REFERENCE BOOKS

1. Workshop Technology By Gupta & Malani
2. Workshop Technology(hindi) By Tahil Maghnani
3. Workshop Technology By Kumar & Mittal
4. Workshop Technology By Hajra, Chaudhary
5. Workshop Technology By B.S. Raghhuwanshi
6. Workshop Technology(hindi) By Vinay Kumar

**RAJASTHAN ILD SKILL UNIVERSITY (RISU) JAIPUR**

**(A State Government University)**

7. INDUSTRIAL TRAINING

**SEMESTER : I**

**COURSE TITLE : INDUSTRIAL TRAINING**

**THEORY CODE :**

**BRANCH/DISCIPLINE : MINING ENGINEERING**

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| **Subject Code** | **Periods per week** | | **HRS OF EXAM** | **scheme of examination** | | | | **TOTAL** | **CREDIT** |
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| **L** | **ESE** | **CT** | **TOTAL** | **ESE** |
|  | = | 1 | 3 | = | = | - | 100 | 100 |  |

RATIONALE:

Industria

Training is

one of

the

most

essential

components

for

a diploma

graduate in

Mining

and

Mine

Surveying.

The

sole

purpose of

industrial

training is

to expose

the

students to “real life” situations. Different aspect of mining such as geology, exploration, selection of method of working, selection of machines for mining, environmental controls and measures, safety in mines and various statutory provisions can only be understood when the students are exposed to different mine workings. Students will cover different coal and metal mines both underground and opencast in such a way that at the end of the completion of diploma programme, they are conversant with different mining conditions.

Industrial

training also

opens

avenues

of new

learning to

the

students

and

apply them

during their project and industrial training presentations.

Before going for training, the students will prepare various formats for data collection

based on

the

topic of

training

assigned to

them.

The

students

will

be given

specific

assignments

for

the

period

of training.

During

the

course of

training

students

will

complete

weekly

report,

assignments

and

keep

weekly

attendance

updated. On

completion

of training

each

student

will

submit

a report

of training

and

make a

presentation before the group of students. Teacher assessment will be done during the training, on presentation of training and at the end of semester examination. A seminar

will

be organized on

specific

topics

identified

by the

teacher

and

the

students

will

present

their

experiences

earned

during the training on

the specific tasks.

End

of the

semester examination will be an external exam