

**ANNEXURE – II
SYLLABUS FOR THE EXAMINATION FOR SECOND CLASS MANAGER'S
CERTIFICATE OF COMPETENCY
MINE MANAGEMENT, LEGISLATION AND GENERAL SAFETY**

MINE MANAGEMENT

Introduction: Principles of scientific management; management function; planning; organization and control; structure and design of organization for mining enterprises.

Personal Management: Selection, training and development of human resources, conflict; dealing with conflict, motivation and two way personal communication.

Production Management: Production planning, scheduling and control; short term and long term planning; productivity; concepts and measurements.

Environmental Management: Mine Environment monitoring and control; EMP (Environment Management Plan); mine closure plan; R&R (rehabilitation and resettlement).

LEGISLATION

Health and Safety Laws: The Mines Act, 1952; Mines Rules 1955, Coal Mine Regulation, 2017, Mines Rescue Rules, 1985, provisions of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 applicable to mines; Mine Vocational Training Rules, 1966, other rules and legislation as applicable to coal mines.

GENERAL SAFETY

Safety in Mines: Causes and prevention of accidents and their classification; frequency rate and severity rates; causewise analysis, investigation into accidents and accident report; in-depth study into various causes of accidents, cost of accident; measures for improving safety in mines; Hazard Identification, risk assessment and risk management, Safety Management Plan (SMP), Elements of SMP, Preparation of SMP, Standard Operating Procedure (SOP) and Hazard Management Plans in opencast mines, cost of accident; human elements in mine safety, workers participation in safety management; ISO and safety audit; safety conferences; tripartite and bipartite committees. role of information technology in safety management.

Mine Gases: Generation, Properties and Physiological Effects, Detection of Mine Gases, Methanometers and Multi gas Detectors, Gas Chromatograph, Flame Safety Lamps. Mine fires and Hazards due to extraction of developed pillars, its mitigation, Hazards due to extraction of fiery seam or hot strata.

Inrush of water: Hazards and risk of opencast mining near water bodies, rivers, mitigation measures against risk from inrush of water



Hazards due to Extreme weather condition in opencast mines and its mitigation

Occupational hazards in surface mining and precautions

Disaster management: Rescue and recovery; investigations and reports; investigations and reports; fire fighting plan; rescue equipments; resuscitation and reviving apparatus; selection and training for rescue work.

First aid and ambulance

Notified and occupational diseases: silicosis and pneumoconiosis, physiological aspects of breathing in dust laden atmosphere; dust sampling and sampling instruments; methods of counting and analysis; other mines diseases and their symptoms; preventions and treatment.

Lighting: General principles of artificial lighting; lighting standards and their assessment.

Sanitation and health in mines

Safety related issues in Crushing and coal handling and transport system.

MINING GYAN

