

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

DEPARTMENT OF MINING ENGINEERING

(LESSON PLAN 4th SEM 2023-24)


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| Discipline: Mining Engg. | 4th Semester | Name of the teaching faculty: <i>P. K. Sethy</i> |
| Subject: U.C.M | No. of Days/Week class allotted: 4 | Semester from Date: 16.01.24 To Date: 25.4.24 No. of weeks: 15 |
| Week | Class Day | Topic Cover |
| 1st | 1st | Classify Underground Coal Mining Methods |
| | 2nd | -do- |
| | 3rd | Describe the various application of Bord & Pillar method. |
| | 4th | -do- |
| 2nd | 1st | Describe various layouts of Bord & Pillar method. |
| | 2nd | -do- |
| | 3rd | Describe depillaring method with stowing and caving. |
| | 4th | -do- |
| 3rd | 1st | State precautions against fire and water during and after depillaring. |
| | 2nd | -do- |
| | 3rd | State and describe various machineries used in working face |
| | 4th | -do- |
| 4th | 1st | Define contiguous seam. Describe working of contiguous seams |
| | 2nd | -do- |
| | 3rd | Describe working of seams above and below goaved out area |
| | 4th | -do- |
| 5th | 1st | State advantages and disadvantages of Bord & Pillar method. |
| | 2nd | Describe Longwall advancing and retreating methods. |
| | 3rd | Define single unit and double unit face. |
| | 4th | Describe cyclic and non-cyclic L/W layouts. |
| 6th | 1st | Describe mechanized longwall working with armoured flexible conveyor, shield support and shearer loader. |
| | 2nd | -do- |
| | 3rd | Define Thick seams. Classify Thick seam Mining |
| | 4th | -do- |
| 7th | 1st | Describe layouts of horizontal slicing, incline slicing, blasting gallery and sublevel caving. |
| | 2nd | -do- |
| | 3rd | -do- |
| | 4th | -do- |
| 8th | 1st | State conditions, advantages, disadvantages and limitations of Horizon |


P. K. Sethy
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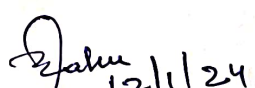
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| | 2nd | -do- |
| | 3rd | Describe the layout of Horizon Mining. |
| | 4th | Describe hydraulic stowing. |
| 9th | 1st | -do- |
| | 2nd | Describe Pneumatic stowing. |
| | 3rd | State properties of various types of roof & roof behavior, Pressure arch theory in B&P and longwall working. |
| | 4th | -do- |
| 10th | 1st | -do- |
| | 2nd | Describe testing of roof. |
| | 3rd | -do- |
| | 4th | Classify support system in Mines construction, principle of operation application and load bearing capacity assessment. |
| 11th | 1st | -do- |
| | 2nd | -do- |
| | 3rd | -do- |
| | 4th | Define angle of draw and State factors of subsidence, critical area of extraction |
| 12th | 1st | -do- |
| | 2nd | -do- |
| | 3rd | Describe the factors affecting subsidence |
| | 4th | -do- |
| 13th | 1st | State & describe precautionary measures against damage due to subsidence |
| | 2nd | -do- |
| | 3rd | Define shaft pillar. Determine size of shaft pillars |
| | 4th | State & describe precautionary measures against damage due to subsidence |
| 14th | 1st | Describe vertical shaft and inclined shaft; determine shape and size of shaft, location of shaft. Describe sinking through normal ground. State shaft plumbing |
| | 2nd | -do- |
| | 3rd | Describe sinking through difficult ground, cementation, freezing, mechanized shaft sinking, sinking upward, widening and deepening of shafts |
| | 4th | -do- |


12/01/24
Sign of Faculty


12/01/24
HOD
Mining Engg.


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Principal
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