

| Dicipline: | Mechining | Semester: 5th | Name of the Teaching Faculty: <u>Muvvath Behona</u> , | |
|--|---------------------------------------|--|---|--|
| Subject: <u>underground metal cutting.</u> | No of Days/Week Class Allotted: _____ | Semester From date: <u>15/07/22</u> To date <u>18/01/23</u> | No. of Weeks: 14 | |
| WEEK | Class Day | Theory Topics | | |
| From 15/07/22 to 18/07/22 | 1st | under hand stopping, Breast stopping | | |
| | 2nd | open stopping with pitane support. | | |
| | 3rd | | | |
| | 4th | | | |
| | 5th | | | |
| From 19/07/22 to 24/07/22 | 1st | cut & pit stopping, shrinkage stopping, | | |
| | 2nd | development, advantages & disadvantages of shrinkage stopping. | | |
| | 3rd | square set stopping. | | |
| | 4th | Block cutting (Application, Preparation) | | |
| | 5th | | | |
| From 26/07/22 to 01/10/22 | 1st | sublevel cutting (Application) | | |
| | 2nd | Advantages or disadvantages, Preparation sub-level cutting. | | |
| | 3rd | TOP stiching (Application, Preparation) | | |
| | 4th | Advantages & disadvantages of top stiching. | | |
| | 5th | | | |

| WEEK | Class Day | Theory Topics |
|---------------------------|-----------|--|
| From 10/10/22 to 15/10/22 | 1st | Conventional method of drifting. |
| | 2nd | Direction gradient of drift. |
| | 3rd | Drilling & Blasting (description, method &) |
| | 4th | Support of drifting |
| | 5th | |
| From 17/10/22 to 22/10/22 | 1st | Transportation & drainage of drifting |
| | 2nd | Ventilation and lighting arrangements. |
| | 3rd | Organization & supervision in mechanised method of drifting. |
| | 4th | Physico-mechanical properties of rock. |
| | 5th | |
| From 24/10/22 to 29/10/22 | 1st | Impact strength Index, Patek & Yovanov strength Index, Drillability. |
| | 2nd | Explain causes and prevention of rock burst. |
| | 3rd | Prevention of rock burst, Factors affecting the rock dust. |
| | 4th | Mechanical characteristics of rock dust burst. |
| | 5th | |

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| Subject: | No of Days/Week Class Allotted: _____ | Semester From date: _____ To date _____ | | No. of Weeks: | |
| WEEK | Class Day | Theory Topics | | | |
| From 01/11/22 to 05/11/22 | 1st | Access to ore body (Introduction) | | | |
| | 2nd | Classification modes of entries (Adits), Inclines | | | |
| | 3rd | Shafts (Its description), applicability of entries. | | | |
| | 4th | Choice of mining method, Soft rock mining methods. | | | |
| | 5th | | | | |
| From 07/11/22 to 12/11/22 | 1st | Hard rock mining method, Supported and unsupported UMM. | | | |
| | 2nd | Explain Formation of blocks of mineral deposits | | | |
| | 3rd | Explanation of Time interval | | | |
| | 4th | Description of raising methods in metal mines (open raising method) | | | |
| | 5th | | | | |
| From 14/11/22 to 19/11/22 | 1st | Two compartment method | | | |
| | 2nd | Jona raise lift | | | |
| | 3rd | Long hole drilling method | | | |
| | 4th | Alimak raise climber | | | |
| | 5th | | | | |

| WEEK | Class Day | Theory Topics |
|---------------------------|-----------|--|
| From 21/11/22 to 26/11/22 | 1st | Advantages of Alimak raise climber |
| | 2nd | Description of Raise borer |
| | 3rd | Advantages of Raise borer |
| | 4th | Development of one passe system |
| | 5th | |
| From 28/11/22 to 03/12/22 | 1st | Study of coal mining |
| | 2nd | Study of metal mine |
| | 3rd | Description of Stopping method |
| | 4th | Stopping methods with application and factors affecting methods of stopping. |
| | 5th | |
| From 05/12/22 to 10/12/22 | 1st | Application of underground metal mining methods. |
| | 2nd | Factors affecting methods of stopping |
| | 3rd | Open stopping (description with layout including drilling, blasting & transportation). |
| | 4th | Preparation, Development, Advantages & Disadvantages. |
| | 5th | |



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| WEEK | Class Day | Theory Topics | | |
| From 12/12/22 to 17/12/22 | 1st | Introduction to Pace Mechanizing | | |
| | 2nd | use of bump bars with alloy | | |
| | 3rd | novel use of loading & transportation system | | |
| | 4th | LHD (load haul dump) | | |
| | 5th | | | |
| From 19/12/22 to 29/12/22 | 1st | LPOP (low profile bump truck) Reverse shovel (description) | | |
| | 2nd | Spiral chutes (description) Draw points (description) | | |
| | 3rd | Scrapers (operation, application) | | |
| | 4th | Advantages & Disadvantages. | | |
| | 5th | | | |
| From 02/01/23 to 07/01/23 | 1st | Spiral chutes (description) | | |
| | 2nd | Draw points (description) | | |
| | 3rd | Review class | | |
| | 4th | Doubt clear class, | | |
| | 5th | | | |