BHAVAN'S BHAGWANDAS PUROHIT VIDYA MANDIR, NAGPUR

CURRICULUM PLAN
(2023-24)

STD: X SUBJECT: CHEMISTRY

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STD: X SUBJECT:

BHAVAN'S B.P. VIDYA MANDIR, NAGPUR

REVISED CURRICULUM PLAN

2023-2024

SUBJECT :- CHEMISTRY

STD :- X

MONTH	WEEKLY DATES	NO. OF PERIODS	NAME OF THE CHAPTERS	TOPICS	NO.OF PERIODS REQUIRED	ACTIVITIES/SMART CLASS MODULES	ASSIGNMENTS/ EVALUATION	LEARNING OUTCOME/SDG / SKILLS ASSESSED
April	1st week 5-8	1	**1. Chemical reactions and Equations**	1.1Chemical equations	1	Burningof Magnesium ribbon.	Writing observation,result and conclusion for intext activities.	Students will be able to- Classify changes as physical / Chemical. **SKILLS ASSESSED**: Classification

April	2nd week 10-15	3		1.1.2 Balancing of chemical equations	3	Action of dil. sulphuric acid on zinc	Chemical equations are given for balancing	Balance chemical equations. **SKILLS ASSESSED**: Critical Thinking,
April	3rdweek 17-21	2		1.2 Types of chemical reactions 1.2.1 Combination reaction 1.2.2 Decomposition reaction	1 1	**EXPERIENTIAL LEARNING:** 1.Heating of lead nitrate. 2.Heating of ferrous sulphate crystals 3.Reaction of black andwhite photography.	Intext questions are discussed & given as homework.	Scientific Approach Students will be able to- Identify and differentiate the types of chemical reactions. **SKILLS ASSESSED**: 1.Logical Thinking
April	4th week 24-29	3		1.2.2 Decomposition . reaction 1.2.3Displacement Reaction 1.2.4 Double Displacement	1 1 1	Reaction of Fe and CuSO4 Reaction of lead nitrate with lead iodide **Experiment 1**: A Lab activity is performed on Types of chemical		Students will be able to- Perform and observe changes during chemical reactions. **SKILLS ASSESSED:** Observational Skills,

						reactions.		
MAY	1st week 2-4	1		1.2.5 Oxidation and Reduction.	1	**ICT**: Oxidation & Reduction		Students will be able to- Understand the concepts of oxidation, reduction.
June	4th week 20-24	2		1.3.1 Corrosion 1.3.2 Rancidity	1 1	**HEALTH AND FITNESS:** Effects of Corrosion and Rancidity.	Chapter based worksheet will be given for practice.	Students will be able to- understand rancidity and its effects in day to day life. **SKILLS ASSESSED:** Inquisitive Approach
June	5th week 26-30	2		Question and answers	2			

July	1st and 2nd week 1 and 3-7	3	**3. Metals & Non-metals**	3.1 Physical properties of metals and non-metals. 3.2 Chemical properties of metals. 3.2.1 What happens when metals are burnt in air?	1 1 1	**EXPERIENTIAL LEARNING**: Physical properties of metals will be demonstrated in the class. Burning of metals.	Students are made to learn equations everyday & tested.	Students will be able to- Understand the concept of metals and non metals and distinguish between them on the basis of their physical and chemical properties. **SKILLS ASSESSED**: Observational Skills, Scientifc Temperament
July	3rd week 10-15	3		3.2.2 What happens when metals react with water? 3.2.3 What happens when metals react with acids?	2 1	**EXPERIENTIAL LEARNING:** Reaction of metals with acid and water	Students are made to learn equations everyday & tested.	**SKILLS ASSESSED**: Observational Skills, Scientifc Temperament Students will be able to- Identify the order of reactivity of various metals by performing displacement reactions. **SKILLS ASSESSED**: Analysing, Critical Thinking
July	4th week 17-22	3		3.2.4 How do metals react with solutions of other metals- displacement reactions. 3.2.5 Reactivity series	2 1	**EXPERIENTIAL LEARNING**: A Lab activity is performed on displacement reactions **ICT:** Reactivity series of metal Relative reactivity of metals		

