

PMN6J003 MINE PLANNING AND DESIGN

Module - I:

Principle of Mine Planning: Plans to be maintained in the mineral industry, Stages of planning of new mines, requirements of planning, Master Plan, Feasibility Report, Detailed project report

Module - II:

Technical considerations in planning: Selection of method of mining, opening up of open cast mines and underground mines, development of open cast mines and underground mines, Division of mine lease area into mining Units, location of entries, Surface layouts, pit bottom layout, Ventilation planning

Module - III:

Planning of mine workings and systems: infrastructure planning, production planning, Mineral handling plant, optimal planning, Planning of special methods of Coal and metal mines, Placer Mining, Sea bed Mining

Module-IV:

Socio-Economic considerations: Social aspects, Environment Management Plan, estimation of mining costs and profits, Restructuring planning, Issues and challenges of Mine planning in the future, Mine Closure plan; Computer applications in mine planning & design

MINE PLANNING AND DESIGN LAB

1. Design of drive in a lead zinc mine.
2. Design of Raise/ winge in a lead zinc mine.
3. Design of shaft in a lead zinc mine.
4. Design of box cut in an o/c mine.
5. Design of haul road.
6. Problem related to ultimate slope in o/c mine.
7. Problem for shovel dumper combination.
8. Problem related to scheduling
9. Optimum blast design for o/c mine.
10. Optimum blast design for u/g mine.