

## **2.14 30309 MINING MACHINERY**

### **UNIT-1 WIRE ROPES**

Usage, chemical composition, infield tests of wire, classification of wire ropes, applicability of different ropes - causes of deterioration, precautions, selection parameters - computation of numerical problems on size - Weight and strength of wire ropes

### **UNIT-2 ROPE CAPPING**

Capping and recapping of wire ropes, classification - description of capping methods - splicing methods, description of splicing

### **UNIT-3 TRANSPORTATION IN MINES -ROPE HAULAGES**

Purpose of transportation, comprehensive classification of transportation - ROPE HAULAGE - direct Rope Haulage System, merits, demerits and applications - safety Devices in Direct Rope Haulage system-Endless Rope Haulage System, merits, demerits and applicability safety devices-Laying and maintenance of track- constructional details of mine tub/car -factors of selection for rope haulage serial rope ways- computation problems for determination of H.P. rope size breaking strength, Tub capacity, number of tubs.

### **UNIT-4 TRANSPORTATION IN MINES -CONVEYORS**

Conveyor usage, classification - belt conveyor system, different types of belt constructions, safety devices merits, demerits and limitations of Best conveying system - compilation of numerical problems to find the material quantity H.P. length and inclination of haulage, tensing strength breaking strength of belt amount of slip. Scraper chain convey or system, protective devices-merits, demerits and limitation.

### **UNIT-5 TRANSPORTATION IN MINES -LOCOMOTIVES & AREAL ROPE WAYS**

Clarifies loco haulage systems, merits, demerits, applicability of different system – clarifies aerial ropeway ways, the applicable conditions of aerial ropeways.

#### **Reference Books:**

1. Elements of Mining: D.J.Deshmukh Vol.3
2. Science and Art of Mining digest
3. U.M.S.Volumes
4. Statham series VOL III
5. Mine transport by: KERLIN
6. Introduction to mining engineering: HARTMEN