

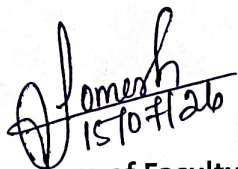
| <p style="text-align: center;"><b>GOVERNMENT POLYTECHNIC JAIPUR</b><br/> A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019<br/> Website: <a href="https://www.gpjajpur.org">https://www.gpjajpur.org</a> E-mail: <a href="mailto:principalgpjajpur@yahoo.co.in">principalgpjajpur@yahoo.co.in</a> Contact: 9437155107</p> |                                          |                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DEPARTMENT OF MINING ENGINEERING</b>                                                                                                                                                                                                                                                                                           |                                          |                                                                                                                                                                                       |
| <b>LESSON PLAN</b>                                                                                                                                                                                                                                                                                                                |                                          |                                                                                                                                                                                       |
| <b>Discipline:</b><br>MINING                                                                                                                                                                                                                                                                                                      | <b>Semester:</b> 3RD                     | <b>Name of the Teaching faculty:</b> SOMESH JENA                                                                                                                                      |
| <b>Subject:</b><br>MINING<br>GEOLOGY-I                                                                                                                                                                                                                                                                                            | <b>No of Days/Week class allotted:</b> 3 | <b>Semester from Date:</b> 01/07/26 <b>To Date:</b> 05/11/26 <b>No of weeks:</b> 15                                                                                                   |
| Week                                                                                                                                                                                                                                                                                                                              | Class Day                                | Topics                                                                                                                                                                                |
| 1st                                                                                                                                                                                                                                                                                                                               | 1st                                      | geology for mining engineering, branches, scope, and application<br>Define weathering and erosion. internal structure of the earth and composition, layers in atmosphere.             |
|                                                                                                                                                                                                                                                                                                                                   | 2nd                                      | weathering and erosion. Explain with suitable sketches the erosional and depositional land forms produced by Wind.                                                                    |
|                                                                                                                                                                                                                                                                                                                                   | 3rd                                      | Explain with suitable sketches the erosional and depositional land forms produced by Wind./Explain with suitable sketches the erosional and depositional land forms produced by Wind. |
| 2nd                                                                                                                                                                                                                                                                                                                               | 1st                                      | Explain with neat sketches the erosional and depositional land forms produced by River.                                                                                               |
|                                                                                                                                                                                                                                                                                                                                   | 2nd                                      | Explain with neat sketches the erosional and depositional land forms produced by River.                                                                                               |
|                                                                                                                                                                                                                                                                                                                                   | 3rd                                      | Explain with neat sketches the erosional and depositional land forms produced by River./Differentiate between Glacier and Iceberg.                                                    |
| 3rd                                                                                                                                                                                                                                                                                                                               | 1st                                      | Describe the erosional and depositional features produced by glacier.                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                   | 2nd                                      | Describe the erosional and depositional features produced by glacier.                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                   | 3rd                                      | Describe the erosional and depositional features produced by glacier. Define moraine. Describe the different type of moraine with sketches.                                           |
| 4th                                                                                                                                                                                                                                                                                                                               | 1st                                      | Define moraine. Describe the different type of moraine with sketches                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                   | 2nd                                      | Define moraine. Describe the different type of moraine with sketches                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                   | 3rd                                      | Define Igneous, Sedimentary, Metamorphic rocks.<br>Describe the various textures and structures found in Igneous rocks.                                                               |
| 5th                                                                                                                                                                                                                                                                                                                               | 1st                                      | <b>CLASS TEST</b>                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                   | 2nd                                      | Describe the various textures and structures found in Igneous rocks.                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                   | 3rd                                      | Describe the various textures and structures found in Igneous rocks.<br>Describe some important structures of sedimentary rocks along with neat sketches.                             |



|      |     |                                                                                                                                                                  |
|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6th  | 1st | Describe some important structures of sedimentary rocks along with neat sketches.                                                                                |
|      | 2nd | Describe various structure found in metamorphic rocks. vacancies ,interstitial and Impurities,types and cause of line defect,edge dislocation,screw dislocation. |
|      | 3rd | effect of deformation on material properties,deformation by slip,                                                                                                |
| 7th  | 1st | twinning                                                                                                                                                         |
|      | 2nd | Define Dip. Distinguish between true dip and apparent dip.<br>Define strike.                                                                                     |
|      | 3rd | Define folds. Classify folds and describe them.                                                                                                                  |
| 8th  | 1st | Define faults. Describe the various types of fault.                                                                                                              |
|      | 2nd | Define joints. Describe various joints.                                                                                                                          |
|      | 3rd | Define joints. Describe various joints.Define a crystal.                                                                                                         |
| 9th  | 1st | <b>INTERNAL - I</b>                                                                                                                                              |
|      | 2nd | Define a crystal.Explain Miller's indices.                                                                                                                       |
|      | 3rd | Explain Miller's indices                                                                                                                                         |
| 10th | 1st | Describe the symmetry elements and forms present in the normal class of Isometric system.                                                                        |
|      | 2nd | Describe the symmetry elements and forms present in the normal class of Isometric system.                                                                        |
|      | 3rd | Describe the symmetry elements and forms present in the normal class of Isometric system.Define a mineral.                                                       |
| 11th | 1st | Enumerate and describe the physical properties of minerals.                                                                                                      |
|      | 2nd | Enumerate and describe the physical properties of minerals.                                                                                                      |
|      | 3rd | Enumerate and describe the physical properties of minerals.<br>Describe various optical properties of minerals.                                                  |
| 12th | 1st | Describe various optical properties of minerals.                                                                                                                 |
|      | 2nd | Explain briefly the silicate structures along with diagrams.                                                                                                     |
|      | 3rd | Explain briefly the silicate structures along with diagrams.                                                                                                     |
| 13th | 1st | Classify minerals.                                                                                                                                               |
|      | 2nd | Classify minerals.Describe mineralogy and physical properties of olivine group of minerals.                                                                      |
|      | 3rd | <b>INTERNAL - II</b>                                                                                                                                             |
| 14th | 1st | Describe mineralogy and physical properties of Feldspar group of minerals.                                                                                       |
|      | 2nd | Describe mineralogy and physical properties of Pyroxene group of minerals.                                                                                       |
|      | 3rd | Describe mineralogy and physical properties of quartz group of minerals.                                                                                         |
|      | 1st | REVISION, Doubt clearing class (DC)                                                                                                                              |



| 15th              | 2nd               | REVISION, Doubt clearing class (DC)     |
|-------------------|-------------------|-----------------------------------------|
|                   | 3rd               | REVISION                                |
| RECOMMENDED BOOKS |                   |                                         |
| SL NO.            | Name of<br>Author | Title of Books                          |
| 1                 | Perbin Singh      | Engineering Geology                     |
| 2                 | P.k. Mukharjee    | The text book of Geology                |
|                   | G.B. Mohapatra    |                                         |
| 3                 | S. K. GHOSH       | Structural Geology                      |
| 4                 | G.B. Mohapatra    | Physical Geology                        |
| 5                 | Dana's            | Text book of Mineralogy                 |
|                   | Rutley's          | Elements of Mineralogy                  |
| 6                 | B.S. Rathhore     | Basic of Crystallography and Mineralogy |

  
 15/10/26  
 Signature of Faculty