

**G-4/423/21**

Roll No. ....

**M.Sc. IV Semester Examination, 2021**

**GEOLOGY**

**Paper III**

(Chhattisgarh : Geology, Mineral Resources and Their  
Industrial Application)

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 Questions)**

*Choose the correct answer :*

- 1.** Pillowed Lava is a part of which of the following stratigraphic sequence of Sonakhan Greenstone Belt :  
(a) Arjuni formation (b) Bilari formation  
(c) Baghmara formation  
(d) Arangi formation.
- 2.** Which of the following is not a part of the Raipur Group :

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- (a) Gundadebi (b) Lobardih  
(c) Tarenga (d) Charmuria
- 3.** Which of the following is not a Bauxite deposit of Chhattisgarh state :  
(a) Daldali (b) Pathrai  
(c) Kesbkal (d) Aridongri
- 4.** Kotri lineament is known for occurrence of :  
(a) Iron (b) Tin  
(c) Gold (d) Copper
- 5.** Coke is used in the manufacturing of :  
(a) Lead (b) Iron  
(c) Copper (d) Steel
- 6.**  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$  is the chemical composition of which of the following mineral :  
(a) Gypsum (b) Beryl  
(c) Apatite (d) Talc
- 7.** Which of the following mineral is not used in the cement industry :  
(a) Calcite (b) Clay  
(c) Quartz (d) Gypsum
- 8.** Industrial uses of ferro alloy are :  
(a) as a deoxidizer  
(b) as an alloying agent

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(c) as an inoculant for costing crystal nuclei

(d) All the above.

9. Which of the following mineral is not used in the abrasive industry ?

(a) Garnet (b) Gypsum

(c) Diamond (d) Quartz

10. The essential basic raw material for manufacture of glass is :

(a) Feldspar (b) Calcite

(c) Apatite (d) Quartz.

#### SECTION B

5×4=20

(Short Answer Type Questions)

Note : Attempt one question from each unit.

#### Unit-I

1. Write note on the geological setup of Sonakhan Greenstone Belt.

Or

Explain the palaeoclimatic condition of Singbora group of rocks.

#### Unit-II

2. Write note on the Tin ore deposits of Bastar.

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Or

Describe the Bauxite deposit of Mainpat area.

#### Unit-III

3. Write note on the mode of occurrence of corundum in Chhattisgarh.

Or

Write note on the Fluorite occurrences of Chhattisgarh state.

#### Unit-IV

4. Write down the specifications of Manganese ore used in ferro alloy industry.

Or

Describe the specifications of minerals used to make Portland cement.

#### Unit-V

5. Write note on the minerals used in refractory industry in Chhattisgarh.

Or

Give account on industries based on the clay deposits available in Chhattisgarh.

#### SECTION C

10×5=50

(Long Answer Type Questions)

Note : Attempt one question from each unit.

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**Unit-I**

1. Describe the geology of Archean rocks of Chhattisgarh state. Add note on their economic significance.

*Or*

Compare the stratigraphy and economic significance of Chhattisgarh super group and Indravati super group.

**Unit-II**

2. Describe the geology, origin and grade of Iron ore deposits of Chhattisgarh.

*Or*

Give a detailed account of genesis and resources of Bauxite deposits of Chhattisgarh.

**Unit-III**

3. Give a brief account on the coal deposits of Chhattisgarh, along with their grade and reserves.

*Or*

Describe the grade, quality, origin and occurrences of Gem minerals in Chhattisgarh.

**Unit-IV**

4. Write an essay on the mineral based industries of Chhattisgarh.

*Or*

Describe the minerals used in cement industry with their desired specifications.

**Unit-V**

5. Write down the specifications of minerals used in the Fertilizers. Add note on their occurrence in Chhattisgarh.

*Or*

Describe the specifications of minerals used in the Paint and Pigment Industries, along with their occurrence in Chhattisgarh.

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