

Curricular structure for Part –II (3rd Sem.) of the Full time Diploma Course in Mine Surveying

WEST BENGAL STATE COUNCIL OF TECHNICAL EDUCATION											
TEACHING AND EXAMINATION SCHEME FOR DIPLOMA IN ENGINEERING COURSES											
COURSE NAME-MINE SURVEYING											
DURATION OF COURSE- 6 SEMESTERS											
SEMESTER- THIRD, SEMESTER DURATION- NINE WEEKS											
SR. No.	SUBJECT	CREDITS	PERIODS			EVALUATION SCHEME					
			L	TU	PR	Internal Scheme			ESE	PR	Total Marks
						TA	CT	Total			
1	Environmental Engineering	4	4			10	20	30	70		100
2	Basic Surveying-I	4+2=6	4		4	10	20	30	70	100	200
3	Basic Surveying-II	4+2=6	4		4	10	20	30	70	100	200
4	Methods of Mining	4	4			10	20	30	70		100
5.	Computer Aided Design and Drafting	3			6					100	100
6	Professional Practice-I	2			3					100	100
	Grand Total	25	16		17	40	80	120	280	400	800
STUDENT CONTACT HOURS PER WEEK:33 HOURS											
Theory and Practical period of 60 minutes each.											
L-Lecture, TU-Tutorials, PR- Practical, TA-Teacher's Assessment, CT-Class Test ,ESE-End Semester Exam											

Note:

1. As per statutory provision of Director General of Mines Safety (DGMS) students have to undergo two months of Industrial Training after the completion of Part-I (Sem-II) examination. Therefore, Industrial Training has been kept under the subject- **Professional Practice-I** and its syllabus has been framed accordingly.
2. Due to the two months of continuous Industrial Training, length of the session of Part-II (Semester-3rd) is reduced to eight to nine weeks. Therefore, weekly no. of periods for some important subjects has been increased to cover the syllabus properly.
3. **Total Marks-100** has been allotted to **Professional Practice-I** keeping in view the DGMS approval and importance of the Industrial Training for students of Mining Survey Dept.

Syllabus for Environmental Engineering

Name of the Course: Diploma in Mining Survey	
Subject: Environmental Engineering	
Subject Code: MNSR/S3/T1/ENV	Semester: Third
Duration: 6 months	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: 4hours/week	Mid Semester Exam: 20 Marks
Tutorial: Nil	Attendance, Assignment & Interaction: 10 Marks
Practical: Nil	End Semester Exam: 70 Marks
Credit: 4	

Aim:

Sl. No.	The aim of this subject is
1.	To impart knowledge of environment and different types of pollution
2.	To impart knowledge about causes and preventive measures against air pollution
3.	To impart knowledge about causes and preventive measures against water pollution
4.	To impart knowledge about causes and preventive measures against soil pollution
5.	To impart knowledge about causes and preventive measures against noise pollution

Objective:

Sl. No.	Upon successful completion of this syllabus students will be able to
1.	Understand importance of environment and different types of pollution.
2.	Explain causes and preventive measures against air pollution.
3.	Describe causes and preventive measures against water pollution.
4.	Describe causes and preventive measures against soil pollution.
5.	Explain causes and preventive measures against noise pollution.
Pre-Requisite:	
Sl. No.	
1.	Basic knowledge of Chemistry and Physics
2.	Basic knowledge of environment and its composition

DETAIL COURSE CONTENT			
Group-A		Hrs/Unit	Marks
Unit 1	INTRODUCTION Man and Environment: Overview (socio-economic structure & occupational exposures) – Scope of Environmental Engineering – pollution problems due to urbanization & industrialization	2	
Unit2	AIR POLLUTION : Causes of air pollution – types & sources of air pollutants- Climatic & Meteorological effect on air pollution concentration- formation of smog and fumigation	2	

