

CSM—37/23
PART—II/PAPER—VII
GEOLOGY
PAPER—II

Candidate
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write on
this margin.

Time : 3 Hours

Full Marks : 250

*The question paper contains **18 (Eighteen)** questions
in **GROUP—A (12)** and **GROUP—B (06)** together.*

GROUP—A

*Candidates to attempt **10 (ten)** questions within word limit of **250**.
Each question carries **15** marks.*

1. What is Hermann-Mauguin notation in crystals? Discuss how 6/m and 622 are formed using motifs.
2. What is Becke line effect? Explain how it is formed and used to determine the relative refractive indices of minerals.
3. Write the structure, occurrence, chemistry, physical and optical characteristics of Garnet group of minerals.
4. Write the chemical classification of magmatic rocks based on silica concentration and silica saturation.
5. Write the roles of quartz and feldspar as provenance indicator of sedimentary rocks.
6. Write about magmatic concentration process for the formation of mineral deposits.
7. Write a note on manganese deposits in India.
8. Discuss the gravimetric methods of geophysical prospecting for mining.

9. Discuss the textures of Rudaceous sedimentary rocks.
10. Write in detail about Pauling's rule.
11. Discuss in detail about the radioactive wastes and their disposals.
12. Write about the effects of the development of flood hazards and the organized response to flood hazards.

**Candidate
must not
write on
this margin.**

GROUP—B

*Candidates to attempt 05 (five) questions within word limit of 300.
Each question carries 20 marks.*

13. Write a note about diffraction effects and the Bragg's equation.
14. Write the structure, occurrence, chemistry, physical and optical characteristics of Calcite group of minerals.
15. Elaborate about the contact metamorphic and metasomatic bodies.
16. What are metallogenic provinces and epochs? Support your answer for tin mineralization around the world.
17. Write in detail about the methods of investigation in mining.
18. Write a note about groundwater pollution and treatment.

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