



1-6-2024

DOON UNIVERSITY, DEHRADUN
End Semester Examination of B.Sc- II Semester
Academic Year 2023-24
Dr. Nityanand Himalayan Research and Study Centre
Department of Geology
GEC-153 Metamorphic Petrology

Time Allowed 3.00 Hours

Maximum Marks: 50

SECTION: A

Write a note on the following. Attempt any five questions. – (Marks 2 x 5=10)

1. Slate and schist
2. What are geothermometers?
3. What are Pre-kinematic metamorphic textures?
4. What is Isograd?
5. What happens to basalt when subjected to low-grade and high-grade metamorphism?
6. Explain phase transformation in metamorphic reactions.
7. What is a granoblastic texture?

SECTION: B

Attempt four questions. Make appropriate diagrams when needed (Marks 4x 5= 20)

1. Elaborate ACF Diagram.
2. What is metasomatism? Elaborate on their types?
3. What are paired metamorphic belts? Give examples.
4. Explain the significance of P-T-t path with diagrams.
5. What are the different physical processes during metamorphism? Give an example of foliation.

SECTION: C

Attempt two questions. Make appropriate diagrams when needed (Marks 2x 10= 20)

1. Elaborate on the different metamorphism facies with graphical representation.
2. What is metasomatism? Elaborate on their types?
3. Explain the metamorphic mineral assemblages in convergent plate boundary with diagram.