

**P.C.I.E.T., CHHENDIPADA, DIST- ANGUL**

**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNA**

**NAME OF THE FACULTY : (1) ER. DILLIP KUMAR DEHURY**  
**(H.O.D., MINING ENGG., (2) ER. SWAPNAJIT RAY (LECT. IN**  
**MINING ENGG.)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: SURFACE MINING TECHNOLOGY (TH-1)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH  | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|---|--|--------|-------------------------------------|
| 1       | <b>Choice of Opencast Mining</b>                              | <b>10</b>                              |        |                                     |
|         | State factors affecting choice of Open casting Mining method. | 1                                      | AUGUST | Dt 1.8.2023<br>Dt - 3.8.2023        |
|         | Determine overburden/ore ratio                                | 1                                      |        | Dt - 4.8.2023                       |
|         | Find out cut off stripping ratio                              | 1                                      |        | Dt - 7.8.2023                       |
|         | Determine quarriable limit                                    | 1                                      |        | Dt - 8.8.2023 Dt - 10.8.2023        |
|         | State favorable conditions for mechanized Opencast Mines      | 1                                      |        | Dt - 11.8.2023<br>Dt - 14.8.2023    |
|         | Advantages of open cast mines                                 | 1                                      |        | Dt - 17.8.2023                      |
|         | Disadvantages of open cast mines                              | 1                                      |        | Dt - 18.8.2023                      |
|         | State limitations of large open pits                          | 1                                      |        | Dt - 21.8.2023                      |
|         | Define Box cut and determine the location of Box cut          | 1                                      |        | Dt - 22.8.2023                      |
| 2       | <b>Benching</b>   | <b>5</b>                               |        |                                     |
|         | Bench parameters  | 1                                      |        | Dt - 24.8.2023                      |
|         | Height,width and slope of bench                               | 2                                      |        | Dt - 25.8.2023 Dt - 28.8.2023       |
|         | Determination of length of bench for overburden               | 1                                      |        | Dt - 29.8.2023                      |
|         | Determination of length of bench for ore                      | 1                                      |        | Dt - 31.8.2023                      |

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|---|--|-----------|-------------------------------------|--|
| 3       | <b>Slope Stability</b>  | 6                                      |           |                                     |  |
|         | Factors affecting slope stability   | 1                                      | SEPTEMBER | Dt - 1.9.2023                       |  |
|         | Types of slope stability  | 1                                      |           | Dt - 4.9.2023                       |  |
|         | Causes of slope stability   | 2                                      |           | Dt - 5.9.2023<br>Dt - 7.9.2023      |  |
|         | Prevention of slope stability   | 2                                      |           | Dt - 8.9.2023<br>Dt - 11.9.2023     |  |
| 4       | <b>Explosive and blasting accessories</b>   | 11                                     |           |                                     |  |
|         | Define explosive, state constituents of explosives, properties & characteristics of explosives. | 1                                      |           | Dt - 12.9.2023<br>Dt - 14.9.2023    |  |
|         | Classify explosives, state composition and uses of explosives                                   | 1                                      |           | Dt - 15.9.2023<br>Dt - 18.9.2023    |  |
|         | Explain PMS and SMS   | 1                                      |           | Dt - 21.9.2023                      |  |
|         | Define permitted explosive and classify permitted explosive                                     | 1                                      |           | Dt - 22.9.2023<br>Dt - 25.9.2023    |  |
|         | Explain sheathed, equivalent sheathed and ultra safe explosive                                  | 1                                      |           | Dt - 26.9.2023                      |  |
|         | State properties of permitted explosives  | 1                                      |           | 28.9.2023                           |  |
|         | State composition & constructional features of safety fuse, detonating fuse                     | 1                                      | OCTOBER   | Dt - 3.10.2023                      |  |
|         | State composition & constructional features detonating relay, igniter cord, nonel and raydet    | 1                                      |           | Dt - 5.10.2023<br>Dt - 6.10.2023    |  |
|         | Describe different types of detonators and uses, state advantages of delay detonators           | 1                                      |           | Dt - 9.10.2023                      |  |
|         | State different types of exploder, its construction and safety features, circuit tester         | 1                                      |           | Dt - 10.10.2023                     |  |
|         | Describe stemming rod, crack detector knife, crimper  | 1                                      |           | Dt - 12.10.2023                     |  |

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|---------|--|--|----------|-------------------------------------|--|
| 5       | <b>Drilling</b>  | 8                                      |          |                                     |  |
|         | Explain different principles and methods of exploratory drilling in surface mining                 | 2                                      |          | Dt - 13.10.2023<br>Dt - 16.10.2023  |  |
|         | State different types of drill used in Opencast mining   | 1                                      |          | Dt - 17.10.2023                     |  |
|         | Describe simple constructional features of churn drill, drills master, wagon drill and jack hammer | 2                                      |          | Dt - 19.10.2023<br>Dt - 20.10.2023  |  |
|         | State D.T.H.   | 1                                      |          | Dt - 26.10.2023                     |  |
|         | Describe different types of drill bits in drilling   | 2                                      |          | Dt - 27.10.2023 Dt - 30.10.2023     |  |
| 6       | <b>Blasting Practices in Mines</b>   | 10                                     |          |                                     |  |
|         | Describe preparation of charge   | 1                                      |          | 31.10.2023                          |  |
|         | State procedure of firing shots  | 1                                      | NOVEMBER | Dt - 2.11.2023 Dt - 3.11.2023       |  |
|         | Direct and inverse initiation  | 1                                      |          | Dt - 6.11.2023 Dt - 7.11.2023       |  |
|         | Stemming materials   | 1                                      |          | Dt - 9.11.2023                      |  |
|         | Water ampoules   | 1                                      |          | Dt - 10.11.2023                     |  |
|         | Cushion firing   | 1                                      |          | Dt - 13.11.2023                     |  |
|         | Define blasting efficiency   | 1                                      |          | Dt - 14.11.2023                     |  |
|         | State and describe plaster shooting  | 1                                      |          | Dt - 16.11.2023                     |  |
|         | Pop shooting   | 1                                      |          | Dt - 17.11.2023                     |  |
|         | Toe blasting   | 1                                      |          | Dt - 20.11.2023                     |  |
| 7       | <b>Controlled Blasting Techniques as per Statutory Provision</b>                                   | 6                                      |          |                                     |  |
|         | State and describe pre-splitting   | 1                                      |          | Dt - 21.11.2023                     |  |
|         | Cushion blasting   | 1                                      |          | Dt - 23.11.2023                     |  |
|         | Muffle blasting  | 1                                      |          | Dt - 24.11.2023                     |  |

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|---------|---|--|----------|-------------------------------------|--|
|         | Coyote hole blasting                                    | 1                                      |          | Dt - 28.11.2023                     |  |
|         | Chambered hole blasting                                 | 1                                      |          | Dt - 30.11.2023                     |  |
|         | Directional blasting, Electronics Blasting System (EBS) | 1                                      | DECEMBER | Dt - 1.12.2023                      |  |
|         | <b>Magazines</b>  | 4                                      |          |                                     |  |
|         | Describe layout of magazine                             | 1                                      |          | Dt - 4.12.2023                      |  |
| 8       | Arrangement of magazine                                 | 1                                      |          | Dt - 5.12.2023                      |  |
|         | Different types of magazines                            | 1                                      |          | Dt - 7.12.2023                      |  |
|         | State their safety feature                              | 1                                      |          | Dt - 8.12.2023                      |  |

SIGNATURE OF THE CONCERNED FACULTY

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CHHENDIPADA, ANGUL

**P.C.I.E.T., CHHENDIPADA, DIST- ANGUL**  
**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNA**

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU,**  
**(2) ER. PRANAYA KUMAR BEHERA (LECT. IN MINING)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: MINE SURVEY - I (TH-2)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|--|--|-----------|-------------------------------------|
| 1       | <b>Chain Survey</b>  | 10                                     |           |                                     |
|         | Survey conventional signs, abbreviation used. standards of lining, inking and coloring.                                  | 1                                      | AUGUST    | Dt - 1.8.2023<br>Dt - 3.8.2023      |
|         | Selection of scales used. principle of chain surveying   | 1                                      |           | Dt - 4.8.2023                       |
|         | Instruments used and checking their correctness, ranging and chaining of a line  | 1                                      |           | Dt - 5.8.2023<br>Dt - 8.8.2023      |
|         | Errors in chaining, obstruction while chaining   | 1                                      |           | Dt - 10.8.2023                      |
|         | Chaining along a sloping ground  | 1                                      |           | Dt - 11.8.2023                      |
|         | Use of optical square and line range and checking optical square for correctness   | 1                                      |           | Dt - 17.8.2023                      |
|         | Offsets and their measurements   | 1                                      |           | Dt - 18.8.2023                      |
|         | Reference sketches of stations   | 1                                      |           | Dt - 19.8.2023                      |
|         | Procedure of chain surveying   | 1                                      |           | Dt - 22.8.2023                      |
|         | Field booking and plotting of chain survey.  | 1                                      |           | Dt - 24.8.2023                      |
| 2       | <b>Compass Survey</b>  | 8                                      |           |                                     |
|         | Prismatic compass, its adjustments and use, true meridians, magnetic meridian, grid line meridian and arbitrary meridian | 1                                      |           | Dt - 25.8.2023<br>Dt - 29.8.2023    |
|         | W.C.B. and Q.B. and conversion from one to other   | 1                                      |           | Dt - 31.8.2023                      |
|         | Fore and back bearing and their conversion   | 1                                      | SEPTEMBER | Dt - 1.9.2023                       |
|         | Compute angles from bearing and bearing angles   | 1                                      |           | Dt - 2.9.2023                       |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH   | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|--|--|---------|-------------------------------------|--|
|         | Local alteration and necessary correction to the bearing   | 1                                      |         | Dt. 5.9.2023                        |  |
|         | Closed and open compass surveying and its plotting   | 1                                      |         | Dt. 7.9.2023                        |  |
|         | Procedure of field booking in compass and chain traverses, adjustment of closing error in compass traversing | 1                                      |         | Dt. 8.9.2023<br>Dt. 12.9.2023       |  |
|         | Surveyor compass(miner's dial), its adjustment and use, Compare prismatic compass with surveyor compass.     | 1                                      |         | Dt. 14.9.2023<br>Dt. 15.9.2023      |  |
| 3       | <b>Plane Table Survey</b>  | 8                                      |         |                                     |  |
|         | Fundamentals of Plane Table Survey   | 2                                      |         | Dt. 17.9.2023 Dt. 21.9.2023         |  |
|         | Two point problems   | 2                                      |         | Dt. 22.9.2023                       |  |
|         | Three point problems and its solution by tracing paper method  | 2                                      |         | Dt. 26.9.2023 Dt. 28.9.2023         |  |
|         | Advantages and disadvantages of plane table  | 1                                      |         | Dt. 30.9.2023                       |  |
| 4       | <b>Computation of Areas</b>  | 8                                      |         |                                     |  |
|         | Methods of determining areas.  | 1                                      | OCTOBER | Dt. 3.10.2023                       |  |
|         | Find out areas from offset to a base line using  | 1                                      |         | Dt. 5.10.2023                       |  |
|         | Mid ordinate rule  | 1                                      |         | Dt. 6.10.2023                       |  |
|         | Average ordinate rule  | 1                                      |         | Dt. 7.10.2023                       |  |
|         | Trapezoidal rule   | 1                                      |         | Dt. 10.10.2023                      |  |
|         | Simpson's rule   | 1                                      |         | Dt. 12.10.2023                      |  |
|         | Computer area by Planimeter and from graph paper.  | 2                                      |         | Dt. 13.10.2023                      |  |