July	5th week 24-28 and 31	3		3.3 How do metals & non metals react ? 3.3.1 Properties of ionic compounds 3.4 Occurrence of metals	1 1 1	**ICT:** Properties of ionic compounds	To enlist properties of ionic compounds. **PERIODIC TEST I** **PORTION: CH 1 CHEMICAL REACTIONS AND EQUATIONS.(6M)** **DATE : 24/07/23**	Students will be able to- Understanding the concept of ionic bond formation.
August	1st week 1-5	2		3.4.1 Extraction of metals 3.4.2 Enrichment of ore 3.4.3 Extracting metals low in activity series	1 1	**ICT**: Extraction of metals	To learn various steps involved in the metallurgy of metals.	Students will be able to- Understand various extraction processes for metals depending on their reactivity
August	2nd week 7-12	3		3.4.4 Extracting metals in the middle of the activity series 3.4.5 Extracting metals towards the top of activity	2 1		Chapter based worksheet will be given for practice	**SKILLS ASSESSED**: Analytical skill

				series				
August	3rd week 14-19	2		3.4.6 Refining of metals 3.5 Corrosion 3.5.1 Prevention of corrosion.	1 1	**MULTIPLE ASSESSMENT ACTIVITY:** Chart Making-Various Methods to prevent corrosion.	Intext questions & Exercise questions are discussed.	Students will be able to-Corelate the Process of corrosion and its prevention in daily life. **SKILLS ASSESSED**: Design Thinking, Psycho-motor skill.
August	4th week	3	**2. Acids,Bases and Salts**	Question And answers 2.1 Chemical properties of acids & bases 2.1.1 Acids & bases in lab	2 1	**EXPERIENTIAL LEARNING**:Indicators for testing acids & bases. Activity is performed to study the properties of dil HCl & NaOH .	Students are made to learn equations. **PERIODIC TEST II PORTION: CH 3 METALS AND NON-METALS(INCLUDING 3.3.1) (7M)** **DATE : 28/08/23**	Students will be able to-Distinguish between acids and bases on the basis of their chemical properties. **SKILLS ASSESSED**: 1.Learning by doing. 2.Scientific Learning.

Aug	5th week 28 and 31	1		2.1.2 Reaction of acids with metals	1 1	**EXPERIENTIAL LEARNING**: Reaction of acids with metalsis performed.	Students are made to practice equations.	Students will be able to- Perform Various Chemical reactions of acids and bases and observe the changes. **SKILLS ASSESSED:** Observational skills, Testing hypothesis.
Sept	1st week 1 and 2	1		2.1.3 Reaction of acids with metal carbonates & bicarbonates	1	**EXPERIENTIAL LEARNING**: Reaction of acids with metal carbonates & bicarbonates.		
Sept	2nd week 4-8	2		2.1.4 Reaction of acids & bases with each other. 2.1.5 Reaction of metallic oxides with acids 2.1.6 Reaction of non-metallic oxides with bases.	1 1	**EXPERIENTIAL LEARNING**: Reaction of acids & bases with each other **EXPERIENTIAL LEARNING**: Reaction of metallic oxides with acids and Reaction of non-metallic oxides with bases is performed.	Students are made to practice equations.	Students will be able to- Perform Various Chemical reactions of acids and bases and observe the changes. **SKILLS ASSESSED:** Observational skills,

								Testing hypothesis
Sept	4th and 5th week 18-25	2 1		**REVISION FOR HALF YEARLY**				
HALF YEARLY EXAM FROM 26/09/23 to 11/10/23 **Ch:1Chemical reactions and equations (12M)Ch:3 Metals and non metals (13M)**								
Oct	2nd week 12-14	1		2.3 How strong are acids & bases.	1			Students will be able to- Understand the concept of pH and will perform activities to test the pH of various samples. **SKILLS ASSESSED**: Testing hypothesis
Oct	3rd week 16-21	2		2.3.1 Importance of pH in everyday life. 2.4 More about Salts.	1 1	**EXPERENTIAL LEARNING**: To find the pH of materials used in daily life and classify.	Intext questions & Exercise questions are discussed.	
Oct	4th and 5th week 25-31	3		2.4.1 Family of Salts 2.4.2 pH of salts 2.4.3 Chemicals from	1 1			Understand the methods of preparation and uses of various

