



**2023/TDC(CBCS)/EVEN/SEM/  
GELDSC/GE-201T/074**

**TDC (CBCS) Even Semester Exam., 2023**

**GEOLOGY**

**( 2nd Semester )**

Course No. : GELDSC/GE-201T

**( Crystrography and Mineralogy )**

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

**SECTION—A**

Answer/Write briefly on any *fifteen* of the  
following : 1×15=15

1. Crystal
2. Crystallographic axes
3. Angles in crystal
4. Combination form
5. Plane of symmetry
6. Name one mineral crystallising in hexagonal system.



( 2 )

7. Draw the axial diagram of isometric system.
8. Write the symmetry elements of normal class of isometric system.
9. Lustre
10. Conchoidal fracture
11. Write chemical composition of olivine.
12. Colour of mineral
13. Write two important parts of polarizing microscope.
14. Write one important function of polarizing microscope.
15. Pleochroism
16. Ordinary light
17. Colour of quartz
18. Cleavage of biotite
19. Cleavage of calcite
20. Colour of olivine

J23/491

( Continued )

( 3 )

**SECTION—B**

Write notes on any *five* of the following: 2×5=10

21. Elements of crystal
22. Crystal parameters
23. Tetragonal system
24. Hexagonal system
25. Colour of hornblende
26. Twinning in feldspar
27. Function of polarizer
28. Ordinary and polarized light
29. Optical properties of garnet in PP light
30. Optical properties of microcline in PP light

**SECTION—C**

Answer any *five* of the following questions : 5×5=25

31. Write notes on Miller system of notations.
32. Write detailed note on interfacial angle and their measurements.
33. Describe the symmetry elements of normal class of orthorhombic system.

J23/491

( Turn Over )



( 4 )

34. Describe the details of triclinic system.
35. Write note on Mohs' scale of hardness.
36. Write the lustre of common rock-forming minerals.
37. Write a detailed note on the parts of polarizing microscope.
38. Write on the common optical properties of light in cross-nicol position of petrological microscope.
39. Describe the optical properties of quartz observed under both PPL and XPL.
40. Write in tabular form the common optical properties of augite and orthoclase.

★ ★ ★