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|---------|--|--|----------|---|
| 5       | <b>Leveling</b>  | 10                                     |          |   |
|         | benchmark M.S.L. Dumpy level   | 2                                      |          | Dt-17.10.2023 Dt-19.10.2023                     |
|         | Adjust dumpy level, modern levels (Auto Level & etc.), and precise staff.  | 2                                      |          | Dt-20.10.2023 Dt-26.10.2023                     |
|         | methods of leveling- Rise & fall method, height of instrument  | 2                                      |          | Dt-27.10.2023 Dt-31.10.2023                     |
|         | Errors in ordinary leveling  | 2                                      | NOVEMBER | Dt-2.11.2023 Dt-3.11.2023                       |
|         | reciprocal leveling, subsidence leveling, setting out gradient, trigonometric leveling, geometrical leveling, and physical leveling. | 2                                      |          | Dt-4.11.2023<br>Dt-7.11.2023                    |
| 6       | <b>Calculation of Ore Reserves</b>   | 8                                      |          |   |
|         | Classify reserves  | 2                                      |          | Dt-9.11.2023 Dt-10.11.2023                      |
|         | Evaluate reserves by exploratory   | 3                                      |          | Dt-14.11.2023 Dt-16.11.2023<br>Dt-17.11.2023    |
|         | primary ore reserve by material balance method & decline curve method  | 3                                      |          | Dt-18.11.2023<br>Dt-21.11.2023<br>Dt-23.11.2023 |
| 7       | <b>Theodolite</b>  | 8                                      |          |   |
|         | Temporary and permanent adjustment of Theodolite   | 2                                      |          | Dt-24.11.2023 Dt-28.11.2023                     |
|         | Principles of operation & describe different parts   | 2                                      | DECEMBER | Dt-30.11.2023 Dt-1.12.2023                      |
|         | Measure Horizontal & Vertical angles   | 2                                      |          | Dt-2.12.2023 Dt-5.12.2023                       |
|         | Setting of the instrument  | 1                                      |          | Dt-7.12.2023                                    |
|         | Traversing with Theodolite.  | 1                                      |          | Dt-8.12.2023                                    |

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**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNA**

**NAME OF THE FACULTY : (1) ER. UDAYA BISWANATH PADHAN,**  
**(2) ER. AMARENDRA (LECT. IN MINING)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: MINE GEOLOGY - I (TH-3)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED                                   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|--|--|-----------|-------------------------------------|
| 1       | <b>Physical Geology</b>                                  | <b>15</b>                              |           |                                     |
|         | Weathering   | 2                                      | AUGUST    | Dt-3.8.2023 Dt-4.8.2023             |
|         | Erosion  | 1                                      |           | Dt-5.8.2023                         |
|         | Erosional land forms by wind                             | 2                                      |           | Dt-7.8.2023 Dt-10.8.2023            |
|         | Depositional land forms by wind                          | 1                                      |           | Dt-11.8.2023                        |
|         | Erosional features of river                              | 2                                      |           | Dt-14.8.2023 Dt-17.8.2023           |
|         | Depositional features of river                           | 1                                      |           | Dt-18.8.2023                        |
|         | Differentiate between glacier and iceberg                | 1                                      |           | Dt-19.8.2023                        |
|         | Erosional features of glacier                            | 2                                      |           | Dt-21.8.2023 Dt-24.8.2023           |
|         | Depositional features made by glacier                    | 2                                      |           | Dt-25.8.2023 Dt-28.8.2023           |
|         | Moraines and its types                                   | 1                                      |           | Dt-31.8.2023                        |
| 2       | <b>Petrology</b>   | <b>12</b>                              |           |                                     |
|         | Define a Rock. Distinguish between a rock and a mineral. | 2                                      | SEPTEMBER | Dt-1.9.2023 Dt-2.9.2023             |
|         | Define Igneous, Sedimentary and Metamorphic rocks.       | 2                                      |           | Dt-4.9.2023 Dt-7.9.2023             |
|         | Textures of igneous rock                                 | 2                                      |           | Dt-8.9.2023 Dt-11.9.2023            |
|         | Structures of igneous rock                               | 2                                      |           | Dt-14.9.2023 Dt-15.9.2023           |
|         | Structures of sedimentary rock with sketch               | 2                                      |           | Dt-16.9.2023 Dt-18.9.2023           |
|         | Various structures in metamorphic rock                   | 2                                      |           | Dt-21.9.2023 Dt-22.9.2023           |

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|---------|--|--|-----------|--|
| 3       | <b>Structural Geology</b>  | 6                                      |           |  |
|         | Define Dip. Distinguish between true dip and apparent dip                                | 1                                      |           | Dt - 25-9-2023 Dt - 28-9-2023<br>Dt - 30-9-2023                  |
|         | Define strike  | 1                                      | SEPTEMBER | Dt - 5-10-2023   |
|         | Define folds, Classify folds and describe them   | 1                                      |           | Dt - 6-10-2023   |
|         | Define faults. Describe the various types of fault                                       | 1                                      |           | Dt - 7-10-2023   |
|         | Define unconformity. Describe the various type of unconformity with neat sketches        | 1                                      |           | Dt - 9-10-2023<br>Dt - 12-10-2023                                |
|         | Define joints. Describe various joints   | 1                                      |           | Dt - 13-10-2023  |
| 4       | <b>Element of Crystallography</b>  | 12                                     |           |  |
|         | Define a crystal   | 1                                      |           | Dt - 16-10-2023 Dt - 18-10-2023                                  |
|         | Explain Miller's indices   | 4                                      |           | Dt - 20-10-2023 Dt - 26-10-2023                                  |
|         | Describe the Symmetry elements and forms present in the normal class of isometric system | 7                                      | NOVEMBER  | Dt - 27-10-2023 Dt - 30-10-2023<br>Dt - 2-11-2023 Dt - 3-11-2023 |
| 5       | <b>Elements of Mineralogy</b>  | 15                                     |           |  |
|         | Define a mineral   | 1                                      |           | Dt - 4-11-2023   |
|         | Enumerate and describe the physical properties of minerals                               | 2                                      |           | Dt - 6-11-2023 Dt - 9-11-2023                                    |
|         | Describe various optical properties of minerals  | 2                                      |           | Dt - 10-11-2023 Dt - 13-11-2023                                  |
|         | Explain briefly the silicate structures along with diagrams                              | 2                                      |           | Dt - 17-11-2023 Dt - 18-11-2023<br>Dt - 20-11-2023               |
|         | Mineralogy and physical properties of olivine  | 2                                      |           | Dt - 23-11-2023 Dt - 24-11-2023                                  |
|         | Pyroxene   | 2                                      | DECEMBER  | Dt - 30-11-2023 Dt - 1-12-2023                                   |
|         | Quartz   | 2                                      |           | Dt - 2-12-2023 Dt - 4-12-2023                                    |
|         | Feldspar   | 2                                      |           | Dt - 7-12-2023 Dt - 8-12-2023                                    |

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**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNA**

**NAME OF THE FACULTY : (1) ER. DEWAN KUMAR SAHU,**  
**(2) ER. RASABIHARI SAHU (LECT. IN MECH. ENGG.)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: MECHANICAL OPERATION IN MINES (TH-4)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH  | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|---|--|--------|-------------------------------------|--|
| 1       | <b>Strength of Materials and Power Transmission</b>   | <b>20</b>                              |        |                                     |  |
|         | Define Elasticity, Hook's Law   | 1                                      | AUGUST | Dt - 1 - 8 - 2023                   |  |
|         | Limit of Proportionality.   | 1                                      |        | Dt - 4 - 8 - 2023                   |  |
|         | Young's Modulus   | 1                                      |        | Dt - 5 - 8 - 2023                   |  |
|         | Factor of safety. Lateral strain and Poisson's ratio  | 1                                      |        | Dt - 7 - 8 - 2023                   |  |
|         | Stress-strain curve for ductile materials   | 1                                      |        | Dt - 8 - 8 - 2023                   |  |
|         | Effect of axial load on bar of Uniform section  | 1                                      |        | Dt - 11 - 8 - 2023                  |  |
|         | Effect of axial load on bar of Variable section   | 1                                      |        | Dt - 14 - 8 - 2023                  |  |
|         | Numerical problems on Uniform section, Variable section   | 1                                      |        | Dt - 18 - 8 - 2023                  |  |
|         | Bending moment and shear force  | 1                                      |        | Dt - 19 - 8 - 2023                  |  |
|         | Types of beam and types of loading  | 1                                      |        | Dt - 21 - 8 - 2023                  |  |
|         | Explain shear force diagram and bending moment diagram for Cantilever with concentrated loading | 1                                      |        | Dt - 22 - 8 - 2023                  |  |
|         | Cantilever with U.D.L. over whole span  | 1                                      |        | Dt - 25 - 8 - 2023                  |  |
|         | Simply supported beam with concentration loading  | 1                                      |        | Dt - 28 - 8 - 2023                  |  |
|         | Simply supported beam with U.D.L. over whole span   | 1                                      |        | Dt - 29 - 8 - 2023                  |  |

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|---------|--|--|-----------|-------------------------------------|--|
|         | State bending formula  | 1                                      | SEPTEMBER | Dt- 1.9.2023                        |  |
|         | Define section modules, Find out section modules for beam section of simple cases  | 1                                      |           | Dt- 2.9.2023                        |  |
|         | Define torsion and state its effects, State application of torsion formula   | 1                                      |           | Dt 4.9.2023                         |  |
|         | working of Shaft couplings such as hydraulic and magnetic couplings, Belt, chain and rope Drive, Simple and compound gear train, Torque converters | 1                                      |           | Dt- 5.9.2023                        |  |
|         | State function of flywheel and governors   | 1                                      |           | Dt- 8.9.2023                        |  |
|         | Explain working of watt, purler and proel governors  | 1                                      |           | Dt- 11.9.2023                       |  |
|         | <b>Elements of Hydraulics</b>  | <b>15</b>                              |           |                                     |  |
| 2       | State various fluid properties, Define pressure of fluid and pressure head   | 1                                      |           | Dt- 12.9.2023                       |  |
|         | State and explain working principle of various pressure measuring devices such as Piezometer tube  | 1                                      |           | Dt 15.9.2023                        |  |
|         | State and explain continuity equation  | 1                                      |           | Dt- 16.9.2023                       |  |
|         | State and explain Bernoulli's theorem  | 1                                      |           | Dt- 18.9.2023                       |  |
|         | Explain working of venturimeter  | 1                                      |           | Dt 22.9.2023                        |  |
|         | Solve numerical problems on above  | 1                                      |           | Dt 25.9.2023                        |  |
|         | Define and classify orifices   | 1                                      |           | Dt 26.9.2023                        |  |
|         | State the formula and discharge for rectangular orifices and solve problems  | 1                                      |           | Dt 30.9.2023                        |  |
|         | Define and differentiate between orifice and notch.  | 1                                      | OCTOBER   | Dt 3.10.2023                        |  |
|         | Classify notches, State formula for discharge through notches & solve problem on above   | 1                                      |           | Dt 6.10.2023                        |  |
|         | State and explain laws of fluid friction   | 1                                      |           | Dt 7.10.2023                        |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE             |
|---------|--|--|----------|---|
|         | State and explain loss of head due to friction (Darcy weisbach formula)      | 1                                      |          | Dt. 9.10.2023                                   |
|         | Explain hydraulic gradient and energy gradient.                              | 1                                      |          | Dt. 10.10.2023                                  |
|         | <b>Compressed Air</b>  | <b>15</b>                              |          |   |
|         | Explain introduction of compressed air as a power                            | 3                                      |          | Dt. 13.10.2023<br>Dt. 17.10.2023 Dt. 16.10.2023 |
|         | Classify Compressor & state working principle                                | 3                                      |          | Dt. 20.10.2023<br>Dt. 30.10.2023 Dt. 27.10.2023 |
| 3       | State the various methods of transmission and storage of compressed air      | 3                                      | NOVEMBER | Dt. 31.10.2023<br>Dt. 4.11.2023 Dt. 3.11.2023   |
|         | State and explain the advantages of use of compressed air in mines           | 3                                      |          | Dt. 6.11.2023<br>Dt. 10.11.2023 Dt. 7.11.2023   |
|         | Explain the working principle of pneumatic machines                          | 3                                      |          | Dt. 13.11.2023<br>Dt. 17.11.2023 Dt. 14.11.2023 |
|         | <b>Internal Combustion Engines</b>   | <b>10</b>                              |          |   |
|         | OTTO Cycle   | 2                                      |          | Dt. 18.11.2023 Dt. 20.11.2023                   |
|         | Diesel Cycle   | 2                                      |          | Dt. 21.11.2023 Dt. 24.11.2023                   |
| 4       | Explain working principle of 2 stroke and 4 stroke petrol and diesel engines | 2                                      | DECEMBER | Dt. 28.11.2023 Dt. 1.12.2023                    |
|         | Define I.H.P., B.H.P. & Mechanical efficiency of I/C Engine.                 | 2                                      |          | Dt. 2.12.2023 Dt. 4.12.2023                     |
|         | State various applications of I/C Engines in Mining field                    | 2                                      |          | Dt. 5.12.2023 Dt. 8.12.2023                     |

