**C-14 scheme (MNG-303)**

**Syllubus bifurcation**

UNIT TEST I (Syllubus**)**

**1.0 Know the Method of shaft sinking.**

1.1 List the factors to be considered for the selection of a shaft as a mode of entry

1.2 State the factors consider for selection of a site for shaft sinking.

1.3 List the necessary equipment required for sinking a shaft

1.4 List the different stages of shaft sinking .

1.5 Explain the different stages of sinking through normal strata.

1.6 List different permanent supporting methods of sinking shaft.

1.7 Explain the permanent supporting of the shaft sides by a) brick walling b) concrete Curbing c) Tubbing

1.8 Classify the special methods of shaft sinking and their applicability’s.

1.9 Explain the RCC piling method of shaft sinking

1.10 Define the terms a) Pre Silicatization b) Silicatization c) Product holes d) Thawing

e) Water garland f) Weep holes

1.11 Explain the Cementation method of shaft sinking

1.12 List the modern techniques used in shaft sinking

1.13 Explain the freezing method of shaft sinking

1. **Drilling and Blasting**

2.1 Define solid blasting and state field of application

2.2 Define the term blasting

2.3 Explain the solid blasting and state rules and provisions related to solid blasting

2.4 Define the term induced blasting

2.5 Explain different blasting patterns for underground excavations

2.6 List the blasting tools used in the fuse and electric blasting and state their functions

2.7 Explain direct and inverse initiation with sketches

2.8 Define Blown-out shot, Socket , Misfire, Powder factor, Drilling ratio, Yield / Kg

2.9 State the causes , remedial measures, procedure for treating misfires

2.10 List the dangers associated with underground blasting

2.11List precautions to be taken before and after blasting

2.12Simple numerical problems to calculate a) Power factor b) yield per Kg of explosive

**3.0 Understand Development stage in Bord and Pillar methods of working**

3.1 Define the term Bord and Pillar

3.2 State the applicability, merits, demerits and limitations of Bord and Pillar

3.3 Explain the development stages of Bordand Pillar Method.

3.4 Explain the depillaring stages of Bord and Pillar mining

3.5 Explain the terms panel indicating the types and applicability

3.6 List the general considerations for layout of panel.

3.7 List the factors influencing the size of the panel.

3.8 List the factors influencing the number openings to a panel.

3.9 State the merits and demerits of panel system

3.10 List the different factors governing the selection of development method

3.11 Explain the factors to be considered while opening out a district/panel

UNIT TEST II (Syllubus**)**

3.12 Explain the method of development by blasting-off solid with five headings

3.13 Explain the method of development along the dip.

3.14 Explain the method of development along the strike

3.15 Explain the method of development by the help of cross cuts in steeply dipping seams

3.16 Explain the method of development with belt conveyor and chain conveyor

3.17 Explain the method of development with coal cutting machines and scraper chain conveyor

3.18 Explain the method of development using gathering arms loader and shuttle cars

3.19 Explain the method of development in Bord and Pillar system with side discharge loader

3.20 Explain the method of development in Bord and Pillar system with load haul dumper.

3.21 Calculate the percentage of extraction in development of Bord and Pillar

3.22 Calculate production in development of Bord and Pillar mining

**4.0 Understand Depillaring stage in Bord and Pillar methods of working**

4.1 Classifies the methods of depillaring

4.2 Define the terms caving and stowing.

4.3 State the conditions under which caving method as adopted.

4.4 List the preparatory arrangements before commencement of depillaring operation.

4.5 Explain the sequence of operations involved in depillaring

4.6 Explain diagonal line of extraction and step diagonal line of extraction

4.7 Explain Knife Edge line of extraction and straight line of extraction

4.8 Define the terms split, rib, Chowkidar pillar, Goaf edge line of extraction

4.9 Explain splitting ,stooking and winning of stooks by judds (Slices)

4.10 Explain the factors influencing extraction of pillars

4.11 Explain the method of extraction of pillar by caving under Weak roof conditions.

4.12 Explain the mechanised method of pillar extraction with SDL

4.13 Explain the mechanised method of pillar extraction with LHD

4.14 Explain the mechanised method of pillar extraction with Chain conveyor / Belt conveyor

4.15 Define the terms Local Falls and Main Fall.

4.16 List the methods of inducing Local Falls

4.17 Explain the term Air Blast

4.18 List the dangers due to air Blast.

4.19 List the precautions against the Air Blast.

4.20 State the necessity of stowing

4.21List the different methods of stowing practice

4.22 Explain hydraulic sand stowing methods

4.23 State the condition under which different stowing method is adopted

4.24 Explain the preparatory arrangements for depillaring by stowing.

4.25 List the precautions against the dangers of water while working below goaved areas.

4.26 List the precautions against the dangers the points to be borne in mind while working below goaved areas.

* 1. Describe the method of extraction of contiguous seams.
  2. List the precautions taken against fire during and after depillaring.
  3. Calculate production in depillaring of Board and Pillar mining

STATE BOARD OF TECHNICAL EDUCATION

UNIT TEST- I

YEAR/SEM: III SEMISTER BRANCH:DMNG E

SUB CODE & NAME : **MNG-303**

TIME: 1 HOUR MAX MARKS: 20

PART-A

**(Answer any two Questions)** 3x2=6 marks

1. List necessary equipement sinking a shaft.
2. Define solid blasting and state field of application.
3. List general considerations for lay out of a panel.

PART-B

2x7 =14marks

**(Answer any two Questions)**

4. Explain the Cementation method of shaft sinking.

5. State the causes, Remedial measures and procedure for treating misfires.

6., List the different factors governing the selection of development method.

STATE BOARD OF TECHNICAL EDUCATION

UNIT TEST- II

YEAR/SEM: III SEMISTER BRANCH:DMNG E

SUB CODE & NAME : **MNG-303**

TIME: 1 HOUR MAX MARKS: 20

PART-A

**(Answer any two Questions)** 3x2=6 marks

1. Classify the special methods of shaft sinking and their applicabilities.
2. List the blasting tools used in the fuse and electric blasting and state their functions.
3. List merits and demerits of Bord and pillar mining.

PART-B

2x7 =14marks

**(Answer any two Questions)**

1. Explain RCC piling method of shaft sinking.
2. Define Blown-out shot, Socket, Misfire,Powder factor,Drilling ratio,Yield /Kg.
3. State the merits and demerits of Panel system.