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Reg. No:.....

Name: .....

**FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE**

**Second Semester Integrated M.Sc Geology Degree Examination, March/April 2021**

**IGL2C03-CRYSTALLOGRAPHY AND MINERALOGY**

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

**PART – A**

**All questions can be answered.  
Each question carries Two mark.  
Ceiling -25 Marks**

1. What are crystalline and amorphous materials?
2. Draw and explain Contact Goniometer.
3. Explain crystallographic axes?
4. What do you mean by Enantiomorphous forms?
5. Define specific gravity.
6. Describe elements of crystal forms.
7. Explain interstitial solid solution.
8. What do you mean by Pyro-electricity, Piezo-electricity and Photo-electricity?
9. Describe isomorphism.
10. What are holohedral and hemihedral forms?
11. Define cleavage.
12. What is twinning?
13. What do you mean by crystal coordination?
14. Distinguish between simple substitution and coupled substitution.
15. Describe pseudomorphism.

**PART - B**

**All questions can be answered.  
Each question carries Five marks.  
Ceiling -35 Marks**

16. Explain the different Symmetry elements of a Crystal
17. Explain crystallographic notation?
18. Discuss the Laws of crystallography.
19. Explain the importance of mineralogy.
20. Write a summary of the symmetry elements of all major crystal systems
21. Symmetry and forms present in *Normal class* of the Triclinic system
22. Explain the different Types of Twinning
23. Write a short note on Walker's Steel Yard & Jolly's Spring Balance

**PART - C**

**Answer any two questions.  
Each question carries Ten marks.**

24. Describe the symmetry elements and forms present in the *Zircon type class* of the Tetragonal system.
25. Classify and describe the silicate structures.
26. Describe the symmetry elements and forms present in the *Normal class* of the Hexagonal system.
27. List out the various physical, chemical, magnetic and electrical properties of a mineral.

**2 x 10 = 20 Marks**