



<b>Subject</b>	<b>Chemistry</b>
<b>Paper No. and Title</b>	<b>Inorganic Chemistry</b>
<b>Module (Flipped classroom) Title</b>	<b>Atomic Structure and Periodic Properties</b>
<b>Module Tag</b>	<b>DAYA.CHEM.SVR.M1</b>

By

Mr. Rajmane Shivaji Vishnu

Department of Chemistry

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

2020-21

## Module No. 1

### Title: - Atomic Structure and Periodic Properties

**Prerequisites:** – Learners should read the concepts of atomic structure and periodic properties from the book.

#### Objectives of the Module

##### Sub Unit: 1 – Atomic Structure

	Content	Objectives (Learner should be able to )	Cognitive Level
1.1	Definition	Definition of atom and orbital	Remembering
		Shapes of orbital's	Remembering
		Quantum Numbers	Applying
		Drawing of shapes of orbital's	Evaluating
1.2	Fundamental rules of electron distribution in orbital's	Pauli's Exclusion principle	Understanding
		Hunds Rule of maximum multiplicity	Understanding
		Aufbau Principle	Understanding
		Energy levels of orbital's	Applying
		Electronic configuration	Analysing

##### Sub Unit: 2 – Periodic Properties

	Content	Objectives (Learner should be able to )	Cognitive Level
1.1	Periodic Table	Definition of periodic table	Remembering
		Nature of elements	Remembering
		Classification of metals	Applying
		Drawing of periodic table	Evaluating
1.2	Periodic Properties	Definition of periodic properties	Understanding
		Representation and measurement	Understanding
		Factors affecting the properties	Understanding
		Trends in periodic table	Applying
		Comparative chart of all properties	Analysing

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

**Week: 1**

### Sub Unit: 1 – Atomic Structure

#### Objectives –

- 1) To know the definition of atom and atomic orbital.
- 2) To understand the shapes of orbital's.
- 3) To understand the fundamental rules for electron distribution.

#### Resources Needed –

Title and Nature of Resources :-

PAH Solapur University B.Sc.-I, Sem.-I, Paper-II: Inorganic Chemistry Syllabus.

<http://su.digitaluniversity.ac/WebFiles/B%20Sc%20I%20Chemistry.pdf>

#### Material :

A) Books -

- i) Text Book: B.Sc.-I (Sem.-I) Paper-II: Inorganic Chemistry.
- ii) Reference Book: Principles of Inorganic Chemistry by B. K. Sharma

B) Instructor made -

i) PPT -

<https://docs.google.com/presentation/d/1y0bWeRsy2ey5WAQGvxjQC9b4qgcY8MNU/edit#slide=id.p1>

ii) Video – Video-1: <https://youtu.be/4YK9OrwRMC8>

Video-2: <https://youtu.be/tQYHQ4TXCeE>

iii) Soft study material - <https://drive.google.com/drive/u/0/recent>

C) Assessment- <https://drive.google.com/drive/u/0/recent>

Units	Out-of –class activity Details of Activity	In-class activity Details of Activity	Assessment
1.1	Students should read out the topic from Text and Reference book  Students should listen 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 Text and Reference book  Students should listen the recordings	Same as above  Help students to apply the definition	Question to write in detail

## Week: 2

### Sub Unit: 2 – Periodic Properties

#### Objectives –

- 1) To know the definition of periodic table.
- 2) To understand the nature of elements.
- 3) To know the definition of each periodic properties.
- 4) To understand the factors affecting the periodic properties.
- 5) To Analyse the trend of each periodic properties.

#### Resources Needed –

Title and Nature of Resources :-

PAH Solapur University B.Sc.-I, Sem.-I, Paper-II: Inorganic Chemistry Syllabus.

<http://su.digitaluniversity.ac/WebFiles/B%20Sc%20I%20Chemistry.pdf>

#### Material :

A) Books -

- i) Text Book: B.Sc.-I (Sem.-I) Paper-II: Inorganic Chemistry.
- ii) Reference Book: Principles of Inorganic Chemistry by B. K. Sharma

B) Instructor made -

i) PPT -

<https://docs.google.com/presentation/d/1KuvjXFILauRUFmxbMQBzLaCLTOyoOKH/edit#slide=id.p1i>

i) Video – Video-1: <https://youtu.be/4UL6BaOPTSc>

Video-2: <https://youtu.be/Cw6rY0373UQ>

Video-3: <https://youtu.be/SPo3Cg1HEJl>

iii) Soft study material - <https://drive.google.com/drive/u/0/recent>

C) Assessment- <https://drive.google.com/drive/u/0/recent>

Units	Out-of –class activity Details of Activity	In-class activity Details of Activity	Assessment
2.1	Students should read out the topic from Text and reference book Students should listen the recordings	Discussion on the topic Check the level of understanding through Question – answer session	Question – answer session
2.2	Students should read out the topic from Text and reference book Students should listen the recordings	Same as above  Help students to develop the information in tabular form	Question to write in detail