

AMMI-18 MINE SAFETY ENGINEERING

UNIT-1 MINE ACCIDENTS

- 1.1 Accident in mines;- different types, accident investigations;
- 1.2 Accident analysis; accident prevention and corrective action, accident proneness,
- 1.3 Creating and maintaining safety awareness, ZAP and MAP,
- 1.4 Job safety analysis, safety meeting and committee.

UNIT-2 HEALTH AND MINE SAFETY

- 2.1 Definition of health and safety, management's role
- 2.2 Function; evolution of management involvement, management's training, responsibility, cost of health and safety, role of labour organizations
- 2.3 Union impact and involvement, role of government
- 2.4 Statutory controls and directions, spot and regular inspections, enforcement of standards, penalties for violations, collection and distribution of statistical data.

UNIT-3 FAULT TREE ANALYSIS

- 3.1 Introduction- methodology, symbols and Boolean techniques, qualitative analysis,
- 3.2 Computerized methods, statistical analysis, safety information, systems design.

UNIT-4 RISK ASSESSEMENT

- 4.1 Principles, risk and hazard control, risk and hazard evaluation and data collection for identified health risks, exposure assessment and risk characterization,
- 4.2 Probabilistic risk analysis,

UNIT-5 DISASTER MANAGEMENT

- 5.1 Risk management, safety culture, human factors, reliability evaluation, safety audit.
- 5.2 Identification of causes of mine disasters, preventive action,
- 5.3 Disaster management and mitigation, typical cases of mine disasters in India

UNIT-6 MINER'S OCCUPATIONAL DISEASES AND ENQUIRY COMMITTEE

- 6.1 Miner's occupational health and diseases, preventive medical examinations, various types of injuries, compensable diseases,
- 6.2 Medical attention and removal of causative factors in the mines.
- 6.3 Recommendations of inquiry committee carried out for safety and health issues in India.

Reference Book:

1. DeReamer, R., Modern Safety Practices, John Wiley and Sons.
2. Wahab Khair. A., New Technology in Health and Safety, SMME, 1992.
3. Zyl, D.A., Koval, M, Li Ta, M. (Ed.). Risk Assessment / Management Issues in the Environmental Planning in Mines, SMME, 1992.