

AMMI-5 MINE DEVELOPMENT

UNIT-1 OPENING-UP OF DEPOSITS

- 1.1 Choice of mode of entry- adit, shaft, decline and combined mode, their applicability, number and disposition.
- 1.2 Vertical and Inclined Shafts: Location, shape, size, and organization of shaft sinking, construction of shaft collar, shaft fittings.

UNIT-2 SHAFT SINKING OPERATIONS

- 2.1 Ground breaking and muck disposal- tools and equipment,
- 2.2 Lining; ventilation, lighting and dewatering;
- 2.3 Sinking in difficult and water-bearing ground. Insets: Design, excavation and lining.

UNIT-3 MECHANISED SINKING

- 3.1 Simultaneous sinking and lining; slip - form method of lining; high speed sinking

UNIT-4 SHAFT BORING

- 4.1 Methods and equipment.

UNIT-5 SPECIAL ATTRIBUTES

- 5.1 Widening and deepening of inclined and vertical shafts;
- 5.2 Staple shafts, raised shafts.

UNIT-6 MAIN HAULAGE DRIFTS AND TUNNELS

- 6.1 Purpose, shape, size and location;
- 6.2 Excavation- ground breaking, muck disposal, ventilation and supporting.

UNIT-7 HIGH SPEED DRIFTING/TUNNELLING

- 7.1 Application of mechanised methods; road headers and tunnel boring machines.
- 7.2 Recent Developments in shaft sinking and drifting/tunnelling.
- 7.3 Layouts of pit-top and pit- bottom, Coal Handling Plant, Bunkers and Railway Sidings.

Reference Books

1. Surveying and levelling by R. Subramanian, Oxford university press, New Delhi