				common salt.				chemical compounds obtained from salt.
November	1st week 1-4	2		2.4.3 Chemicals from common salt.(contd)	2	**ART INTEGRATED ACTIVITY:** Drawing Diagram of Electrolysis of Brine.		**SKILLS ASSESSED:** Drawing.
November	2nd week 6-9			2.4.4 Are the crystals of the salts dry? Question and answers		**ICT**: Water of crystallisation	Chapter based worksheet will be given for practice	
				DIWALI VACATIONS: 10/11/23 TO 22/11/23				

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November	4th week 23-25	2	**4. CARBON AND ITS COMPOUNDS**	4.1 Bonding in carbon- Covalent bond 4.2 Versatile nature of carbon	1 1	**TOY BASED:** Demonstration of 3-D models of carbon compounds.	Extra questions are given on nomenclature.	Students will be able to- Understand Bonding in carbon compounds.
November	5th week 28-30	1		4.2.1 Saturated & unsaturated compouds 4.2.2 Chains,branches & rings	1			**SKILLS ASSESSED**: Critical thinking, Cognitive Learning.
Dec	1st and 2nd week 1-8	3		4.2.3 Will you be my friend 4.2.4 Homologous series 4.2.5 Nomenclature of carbon compounds. 4.3 Chemical Properties 4.3.1 Combustion 4.3.2 oxidation	1 1 1	Students are asked to enlist the homologous of different functional groups. **EXPERENTIAL LEARNING:**	**PERIODIC TEST III PORTION: CH 2 ACIDS, BASES AND SALTS. DATE : 4/12/23**	Students will be able to- Name carbon compounds according to IUPAC System.

1

						Oxidation of Ethanol.		**SKILLS ASSESSED**: Observational skills.
December	3rd week 11-16	3		4.3.3 Addition Reactions 4.3.4 Substitution Reactions 4.4 Some important carbon compounds 4.4.1 Properties of ethanol. 4.4.2 Properties of ethanoic acid. 4.5 Soaps and Detergents Questions and Answer	1 1 1	**EXPERIENTIAL LEARNING**: A lab activity is performed on properties of ethanoic acid **EXPERIENTIAL LEARNING**:Action of soap on hard & soft water	Chapter based worksheet will be given for practice	**SKILLS ASSESSED**: Learning by Doing. Drawing inference.
	PORTION COMPLETION 16/12/23 **REVISION 18/12/23 TO 05/01/24** **PRELIMINARY EXAMINATION 8/1/24 to 22/1/24** **Portion:** **Ch:1 Chemical reactions and equations** **Ch:2 Acid , Bases And Salts** **Ch:3 Metals and non metals**							

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	Ch :4 Carbon and its compounds
FEB	**AISSE – 2024**

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BHAVAN' B.P. VIDYA MANDIR, NAGPUR

SUBJECT : CHEMISTRY

CLASS: X

SESSION 2023-24

LIST OF LABORATORY EXPERIMENTS

EXPERIMENT.NO.1

A. TO FIND OUT 'pH' OF FOLLOWING BY USING pH PAPER /UNIVERSAL INDICATOR :

i. DIL. HCL SOLUTION
ii. DIL. NaOH SOLUTION
iii. DIL. CH_3COOH SOLUTION
iv. LEMON JUICE
v. WATER
vi. DILUTE HYDROGEN CARBONATE SOLUTION

B. STUDYING THE PROPERTIES OF ACIDS AND BASES (HCl AND NaOH) ON THE BASIS OF THEIR REACTION WITH :

i. LITMUS SOLUTION (BLUE/RED)
ii. ZINC METAL
iii. SOLID SODIUM CARBONATE

EXPERIMENT.NO.2 PERFORMING & OBSERVING THE FOLLOWING REACTIONS AND CLASSIFYING THEM INTO :

a) COMBINATION
b) DECOMPOSITION
c) DISPLACEMENT
d) DOUBLE DISPLACEMENT

I. ACTION OF WATER ON QUICK LIME
II. ACTION OF $CuSO_4$ SOLUTION ON IRON (FE).
III. REACTION BETWEEN Na_2SO_4& $BaCl_2$.
IV. ACTION OF HEAT ON $FeSO_4$ CRYSTAL.

