

**BGYCT-133**

**ASSIGNMENT BOOKLET**

**Bachelor's Degree Programme (BSCG)**

**CRYSTALLOGRAPHY, MINERALOGY AND ECONOMIC GEOLOGY**

**Valid from 1<sup>st</sup> January, 2025 to 31<sup>st</sup> December 2025**

**It is compulsory to submit assignment prior to filling Examination form**



**School of Sciences  
Indira Gandhi National Open University  
Maidan Garhi, New Delhi-110068**

**(2025)**

Dear Student,

Please read the section on assignments in the Programme Guide for B.Sc. that we sent you after your enrolment. A weightage of 30 percent, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment is in this booklet, and it consists of two parts, Part A and B. The total marks of all the parts are 100, of which 35% are needed to pass it.

### Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully:

- 1) On top of the first page of your answer sheet, please write the details exactly in the following format:

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**ROLL NO.:** .....

**NAME:** .....

**ADDRESS:** .....

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**COURSE CODE:** .....

**COURSE TITLE:** .....

**ASSIGNMENT NO.:** .....

**STUDY CENTRE:** ..... **DATE:** .....

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**PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.**

- 2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) Solve Part A and Part B of this assignment, and **submit the complete assignment answer sheets containing Parts A and B by the due date.**
- 6) The assignment answer sheets are to be submitted to your Study Centre by the due date as per the schedule. **Answer sheets received after the due date shall not be accepted.**
- 7) **We strongly suggest that you retain a copy of your answer sheets for reference.**
- 8) This assignment is **valid from 1<sup>st</sup> January 2025 to 31<sup>th</sup> December 2025.** If you have failed in this assignment or fail to submit it by December 2025, then you need to get the assignment for the year 2026, and submit it as per the instructions given in the Programme Guide.
- 9) **You cannot fill the examination form for this course until you have submitted this assignment.** For any queries, please contact: meenalmishra@ignou.ac.in, bdeshmukh@ignou.ac.in.

We wish you good luck.

## Tutor Marked Assignment

### CRYSTALLOGRAPHY, MINERALOGY AND ECONOMIC GEOLOGY

Course Code: BGYCT-133  
Assignment Code: BGYCT-133/TMA/2025

Maximum Marks: 100

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**Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the course material.**

#### Part A

1. Write short notes on the following:
  - a) Laws of crystallography (5)
  - b) Types of extinction (5)
2. Describe the physical properties of minerals belonging to pyroxene group giving suitable examples. (10)
3. Discuss the crystallographic axes, symmetry elements and forms of normal class of orthorhombic crystal system with the help of neat well labeled diagrams. (10)
4. Explain the elements of symmetry giving suitable examples. (10)
5. Discuss the classification of rock forming minerals giving suitable examples. (10)

#### Part B

6. Explain the process of oxidation and supergene enrichment of ore formation. (10)
7. Write short notes on the following:
  - a) Optical properties of calcite (5)
  - b) Iron ores (5)
8. Define critical minerals. Discuss the minerals used in war. (10)
9. Differentiate the following:
  - a) Analyser and polarizer (10)
  - b) Discordant and concordant ore bodies
10. Describe in detail the origin, mode of occurrence and geographical distribution of petroleum in India. (10)