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| P.C.I.E.T., CHHENDIPADA, DIST- ANGUL                         |   |  |   |  |  |
|--|---|--|---|--|--|
| THEORY LESSON PLAN FOR THE SESSION 2023 - 24                 |   |  |   |  |  |
| BRANCH : MINING ENGINEERING, SEMESTER : 3RD<br>SECTION : MNA |   |  | NAME OF THE FACULTY : (1) ER. UDAYA BISWANATH PADHAN,<br>(2) ER. PRABIN KUMAR SAHOO (LECT. IN MINING) |  |  |
| SEMESTER FROM : 01.08.2023 to 09.12.2023                     |   |  | THEORY SUBJECT: ENVIRONMENTAL STUDIES (TH-5)  |  |  |
| CLASS ALLOTTED /WEEK : 04 PERIODS                            |   |  |   |  |  |
| Sl. No.  | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH   | ACTUAL PROGRESS OF THE COURSES MADE                        |  |
| 1  | The Multidisciplinary Nature of Environmental Studies   | 4                                      |   |  |  |
|  | Definition, scope and importance  | 2                                      | AUGUST  | Dt- 1.8.2023 Dt- 2.8.2023                                  |  |
|  | Need for public awareness   | 2                                      |   | Dt- 3.8.2023 Dt- 7.8.2023                                  |  |
| 2  | Natural Resources   | 10                                     |   |  |  |
|  | Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people                       | 2                                      |   | Dt- 8.8.2023 Dt- 9.8.2023<br>Dt- 10.8.2023 Dt- 14.8.2023   |  |
|  | Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems                                     | 2                                      |   | Dt- 16.8.2023 Dt- 17.8.2023                                |  |
|  | Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources  | 2                                      |   | Dt- 21.8.2023 Dt- 22.8.2023                                |  |
|  | Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity |  |   | Dt- 23.8.2023 Dt- 24.8.2023<br>Dt- 28.8.2023 Dt- 29.8.2023 |  |
|  | Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies  | 1                                      |   | Dt- 31.8.2023  |  |
|  | Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification   | 1                                      | SEPTEMBER   | Dt- 4.9.2023   |  |
|  | Role of individual in conservation of natural resources   | 1                                      |   | Dt- 5.9.2023   |  |
|  | Equitable use of resources for sustainable life styles.   | 1                                      |   | Dt- 7.9.2023   |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH   | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|--|--|---------|-------------------------------------|--|
| 3       | <b>Systems</b>   | 8                                      |         |                                     |  |
|         | Concept of an eco system, Structure and function of an eco system                            | 1                                      |         | Dt. -11.9.2023                      |  |
|         | Producers, consumers, decomposers  | 1                                      |         | Dt. 12.9.2023                       |  |
|         | Energy flow in the eco systems   | 1                                      |         | Dt. 13.9.2023                       |  |
|         | Ecological succession  | 1                                      |         | Dt. 14.9.2023                       |  |
|         | Food chains, food webs and ecological pyramids   | 1                                      |         | Dt. 18.9.2023                       |  |
|         | Introduction, types, characteristic features, structure and function of the Forest ecosystem | 1                                      |         | Dt. 21.9.2023                       |  |
|         | Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries)                       | 1                                      |         | Dt. 25.9.2023                       |  |
|         | Rivers, oceans, estuaries eco system   | 1                                      |         | Dt. 26.9.2023                       |  |
| 4       | <b>Biodiversity and it's Conservation</b>  | 8                                      |         |                                     |  |
|         | Definition: genetics, species and ecosystem diversity  | 1                                      |         | Dt. 27.9.2023                       |  |
|         | Biogeographically classification of India  | 1                                      |         | Dt. 28.9.2023                       |  |
|         | Value of biodiversity: consumptive use, productive use                                       | 1                                      | OCTOBER | Dt. 3.10.2023                       |  |
|         | Social ethical, aesthetic and optin values   | 1                                      |         | Dt. 4.10.2023                       |  |
|         | Biodiversity at global, national and local level.  | 1                                      |         | Dt. 5.10.2023                       |  |
|         | Threats to biodiversity: Habitats loss   | 1                                      |         | Dt. 9.10.2023                       |  |
|         | Poaching of wild life  | 1                                      |         | Dt. 10.10.2023                      |  |
|         | Man wildlife, conflicts  | 1                                      |         | Dt. 11.10.2023                      |  |

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|---|--|----------|-------------------------------------|--|
| 5       | <b>Environmental Pollution</b>  | <b>12</b>                              |          |                                     |  |
|         | Definition Causes, effects and control measures of: Air pollution                       | 1                                      |          | Dt - 12.10.2023 , 16.10.2023        |  |
|         | Definition Causes, effects and control measures of: Water pollution                     | 1                                      |          | Dt - 17.10.2023 , 18.10.2023        |  |
|         | Definition Causes, effects and control measures of: Soil pollution                      | 1                                      |          | Dt - 19.10.2023                     |  |
|         | Definition Causes, effects and control measures of: Marine pollution                    | 1                                      |          | Dt - 25.10.2023                     |  |
|         | Definition Causes, effects and control measures of: Noise pollution                     | 1                                      |          | Dt - 26.10.2023                     |  |
|         | Definition Causes, effects and control measures of Thermal pollution                    | 1                                      |          | Dt - 30.10.2023                     |  |
|         | Definition Causes, effects and control measures of Nuclear hazards                      | 1                                      |          | Dt - 31.10.2023                     |  |
|         | Solid waste Management: Causes, effects and control measures of urban industrial wastes | 1                                      | NOVEMBER | Dt - 1.11.2023 ,                    |  |
|         | Solid waste Management: Causes, effects and control measures of industrial wastes       | 1                                      |          | Dt - 2.11.2023                      |  |
|         | Role of an individual in prevention of pollution  | 1                                      |          | Dt - 6.11.2023                      |  |
|         | Disaster management: Floods, earth quake  | 1                                      |          | Dt - 7.11.2023                      |  |
|         | Disaster management cyclone and landslides  | 1                                      |          | Dt - 8.11.2023                      |  |
| 6       | <b>Social Issues and the Environment</b>  | <b>10</b>                              |          |                                     |  |
|         | Form unsustainable to sustainable development.  | 1                                      |          | Dt - 9.11.2023                      |  |
|         | Urban problems related to energy  | 1                                      |          | Dt - 13.11.2023                     |  |
|         | Water conservation, rain water harvesting, water shed management                        | 1                                      |          | Dt - 14.11.2023                     |  |
|         | Resettlement and rehabilitation of people; its problems and concern                     | 1                                      |          | Dt - 15.11.2023                     |  |
|         | Environmental ethics: issue and possible solutions                                      | 1                                      |          | Dt - 16.11.2023                     |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|--|--|----------|-------------------------------------|--|
|         | Climate change, global warming, acid rain, ozone layer depletion | 1                                      |          | Dt. 20.11.2023                      |  |
|         | Nuclear accidents and holocaust, case studies                    | 11                                     |          | Dt. 21.11.2023                      |  |
|         | Air (prevention and control of pollution) Act                    | 1                                      |          | Dt. 22.11.2023                      |  |
|         | Water (prevention and control of pollution) Act.                 | 1                                      |          | Dt. 23.11.2023                      |  |
|         | Public awareness   | 1                                      |          | Dt. 28.11.2023                      |  |
| 7       | <b>Human Population and the Environment</b>                      | <b>8</b>                               |          |                                     |  |
|         | Population growth and variation among nations                    | 1                                      |          | Dt. 29.11.2023                      |  |
|         | Population explosion- family welfare program                     | 2                                      |          | Dt. 30.11.2023                      |  |
|         | Environment and human health                                     | 1                                      | DECEMBER | Dt. 4.12.2023                       |  |
|         | Human Rights   | 1                                      |          | Dt. 5.12.2023                       |  |
|         | Value Education  | 1                                      |          | Dt. 6.12.2023                       |  |
|         | Role of information technology in environment and human health   | 2                                      |          | Dt. 7.12.2023                       |  |

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**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNB**

**NAME OF THE FACULTY : (1) ER. DILLIP KUMAR DEHURY**  
**(H.O.D., MINING ENGG., (2) ER. SWAPNAJIT RAY (LECT. IN**  
**MINING ENGG.)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: SURFACE MINING TECHNOLOGY (TH-1)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|---|--|-----------|-------------------------------------|
| 1       | <b>Choice of Opencast Mining</b>                              | <b>10</b>                              |           |                                     |
|         | State factors affecting choice of Open casting Mining method. | 1                                      | AUGUST    | Dt - 1.8.2023<br>Dt - 2.8.2023      |
|         | Determine overburden/ore ratio                                | 1                                      |           | Dt - 4.8.2023                       |
|         | Find out cut off stripping ratio                              | 1                                      |           | Dt - 7.8.2023 Dt - 8.8.2023         |
|         | Determine quarriable limit                                    | 1                                      |           | Dt - 9.8.2023                       |
|         | State favorable conditions for mechanized Opencast Mines      | 1                                      |           | Dt - 11.8.2023<br>Dt - 14.8.2023    |
|         | Advantages of open cast mines                                 | 1                                      |           | Dt - 16.8.2023                      |
|         | Disadvantages of open cast mines                              | 1                                      |           | Dt - 18.8.2023                      |
|         | State limitations of large open pits                          | 1                                      |           | Dt - 21.8.2023                      |
|         | Define Box cut and determine the location of Box cut          | 1                                      |           | Dt - 22.8.2023<br>Dt - 23.8.2023    |
| 2       | <b>Benching</b>   | <b>5</b>                               |           |                                     |
|         | Bench parameters  | 1                                      |           | Dt - 25.8.2023                      |
|         | Height,width and slope of bench                               | 2                                      |           | Dt - 28.8.2023, Dt - 29.8.2023      |
|         | Determination of length of bench for overburden               | 1                                      | SEPTEMBER | Dt - 1.9.2023                       |
|         | Determination of length of bench for ore                      | 1                                      |           | Dt - 4.9.2023                       |

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH   | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|---|--|---------|-------------------------------------|--|
| 3       | <b>Slope Stability</b>  | 6                                      |         |                                     |  |
|         | Factors affecting slope stability   | 1                                      |         | Dt - 5.9.2023                       |  |
|         | Types of slope stability  | 1                                      |         | Dt - 8.9.2023                       |  |
|         | Causes of slope stability   | 2                                      |         | Dt - 11.9.2023 Dt 12.9.2023         |  |
|         | Prevention of slope stability   | 2                                      |         | Dt - 13.9.2023 Dt. 15.9.2023        |  |
| 4       | <b>Explosive and blasting accessories</b>   | 11                                     |         |                                     |  |
|         | Define explosive, state constituents of explosives, properties & characteristics of explosives. | 1                                      |         | Dt - 18.9.2023                      |  |
|         | Classify explosives, state composition and uses of explosives                                   | 1                                      |         | Dt - 22.9.2023                      |  |
|         | Explain PMS and SMS   | 1                                      |         | Dt - 25.9.2023                      |  |
|         | Define permitted explosive and classify permitted explosive                                     | 1                                      |         | Dt 26.9.2023                        |  |
|         | Explain sheathed, equivalent sheathed and ultra safe explosive                                  | 1                                      |         | Dt - 27.9.2023                      |  |
|         | State properties of permitted explosives  | 1                                      | OCTOBER | Dt - 3.10.2023                      |  |
|         | State composition & constructional features of safety fuse, detonating fuse                     | 1                                      |         | Dt 4.10.2023                        |  |
|         | State composition & constructional features detonating relay, igniter cord, nonel and raydet    | 1                                      |         | Dt - 6.10.2023                      |  |
|         | Describe different types of detonators and uses, state advantages of delay detonators           | 1                                      |         | Dt 9.10.2023                        |  |
|         | State different types of exploder, its construction and safety features, circuit tester         | 1                                      |         | Dt 10.10.2023                       |  |
|         | Describe stemming rod, crack detector knife, crimper  | 1                                      |         | Dt - 11.11.2023                     |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|--|--|----------|-------------------------------------|--|
| 5       | <b>Drilling</b>  | 8                                      |          |                                     |  |
|         | Explain different principles and methods of exploratory drilling in surface mining                 | 2                                      |          | Dt - 13.10.2023<br>Dt - 16.10.2023  |  |
|         | State different types of drill used in Opencast mining   | 1                                      |          | Dt - 17.10.2023                     |  |
|         | Describe simple constructional features of churn drill, drills master, wagon drill and jack hammer | 2                                      |          | Dt - 18.10.2023<br>Dt - 20.10.2023  |  |
|         | State D.T.H.   | 1                                      |          | Dt - 25.10.2023                     |  |
|         | Describe different types of drill bits in drilling   | 2                                      |          | Dt - 27.10.2023 Dt - 30.10.2023     |  |
| 6       | <b>Blasting Practices in Mines</b>   | 10                                     |          |                                     |  |
|         | Describe preparation of charge   | 1                                      | NOVEMBER | Dt - 31.10.2023 Dt - 1.11.2023      |  |
|         | State procedure of firing shots  | 1                                      |          | Dt - 3.11.2023 Dt - 6.11.2023       |  |
|         | Direct and inverse initiation  | 1                                      |          | Dt - 7.11.2023                      |  |
|         | Stemming materials   | 1                                      |          | Dt - 8.11.2023                      |  |
|         | Water ampoules   | 1                                      |          | Dt - 10.11.2023                     |  |
|         | Cushion firing   | 1                                      |          | Dt - 13.11.2023                     |  |
|         | Define blasting efficiency   | 1                                      |          | Dt - 14.11.2023                     |  |
|         | State and describe plaster shooting  | 1                                      |          | Dt - 15.11.2023                     |  |
|         | Pop shooting   | 1                                      |          | Dt - 17.11.2023                     |  |
|         | Toe blasting   | 1                                      |          | Dt - 20.11.2023                     |  |
| 7       | <b>Controlled Blasting Techniques as per Statutory Provision</b>                                   | 6                                      |          |                                     |  |
|         | State and describe pre-splitting   | 1                                      |          | Dt - 21.11.2023                     |  |
|         | Cushion blasting   | 1                                      |          | Dt - 22.11.2023                     |  |
|         | Muffle blasting  | 1                                      |          | Dt - 24.11.2023                     |  |