Unit 3	Analysis of Air Pollutants Collection of Gaseous Air Pollutants- Collection of Particulate Pollutants – Analysis of Air Pollutants like : Sulphur dioxide – Nitrogen oxide – Carbon monoxide – Oxidants &Ozone – Hydrocarbons – Particulate Matter	3	
Unit 4	Air Pollution Control Measures & Equipment Control of Particulate Emission – Control of Gaseous Emission – Flue Gas Treatment Methods : Stacks Gravitational and Inertial Separation, Settling Chambers, Dynamic Separators, Cyclones, Filtration, Liquid Scrubbing, Spray Chambers, Packed Towers, Orifice and Ventury Scrubbers, Electrostatic Precipitators, Gas/solid Adsorption, Thermal Decomposition	4	
Unit 5	Methods &Approach of Air Pollution Control Controlling smoke nuisance – Develop air quality criteria and practical emission standards – Creating zones suitable for industry based on micrometeorology of air area – Introducing artificial methods of removalof particulate and matters of waste before discharging to open atmosphere	3	
Group –B WATER & ENVIRONMENT			
Unit 6	Water Sources Origin of waste water – Types of water pollutants and their effects	2	
Unit 7	DIFFERENT SOURCES OF WATER POLLUTION Biological Pollution (point & non-point sources) – Chemical Pollutants: Toxic Organic & Inorganic Chemicals – Oxygen demanding substances – Physical Pollutants: Thermal Waste – Radioactive waste – Physiological Pollutants: Taste affecting substances – other forming substances	3	
Unit 8	WATER POLLUTION & ITS CONTROL 2 Adverse effects on: Human Health & Environment, Aquatic life, Animal life, Plant life — Water Pollution Measurement Techniques – Water Pollution Control Equipments & Instruments – Indian Standards for Water Pollution Control	4	

GROUP – C SOIL & ENVIRONMENT			
Unit 9	SOIL POLLUTING AGENCIES & EFFECT OF SOLUTION Liquid & Solid Wastes – Domestic & Industrial Wastes – Pesticides – Toxic: Inorganic & Organic Pollutants – Soil Deterioration – Poor Fertility, Septicity, Ground Water Pollution, Concentration of Infecting Agents in Soil	3	
Unit 10	SOLID WASTE DISPOSAL Dumping domestic & Industrial Solid Wastes: Advantages & Disadvantages – Incineration: Advantages & Disadvantages – Sanitary Land Field: Advantages & Disadvantages – Management of Careful & Sanitary Disposal of Solid Wastes	4	
GROUP – D NOISE AND ENVIRONMENTAL MANAGEMENT SYSTEM			
Unit 11	NOISE POLLUTION & CONTROL Noise Pollution: Intensity, Duration – Types of Industrial Noise – Ill effects of Noise – Noise Measuring & Control – Permissible Noise Limits	2	
Unit 12	ENVIRONMENTAL LEGISLATIONS, AUTHORITIES & SYSTEMS 6 Air & Water Pollution Control Acts & Rules (Salient Features only) – Functions of State / Central Pollution Control Boards – Environmental Management System: ISO 14 000 (Salient Features only)	4	

EXAMINATION SCHEME

GROUP	MODUL E	OBJECTIVE QUESTIONS				SUBJECTIVE QUESTIONS			
		TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS	TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS
A	1	10				FOUR	ANY FIVE, TAKING AT LEAST ONE FROM EACH OF THE GROUPS A & B, AND, AT LEAST ONE FROM THE GROUPS C & D	10	10 X 5 =
	2								
	3								
	4								
	5								
B	6	5				TWO			
	7								
	8								
C	9	5	20	1	20	TWO			
	10								

D	11, 12	5				TWO	TAKEN TOGETHER		50
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Text Books/ Reference Books			
Name of Authors	Title of the Book	Edition	Name of the Publisher
1. Kormondy	Concept of Ecology Prentice-Hall of India, N. Delhi		Prentice-Hall of India, N. Delhi
2. Odum	Fundamental of Ecology		
3. J. Turk & A. Turk	Environmental Science		Central Pollution Control Board, New Delhi
4. Dix	Environmental Pollution		
5.	Pollution Control Acts, Rules and Notification / Central Pollution Control Board, New Delhi		
6. Dr. A.K. De	Environmental Chemistry		
7. D. Lal	Water Supply & Waste Water		

