

MINE DEVELOPMENT

Module-I (8 Hours)

Introduction- Introduction to mining, types of mines and mining, Access to mineral deposits- selection, location, size, shape and types of entry.

Module-II (9 Hours)

Drilling- Methods, types, mechanism and operation, drill bits-types, constructional features and applications, advantages and disadvantages, drilling rigs and jumbos

Module-III (11 Hours)

Explosives- Classifications, compositions, chemical reaction, types, properties and tests, detonators, fuses, blasting devices and accessories, handling and storage, transportation

Module-IV (12 Hours)

Rock Blasting- Mechanism of blasting, blasting pattern and procedure, opencast and underground, controlled blasting, rock cutting

Shaft sinking- Ordinary and special methods, problems and precautions, shaft support and lining

Text Books:

1. *Surface Mining* by Dr.G.B.Mishra, Geomintech Publication, Bhubaneswar
2. *Explosives and Blasting Practices in Mines* by S K Das, Lovely Prakashan, Dhanbad
3. *Explosives and Blasting Techniques* by G K Pradhan, MINTECH Publications, Bhubaneswar
4. *Blasting Manual* by Sandhu&Pradhan
5. *Elements of Mining Technology, Volume -I* by D J Deshmukh, Denett& Company

Reference Books:

1. *SME Hand Book*
2. *Rock Blasting Effects and Operations* by P P Ray, Oxford & IBH
3. *Engineering Rock Blasting Operations* by S Bhanari, CRC Press