

**G-3/369/22**

Roll No. ....

**III Semester Examination, January 2022**

**M.Sc.**

**GEOLOGY**

**Paper III**

(Mining Geology and Environmental Geology)

Time : 3 Hours ]

[ Max. Marks : 80

**Note :** *All questions are compulsory. Question Paper comprises of 3 Sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

**SECTION A**

**1×10=10**

**(Objective Type/Multiple Choice Questions)**

*Choose the correct answer :*

**1.** Diamond bits are used in :

- (a) Pitting                      (b) Trenching  
(c) Drilling                      (d) None of these

**2.** ..... open cast coal mine.

- (a) Bacheli mine              (b) Gavera coal mine  
(c) Jharia coal mine

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**3.** Choose the correct statement for ADIT :

- (a) Open at one end    (b) Open at both the ends  
(c) None of these

**4.** For blanket type bauxite deposits which mining method is most suitable :

- (a) Open cast                      (b) Under ground  
(c) Glory hole                      (d) Breast stopping

**5.** During prospecting; Geologist usually follow :

- (a) Up stream direction  
(b) Down stream direction

**6.** In U.N.F.C. (United Nations Frame Work Classification) for 'proved mineral reserve'.

- (a) 111                              (b) 112  
(c) 333                              (d) 222

**7.** Which software is used for ore body modelling ?

- (a) Autocad                      (b) Arc G.I.S.  
(c) Surpal                              (d) Erdas imagin

**8.** Long wall advancing method and board and pillar method are commonly used in :

- (a) Iron ore mining    (b) Diamond mining  
(c) Coal mining                      (d) None of these

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9. Which ore mineral is associated with Tin deposits in Bastar ?

- (a) Cassiterite              (b) Azurite  
(c) Chromite                (d) Lepidolite

10. Being a Geology student; what would you suggest for the disposal of Radio-Active waste ?

- (a) Porous and permeable rock formation  
(b) Impervious and non-porous thick rock formation  
(c) River valley  
(d) Sea coast

**SECTION B**

**4×5=20**

**(Short Answer Type Questions)**

**Note :** Answer the following questions in **250** words.

**Unit-I**

1. Describe dredging method of Alluvial mining.

*Or*

Briefly discuss significance of mining equipments during mining.

**Unit-II**

2. Discuss the role of geologist during the mining activity.

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*Or*

Describe mine support and ventilation in underground mines.

**Unit-III**

3. Discuss the Tin mining in Bastar.

*Or*

Discuss the lime stone mining in Chattisgarh.

**Unit-IV**

4. Write short note on Deforestation.

*Or*

Write short note on Land degradation.

**Unit-V**

5. Write note on disposal of Industrial waste.

*Or*

Write note on Disposal of Radio-active waste.

**SECTION C**

**10×5=50**

**(Long Answer Type Questions)**

**Note :** Answer the following questions in **500** words.

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**Unit-I**

1. Explain the given mining terms :

- (a) Shaft                      (b) Stope
- (c) Adit                        (d) Winze
- (e) Cross cut                (f) Tunnel
- (g) Raise

*Or*

Describe various alluvial mining methods.

**Unit-II**

2. Describe the role of a mining geologist.

*Or*

Explain choice of mining methods depending upon geological structures and deposits.

**Unit-III**

3. Describe long wall advancing and long wall retreating coal mining methods.

*Or*

Discuss iron ore mining at Bailadila (Bacheli) and Kirandul mines.

**Unit-IV**

4. Describe various concepts of Environmental geology.

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*Or*

Explain necessity and application of studying environmental geology.

**Unit-V**

5. As geologist what would you suggest to minimize the impact of mining on environment.

*Or*

Explain the role of anthropogenic activities on environment.

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