| Sl. No. | CHAPTERS TO BE COVERED                                  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|---|--|----------|-------------------------------------|
|         | Coyote hole blasting                                    | 1                                      |          | Dt - 28.11.2023                     |
|         | Chambered hole blasting                                 | 1                                      |          | Dt - 29.11.2023                     |
|         | Directional blasting, Electronics Blasting System (EBS) | 1                                      | DECEMBER | Dt - 1.12.2023                      |
|         | <b>Magazines</b>  | 4                                      |          | .                                   |
|         | Describe layout of magazine                             | 1                                      |          | Dt - 4.12.2023                      |
| 8       | Arrangement of magazine                                 | 1                                      |          | Dt - 5.12.2023                      |
|         | Different types of magazines                            | 1                                      |          | Dt - 6.12.2023                      |
|         | State their safety feature                              | 1                                      |          | Dt - 8.12.2023                      |

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**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MN8**

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU,**  
**(2) ER. PRANAYA KUMAR BEHERA (LECT. IN MINING)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: MINE SURVEY - I (TH-2)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|--|--|-----------|-------------------------------------|--|
| 1       | <b>Chain Survey</b>  | <b>10</b>                              |           |                                     |  |
|         | Survey conventional signs, abbreviation used. standards of lining, inking and coloring.                                  | 1                                      | AUGUST    | Dt - 1.8.2023<br>Dt - 3.8.2023      |  |
|         | Selection of scales used. principle of chain surveying   | 1                                      |           | Dt - 4.8.2023                       |  |
|         | Instruments used and checking their correctness, ranging and chaining of a line  | 1                                      |           | Dt - 5.8.2023<br>Dt - 8.8.2023      |  |
|         | Errors in chaining, obstruction while chaining   | 1                                      |           | Dt - 10.8.2023                      |  |
|         | Chaining along a sloping ground  | 1                                      |           | Dt - 11.8.2023                      |  |
|         | Use of optical square and line range and checking optical square for correctness   | 1                                      |           | Dt - 17.8.2023                      |  |
|         | Offsets and their measurements   | 1                                      |           | Dt - 18.8.2023                      |  |
|         | Reference sketches of stations   | 1                                      |           | Dt - 19.8.2023                      |  |
|         | Procedure of chain surveying   | 1                                      |           | Dt - 20.8.2023                      |  |
|         | Field booking and plotting of chain survey.  | 1                                      |           | Dt - 24.8.2023                      |  |
| 2       | <b>Compass Survey</b>  | <b>8</b>                               |           |                                     |  |
|         | Prismatic compass, its adjustments and use, true meridians, magnetic meridian, grid line meridian and arbitrary meridian | 1                                      |           | Dt - 28.8.2023<br>Dt - 29.8.2023    |  |
|         | W.C.B. and Q.B. and conversion from one to other   | 1                                      |           | Dt - 31.8.2023                      |  |
|         | Fore and back bearing and their conversion   | 1                                      | SEPTEMBER | Dt - 1.9.2023                       |  |
|         | Compute angles from bearing and bearing angles   | 1                                      |           | Dt - 2.9.2023                       |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH   | ACTUAL PROGRESS OF THE COURSES MADE  |  |
|---------|--|--|---------|--------------------------------------|--|
|         | Local alteration and necessary correction to the bearing   | 1                                      |         | Dt - 5.9.2023                        |  |
|         | Closed and open compass surveying and its plotting   | 1                                      |         | Dt - 7.9.2023                        |  |
|         | Procedure of field booking in compass and chain traverses, adjustment of closing error in compass traversing | 1                                      |         | Dt - 8.9.2023                        |  |
|         | Surveyor compass(miner's dial), its adjustment and use, Compare prismatic compass with surveyor compass.     | 1                                      |         | Dt - 12.9.2023      Dt - 14.9.2023   |  |
| 3       | <b>Plane Table Survey</b>  | 8                                      |         |                                      |  |
|         | Fundamentals of Plane Table Survey   | 2                                      |         | Dt - 15.9.2023                       |  |
|         | Two point problems   | 2                                      |         | Dt - 16.9.2023      Dt - 21.9.2023   |  |
|         | Three point problems and its solution by tracing paper method  | 2                                      |         | Dt - 22.9.2023      Dt - 26.9.2023   |  |
|         | Advantages and disadvantages of plane table  | 1                                      |         | Dt - 28.9.2023                       |  |
| 4       | <b>Computation of Areas</b>  | 8                                      |         |                                      |  |
|         | Methods of determining areas.  | 1                                      |         | Dt - 30.9.2023                       |  |
|         | Find out areas from offset to a base line using  | 1                                      | OCTOBER | Dt - 3.10.2023                       |  |
|         | Mid ordinate rule  | 1                                      |         | Dt - 5.10.2023                       |  |
|         | Average ordinate rule  | 1                                      |         | Dt - 6.10.2023                       |  |
|         | Trapezoidal rule   | 1                                      |         | Dt - 7.10.2023                       |  |
|         | Simpson's rule   | 1                                      |         | Dt - 10.10.2023                      |  |
|         | Computer area by Planimeter and from graph paper.  | 2                                      |         | Dt - 12.10.2023      Dt - 13.10.2023 |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE             |
|---------|--|--|----------|---|
| 5       | <b>Leveling</b>  | 10                                     |          |   |
|         | benchmark M.S.L. Dumpy level   | 2                                      |          | Dt-17.10.2023 Dt-19.10.2023                     |
|         | Adjust dumpy level, modern levels (Auto Level & etc.), and precise staff.  | 2                                      |          | Dt-20.10.2023 Dt-26.10.2023                     |
|         | methods of leveling- Rise & fall method, height of instrument  | 2                                      |          | Dt-27.10.2023 Dt-31.10.2023                     |
|         | Errors in ordinary leveling  | 2                                      | NOVEMBER | Dt-2.11.2023 Dt-3.11.2023                       |
|         | reciprocal leveling, subsidence leveling, setting out gradient, trigonometric leveling, geometrical leveling, and physical leveling. | 2                                      |          | Dt-4.11.2023<br>Dt-7.11.2023                    |
| 6       | <b>Calculation of Ore Reserves</b>   | 8                                      |          |   |
|         | Classify reserves  | 2                                      |          | Dt-9.11.2023 Dt-10.11.2023                      |
|         | Evaluate reserves by exploratory   | 3                                      |          | Dt-14.11.2023 Dt-16.11.2023<br>Dt-17.11.2023    |
|         | primary ore reserve by material balance method & decline curve method  | 3                                      |          | Dt-18.11.2023<br>Dt-21.11.2023<br>Dt-23.11.2023 |
| 7       | <b>Theodolite</b>  | 8                                      |          |   |
|         | Temporary and permanent adjustment of Theodolite   | 2                                      |          | Dt-24.11.2023 Dt-28.11.2023                     |
|         | Principles of operation & describe different parts   | 2                                      | DECEMBER | Dt-30.11.2023 Dt-1.12.2023                      |
|         | Measure Horizontal & Vertical angles   | 2                                      |          | Dt-2.12.2023 Dt-5.12.2023                       |
|         | Setting of the instrument  | 1                                      |          | Dt-7.12.2023                                    |
|         | Traversing with Theodolite.  | 1                                      |          | Dt-8.12.2023                                    |

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**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNB**

**NAME OF THE FACULTY : (1) ER. AMARENDRA SAHOO,**  
**(2) ER. PRATYUSH ROUT (LECT. IN MINING)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: MINE GEOLOGY - I (TH-3)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED                                   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|--|--|-----------|-------------------------------------|
| 1       | <b>Physical Geology</b>                                  | <b>15</b>                              |           |                                     |
|         | Weathering   | 2                                      | AUGUST    | Dt - 3.8.2023 Dt - 4.8.2023         |
|         | Erosion  | 1                                      |           | Dt - 5.8.2023                       |
|         | Erosional land forms by wind                             | 2                                      |           | Dt 7.8.2023 Dt - 10.8.2023          |
|         | Depositional land forms by wind                          | 1                                      |           | Dt - 11.8.2023                      |
|         | Erosional features of river                              | 2                                      |           | Dt - 14.8.2023 Dt - 17.8.2023       |
|         | Depositional features of river                           | 1                                      |           | Dt 18.8.2023                        |
|         | Differentiate between glacier and iceberg                | 1                                      |           | Dt - 19.8.2023                      |
|         | Erosional features of glacier                            | 2                                      |           | Dt - 21.8.2023 Dt - 27.8.2023       |
|         | Depositional features made by glacier                    | 2                                      |           | Dt - 25.8.2023 Dt - 28.8.2023       |
|         | Moraines and its types                                   | 1                                      |           | Dt - 31.8.2023                      |
| 2       | <b>Petrology</b>   | <b>12</b>                              |           |                                     |
|         | Define a Rock. Distinguish between a rock and a mineral. | 2                                      | SEPTEMBER | Dt 1.9.2023 Dt - 2.9.2023           |
|         | Define Igneous, Sedimentary and Metamorphic rocks.       | 2                                      |           | Dt 4.9.2023 Dt 7.9.2023             |
|         | Textures of igneous rock                                 | 2                                      |           | Dt 11.9.2023 Dt - 14.9.2023         |
|         | Structures of igneous rock                               | 2                                      |           | Dt - 15.9.2023 Dt - 16.9.2023       |
|         | Structures of sedimentary rock with sketch               | 2                                      |           | Dt 18.9.2023 Dt - 21.9.2023         |
|         | Various structures in metamorphic rock                   | 2                                      |           | Dt - 22.9.2023 Dt - 25.9.2023       |

| SL No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE                                |
|--------|--|--|----------|--|
| 3      | <b>Structural Geology</b>  | 6                                      |          |  |
|        | Define Dip. Distinguish between true dip and apparent dip                                | 1                                      |          | Dt - 28.9.2023 Dt - 30.9.2023                                      |
|        | Define strike  | 1                                      | OCTOBER  | Dt - 5.10.2023   |
|        | Define folds, Classify folds and describe them   | 1                                      |          | Dt - 6.10.2023   |
|        | Define faults. Describe the various types of fault                                       | 1                                      |          | Dt - 7.10.2023   |
|        | Define unconformity. Describe the various type of unconformity with neat sketches        | 1                                      |          | Dt 9.10.2023 Dt - 12.10.2023                                       |
|        | Define joints. Describe various joints   | 1                                      |          | Dt 13.10.2023  |
| 4      | <b>Element of Crystallography</b>  | 12                                     |          |  |
|        | Define a crystal   | 1                                      |          | Dt - 16.10.2023 Dt - 19.10.2023                                    |
|        | Explain Miller's indices   | 4                                      |          | Dt - 20.10.2023 Dt - 26.10.2023<br>Dt - 27.10.2023 Dt - 30.10.2023 |
|        | Describe the Symmetry elements and forms present in the normal class of isometric system | 7                                      | NOVEMBER | Dt - 2.11.2023 Dt - 3.11.2023<br>Dt - 4.11.2023 Dt - 6.11.2023     |
| 5      | <b>Elements of Mineralogy</b>  | 15                                     |          |  |
|        | Define a mineral   | 1                                      |          | Dt 9.11.2023   |
|        | Enumerate and describe the physical properties of minerals                               | 2                                      |          | Dt 10.11.2023 Dt 13.11.2023  |
|        | Describe various optical properties of minerals  | 2                                      |          | Dt 16.11.2023 Dt 17.11.2023  |
|        | Explain briefly the silicate structures along with diagrams                              | 2                                      |          | Dt 18.11.2023 Dt - 20.11.2023                                      |
|        | Mineralogy and physical properties of olivine  | 2                                      |          | Dt - 23.11.2023 Dt - 24.11.2023                                    |
|        | Pyroxene   | 2                                      | DECEMBER | Dt - 30.11.2023 Dt - 1.12.2023                                     |
|        | Quartz   | 2                                      |          | Dt 2.12.2023 Dt - 4.12.2023  |
|        | Feldspar   | 2                                      |          | Dt 7.12.2023 Dt - 8.12.2023  |

