

**D.B.F. Dayanand College of Arts and
Science, Solapur**

Department of Geology

B.Sc. I



Subject	Mineralogy
Paper No. and Title	Paper – I Mineralogy and palaeontology
Module (Flipped classroom) Title	MIN
Module Tag	VMD3

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Department - Geology

D. B. F. Dayanand College of Arts and Science, Solapur

2020-2021

Module No. 1

Title – Mineralogy

- **Prerequisites –**

Mineralogy is the geological science that deals with the study of the earth's crust. The branch of geology dealing with study of minerals is known as Mineralogy. The Earth is composed of rocks. Rocks are aggregates of minerals. So, minerals are the basic building blocks of the Earth. Currently there are over 4,000 different minerals known and dozens of new minerals are discovered each year. Our society depends on minerals as sources of metals, like Iron (Fe), Copper (Cu), Gold (Au), Silver (Ag), Zinc (Zn), Nickel (Ni), and Aluminum (Al), etc., and non-metals such as gypsum, limestone, halite, clay, and talc. Many minerals are of great economic importance and their distribution, extraction, and availability have played an important role in history. Minerals are composed of atoms.

- **Objectives of the Module**

Students should learn about the details of the Mineralogy

Content	Objectives (Learner should be able to)	Cognitive Level
Mineralogy	Definition	Remembering
Introduction and definition	Formation of minerals: chemical bondings	Remembering
	Physical properties of minerals	Remembering
Physical properties of minerals	Visualization method	Applying
	Proper thought process	Understanding
	Asking question and some simple concept	Evaluating

Detailed Plan of Out-of-class and In-class activities

Sub Unit 1 -

Objectives –

- Understanding what is minerals and how it is formed in nature.
- Understanding crystallization process and various chemical bonding.

Resources Needed –

→ Title and Nature of Resources –

Syllabus of B. Sc. I Geology

https://drive.google.com/file/d/1J1brCTT9cNw8ioIIV2ZxH7N1BylS_aFi/view?usp=sharing

→ Material OER/URL/Instructor-made/Copywrited/Text Book etc.

1) Text Books / Notes

https://drive.google.com/file/d/1TlInQJwbAsgbVVMO3WH_DYx61fDobksL/view?usp=sharing

<https://drive.google.com/file/d/116smpSiEFRgsQ4yfbRWRM9xyk3C2jT6T/view?usp=sharing>

2) Instructor-made -
PPT -

<https://drive.google.com/file/d/1vTxa7J82fS2G0y2b05XknJ5LgaMppUTd/view?usp=sharing>

3) Instructor-made -
Video -

https://onlinecourses.swayam2.ac.in/cec20_mm01/preview

<https://drive.google.com/file/d/1tGQu2oy0JN8EwNpB5riZIH7r9GcLBHUV/view?usp=sharing>

<https://www.youtube.com/watch?v=dAZNhVkCYsA>

4) Quiz-

<https://forms.gle/kksefQ9xcbmWm35J7>

Units	Out-of-class activity Details of Activity	In-class activity Details of Activity	Assessment
1.1	Students should read out the topic from a book Students should listen to the recordings	Discussion on the topic Check the level of understanding through Question – answer session	Question – answer session
1.2	Students should read out the topic from a book Students should watch video on given links	Discussion on the topic Models of various atomic bonding structures. Help students to apply definition to various natural objects	Question to write in detail On-line quiz

Sub Unit 2 -

Content	Objectives (Learner should be able to)	Cognitive Level
Physical properties of minerals	Differentiate physical and chemical properties of minerals	Remembering
Chemical composition of minerals	Physical properties depending on light	Remembering
	Physical properties depending on aggregation	Remembering
	Visualization method	Applying
	Proper thought process	Understanding
	Asking question and some simple concept	Evaluating

Objectives –

- Identification of physical properties.
- Application of physical properties of minerals for identification
- Application of tools for identification (streak plate, hardness box etc.)

Resources Needed –

→ Title and Nature of Resources –

Syllabus of B. Sc. I Geology

https://drive.google.com/file/d/1J1brCTT9cNw8ioIIV2ZxH7N1BylS_aFi/view?usp=sharing

→ Material OER/URL/Instructor-made/Copywrited/Text Book etc.

2) Text Books / Notes

https://drive.google.com/file/d/1TlInQJwbAsgbVVMO3WH_DYx61fDobksL/view?usp=sharing

<https://drive.google.com/file/d/116smpSiEFRgsQ4yfbRWRM9xyk3C2jT6T/view?usp=sharing>

<https://drive.google.com/file/d/1vTxa7J82fS2G0y2b05XknJ5LgaMppUTd/view?usp=sharing>

3) Instructor-made - Video -

https://onlinecourses.swayam2.ac.in/cec20_mm01/preview

<https://drive.google.com/file/d/1tGQu2oy0JN8EwNpB5riZIH7r9GcLBHUV/view?usp=sharing>

<https://www.youtube.com/watch?v=dAZNhVkCYsA>

4) Quiz-

<https://forms.gle/kksefQ9xcbmWm35J7>

Units	Out-of-class activity Details of Activity	In-class activity Details of Activity	Assessment
1.1	Students should read out the topic from a book Students should listen to the recordings	Discussion on the topic Check the level of understanding through Question – answer session	Question – answer session
1.2	Students should read out the topic from a book Students should watch video on given links	Discussion on the topic Application of physical properties to various unknown minerals. Application of tools to identify minerals	Question to write in detail On-line quiz