

SYNERGY SCHOOL OF ENGINEERING

LESSON PLAN

Session (2023-2024)

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| Discipline: Mining Engineering | Semester: 5th | Name of the Teaching Faculty: Debasish Sahoo Lecturer |
| Subject: Mine Machinery – I, Theory-4 | No. of Days/Week: 04 | Start Date: 1-8-23 End Date: 9-12-23 |

| Week | Class Day | Theory Topics |
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| 1st | 1st | State the types of wire ropes used in Mines. |
| | 2nd | State the types of wire ropes used in Mines. |
| | 3rd | Describe constructional features of wire ropes & lay of wire ropes. |
| | 4th | Define factor of safety to wire ropes nominal & actual factor of safety of wire ropes. |
| 2nd | 1st | Define factor of safety to wire ropes nominal & actual factor of safety of wire ropes. |
| | 2nd | State factors influencing the F.O.S. |
| | 3rd | State factors influencing the F.O.S. |
| | 4th | State efficiency of rope construction, space factor & cross sectional area rope. |
| 3rd | 1st | State efficiency of rope construction, space factor & cross sectional area rope. |
| | 2nd | State factors affecting deterioration of ropes. |
| | 3rd | State factors affecting deterioration of ropes. |
| | 4th | Describe care & maintenance of ropes. |
| 4th | 1st | State & describe testing & examination of wire ropes. |
| | 2nd | Give the procedure of splicing of wire rope |
| | 3rd | Give the procedure of splicing of wire rope |
| | 4th | Describe rope capel for haulage winding & recapping |
| 5th | 1st | Describe rope capel for haulage winding & recapping |
| | 2nd | Describe rope capel for haulage winding & recapping |
| | 3rd | Describe rope capel for haulage winding & recapping |
| | 4th | Assignment & Surprise Test |
| 6th | 1st | Transportation in mines by rope haulage. |
| | 2nd | State type of rope haulage |
| | 3rd | Describe various types of rope haulage with simple sketches |
| | 4th | Describe various types of rope haulage with simple sketches |
| 7th | 1st | State & describe different type of safety devices on rope haulage roadways. |



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| | 2nd | State & describe different types of clips & couplings . |
| | 3rd | State & describe different types of clips & couplings . |
| | 4th | State function of headgear. |
| | 1st | Describe constructional features of headgear pulley. |
| 8th | 2nd | Describe constructional features of headgear pulley. |
| | 3rd | Define angle of fleet |
| | 4th | Describe cage, cage suspension gear, detaching hooks & its function, safety catch at headgear & keps.. |
| | 1st | Describe cage, cage suspension gear, detaching hooks & its function, safety catch at headgear & keps.. |
| 9th | 2nd | State types of guide. |
| | 3rd | State & describe rigid guide, flexible shoes, guide rope suspension & tensioning arrangement |
| | 4th | State & describe rigid guide, flexible shoes, guide rope suspension & tensioning arrangement |
| | 1st | State different profiles of winding Drum.. |
| 10th | 2nd | Describe different types of winding brake. |
| | 3rd | Describe various types of safety devices on winding system |
| | 4th | State & describe principle & constructional features of ground-mounted & tower-mounted koepe winder.. |
| | 1st | State & describe principle & constructional features of ground-mounted & tower-mounted koepe winder.. |
| 11th | 2nd | State advantages & disadvantages of koepe winding. |
| | 3rd | Describe multirope system of koepe winding |
| | 4th | Describe multirope system of koepe winding |
| | 1st | Describe constructional features bottom discharge skip, Top discharge skip. |
| 12th | 2nd | Describe constructional features bottom discharge skip, Top discharge skip |
| | 3rd | Compare skip winding cage winding. |
| | 4th | State factors affecting pit top & pit bottom layouts. |
| | 1st | State factors affecting pit top & pit bottom layouts. |
| 3th | 2nd | State factors affecting pit top & pit bottom layouts. |
| | 3rd | Describe different types of pit top & pit bottom car/tub circuit layouts. |
| | 4th | Describe different types of pit top & pit bottom car/tub circuit layouts. |
| | 1st | Describe different types of pit top & pit bottom car/tub circuit layouts. |
| th | 2nd | Previous yr question discussion based on ch 1 |
| | 3rd | Previous yr question discussion based on ch 2 |
| | 4th | Previous yr question discussion based on ch3 |
| | 1st | Previous yr question discussion based on ch 4 |
| 1 | 2nd | Previous yr question discussion based on ch 5 |
| | 3rd | Previous yr question discussion based on ch 6 |
| | 4th | Previous yr question discussion based on ch 7& 8 |

Faculty


Signature of HOD