B.E. Mining Engineering (CBCS Pattern) Third Semester CBCS / Old

3BEMN01 - Introduction to Mining Technology

P. Pages : 2 **GUG/W/18/11521**

Time : Three Hours * 3 6 0 1 * Max. Marks : 80

Notes : 1. Due credit will be given to neatness and adequate dimensions.
2. Assume suitable data wherever necessary.
3. Illustrate your answers wherever necessary with the help of neat sketches.

1. Discuss in brief the occurrence and use of **16**

i) Coal ii) Iron ore

iii) Manganese iv) Mica

v) Bauxite

OR

2. Sketch and define the following - **16**

i) Mine ii) Bench width

iii) Ramp iv) Winze & Raise

v) Dip & Strike vi) Pillar

vii) Level viii) Incline

3. a) What are the various phases of Mining ? Explain any one phase in detail. **8**

b) Explain in brief the direct & indirect methods of prospecting. **8**

OR

4. What are the various modes of Access in an underground mining ? Explain with neat sketch shaft and adit. With its applicability conditions merits & demerits. **16**

5. a) Discuss the factors to be considered in the selection of site for shaft. **6**

b) State applicability, advantages & disadvantages of shafts of different shapes. **10**

OR

6. Explain with neat sketch the following. **16**

i) Walling scaffold ii) Water garland curb

iii) Temporary lining iv) Permanent lining

7. a) Enlist the various unit operations in mining. Explain any two operations in detail. **8**

b) Write down classification of methods used for coal extraction & compare surface mining with underground mining. **8**

OR

8. a) Define the following terms with neat sketch wherever necessary - **8**

i) Bench crest or edge ii) Berm

iii) Boxcut iv) Working Trench

b) Classify the methods used in underground metal mines. Explain any one method of stopping in detail. **8**

9. What is drifting ? State the applicability conditions, advantages disadvantages of conventional drifting. **16**

OR

10. Write short notes on : **16**

i) High speed drivage drifting techniques.

ii) Classification of Tunnel boring machine & its construction.

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