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**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION :- MNB**

**NAME OF THE FACULTY : (1) ER. RASABIHARI SAHU (LECT. IN MECH. ENGG.), (2) ER. PRADIP KUMAR SAHU (T.A., ELECT. ENGG.)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: MECHANICAL OPERATION IN MINES (TH-4)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH  | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|---|--|--------|-------------------------------------|--|
| 1       | <b>Strength of Materials and Power Transmission</b>   | <b>20</b>                              |        |                                     |  |
|         | Define Elasticity, Hook's Law   | 1                                      | AUGUST | Dt - 1.8.2023                       |  |
|         | Limit of Proportionality.   | 1                                      |        | Dt - 3.8.2023                       |  |
|         | Young's Modulus   | 1                                      |        | Dt - 5.8.2023                       |  |
|         | Factor of safety. Lateral strain and Poisson's ratio  | 1                                      |        | Dt - 7.8.2023                       |  |
|         | Stress-strain curve for ductile materials   | 1                                      |        | Dt - 8.8.2023                       |  |
|         | Effect of axial load on bar of Uniform section  | 1                                      |        | Dt - 10.8.2023                      |  |
|         | Effect of axial load on bar of Variable section   | 1                                      |        | Dt - 14.8.2023                      |  |
|         | Numerical problems on Uniform section, Variable section   | 1                                      |        | Dt - 17.8.2023                      |  |
|         | Bending moment and shear force  | 1                                      |        | Dt - 18.8.2023                      |  |
|         | Types of beam and types of loading  | 1                                      |        | Dt - 21.8.2023                      |  |
|         | Explain shear force diagram and bending moment diagram for Cantilever with concentrated loading | 1                                      |        | Dt - 22.8.2023                      |  |
|         | Cantilever with U.D.L. over whole span  | 1                                      |        | Dt - 24.8.2023                      |  |
|         | Simply supported beam with concentration loading  | 1                                      |        | Dt - 28.8.2023                      |  |

|         | Simply supported beam with U.D.I. over whole span  | 1                                      |           |                                     |  |
|---------|--|--|-----------|-------------------------------------|--|
| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE |  |
|         | State bending formula  | 1                                      |           | Dt - 29.8.2023                      |  |
|         | Define section modules, Find out section modules for beam section of simple cases  | 1                                      |           | Dt - 31.8.2023                      |  |
|         | Define torsion and state its effects, State application of torsion formula   | 1                                      | SEPTEMBER | Dt - 2.9.2023                       |  |
|         | working of Shaft couplings such as hydraulic and magnetic couplings, Belt, chain and rope Drive, Simple and compound gear train, Torque converters | 1                                      |           | Dt - 4.9.2023                       |  |
|         | State function of flywheel and governors   | 1                                      |           | Dt - 5.9.2023                       |  |
|         | Explain working of watt, porter and porter governors   | 1                                      |           | Dt - 7.9.2023                       |  |
|         | <b>Elements of Hydraulics</b>  | <b>15</b>                              |           |                                     |  |
|         | State various fluid properties, Define pressure of fluid and pressure head   | 1                                      |           | Dt - 11.9.2023                      |  |
|         | State and explain working principle of various pressure measuring devices such as Piezometer tube  | 1                                      |           | Dt - 12.9.2023                      |  |
|         | State and explain continuity equation  | 1                                      |           | Dt - 14.9.2023                      |  |
|         | State and explain Bernoulli's theorem  | 1                                      |           | Dt - 16.9.2023                      |  |
|         | Explain working of venturimeter  | 1                                      |           | Dt - 18.9.2023                      |  |
|         | Solve numerical problems on above  | 1                                      |           | Dt - 21.9.2023                      |  |
|         | Define and classify orifices   | 1                                      |           | Dt - 25.9.2023                      |  |
|         | State the formula and discharge for rectangular orifices and solve problems  | 1                                      |           | Dt - 26.9.2023                      |  |
|         | Define and differentiate between orifice and notch.  | 1                                      |           | Dt - 28.9.2023                      |  |
|         | Classify notches, State formula for discharge through notches & solve problem on above   | 1                                      |           | Dt - 30.9.2023                      |  |

|        | State and explain laws of fluid friction                                     | 1                                      |          |  |
|--------|--|--|----------|--|
| Sl No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE                                |
|        | State and explain loss of head due to friction (Darcy weisbach formula)      | 1                                      | OCTOBER  | Dt - 3.10.2023 Dt - 5.10.2023                                      |
|        | Explain hydraulic gradient and energy gradient.                              | 1                                      |          | Dt - 7.10.2023 Dt - 9.10.2023                                      |
|        | <b>Compressed Air</b>  | <b>15</b>                              |          |  |
|        | Exp ain introduction of compressed air as a power                            | 3                                      |          | Dt - 10.10.2023 Dt - 12.10.2023<br>Dt - 16.10.2023 Dt - 17.10.2023 |
|        | Classify Compressor & state working principle                                | 3                                      |          | Dt - 19.10.2023 Dt - 26.10.2023<br>Dt - 30.10.2023 Dt - 31.10.2023 |
| 3      | State the various methods of transmission and storage of compressed air      | 3                                      | NOVEMBER | Dt - 2.11.2023 Dt - 4.11.2023<br>Dt - 6.11.2023                    |
|        | State and explain the advantages of use of compressed air in mines           | 3                                      |          | Dt - 7.11.2023 Dt - 9.11.2023<br>Dt - 13.11.2023                   |
|        | Exp ain the working principle of pneumatic machines                          | 3                                      |          | Dt - 14.11.2023 Dt - 16.11.2023<br>Dt - 18.11.2023                 |
|        | <b>Internal Combustion Engines</b>   | <b>10</b>                              |          |  |
|        | OTTO Cycle   | 2                                      |          | Dt - 20.11.2023 Dt - 21.11.2023                                    |
|        | Diesel Cycle   | 2                                      |          | Dt - 23.11.2023 Dt - 28.11.2023                                    |
| 4      | Explain working principle of 2 stroke and 4 stroke petrol and diesel engines | 2                                      | DECEMBER | Dt - 30.11.2023 Dt - 1.12.2023                                     |
|        | Define I.H.P., B.H.P. & Mechanical efficiency of I/C Eng ne.                 | 2                                      |          | Dt - 2.12.2023 Dt - 4.12.2023                                      |
|        | State various applications of I/C Engines in Mining field                    | 2                                      |          | Dt - 5.12.2023 Dt - 8.12.2023                                      |

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**THEORY LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH : MINING ENGINEERING, SEMESTER : 3RD**  
**SECTION : MNB**

**NAME OF THE FACULTY : (1) ER. UDAYA BISWANATH PADHAN,**  
**(2) ER. PRABIN KUMAR SAHOO (LECT. IN MINING)**

**SEMESTER FROM : 01.08.2023 to 09.12.2023**

**THEORY SUBJECT: ENVIRONMENTAL STUDIES (TH-5)**

**CLASS ALLOTTED /WEEK : 04 PERIODS**

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH     | ACTUAL PROGRESS OF THE COURSES MADE                        |
|---------|---|--|-----------|--|
| 1       | <b>The Multidisciplinary Nature of Environmental Studies</b>  | 4                                      |           |  |
|         | Definition, scope and importance  | 2                                      | AUGUST    | Dt. 1.8.2023 , 3.8.2023                                    |
|         | Need for public awareness   | 2                                      |           | Dt. 4.8.2023 , 7.8.2023                                    |
| 2       | <b>Natural Resources</b>  | 10                                     |           |  |
|         | Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribal people                       | 2                                      |           | Dt. 8.8.2023 Dt. 10.8.2023<br>Dt. 11.8.2023                |
|         | Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems                                     | 2                                      |           | Dt. 14.8.2023 Dt. 17.8.2023<br>Dt. 18.8.2023               |
|         | Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources  | 2                                      |           | Dt. 21.8.2023<br>Dt. 22.8.2023                             |
|         | Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity |  |           | Dt. 24.8.2023 Dt. 25.8.2023<br>Dt. 28.8.2023 Dt. 29.8.2023 |
|         | Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies  | 1                                      |           | Dt. 31.8.2023  |
|         | Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, and desertification   | 1                                      | SEPTEMBER | Dt. 1.9.2023   |
|         | Role of individual in conservation of natural resources   | 1                                      |           | Dt. 4.9.2023   |
|         | Equitable use of resources for sustainable life styles.   | 1                                      |           | Dt. 5.9.2023   |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH   | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|--|--|---------|-------------------------------------|--|
| 3       | <b>Systems</b>   | 8                                      |         |                                     |  |
|         | Concept of an eco system, Structure and function of an eco system                            | 1                                      |         | Dt. 7.9.2023                        |  |
|         | Producers, consumers, decomposers  | 1                                      |         | Dt. 8.9.2023                        |  |
|         | Energy flow in the eco systems   | 1                                      |         | Dt. 11.9.2023                       |  |
|         | Ecological succession  | 1                                      |         | Dt. 12.9.2023                       |  |
|         | Food chains, food webs and ecological pyramids   | 1                                      |         | Dt. 14.9.2023                       |  |
|         | Introduction, types, characteristic features, structure and function of the Forest ecosystem | 1                                      |         | Dt. 15.9.2023                       |  |
|         | Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries)                       | 1                                      |         | Dt. 18.9.2023                       |  |
|         | Rivers, oceans, estuaries eco system   | 1                                      |         | Dt. 21.9.2023                       |  |
| 4       | <b>Biodiversity and it's Conservation</b>  | 8                                      |         |                                     |  |
|         | Definition: genetics, species and ecosystem diversity  | 1                                      |         | Dt. 22.9.2023                       |  |
|         | Biogeographically classification of India  | 1                                      |         | Dt. 25.9.2023                       |  |
|         | Value of biodiversity: consumptive use, productive use                                       | 1                                      |         | Dt. 26.9.2023                       |  |
|         | Social ethical, aesthetic and optin values   | 1                                      |         | Dt. 28.9.2023                       |  |
|         | Biodiversity at global, national and local level.  | 1                                      | OCTOBER | Dt. 3.10.2023                       |  |
|         | Threats to biodiversity: Habitats loss   | 1                                      |         | Dt. 5.10.2023                       |  |
|         | Poaching of wild life  | 1                                      |         | Dt. 6.10.2023                       |  |
|         | Man wildlife, conflicts  | 1                                      |         | Dt. 9.10.2023                       |  |

| Sl. No. | CHAPTERS TO BE COVERED  | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE |  |
|---------|---|--|----------|-------------------------------------|--|
| 5       | <b>Environmental Pollution</b>  | <b>12</b>                              |          |                                     |  |
|         | Definition Causes, effects and control measures of: Air pollution                       | 1                                      |          | Dt. 10.10.2023 , 12.10.2023         |  |
|         | Definition Causes, effects and control measures of: Water pollution                     | 1                                      |          | Dt. 13.10.2023                      |  |
|         | Definition Causes, effects and control measures of: Soil pollution                      | 1                                      |          | Dt. 16.10.2023                      |  |
|         | Definition Causes, effects and control measures of: Marine pollution                    | 1                                      |          | Dt. 17.10.2023                      |  |
|         | Definition Causes, effects and control measures of: Noise pollution                     | 1                                      |          | Dt. 19.10.2023                      |  |
|         | Definition Causes, effects and control measures of Thermal pollution                    | 1                                      |          | Dt. 20.10.2023                      |  |
|         | Definition Causes, effects and control measures of Nuclear hazards                      | 1                                      |          | Dt. 26.10.2023                      |  |
|         | Solid waste Management: Causes, effects and control measures of urban industrial wastes | 1                                      |          | Dt. 27.10.2023                      |  |
|         | Solid waste Management: Causes, effects and control measures of industrial wastes       | 1                                      |          | Dt. 30.10.2023                      |  |
|         | Role of an individual in prevention of pollution  | 1                                      |          | Dt. 31.10.2023                      |  |
|         | Disaster management: Floods, earth quake  | 1                                      | NOVEMBER | Dt. 2.11.2023                       |  |
|         | Disaster management cyclone and landslides  | 1                                      |          | Dt. 3.11.2023                       |  |
| 6       | <b>Social Issues and the Environment</b>  | <b>10</b>                              |          |                                     |  |
|         | Form unsustainable to sustainable development.  | 1                                      |          | Dt. 6.11.2023                       |  |
|         | Urban problems related to energy  | 1                                      |          | Dt. 7.11.2023                       |  |
|         | Water conservation, rain water harvesting, water shed management                        | 1                                      |          | Dt. 9.11.2023                       |  |
|         | Resettlement and rehabilitation of people; its problems and concern                     | 1                                      |          | Dt. 10.11.2023                      |  |
|         | Environmental ethics: issue and possible solutions                                      | 1                                      |          | Dt. 13.11.2023                      |  |