Syllabus for Basic Surveying-I

Name of the Course: Diploma in Mining Survey	
Subject: Basic Surveying-I	
Subject Code: MNSR/S3/T2/BS-I	Semester: Third
Duration: 6 months	Maximum Marks: 200
Teaching Scheme	Examination Scheme
Theory: 4 hours/week	Mid Semester Exam: 20 Marks
Tutorial:	Attendance, Assignment & Interaction: 10 Marks
Practical: 4 hours/week	End Semester Exam: 70 Marks
Credit:4+2= 6	Sessional Exam: Internal Marks= 50; External Marks= 50

Aim:

Sl. No.	The aim of this subject is
1.	To impart knowledge of surveying and its classification
2.	To impart knowledge of linear measurement by chains and tapes
3.	To impart basic ideas about different instruments used in chain surveying
4.	To impart concept of different steps/methods, errors and corrections applied in chaining
5.	To make students able to calculate area and volume of the field of irregular boundary and plans by different methods.

Objective: After successful completion of syllabus of this subject students will be able to	
Sl. No.	
1.	Understand surveying and its classification.
2.	Use different methods of linear measurement by chains and tapes.
3.	Handle different instruments used in chain surveying.
4.	Explain different steps/methods , errors and corrections applied in chaining
5.	Solve problems of area and volume of the fields of irregular boundary and plans.
Pre-requisite: Basic knowledge of mathematics	

DETAIL COURSE CONTENT (THEORY)			
Group-A		Hrs/Unit	Marks
Unit 1	INTRODUCTION	8	
	1.0 DEFINITION AND BASIC CONCEPT OF SURVEY		
	1.1 Definition and object of Surveying.		
	1.2 Difference between Plane and Geodetic Surveying.		
	1.3 Principle of Surveying.		
	1.4 Classification of surveying.		
	1.5 Plans, Maps and Scales – Choice of scale of a map.		
	1.6 Error due to use of wrong scale.		
Group-B			
Unit2	2.0 CHAIN SURVEYING	18	
	2.1 Survey conventional signs, abbreviations and colours used.		
	2.2 Principle of Chain Survey.		
	2.3 Instrument used, their description and checking their correctness.		
	2.4 Ranging and chain a line		
	2.5 Errors in chaining, test and adjust of chains.		
	2.6 Obstructions while chaining and method of over coming them.		
	2.7 Chaining along a sloping ground.		
	2.8 Off-sets and their measurements, use of cross-staff and optical square.		
	2.9 Procedure of chain Surveying.		
	2.10 Conversion of acres & decimal into bigha, katha, chattack &		

	hectares and inversely. 2.11 Numerical problems.		
GROUP-C			
Unit 3	3.0 Computation of Areas and Volume: 3.1 <u>Computation of Area:</u> Computation of areas from plans by various method: - (i) Graphical, (ii) Divide into triangles, (iii) Divide into squares, (iv) By ordinates, (v) Mid-ordinate rule, (vi) Average ordinate method, (vii) Trapezoidal rule, (viii) Simpson's rule. Planimeter – different types, description of different parts, areas by planimeter, 3.2 <u>Computation of volume:</u> Prismoidal formula, trapezoidal formula, volume from spot levels and volume from contour plan.	10	
PRACTICAL: Code: MNSR/S3/P1/BS-1			
Sl. No.	Name of Experiment		
1.	Recognizing and handling chain surveying equipments, such as chain, ranging rod, tape etc.		
2.	Ranging a line with eyes, measuring distance, taking off-sets.		
3.	Chain surveying of small plot including details.		

