

22375

24225

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE :

10

- (a) Define Ore pass.
- (b) Define Sub-level.
- (c) Define overhand and underland stopping.
- (d) Define Walling Scaffold.
- (e) State the purpose of Boring.
- (f) Define Finger Raise.
- (g) What is VCR ?

2. Attempt any THREE :

12

- (a) Explain Alimak Raise Climber for raise making.
- (b) Explain level interval. State the factors that affects on level interval.
- (c) State the U.S. Bureau classification of underground stopping methods.
- (d) Compare overhand stopping method with underhand stopping method.



- 3. Attempt any THREE :** **12**
- (a) Explain the factors on which choice of stopping methods depend.
 - (b) Describe sub-level stopping method with applicability conditions.
 - (c) Describe cut and fill method with neat diagram.
 - (d) Describe Breast stopping method with neat sketch.
 - (e) Explain the process of carrying out the permanent concrete lining of shaft.
- 4. Attempt any THREE :** **12**
- (a) Describe the procedure of temporary lining with neat sketch.
 - (b) Draw a neat sketch of a (i) Bricking Scaffold & (ii) Sinking Rider and label all important components.
 - (c) Explain different types of drill bits used in rotary drilling.
 - (d) Compare screw feed mechanism with hydraulic feed mechanism.
- 5. Attempt any TWO :** **12**
- (a) Describe shrinkage stopping method with its applicability conditions. Write its advantages and disadvantages.
 - (b) Compare cut and fill stopping with shrinkage stopping.
 - (c) Explain sub-level caving method with its applicability. State its advantages and disadvantages.
- 6. Attempt any TWO :** **12**
- (a) Enlist the various special methods of shaft sinking. Describe freezing method.
 - (b) What is deviation of borehole ? Describe any one method to measure deviation of a borehole.
 - (c) Explain Single tube core barrel and Double tube core barrel.
-