| Sl. No. | CHAPTERS TO BE COVERED   | NO OF PERIODS AS PER ACADEMIC CALENDAR | MONTH    | ACTUAL PROGRESS OF THE COURSES MADE |
|---------|--|--|----------|-------------------------------------|
|         | Climate change, global warming, acid rain, ozone layer depletion | 1                                      |          | Dt. 14.11.2023                      |
|         | Nuclear accidents and holocaust, case studies                    | 11                                     |          | Dt. 16.11.2023                      |
|         | Air (prevention and control of pollution) Act                    | 1                                      |          | Dt. 17.11.2023                      |
|         | Water (prevention and control of pollution) Act.                 | 1                                      |          | Dt. 20.11.2023                      |
|         | Public awareness   | 1                                      |          | Dt. 21.11.2023                      |
| 7       | <b>Human Population and the Environment</b>                      | <b>8</b>                               |          |                                     |
|         | Population growth and variation among nations                    | 1                                      |          | Dt. 23.11.2023                      |
|         | Population explosion- family welfare program                     | 2                                      |          | Dt. 24.11.2023, 28.11.2023          |
|         | Environment and human health                                     | 1                                      |          | Dt. 30.11.2023                      |
|         | Human Rights   | 1                                      | DECEMBER | Dt. 1.12.2023, 4.12.2023            |
|         | Value Education  | 1                                      |          | Dt. 5.12.2023                       |
|         | Role of information technology in environment and human health   | 2                                      |          | Dt. 7.12.2023, 8.12.2023            |

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PRACTICAL LESSON PLAN FOR THE SESSION 2023-24

BRANCH:-MINING ENGG.

SEMESTER: 3RD

SECTION: MNA1

NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU, (2) ER. PRANAYA KUMAR BEHERA (LECT. IN MINING ENGG.)

SEMESTER FROM DT. 01.08.2023 TO 09.12.2023

PRACTICAL SUBJECT: MINE SURVEY-I LAB. (PR-1)

CLASS ALLOTTED /WEEK:- 06 PERIODS

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED   | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES      |
|---------|---|-----------|--|--|
| 1       | CHAIN SURVEY  |           |  |  |
|         | a.Ranging a line more than 100m in length and measuring its correct length applying corrections.  | AUGUST    |  | Dt. 2.8.2023<br>Dt. 7-8.2023                   |
|         | b.Taking off sets of objects on both sides of a line.   |           |  | Dt. 9-8.2023<br>Dt. 14-8.2023                  |
|         | c. Plotting the above details.  |           |  | Dt. 16-8.2023<br>Dt. 21-8.2023                 |
|         | d. Overcoming obstruction in chaining; vision free, chaining obstructed (pond, river) Chaining free, vision obstructed (Rising) Both vision and chaining obstructed (building). | SEPTEMBER |  | Dt. 23-8.2023<br>Dt. 28-8.2023<br>Dt. 4-9.2023 |
|         | e.Measuring on sloping ground.  |           |  | Dt. 11-9.2023<br>Dt. 13-9.2023                 |
|         | f. Chain surveying and plotting of small plot by triangulation.   |           |  | Dt. 18-9.2023<br>Dt. 25-9.2023                 |

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOB TO BE COVERED  | MONTH    | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES                    |
|---------|---|----------|--|--|
| 2       | COMPASS SURVEY  |          |  |  |
|         | a. Finding bearing of line and applying check.  | OCTOBER  |  | Dt. 27. 9. 2023<br>Dt. 4. 10. 2023                           |
|         | b. Closed traversing of a small plot with station (Without intermediate filling)  |          |  | Dt. 9. 10. 2023<br>Dt. 11. 10. 2023                          |
|         | c. Open traversing of a small length with few station (Without offset)  |          |  | Dt. 16. 10. 2023<br>Dt. 18. 10. 2023                         |
|         | d. Plotting both the above traverses applying correction.   |          |  | Dt. 25. 10. 2023<br>Dt. 30. 10. 2023                         |
| 3       | LEVELS  |          |  |  |
|         | a. Temporary and permanent adjustment sensitivity of bubble tube practice with different types of level (Auto level & etc.) | NOVEMBER |  | Dt. 1. 11. 2023<br>Dt. 6. 11. 2023                           |
| 4       | Temporary & permanent adjustment of the odolite.  |          |  | Dt. 8. 11. 2023<br>Dt. 13. 11. 2023                          |
| 5       | Measurement of horizontal angle by reiteration and repetition methods.  |          |  | Dt. 15. 11. 2023<br>Dt. 20. 11. 2023                         |
| 6       | Measurement of vertical angle.  | DECEMBER |  | Dt. 22. 11. 2023 4. 12. 2023<br>Dt. 29. 11. 2023 6. 12. 2023 |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION : MNA1**

**NAME OF THE FACULTY : (1) ER. AMARENDRA SAHOO, (2) ER. PRATYUSH ROUT (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MINING GEOLOGY-1 LAB. (PR-2)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED                    | MONTH                | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES  |
|---------|--|----------------------|--|--|
| 1       | IDENTIFICATION OF ROCK FORMING AND ORE MINERALS IN HAND SPECIMENS .    | AUGUST<br>SEPTEMBER  |  | Dt. 1.8.2023      Dt. 25.8.2023<br>Dt. 4.8.2023      Dt. 29.8.2023<br>Dt. 8.8.2023      Dt. 1.9.2023<br>Dt. 11.8.2023      Dt. 5.9.2023<br>Dt. 18.8.2023      Dt. 8.9.2023<br>Dt. 22.8.2023      Dt. 12.9.2023 |
| 2       | DETERMINATIONS OF SPECIFIC GRAVITY BY WORKERS STEEL YARD BALANCE.      | OCTOBER              |  | Dt. 15.9.2023      Dt. 10.10.2023<br>Dt. 22.9.2023      Dt. 13.10.2023<br>Dt. 26.9.2023      Dt. 17.10.2023<br>Dt. 3.10.2023      Dt. 20.10.2023<br>Dt. 6.10.2023      Dt. 27.10.2023<br>Dt. 31.10.2023        |
| 3       | ANALYSIS OF THIN SECTIONS OF MINERALS AND ROCKS UNDER THE MICROSCOPES. | NOVEMBER<br>DECEMBER |  | Dt. 3.11.2023      Dt. 28.11.2023<br>Dt. 7.11.2023      Dt. 1.12.2023<br>Dt. 10.11.2023      Dt. 5.12.2023<br>Dt. 14.11.2023      Dt. 8.12.2023<br>Dt. 17.11.2023<br>Dt. 21.11.2023<br>Dt. 24.11.2023          |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION : MNA1**

**NAME OF THE FACULTY : (1) ER. DEWAN KUMAR SAHU (LECT. IN MECH. ENGG.), (2) ER. PRADIP KUMAR SAHU (T.A., MECH. ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MECHANICAL OPERATION IN MINES LAB. (PR-3)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED  | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES  |
|---------|--|-----------|--|--|
| 1       | BERNOULLI'S THEOREM BY BERNOULLI'S VERIFICATION APPARATUS.   | AUGUST    |  | Dt. 2.8.2023 Dt. 3.8.2023<br>Dt. 9.8.2023 Dt. 10.8.2023<br>Dt. 16.8.2023 Dt. 17.8.2023         |
| 2       | DETERMINE RATE OF FLOW THROUGH THE VENTURIMETER SET-UP.  | SEPTEMBER |  | Dt. 23.8.2023 Dt. 24.8.2023<br>Dt. 31.8.2023 Dt. 7.9.2023<br>Dt. 13.9.2023 Dt. 14.9.2023       |
| 3       | CONDUCT TENSILE TEST OF A MILD STEEL SPECIMEN AND PLOT STRESS STRAIN CURVE ,SHOW SALIENT POINT ON IT.            | OCTOBER   |  | Dt. 21.9.2023 Dt. 27.9.2023<br>Dt. 28.9.2023 Dt. 4.10.2023<br>Dt. 5.10.2023 Dt. 11.10.2023     |
| 4       | DETERMINE VOLUMETRIC EFFICIENCY OF AIR-COMPRESSOR.   | NOVEMBER  |  | Dt. 12.10.2023 Dt. 18.10.2023<br>Dt. 19.10.2023 Dt. 25.10.2023<br>Dt. 26.10.2023 Dt. 1.11.2023 |
| 5       | STUDY OF 2 STROKE AND 4-STROKE DIESEL ENGINES.   |           |  | Dt. 2.11.2023 Dt. 8.11.2023<br>Dt. 9.11.2023 Dt. 15.11.2023<br>Dt. 16.11.2023 Dt. 22.11.2023   |
| 6       | CONDUCT I/C ENGINE TESTING ON SINGLE CYLINDER DIESEL ENGINE AND FIND OUT I.H.P ,B.H.P AND MECHANICAL EFFICIENCY. | DECEMBER  |  | Dt. 23.11.2023 Dt. 29.11.2023<br>Dt. 30.11.2023 Dt. 6.12.2023<br>Dt. 7.12.2023                 |

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:- MINING ENGG.

SEMESTER: 3RD

SECTION:- MNA1

NAME OF THE FACULTY : (1) ER. LIPUN DEHURY, (2) ER. GOBINDA CHANDRA SETHY (LECT. IN MINING ENGG.)

SEMESTER FROM DT.01.08.2023 TO 09.12.2023

PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES

CLASS ALLOTTED /WEEK :- 03 PERIODS

| SI. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES |
|---------|---|-----------|--|---|
|         | Extension of lecturers                              | August    |  | 2/8/23 7/8/23<br>9/8/23                   |
|         | Personality Development                             |           |  | 23/8/23<br>28/8/23                        |
|         | Environmental Issues                                | September |  | 4/9/23, 11/9/23,<br>18/9/23               |
|         | Quiz / hobbies / Field visit                        | October   |  | 11/10/23, 18/10/23                        |
|         | Cultural Activities                                 | November  |  | 8/11/23, 20/11/23                         |
|         | Library Studies / Seminar                           | December  |  | 4/12/23<br>6/12/23                        |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023-24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION: MNA2**

**NAME OF THE FACULTY : (1) ER. DILLIP KUMAR DEHURY (H.O.D., MINING ENGG.), (2) ER. SUNIL KUMAR SAHU, (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MINE SURVEY-I LAB. (PR-1)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED   | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES    |
|---------|---|-----------|--|--|
| 1       | <b>CHAIN SURVEY</b>   |           |  |  |
|         | a.Ranging a line more than 100m in length and measuring its correct length applying corrections.  | AUGUST    |  | DT. 6.8.2023 DT. 9.8.2023<br>DT. 8.8.2023    |
|         | b.Taking off sets of objects on both sides of a line.   |           |  | DT. 11.8.2023 DT. 18.8.2023<br>DT. 22.8.2023 |
|         | c. Plotting the above details.  |           |  | DT. 25.8.2023<br>DT. 29.8.2023               |
|         | d. Overcoming obstruction in chaining; vision free, chaining obstructed (pond, river) Chaining free, vision obstructed (Rising) Both vision and chaining obstructed (building). | SEPTEMBER |  | DT. 1.9.2023 DT. 5.9.2023<br>DT. 8.9.2023    |
|         | e.Measuring on sloping ground.  |           |  | DT. 12.9.2023<br>DT. 15.9.2023               |
|         | f. Chain surveying and plotting of small plot by triangulation.   |           |  | DT. 22.9.2023<br>DT. 26.9.2023               |

