

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester M.Sc Integrated Geology Degree Examination, November 2025

GL03IB03 – Crystallography and mineralogy

(2021 Admission onwards)

Time: 2 hours

Max. Marks : 60

(Draw a neat sketch, wherever necessary)

PART-A**Answer all questions****Each questions carries TWO marks****Ceiling -20 Marks**

1. What is contact goniometer?
2. Describe the law of constancy of symmetry
3. Explain the structure of silicate tetrahedron
4. Differentiate the mineral and mineraloid
5. What is hemimorphic and enantiomorphic forms?
6. Briefly explain the sphenoidal class of hexagonal system
7. What is the symmetry element of Zircon?
8. What is tenacity and specific gravity?
9. Write a note on ring silicates
10. Differentiate Weiss parameters and Miller indices
11. Explain the crystal notations
12. Define Carlsbad Law of twinning

PART-B**Answer all questions****Each questions carries FIVE marks****Ceiling -30 Marks**

13. Describe the morphological characters of crystal
14. Write about the symmetry and forms in pyritohedral class of cubic system
15. Explain the types of Twinning with example
16. Describe the classification of silicate structure
17. Explain about Isomorphism, Polymorphism and Pseudomorphism
18. Write about Hexagonal prism and Pyramid of third order
19. Explain the symmetry and forms of Normal class of tetragonal system

PART-C

Answer any *one* questions

20. Give a brief account of the various physical properties of minerals with suitable examples.
21. Describe the symmetry elements and forms present in the Normal class of the Orthorhombic system

1 X10 =10 Marks

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GL03A11 – Biodiversity Scope and Relevance

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

*(Draw neat sketches, wherever necessary)***PART A**

Answer all questions

Each question carries 2 Marks

Ceiling 25 Marks

1. Define hotspot in biodiversity
2. Explain biodiversity linked to your daily life
3. Describe endemic species
4. What is meant by bio prospecting
5. What is gene bank
6. Describe loss of agrobiodiversity
7. Define rare species
8. Explain indicator species
9. Describe species abundance and species
10. What is canopy fogging
11. Explain component of biodiversity values
12. Explain quadrant sampling
13. What is keystone species
14. Describe ethical and aesthetic value of biodiversity
15. What is microbial culture collection

PART B

Answer all questions

Each question carries 5 Marks

Ceiling 35 Marks

16. Write about the process responsible for species extinction
17. Write about the Genetic biodiversity
18. Discuss how climate affect different ecosystem

19. Describe about species biodiversity
20. Discuss different types of biodiversity
21. Explain significance of wild relatives of cultivated plants and domestic animals
22. Discuss the conservation of genetic species and ecosystem species
23. Discuss the methods of inventorying and monitoring of biodiversity

PART C

Answer any two questions

Each questions carries 20 Marks

24. Explain about bioprospecting
25. Discuss about the animal biodiversity
26. How the IUCN Red list classifies the species
27. Explain about the methods of conservation of biodiversity

2 × 10 = 20 Marks

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Name:

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GL03A12 – Research Methodology

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

(Draw neat sketches, wherever necessary)

PART-A

Answer all questions

Each questionn carry Two marks

Ceiling: 25 Marks

1. What is plagiarism in research?
2. What is meant by scope of a study?
3. What is PubMed?
4. What is an open access journal?
5. What you mean by objective of research?
6. Differentiate between journal and book
7. Define keywords in academic research.
8. What is ISSN number?
9. What is meant by impact factor of a journal?
10. What is a project proposal?
11. Difference between header and footer of a table.
12. What is a manuscript?
13. What is research?
14. What is meant by virtual source of literature?
15. What is the function of newsletter in research?

PART-B

Answer all questions

Each questionn carry Five marks

Ceiling: 35 Marks

16. Discuss the importance of conducting a research project.
17. Explain how to identify and select a suitable reserach topic.

18. Explain the role of Infilbnet and Medline in academic research
19. Discuss the role of softwares like SPSS in data interpretation.
20. Describe how to arrange refence and citation in a bibliography.
21. Explain arrangement of bibliography and how to qoute reference in thesis.
22. Expalin observational and experimental research
23. Write a note on the structure and purpose of short communication

PART-C

**Answer any two questions
Each question carry Ten marks**

24. Discuss the major components and structure of a thesis.
25. Explain the importance of peer reviewed journals and the role of science citation index in evaluation research quality.
26. Describe the complete process of data analysis and presentation in scientific research? Add a note on the use of table, charts and stastical software.
27. Describe the various sources and purpose of literature review.

2x10=20 Marks
