

22376

22232

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following :** **10**
 - (a) Enlist some portable fire extinguishers.
 - (b) Define Higher and Lower limit of explosibility of fire damp.
 - (c) State the qualities of Stone dust needed for a stone dust barrier.
 - (d) Define Inundation.
 - (e) Define Fresh Air Base.
 - (f) Classify the Fires in brief.
 - (g) Define Lag on ignition.

2. **Attempt any THREE of the following :** **12**
 - (a) State the factors affecting spontaneous heating.
 - (b) Describe the mechanism of spontaneous heating.
 - (c) Describe the composition and behaviour of gases in sealed off area.
 - (d) Enlist methods of air sampling in underground mine. Describe any one method known to you.



- 3. Attempt any THREE of the following : 12**
- (a) Draw a neat sketch of Cowards diagram. Describe its significance.
 - (b) Describe Stone dust barrier.
 - (c) State the causes of failure of stone dust barrier to arrest explosion in mines.
 - (d) State the precautions to be taken in order to reopen the sealed off area.
 - (e) Describe the causes and prevention of coal dust explosion.
- 4. Attempt any THREE of the following : 12**
- (a) Describe the surface and underground causes of inundation in mines.
 - (b) State the working of modern self-contained breathing apparatus known to you.
 - (c) Describe the Cap lamp Room and developments in Cap lamp.
 - (d) State the standard of lighting in mines.
- 5. Attempt any TWO of the following : 12**
- (a) State the preventive measures taken against spontaneous heating in mines.
 - (b) State the precautions to be taken while reopening the sealed off area in mines.
 - (c) Describe foam extinguisher with a neat sketch.
- 6. Attempt any TWO of the following : 12**
- (a) Explain how shall you prevent fire damp explosion.
 - (b) Classify the mines rescue apparatus.
 - (c) Describe a reviving apparatus known to you and is used in mines.
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