

## **MIPC2001 MINE DEVELOPMENT (3-0-0)**

### Module-I (08 Hours)

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

### Module-II (09 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 (09 Hours)

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

### Module-V (07 Hours)

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

### 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 SME Handbook
5. Rock Blasting Effects and Operations by P P Ray, Oxford & IBH
6. Engineering Rock Blasting Operations by S Bhanari, CRC press.