GROUP	Unit	OBJECTIVE QUESTIONS				SUBJECTIVE QUESTIONS			
		TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS	TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS
A	1	7	ANY TWENTY	1	20 x 1 = 20	THREE	FIVE, TAKING AT LEAST ONE FROM EACH GROUP	10	10 X 5 = 50
B	2	12				FOUR			
C	3	6				THREE			

List of Text/Reference Books

Title	Author/Authors	Publisher
Surveying(Vol-I)	S.Duggal	Tata McGraw Hill

Surveying & Levelling	N. Basak	Tata McGraw Hill
Surveying & Levelling(Vol-1)	T.P Kanetkar	Pune Vidyarthi Griha Prakashan
Surveying(Vol-I)	Dr. K.R. Arora	Standard Book House
Surveying(Vol-I)	Dr. B.C. Punamia	Laxmi Publications Pvt Ltd.

Syllabus for Basic Surveying-II

Name of the Course: Diploma in Mining Survey	
Subject: Basic Surveying-II	
Subject Code: MNSR/S3/T3/BS-II	Semester: Third
Duration: 6 months	Maximum Marks: 200
Teaching Scheme	Examination Scheme
Theory: 4hours/week	Mid Semester Exam: 20 Marks
Tutorial: Nil	Attendance, Assignment & Interaction: 10 Marks
Practical: 4hours/week	End Semester Exam: 70 Marks
Credit:4+2=6	Sessional Exam: Internal Marks= 50; External Marks= 50

Aim:

Sl. No.	
1.	To impart introductory knowledge about reference lines(meridian)
2.	To impart concept of angular measurement with respect to reference lines(bearing)
3.	To impart basic ideas about different instruments used for measuring bearings
4.	To impart concept of different steps/methods of plane table surveying
5.	To impart basic ideas to find out the unknown station point on plan

Objective:

After successful completion of this syllabus students will be able to	
1.	Describe different types of meridians and the factors affecting their positions

2.	Convert one system of bearing to other mathematically
3.	Calculate bearings from angles and vice-versa together with numerical problems related thereto.
4.	Describe different methods of traversing using Dial/compass
5.	Explain different operational steps to conduct a plate table survey
6.	Describe different methods of plane table surveying
7.	Define and Explain Two Points and Three points problem in Plane Table survey

Pre-Requisite: Physics, Mathematics, Engineering Drawing

DETAIL COURSE CONTENT (THEORY)			
Group-A		Hrs/Unit	Marks
Unit 1	<p>1.0 COMPASS / DIAL SURVEYING</p> <p>1.1 Meridians, magnetic needles, magnetic dip, isogonic lines, agonic lines, isoclinic & aclinic lines, variation of magnetic declination.</p> <p>1.2 Whole circle bearing, quadrant bearing, magnetic bearing, true bearing, Azimuth, fore bearing, back bearing.</p> <p>1.3 Converting magnetic bearing to true bearing & vice-versa.</p> <p>1.4 Laying down magnetic meridian on an old plan, computation of angles from bearings and bearing from angles and related problems.</p> <p>1.5 Traversing by compass/dial, closed traverse, open traverse. (i) Loose needle surveying with miner's dial in presence of local attraction (ii) FIXED NEEDLE TRAVERSING: Continuous Azimuth method or meridian base line method, double foresight method. Back and fore sight method. Advantages and disadvantages of different methods.</p> <p>1.6 Methods of booking, testing and adjustment</p> <p>1.7 Miner's Dial</p> <p>1.8 PRISMATIC COMPASS: Difference between prismatic compass and miner's dial</p> <p>1.9 Numerical problems.</p>	20	
Group-B			

