

GOVERNMENT POLYTECHNIC JAJPUR

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DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

| Discipline: MINING | Semester:6th | Name of the Teaching faculty: MALAYA RANJAN JENA | |
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| Subject: MINING GEOLOGY-II | No of Days/Week class allotted: 4 | Semester from Date: 14/02/23 No of weeks: 15 | To Date: 23/05/23 |
| Week | Class Day | Topics | |
| 1st | 1st | Describe the principles of stratigraphy. | |
| | 2nd | Describe the principles of stratigraphy. | |
| | 3rd | Describe the geological time Scale. | |
| | 4th | Describe the geological time Scale. | |
| 2nd | 1st | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Iron Ore series | |
| | 2nd | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Iron Ore series | |
| | 3rd | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Cuddpah Supergroup. | |
| | 4th | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Cuddpah Supergroup. | |
| 3rd | 1st | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Vindhyan super group. | |
| | 2nd | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Vindhyan super group. | |
| | 3rd | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of gondwana super group. | |
| | 4th | Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of gondwana super group. | |
| 4th | 1st | Describe the different ranks of coal. | |
| | 2nd | Describe different grades of coal like A,B,C,D. | |
| | 3rd | Class Test-I | |
| | 4th | Describe the various theories accounting for the origin of coal. | |
| 5th | 1st | Describe the various theories accounting for the origin of coal. | |
| | 2nd | Describe various important lower gondwana Coalfields of India. | |
| | 3rd | Describe various important lower gondwana Coalfields of India. | |
| | 4th | Describe the organic & inorganic theories accounting for the origin of petroleum. | |
| 6th | 1st | Describe the organic & inorganic theories accounting for the origin of petroleum. | |
| | 2nd | Define oil pool & oil trap. | |
| | 3rd | Describe process of accumulation of oil. | |
| | 4th | Describe process of accumulation of oil. | |
| 7th | 1st | Describe favorable conditions for accumulation of oil. | |
| | 2nd | Describe different important oil fields in India. | |
| | 3rd | Describe different important oil fields in India. | |

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| 8th | 4th | Define prospecting. Differentiate between prospecting & exploration. |
| | 1st | Differentiate between prospecting & exploration. |
| | 2nd | Internal-I |
| | 3rd | Use of multi shot camera for borehole direction test. |
| 9th | 4th | Enumerate & describe various criteria for geological exploration. |
| | 1st | Describe various methods of Geophysical prospecting. |
| | 2nd | Describe various methods of Geophysical prospecting. |
| | 3rd | Explain Geochemical prospecting. |
| 10th | 4th | Explain Geochemical prospecting. |
| | 1st | Differentiate between biogeochemical & geo botanical prospecting. |
| | 2nd | Differentiate between biogeochemical & geo botanical prospecting. |
| | 3rd | Define ore & gangue. |
| 11th | 4th | Define tenor & grade. |
| | 1st | Describe the mineralogy, mode of occurrence of iron ore deposits in India . |
| | 2nd | Describe the distribution & use of iron ore deposits in India. |
| | 3rd | Describe the mineralogy, mode of occurrence, & description of Chromites deposits in India & its uses. |
| 12th | 4th | Describe the mineralogy, mode of occurrence, & description of Chromites deposits in India & its uses. |
| | 1st | Class Test-II |
| | 2nd | Describe the mineralogy, mode of occurrence & distribution of copper deposits |
| | 3rd | Describe the mineralogy, mode of occurrence & distribution of copper deposits |
| 13th | 4th | Describe the mineralogy, mode of occurrence & distribution of copper deposits |
| | 1st | Describe the mineralogy, mode of occurrence, distribution of lead & zinc deposits in India & the uses of these metals |
| | 2nd | Describe the mineralogy, mode of occurrence, distribution of lead & zinc deposits in India & the uses of these metals |
| | 3rd | Describe the mineralogy, mode of occurrence, distribution of lead & zinc deposits in India & the uses of these metals |
| 14th | 4th | UNFC (United Nation Framework of Classification) code of classification of reserves. |
| | 1st | UNFC (United Nation Framework of Classification) code of classification of reserves. |
| | 2nd | Define sampling, outline the method of preparation of samples for assay. |
| | 3rd | Define sampling, outline the method of preparation of samples for assay. |
| 15th | 4th | Explain sampling |
| | 1st | Explain sampling |
| | 2nd | Describe the different methods of sampling as outlined by Bureau of Indian Standards(BIS) |
| | 3rd | Describe the different methods of sampling as outlined by Bureau of Indian Standards(BIS) |
| 16th | 4th | INTERNAL - II |
| | 1st | Previous year questions, quiz |
| | 2nd | previous year question discussion |

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| 3rd | REVISION, Doubt clearing class (DC) |
| 4th | REVISION, Doubt clearing class (DC) |

| RECOMMENDED BOOKS | | |
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| SL NO. | Name of Author | Title of Books |
| 1 | M.S. Krishnan | Geology of India & Burma |
| 2 | N.L.Sharma, K.S.V.Ram | An Introduction to geology of Coal & coalfields of India |
| 3 | A.I.Levorsen | Geology of petroleum |
| 4 | V.K.Kreiter | Geological prospecting & Exploration |
| 5 | A.K.Sen, P.K.Guha | A Hand Book of economic geology |
| 6 | R.K. Sinha, N.L.Sharma | Mineral Economics |

Malya Ravi Kumar

Signature of Faculty