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED   | MONTH    | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES       |
|---------|---|----------|--|---|
| 2       | COMPASS SURVEY  |          |  |   |
|         | a. Finding bearing of line and applying check.  | OCTOBER  |  | Dt. 3.10.2023 Dt. 6.10.2023<br>Dt. 10.10.2023   |
|         | b. Closed traversing of a small plot with station (Without intermediate filling)  |          |  | Dt. 13.10.2023<br>Dt. 17.10.2023                |
|         | c. Open traversing of a small length with few station (Without offset)  |          |  | Dt. 20.10.2023 Dt. 31.10.2023<br>Dt. 27.10.2023 |
|         | d. Plotting both the above traverses applying correction.   | NOVEMBER |  | Dt. 3.11.2023<br>Dt. 7.11.2023                  |
| 3       | LEVELS  |          |  |   |
|         | a. Temporary and permanent adjustment sensitivity of bubble tube practice with different types of level (Auto level & etc.) |          |  | Dt. 16.11.2023<br>Dt. 14.11.2023                |
| 4       | Temporary & permanent adjustment of the odolite.  |          |  | Dt. 17.11.2023<br>Dt. 21.11.2023                |
| 5       | Measurement of horizontal angle by reiteration and repetition methods.  |          |  | Dt. 24.11.2023<br>Dt. 28.11.2023                |
| 6       | Measurement of vertical angle.  | DECEMBER |  | Dt. 1.12.2023 Dt. 5.12.2023<br>Dt. 8.12.2023    |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION : MNA2**

**NAME OF THE FACULTY : (1) ER. UDAYA BISWANATH PADHAN, (2) ER. AMARENDRA SAHOO (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MINING GEOLOGY-1 LAB. (PR-2)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED                    | MONTH                | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES  |
|---------|--|----------------------|--|--|
| 1       | IDENTIFICATION OF ROCK FORMING AND ORE MINERALS IN HAND SPECIMENS .    | AUGUST<br>SEPTEMBER  |  | Dt. 2.8.2023<br>Dt. 7.8.2023<br>Dt. 9.8.2023<br>Dt. 14.8.2023<br>Dt. 16.8.2023<br>Dt. 21.8.2023<br>Dt. 23.8.2023<br>Dt. 28.8.2023<br>Dt. 4.9.2023<br>Dt. 11.9.2023<br>Dt. 13.9.2023<br>Dt. 18.9.2023 |
| 2       | DETERMINATIONS OF SPECIFIC GRAVITY BY WORKERS STEEL YARD BALANCE.      | OCTOBER              |  | Dt. 25.9.2023<br>Dt. 27.9.2023<br>Dt. 4.10.2023<br>Dt. 9.10.2023<br>Dt. 11.10.2023<br>Dt. 16.10.2023<br>Dt. 18.10.2023<br>Dt. 25.10.2023<br>Dt. 30.10.2023   |
| 3       | ANALYSIS OF THIN SECTIONS OF MINERALS AND ROCKS UNDER THE MICROSCOPES. | NOVEMBER<br>DECEMBER |  | Dt. 1.11.2023<br>Dt. 6.11.2023<br>Dt. 8.11.2023<br>Dt. 13.11.2023<br>Dt. 15.11.2023<br>Dt. 20.11.2023<br>Dt. 22.11.2023<br>Dt. 29.11.2023<br>Dt. 4.12.2023<br>Dt. 6.12.2023                          |

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|---|--|--|--|--|
| PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24   |  |  |  |  |
| BRANCH:-MINING ENGG.  |  | SEMESTER: 3RD  |  | SECTION : MNA2   |
| NAME OF THE FACULTY : (1) ER. DEWAN KUMAR SAHU (LECT. IN MECH. ENGG.), (2) ER. PRDIP KUMAR SAHU (T.A., MECH. ENGG.) |  |  |  |  |
| SEMESTER FROM DT. 01.08.2023 TO 09.12.2023  |  | PRACTICAL SUBJECT: MECHANICAL OPERATION IN MINES LAB. (PR-3) |  |  |
| CLASS ALLOTTED /WEEK:- 06 PERIODS   |  |  |  |  |
| SI. No.   | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED  | MONTH  | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES  |
| 1   | BERNOULLI'S THEOREM BY BERNOULLI'S VERIFICATION APPARATUS.   | AUGUST   |  | Dt. 2.8.2023 Dt. 10.8.2023<br>Dt. 3.8.2023 Dt. 16.8.2023<br>Dt. 9.8.2023 Dt. 17.8.2023         |
| 2   | DETERMINE RATE OF FLOW THROUGH THE VENTURIMETER SET-UP.  | SEPTEMBER  |  | Dt. 23.8.2023 Dt. 7.9.2023<br>Dt. 24.8.2023 Dt. 13.9.2023<br>Dt. 31.8.2023 Dt. 14.9.2023       |
| 3   | CONDUCT TENSILE TEST OF A MILD STEEL SPECIMEN AND PLOT STRESS STRAIN CURVE ,SHOW SALIENT POINT ON IT.            | OCTOBER  |  | Dt. 21.9.2023 Dt. 4.10.2023<br>Dt. 27.9.2023 Dt. 5.10.2023<br>Dt. 28.9.2023 Dt. 11.10.2023     |
| 4   | DETERMINE VOLUMETRIC EFFICIENCY OF AIR-COMPRESSOR.   |  |  | Dt. 12.10.2023 Dt. 25.10.2023<br>Dt. 18.10.2023 Dt. 26.10.2023<br>Dt. 19.10.2023 Dt. 1.11.2023 |
| 5   | STUDY OF 2 STROKE AND 4-STROKE DIESEL ENGINES.   | NOVEMBER   |  | Dt. 2.11.2023 Dt. 15.11.2023<br>Dt. 8.11.2023 Dt. 16.11.2023<br>Dt. 9.11.2023 Dt. 22.11.2023   |
| 6   | CONDUCT I/C ENGINE TESTING ON SINGLE CYLINDER DIESEL ENGINE AND FIND OUT I.H.P ,B.H.P AND MECHANICAL EFFICIENCY. | DECEMBER   |  | Dt. 23.11.2023 Dt. 6.12.2023<br>Dt. 29.11.2023 Dt. 7.12.2023<br>Dt. 30.11.2023                 |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:- MINING ENGG.**

**SEMESTER: 3RD**

**SECTION:- MNA2**

**NAME OF THE FACULTY : (1) ER. LIPUN DEHURY, (2) ER. GOBINDA CHANDRA SETHY (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT.01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES**

**CLASS ALLOTTED /WEEK :- 03 PERIODS**

| SI. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES |
|---------|---|-----------|--|---|
| 1)      | Extension of lectures                               | August    |  | 2/8/23 , 9/8/23<br>9/8/23                 |
|         | Faculty Development                                 |           |  | 23/8/23<br>28/8/23                        |
|         | Environmental Issues                                | September |  | 4/9/23 , 11/9/23<br>18/9/23               |
|         | Quiz/stobbles/ Field visit                          | October   |  | 11/10/23 , 18/10/23                       |
|         | Cultural Activities                                 | November  |  | 8/11/23 , 20/11/23                        |
|         | Library studies and/seminar                         | December  |  | 4/12/23<br>6/12/23                        |

  
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**PRACTICAL LESSON PLAN FOR THE SESSION 2023-24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION: MNB1**

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU, (2) ER. PRANAYA KUMAR BEHERA (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MINE SURVEY-I LAB. (PR-1)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED   | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES    |
|---------|---|-----------|--|--|
| 1       | CHAIN SURVEY  |           |  |  |
|         | a.Ranging a line more than 100m in length and measuring its correct length applying corrections.  | AUGUST    |  | Dt. 28.8.2023 Dt. 7.8.2023<br>Dt. 9.8.2023   |
|         | b.Taking off sets of objects on both sides of a line.   |           |  | Dt. 14.8.2023 Dt. 21.8.2023<br>Dt. 16.8.2023 |
|         | c. Plotting the above details.  |           |  | Dt. 23.8.2023<br>Dt. 28.8.2023               |
|         | d. Overcoming obstruction in chaining; vision free, chaining obstructed (pond, river) Chaining free, vision obstructed (Rising) Both vision and chaining obstructed (building). | SEPTEMBER |  | Dt. 4.9.2023<br>Dt. 11.9.2023                |
|         | e.Measuring on sloping ground.  |           |  | Dt. 13.9.2023<br>Dt. 18.9.2023               |
|         | f. Chain surveying and plotting of small plot by triangulation.   |           |  | Dt. 25.9.2023<br>Dt. 27.9.2023               |

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED   | MONTH    | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES     |
|---------|---|----------|--|---|
| 2       | COMPASS SURVEY  |          |  |   |
|         | a. Finding bearing of line and applying check.  | OCTOBER  |  | Dt. 4.10.2023 Dt. 9.10.2023<br>Dt. 11.10.2023 |
|         | b. Closed traversing of a small plot with station (Without intermediate filling)  |          |  | Dt. 16.10.2023<br>Dt. 18.10.2023              |
|         | c. Open traversing of a small length with few station (Without offset)  |          |  | Dt. 25.10.2023<br>Dt. 30.10.2023              |
|         | d. Plotting both the above traverses applying correction.   | NOVEMBER |  | Dt. 1.11.2023<br>Dt. 6.11.2023                |
| 3       | LEVELS  |          |  |   |
|         | a. Temporary and permanent adjustment sensitivity of bubble tube practice with different types of level (Auto level & etc.) |          |  | Dt. - 8.11.2023<br>Dt. - 13.11.2023           |
| 4       | Temporary & permanent adjustment of the odolite.  |          |  | Dt. - 15.11.2023<br>Dt. - 20.11.2023          |
| 5       | Measurement of horizontal angle by reiteration and repetition methods.  |          |  | Dt. - 22.11.2023<br>Dt. - 29.11.2023          |
| 6       | Measurement of vertical angle.  | DECEMBER |  | Dt. 4.12.2023<br>Dt. 6.12.2023                |

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**P.C.I.E.T., CHHENDIPADA, DIST- ANGUL**

**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION : MNB1**

**NAME OF THE FACULTY : (1) ER. AMARENDRA SAHOO, (3) ER. PRATYUSH ROUT (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT. 101.08.2023 TO 09.12.2023**


**PRACTICAL SUBJECT: MINING GEOLOGY-1 LAB. (PR-2)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED                    | MONTH                | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES  |
|---------|--|----------------------|--|--|
| 1       | IDENTIFICATION OF ROCK FORMING AND ORE MINERALS IN HAND SPECIMENS .    | AUGUST<br>SEPTEMBER  |  | Dt. 1.8.2023      Dt. 24.8.2023<br>Dt. 3.8.2023      Dt. 29.8.2023<br>Dt. 8.8.2023      Dt. 31.8.2023<br>Dt. 10.8.2023      Dt. 5.9.2023<br>Dt. 17.8.2023      Dt. 7.9.2023<br>Dt. 22.8.2023      Dt. 12.9.2023            |
| 2       | DETERMINATIONS OF SPECIFIC GRAVITY BY WORKERS STEEL YARD BALANCE.      | OCTOBER              |  | Dt. 14.9.2023      Dt. 10.10.2023<br>Dt. 21.9.2023      Dt. 12.10.2023<br>Dt. 26.9.2023      Dt. 17.10.2023<br>Dt. 28.9.2023      Dt. 19.10.2023<br>Dt. 3.10.2023      Dt. 26.10.2023<br>Dt. 5.10.2023      Dt. 31.10.2023 |
| 3       | ANALYSIS OF THIN SECTIONS OF MINERALS AND ROCKS UNDER THE MICROSCOPES. | NOVEMBER<br>DECEMBER |  | Dt. 2.11.2023      Dt. 28.11.2023<br>Dt. 7.11.2023      Dt. 30.11.2023<br>Dt. 9.11.2023      Dt. 5.12.2023<br>Dt. 14.11.2023      Dt. 7.12.2023<br>Dt. 16.11.2023<br>Dt. 21.11.2023<br>Dt. 23.11.2023                      |

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**P.C.I.E.T., CHHENDIPADA, DIST- ANGUL**

**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION : MNB1**

**NAME OF THE FACULTY : (1) ER. RASABIHARI SAHU (LECT. IN MECH. ENGG), , (2) ER. PRADIP KUMAR SAHU (T.A., MECH. ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