Unit2	2.0 PLANE TABLE SURVEYING 2.1 Plane table, its parts & accessories. 2.2 Setting up & orienting the table by back sighting & by magnetic needle. 2.3 Various methods of plane table survey by: — (i) Radiation method, (ii) Intersection method or triangulation method, (iii) Traversing method, (iv) Resection method, 2.4 Two point problems. 2.5 Three point problems & their solution by tracing paper method only. 2.6 Advantages & disadvantages of plane table and sources of errors in plane tabling.	16	
PRACTICAL Code: MNSR/S3/P2/BS-II			
Sl. No.	Name of Experiment		
1.	Recognizing and handling Miner's dial.		
2.	Read angle with Miner's dial.		
3.	Closed traverse (Loose needles) of a small plot with Miner's dial.		
4.	Pencilled plate of a chain survey and loose needle with dial.		
5.	Surface closed traverse by continuous Azimuth method by dial		
6.	Protector plotting of the dial traverse.		
7.	Setting the plane table: Leveling, Orienting, Centering and Survey by radiation		

EXAMINATION SCHEME

GROUP	Unit	OBJECTIVE QUESTIONS				SUBJECTIVE QUESTIONS			
		TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS	TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS
A	1	12	ANY TWENTY	1	20 x 1 = 20	FOUR	FIVE, TAKING AT LEAST TWO FROM EACH GROUP	10	10 X 5 = 50
B	2	12				FOUR			

Name of Authors	Title of the Book	Name of the Publisher
Surveying(Vol-I)	S.Duggal	Tata McGraw Hill
Surveying & Levelling	N. Basak	Tata McGraw Hill
Surveying & Levelling(Vol-1)	T.P Kanetkar	Pune Vidyarthi Griha Prakashan
Surveying(Vol-I)	Dr. K.R. Arora	Standard Book House
Surveying(Vol-I)	Dr. B.C. Punamia	Laxmi Publication Pvt. Ltd.
Plane Surveying	Alak De	S. Chand &Company

Syllabus for Methods of Mining

Name of the Course: Diploma in Mining Survey	
Subject: Methods of Mining	
Subject Code: MNSR/S3/T4/MOM	Semester: Third
Duration: 6 months	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: 4hours/week	Mid Semester Exam: 20 Marks
Tutorial: Nil	Attendance, Assignment & Interaction: 10 Marks
Practical: Nil	End Semester Exam: 70 Marks
Credit: 4	

AIM:

Sl. No.	
1.	To impart introductory knowledge of methods mining
2.	To impart concept of different underground methods of mining
3.	To impart basic ideas about the equipments used for extraction of coal /minerals
4.	To impart concept of different opencast methods of mining

OBJECTIVE:

Sl. No.	After completion of the syllabus of this subject students will be able to
1.	understand different mining methods
2.	explain different underground methods of mining
3.	handle the equipment used for extraction of coal /minerals
4.	explain different opencast mining methods

PRE-REQUISITE: Basic knowledge of mathematics and engineering drawing

DETAIL COURSE CONTENT (THEORY)			
Group-A		Hrs/Unit	Marks
Unit 1	UNDERGROUND COAL MINING		
1.1	1.1 Modes of entry by Adits, inclines & shafts –their applicability & comparison.	14	
1.2	1.2 Bord & Pillar method – Applicability, merits & demerits, basic idea of development work and depillaring by caving & stowing.		
1.3	1.3 Longwall Workings – Applicability, Longwall Advancing & Longwall Retreating methods(basic idea only), merits & demerits of longwall Advancing & longwall Retreating methods.		
GROUP B			
Unit 2	OPENCAST MINING		
	2.1 Applicability, advantages & disadvantages. 2.2 Mineral: OB ratio, stripping ratio, break-even stripping ratio. 2.3 Brief description of shovel dumper combination, Dragline and Bucket Wheel Excavator.	8	
GROUP C			
Unit 3	METAL MINING(UNDERGROUND)		
	3.1 Development of underground metalliferous deposits, brief discussion on different raising methods. 3.2 Classification of stoping methods; brief discussion on working principles of breast stoping, shrinkage stoping, cut & fill stoping, post-pillar method of stoping, Top slicing, sub-level stoping.	14	

