21I803 (Pages: 2) Name: .....

Reg.No: .....

EIGHTH SEMESTER M.Sc. INTEGRATED GEOLOGY DEGREE EXAMINATION, APRIL 2025

(CBCSS)

(Regular/Supplementary/Improvement)

CC20 GLO8 IB18 - ADVANCED ECONOMIC GEOLOGY

(Geology)

(2020 Admission onwards)

Time : Three Hours Maximum : 80 Marks

Credit: 4

Section A

Answer any ***ten*** question. Each question carries 2 marks.

1. Give one example of a porphyry deposit and its associated metal.
2. Which process led to the concentration of PGEs in specific zones of the Bushveld Complex?
3. What is the difference between SEDEX and VMS deposits?
4. How are fluid inclusions classified based on their origin?
5. What geological conditions in the Neoarchean favored major ore deposits?
6. Gangue.
7. Give two examples of metamorphosed mineral deposits.
8. Define mechanical concentration in mineral deposits.
9. Name two major copper deposits in India.
10. Indian occurences of Pb-Zn.
11. Discuss the economic importance of iron ore deposits in Kudremukh.
12. Mention any two key features of the National Mineral Policy (NMP) 2019.

(10 × 2 = 20 Marks)

Section B

Answer any ***five*** question. Each question carries 8 marks.

13. Discuss the morphological characteristics of ore bodies, providing suitable examples.
14. Discuss the general characteristics and classifcation of VMS deposits.
15. Discuss ore forming solutions and their migration.
16. Discuss how evolution of hydrosphere and atmosphere influenced the global metallogenesis.
17. Describe the mineral composition of carbonatites and their economic significance.

18. Explain the geological formation of Banded Iron Formation (BIF) deposits.Discuss the mineralogical composition and economic importance of BIF deposits.

19. Explain how gas hydrates contribute to climate change and marine geohazards such as submarine landslides.

(8 × 5 = 40 Marks)

Section C

Answer any ***two*** question. Each question carries 10 marks.

20. Describe the general characteristics of copper porphyry deposits, the tectonic settings in which they are commonly found, and outline a general genetic model for their formation.

21. Discuss the physical and optical properties of important ore minerals.

22. Discuss the role of groundwater in infiltration and supergene enrichment, providing examples of major supergene deposits.

23. Describe in detail the different types of uranium mineral deposits as classified by the IAEA Uranium Group, providing suitable examples.

(2 × 10 = 20 Marks)

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