

SYNERGY POLYTECHNIC, BHUBANESWAR
A/P- Bhimpur, Phulnakhara Dist-Khorda Odisha-752101
Website: Synergypolytechnic.com

DEPARTMENT OF MINING ENGINEERING

(LESSON PLAN 6th SEM 2023-24)

Discipline: Mining Engg.	6th Semester	Name of the teaching faculty: P. K. Sethy
Subject: Mine Geology-II	No. of Days/Week class allotted: 4	Semester from Date: 16.01.24 To Date: 30.04.24 No. of weeks: 16
Week	Class Day	Topic Cover
1st	1st	We describe about the principles of stratigraphy.
	2nd	Learn and discuss about geological time Scale.
	3rd	Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Iron Ore series
	4th	-do-
2nd	1st	Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Cuddpah Super group
	2nd	-do-
	3rd	Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of Vindhyan super group
	4th	-do-
3rd	1st	Describe the stratigraphic sequence, lithology, distribution & economic mineral deposits of gondwana super group
	2nd	-do-
	3rd	COAL- Describe the different ranks of coal
	4th	Describe different grades of coal like A,B,C,D.
4th	1st	Describe the various theories accounting for the origin of coal
	2nd	-do-
	3rd	Describe various important lower gondwana Coalfields of India.
	4th	-do-
5th	1st	-do-
	2nd	PETROLEUM- Describe the organic & inorganic theories accounting for the origin of petroleum.
	3rd	-do-
	4th	Define oil pool & oil trap and the process of accumulation of oil
6th	1st	-do-
	2nd	Describe favorable conditions for accumulation of oil.
	3rd	Describe different important oil fields in India.
	4th	-do-
7th	1st	Prospecting & exploration- Define prospecting. Differentiate between prospecting & exploration

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	2nd	Use of multi shot camera for borehole direction test.
	3rd	Enumerate & describe various criteria for geological exploration.
	4th	Describe various methods of Geophysical prospecting and explanation of Geochemical prospecting.
8th	1st	-do-
	2nd	Differentiate between biogeochemical & geo botanical prospecting
	3rd	Economic Geology- Discuss about ore, gangue, tenor, grade.
	4th	Describe the mineralogy, mode of occurrence, distribution & use of iron ore deposits in India.
9th	1st	-do-
	2nd	-do-
	3rd	Describe the mineralogy, mode of occurrence, & description of Chromites deposits in India & its uses
	4th	-do-
10th	1st	-do-
	2nd	Describe the mineralogy, mode of occurrence, & description of Chromites deposits in India & its uses
	3rd	-do-
	4th	-do-
11th	1st	Describe the mineralogy, mode of occurrence, distribution of lead & zinc deposits in India & the uses of these metals.
	2nd	-do-
	3rd	-do-
	4th	UNFC (United Nation Framework of Classification) code of classification of reserves.
12th	1st	-do-
	2nd	-do-
	3rd	Sampling -Discuss about sampling and also explanation of Sampling, outline the method of preparation of samples for assay
	4th	-do-
13th	1st	-do-
	2nd	Describe the different methods of sampling as outlined by Bureau of Indian Standards. (BIS)
	3rd	-do-
	4th	-do-
14th	1st	Discuss about the stratigraphy topic.
	2nd	-do-
	3rd	-do-
	4th	The major Groups & economic minerals associated with them that form the basis for the study of stratigraphy
15th	1st	-do-
	2nd	Explain the fundamental principles that underline the search for economic minerals.
	3rd	-do-
	4th	Develop a comprehensive idea regarding mineralogy mode of occurrence, uses & distribution of ores.

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16th	1st	Describe the use, origin mode of occurrence & distribution of fossil fuels & where to look for them.
	2nd	-do-
	3rd	Develop a comprehensive idea regarding mineralogy mode of occurrence, uses & distribution of ores
	4th	-do-

Learning Resources:

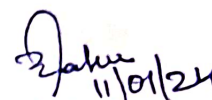
- **Geology of India & Burma – M.S. Krishnan**
- **An Introduction to geology of Coal& coalfields of India – N.L.Sharma, K.S.V.Ram**
- **Geology of petroleum – A.I.Levorsen**
- **Geological prospecting & Exploration – V.K.Kreiter**
- **A Hand Book of economic geology – A.K.Sen, P.K.Guha**
- **Mineral Economics – R.K. Sinha, N.L.Sharma**

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