EXAMINATION SCHEME

GROUP	UNIT	OBJECTIVE QUESTIONS				SUBJECTIVE QUESTIONS			
		TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS	TO BE SET	TO BE ANSWERED	MARKS PER QUESTION	TOTAL MARKS
A	1	08	ANY TWENTY	1	1 x 20 = 20	THREE FROM EACH GROUP	FIVE, TAKING AT LEAST ONE FROM EACH GROUP	10	10 X 5 = 50
B	2	07							
C	3	07							

Name of Authors	Title of the Book	Name of the Publisher
D.J. Deshmukh	Elements of Mining(Vol-I)	Vidyasewa Prakashan, Nagpur
D.J. Deshmukh	Elements of Mining(Vol-II)	Vidyasewa Prakashan, Nagpur
R.D. Singh	Principles & Practices of Modern Coal Mining	New Age International
S. Ghatak	Winning & Working	Coal Field Publishers

COMPUTER AIDED DESIGN & DRAFTING

Name of the Course: Diploma in Mining Survey	
Subject: COMPUTER AIDED DESIGN & DRAFTING	
Subject Code: MNSR/S3/P3/ACAD	Semester: Third
Duration: 6 months	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: Nil	Mid Semester Exam: Continuous internal assessment of 50 marks
Tutorial: Nil	Attendance, Assignment & Interaction:
Practical: 6 hrs/week	End Semester Exam: External assessment of 50 marks
Credit: 3	

AIM

Sl. No.	
1.	To impart introductory knowledge of drawing by computer
2.	To impart concept of different computer drawing components (drawing menu)
3.	To impart basic ideas about using different menu to draw an object
4.	To impart concept of making multiple copies of the object

OBJECTIVE

Sl. No.	After completion of the subject students will be able to
1.	understand introductory knowledge of drawing by computer
2.	explain concept of different computer drawing components (drawing menu)
3.	handle basic menu about drawing an object
4.	Draw multiple copies of an object

PRE-REQUISITE: Basic knowledge of mathematics and Engineering Drawing& Computer basics.

DETAIL COURSE CONTENT (PRACTICAL)			
Sl. No.	Name of Experiment	Hours/unit	Marks
Unit 1	GETTING STARTED –I Starting AutoCAD – AutoCAD screen components – Starting a drawing: Open drawings, Create drawings (Start from scratch, Use a template & Use a wizard) – Invoking commands in AutoCAD –Drawing lines in AutoCAD – Co-ordinate systems: Absolute co-ordinate system, Relative co-ordinate system – Direct distance method – Saving a drawing: Save & Save As – Closing a drawing – Quitting AutoCAD		
Unit 2	GETTING STARTED – II Opening an existing file – Concept of Object – Object selection methods: Pick by box, Window selection, Crossing Selection, All, Fence, Last, Previous, Add, Remove – Erasing objects: OOPS command, UNDO / REDO commands – ZOOM command – PAN command, Panning in real time – Setting units – Object snap, running object snap mode – Drawing circles		
Unit 3	DRAW COMMANDS ARC command – RECTANG command – ELLIPSE command, elliptical arc – POLYGON command (regular polygon) – PLINE command – DONUT command – POINT command – Construction Line: XLINE command, RAY command – MULTILINE command		