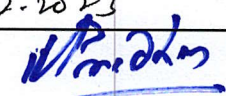
**PRACTICAL SUBJECT: MECHANICAL OPERATION IN MINES LAB. (PR-3)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED  | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES   |
|---------|--|-----------|--|---|
| 1       | BERNOULLI'S THEOREM BY BERNOULLI'S VERIFICATION APPARATUS.   | AUGUST    |  | Dt. 2.8.2023<br>Dt. 4.8.2023<br>Dt. 9.8.2023<br>Dt. 11.8.2023<br>Dt. 16.8.2023<br>Dt. 18.8.2023         |
| 2       | DETERMINE RATE OF FLOW THROUGH THE VENTURIMETER SET-UP.  | SEPTEMBER |  | Dt. 23.8.2023<br>Dt. 25.8.2023<br>Dt. 1.9.2023<br>Dt. 8.9.2023<br>Dt. 13.9.2023<br>Dt. 15.9.2023        |
| 3       | CONDUCT TENSILE TEST OF A MILD STEEL SPECIMEN AND PLOT STRESS STRAIN CURVE ,SHOW SALIENT POINT ON IT.            | OCTOBER   |  | Dt. 22.9.2023<br>Dt. 27.9.2023<br>Dt. 4.10.2023<br>Dt. 6.10.2023<br>Dt. 11.10.2023<br>Dt. 13.10.2023    |
| 4       | DETERMINE VOLUMETRIC EFFICIENCY OF AIR-COMPRESSOR.   | NOVEMBER  |  | Dt. 18.10.2023<br>Dt. 20.10.2023<br>Dt. 25.10.2023<br>Dt. 27.10.2023<br>Dt. 1.11.2023<br>Dt. 3.11.2023  |
| 5       | STUDY OF 2 STROKE AND 4-STROKE DIESEL ENGINES.   |           |  | Dt. 8.11.2023<br>Dt. 10.11.2023<br>Dt. 15.11.2023<br>Dt. 17.11.2023<br>Dt. 22.11.2023<br>Dt. 24.11.2023 |
| 6       | CONDUCT I/C ENGINE TESTING ON SINGLE CYLINDER DIESEL ENGINE AND FIND OUT I.H.P ,B.H.P AND MECHANICAL EFFICIENCY. | DECEMBER  |  | Dt. 29.11.2023<br>Dt. 1.12.2023<br>Dt. 6.12.2023<br>Dt. 8.12.2023                                       |

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:- MINING ENGG.

SEMESTER: 3RD

SECTION:- MNB1

NAME OF THE FACULTY : (1) ER. LIPUN DEHURY, (2) ER. GOBINDA CHANDRA SETHY (LECT. IN MINING ENGG.)

SEMESTER FROM DT.01.08.2022 TO 09.12.2023

PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES

CLASS ALLOTTED /WEEK :- 03 PERIODS

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED | MONTH  | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES |
|---------|---|--------|--|---|
|         | Extension of lectures                               | August |  | 21/8/23 - 7/8/23<br>9/8/23                |
|         | Faculty Development                                 |        |  | 28/8/23<br>28/8/23                        |
|         | Environmental Issues                                | Sept   |  | 4/9/23, 11/9/23                           |
|         | Quiz / Hobbies / Field visit                        | Oct    |  | 11/10/23, 18/10/23                        |
|         | Cultural Activities                                 | Nov    |  | 8/11/23, 20/11/23                         |
|         | Library study / Seminar                             | Dec    |  | 4/12/23, 6/12/23                          |

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**P.C.I.E.T., CHHENDIPADA, DIST- ANGUL**

**PRACTICAL LESSON PLAN FOR THE SESSION 2023-24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION: MNB2**

**NAME OF THE FACULTY : (1) ER. SUNIL KUMAR SAHU, (2) ER. PRANAYA KUMAR BEHERA (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MINE SURVEY-I LAB. (PR-1)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED   | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES       |
|---------|---|-----------|--|---|
| 1       | <b>CHAIN SURVEY</b>   |           |  |   |
|         | a. Ranging a line more than 100m in length and measuring its correct length applying corrections.   | AUGUST    |  | Dt. 2.8.2023 Dt. 8.8.2023<br>Dt. 10-8.2023      |
|         | b. Taking off sets of objects on both sides of a line.  |           |  | Dt. 17.8.2023<br>Dt. 22.8.2023<br>Dt. 24.8.2023 |
|         | c. Plotting the above details.  |           |  | Dt. 29.8.2023<br>Dt. 31.8.2023                  |
|         | d. Overcoming obstruction in chaining; vision free, chaining obstructed (pond, river) Chaining free, vision obstructed (Rising) Both vision and chaining obstructed (building). | SEPTEMBER |  | Dt. 5.9.2023<br>Dt. 7.9.2023<br>Dt. 12.9.2023   |
|         | e. Measuring on sloping ground.   |           |  | Dt. 14.9.2023<br>Dt. 21.9.2023                  |
|         | f. Chain surveying and plotting of small plot by triangulation.   |           |  | Dt. 26.9.2023<br>Dt. 28.9.2023                  |

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOB TO BE COVERED  | MONTH    | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES          |
|---------|---|----------|--|--|
| 2       | COMPASS SURVEY  |          |  |  |
|         | a. Finding bearing of line and applying check.  | OCTOBER  |  | Dt. 3.10.2023 Dt. 5.10.2023<br>Dt. 10.10.2023      |
|         | b. Closed traversing of a small plot with station (Without intermediate filling)  |          |  | Dt. 12.10.2023<br>Dt. 17.10.2023                   |
|         | c. Open traversing of a small length with few station (Without offset)  |          |  | Dt. 19.10.2023<br>Dt. 26.10.2023<br>Dt. 31.10.2023 |
|         | d. Plotting both the above traverses applying correction.   | NOVEMBER |  | Dt. 2.11.2023<br>Dt. 7.11.2023                     |
| 3       | LEVELS  |          |  |  |
|         | a. Temporary and permanent adjustment sensitivity of bubble tube practice with different types of level (Auto level & etc.) |          |  | Dt. 9.11.2023<br>Dt. 14.11.2023                    |
| 4       | Temporary & permanent adjustment of the odolite.  |          |  | Dt. 16.11.2023<br>Dt. 21.11.2023                   |
| 5       | Measurement of horizontal angle by reiteration and repetition methods.  |          |  | Dt. 23.11.2023<br>Dt. 28.11.2023<br>Dt. 30.11.2023 |
| 6       | Measurement of vertical angle.  | DECEMBER |  | Dt. 5.12.2023<br>Dt. 7.12.2023                     |

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PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24

BRANCH:-MINING ENGG.

SEMESTER: 3RD

SECTION : MNB2

NAME OF THE FACULTY : (1) ER. AMARENDRA SAHOO, (2) ER. PRATYUSH ROUT (LECT. IN MINING ENGG.)

SEMESTER FROM DT. 01.08.2023 TO 09.12.2023

PRACTICAL SUBJECT: MINING GEOLOGY-1 LAB. (PR-2)

CLASS ALLOTTED /WEEK:- 06 PERIODS

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED                    | MONTH                | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES  |
|---------|--|----------------------|--|--|
| 1       | IDENTIFICATION OF ROCK FORMING AND ORE MINERALS IN HAND SPECIMENS .    | AUGUST<br>SEPTEMBER  |  | Dt. 2.8.2023<br>Dt. 7-8.2023<br>Dt. 9-8.2023<br>Dt. 14-8.2023<br>Dt. 16-8.2023<br>Dt. 21-8.2023<br>Dt. 23-8.2023<br>Dt. 28.8.2023<br>Dt. 4.9.2023<br>Dt. 11.9.2023<br>Dt. 13-9.2023<br>Dt. 18-9.2023<br>Dt. 25-9.2023<br>Dt. 27-9.2023 |
| 2       | DETERMINATIONS OF SPECIFIC GRAVITY BY WORKERS STEEL YARD BALANCE.      | OCTOBER              |  | Dt. 4.10.2023<br>Dt. 9-10.2023<br>Dt. 11-10.2023<br>Dt. 16-10.2023<br>Dt. 18-10.2023<br>Dt. 25-10.2023   |
| 3       | ANALYSIS OF THIN SECTIONS OF MINERALS AND ROCKS UNDER THE MICROSCOPES. | NOVEMBER<br>DECEMBER |  | Dt. 1.11.2023<br>Dt. 6.11.2023<br>Dt. 8.11.2023<br>Dt. 13.11.2023<br>Dt. 15.11.2023<br>Dt. 20.11.2023<br>Dt. 22-11.2023<br>Dt. 29.11.2023<br>Dt. 4.12.2023<br>Dt. 6-12.2023  |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:-MINING ENGG.**

**SEMESTER: 3RD**

**SECTION : MNB2**

**NAME OF THE FACULTY : (1) ER. RASABIHARI SAHU (LECT. IN MECH. ENGG), (2) ER. PRADIP KUMAR SAHU (T.A., MECH. ENGG.)**

**SEMESTER FROM DT. 01.08.2023 TO 09.12.2023**

**PRACTICAL SUBJECT: MECHANICAL OPERATION IN MINES LAB. (PR-3)**

**CLASS ALLOTTED /WEEK:- 06 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED  | MONTH     | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES          |  |
|---------|--|-----------|--|--|--|
| 1       | BERNOULLI'S THEOREM BY BERNOULLI'S VERIFICATION APPARATUS.   | AUGUST    |  | Dt. 2.8.2023<br>Dt. 4.8.2023<br>Dt. 9.8.2023       | Dt. 11-8.2023<br>Dt. 16-8.2023<br>Dt. 18-8.2023    |
| 2       | DETERMINE RATE OF FLOW THROUGH THE VENTURIMETER SET-UP.  | SEPTEMBER |  | Dt. 23.8.2023<br>Dt. 25.8.2023<br>Dt. 8.9.2023     | Dt. 13.9.2023<br>Dt. 15.9.2023<br>Dt. 22.9.2023    |
| 3       | CONDUCT TENSILE TEST OF A MILD STEEL SPECIMEN AND PLOT STRESS STRAIN CURVE ,SHOW SALIENT POINT ON IT.            | OCTOBER   |  | Dt. 27.9.2023<br>Dt. 4.10.2023<br>Dt. 6.10.2023    | Dt. 11.10.2023<br>Dt. 13.10.2023<br>Dt. 18.10.2023 |
| 4       | DETERMINE VOLUMETRIC EFFICIENCY OF AIR-COMPRESSOR.   | NOVEMBER  |  | Dt. 20.10.2023<br>Dt. 25.10.2023<br>Dt. 27.10.2023 | Dt. 1.11.2023<br>Dt. 3.11.2023<br>Dt. 8.11.2023    |
| 5       | STUDY OF 2 STROKE AND 4-STROKE DIESEL ENGINES.   |           |  | Dt. 10.11.2023<br>Dt. 15.11.2023<br>Dt. 17.11.2023 | Dt. 22.11.2023<br>Dt. 24.11.2023<br>Dt. 29.11.2023 |
| 6       | CONDUCT I/C ENGINE TESTING ON SINGLE CYLINDER DIESEL ENGINE AND FIND OUT I.H.P ,B.H.P AND MECHANICAL EFFICIENCY. | DECEMBER  |  | Dt. 1.12.2023<br>Dt. 8.12.2023<br>Dt. 8.12.2023    |  |

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**PRACTICAL LESSON PLAN FOR THE SESSION 2023 - 24**

**BRANCH:- MINING ENGG.**

**SEMESTER: 3RD**

**SECTION:- MNB2**

**NAME OF THE FACULTY : (1) ER. LIPUN DEHURY, (2) ER. GOBINDA CHANDRA SETHY (LECT. IN MINING ENGG.)**

**SEMESTER FROM DT.01.08.2022 TO 09.12.2023**

**PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES**

**CLASS ALLOTTED /WEEK :- 03 PERIODS**

| Sl. No. | NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED | MONTH | AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS | ACTUAL PROGRESS OF THE COURSES MADE DATES |
|---------|---|-------|--|---|
|         | Extension of lectures                               | Augu  |  | 2/8/23, 7/8/23<br>9/8/23                  |
|         | Faculty Development                                 |       |  | 28/8/23<br>28/8/23                        |
|         | Environmental Issues                                | Sept  |  | 4/9/23, 11/9/23                           |
|         | Quiz / Field visit / Hobbies                        | Oct   |  | 11/10/23, 18/10/23                        |
|         | Cultural Activities                                 | Nov   |  | 8/11/23, 20/11/23                         |
|         | Library study / seminar                             | Dec   |  | 4/12/23, 6/12/23                          |

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*P. D. Lm*  
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