Unit 4	EDITING COMMANDS MOVE command – COPY command – OFFSET command – ROTATE command – SCALE command – STRETCH command – LENGTHEN command – TRIM command – EXTEND command – BREAK command – CHAMFER command – FILLET command – ARRAY command – MIRROR command – MEASURE command – DIVIDE command – EXPLODE command – MATCHPROP command – Editing with grips: PEDIT		
Unit 5	DRAWING AIDS MOVE command – COPY command – OFFSET command – ROTATE command – SCALE command – STRETCH command – LENGTHEN command – TRIM command – EXTEND command – BREAK command – CHAMFER command – FILLET command – ARRAY command – MIRROR command – MEASURE command – DIVIDE command – EXPLODE command – MATCHPROP command – Editing with grips: PEDIT		
Unit 6	CREATING TEXT Creating single line text – Drawing special characters – Creating multiline text – Editing text – Text style		
Unit 7	BASIC DIMENSIONING Fundamental dimensioning terms: Dimension lines, dimension text, arrowheads, extension lines, leaders, centre marks and centrelines, alternate units – Associative dimensions – Dimensioning methods – Drawing leader		
Unit 8	INQUIRY COMMANDS AREA – DIST – ID – LIST – DBLIST – STATUS – DWGPROPS		
Unit 9	EDITING DIMENSIONS Editing dimensions by stretching – Editing dimensions by trimming & extending – Editing dimensions: DIMEDIT command – Editing dimension text: DIMTEDIT command – Updating dimensions – Editing dimensions using the properties window – Creating and restoring Dimension styles: DIMSTYLE		
Unit 10	HATCHING BHATCH, HATCH commands – Boundary Hatch Options: Quick tab, Advance tab – Hatching around Text, Traces, Attributes, Shapes and Solids – Editing Hatch Boundary – BOUNDARY command		
Unit 11	BLOCKS		

	The concept of Blocks – Converting objects into a Block: BLOCK, _BLOCK commands – Nesting of Blocks – Inserting Blocks: INSERT, MINSERT commands – Creating drawing files: WBLOCK command – Defining Block Attributes – Inserting Blocks with Attributes – Editing Attributes		
Unit 12	PLOTTING DRAWINGS IN AUTOCAD PLOT command – Plot Configuration – Pen Assignments – Paper Size & Orientation Area – Plot Rotation & Origin – Plotting Area – Scale		
Unit 13	PRACTICE WITH COMPLETE DRAWING Each student is required to prepare a set of orthographic projections of a building. The drawing of the building will be supplied by the teacher-in-charge.		

Name of Authors	Title of the Book	Name of the Publisher
Vishal Sharma	AUTOCAD	Dhanpat Rai Publishing company (P) Ltd
D M Kulkarni, A P Rastogi, A K Sarkar	Engineering Graphics with AutoCAD	PHI Learning
Dinesh Maidasani	AutoCAD 2010	Laxmi Publication

Syllabus for Professional Practice-I

Name of the Course: Diploma in Mining Survey	
Subject: Professional Practice-I	
Subject Code: MNSR/S3/P4/PP-I	Semester: Third
Duration: 6 months	Maximum Marks: 100
Teaching Scheme	Examination Scheme: Continuous assessment
Theory: Nil	Mid Semester Exam:
Tutorial: Nil	Attendance, Assignment & Interaction:
Practical: 03	End Semester Exam:
Credit: 2	Internal: 50 External: 50

Objective:

This subject contains two months continuous training in different coal and metal mines. Students will be able to develop concept about mines and their different activities. The following topics will guide them to understand different types of surveying and related measuring instruments. After completion of field training, through theoretical and practical classes, they will be guided to prepare the training report and present seminar.

SL.NO.	Topics to be covered
1	Type of chain handled its make, its length, division, each link length, chain sketch. Chaining procedure in level and slope ground, method of booking.
2	Methods of offsetting, planimeter if available, different parts (sketch), method of using it, calculation of area by planimeter. Stock measurement.
3	Types of dial available, its make, least count, different parts; prismatic compass if available, different parts, methods of surface and underground dial survey practice in

	the mine.
4	Position of Bench Mark, its R.L. reference stations with its co-ordinates, type of level instruments available in the mine, different parts(with sketch) , least count, mode of station fixing at underground.
5	Contour interval, Methods of plotting of contours, contour gradient, water danger plan and spot level.
6	Plane table surveying whether used or not. If yes, then methods adopted.
7	Ventilation appliance study: V- door, air crossing, fan H.P., gauge.
8	Plan preparation, storing, enlargement, reduction.