EXPERIMENT.NO.3

A.OBSERVING THE ACTION OF Zn, Fe, Cu & Al METALS ON THE FOLLOWING SALT SOLUTIONS :

i. $ZnSO_4$ (AQ.)
ii. $FeSO_4$ (AQ.)
iii. $CuSO_4$(AQ.)
iv. $Al_2(SO_4)_3$ (AQ.)

B. ARRANGING Zn, Fe, Cu & Al (METALS) IN THE DECREASING ORDER OF REACTIVITY BASED ON THE ABOVE RESULTS.

EXPERIMENT.NO.4

STUDY OF THE FOLLOWING PROPERTIES OF ACETIC ACID (ETHANOIC ACID):

i. ODOUR
ii. SOLUBILITY IN WATER
iii. EFFECT ON LITMUS
iv. REACTION WITH SODIUM HYDROGEN CARBONATE

EXPERIMENT.NO.5

STUDY OF THE COMPARATIVE CLEANING CAPACITY OF A SAMPLE OF SOAP IN SOFT AND HARD WATER

BHAVAN'S B.P.VIDYA MANDIR, NAGPUR

CURRICULUM PLAN - SESSION: 2023-24

SUBJECT: CHEMISTRY **STD: X**

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SUBJECT ENRICHMENT

Bhavan's B.P. Vidya Mandir, Nagpur

Art – Integrated Activity/Project/Subject Enrichment (2023-2024)

Subject: SCIENCE (Chemistry) Class: X

Topic: Subject Enrichment

Sub-topic: Science Practical [Experiments in Science].

Nature of Task: Individual

Task: Post Content

Skills Assessed: Observation, Analysis, Reasoning, Understanding, Drawing.

Learning Objectives:

1) To enable the students understand various concepts in science through handson activities.
2) To make the students aware about the experimental setup required for the process.
3) To make students realize the principle behind every experiment performed.

Procedure:

1) Teacher will demonstrate the experiment by making the Experimental Setup.
2) She will ask the Students to observe the results and note them in their observation book.
3) Students will perform the Experiments and note down the observation
4) Students will draw diagram.
5) Students will draw Inference and will note down in practical Record.

Art – Integrated Activity/Project/Subject Enrichment (2023-2024)

Assessment Criteria: 1) Understanding
2) Reasoning
3) Regularity
4) Neatness.

Duration of the Task: 45 minutes

Follow up / Feedback:
Teacher will take rounds and will guide the students if they face any difficulty in doing the experiments.
Teacher will also guide them in writing the procedure, observation and Inference if they need any help.

Assessment Rubric: Regularity – 02 M
completion – 02 M
Neatness – 01 M
05

Subject Coordinator's: Name and Signature

CL : Sonali Dangre SKN : Rashmi.chowrikar
ASHTI: Manisha Borikar 05/23 TMN : Nidhi Agnihotri
KORADI: Sameena Afroz 08/05/2023 CHB: -
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PORTFOLIO (NOTEBOOK)

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Art – Integrated Activity/Project/Subject Enrichment (2023-2024)

Subject: Science (chemistry) Class: X

Topic: Portfolio

Sub-topic: Notebook, Sample of work done by student

Nature of Task: Individual

Task: Post content

Skills Assessed: Regularity, Punctuality and Neatness

Learning Objectives: Students will learn to :

1) Highlight their best work
2) Display their skills and potential in writing.
3) complete their work on regular basis with neatness and punctuality.
4) Determine their learning standard and other requirements for their grades.

Procedure: Students will be asked to :

1) write intext questions, NCERT questions and extra questions in portfolio.
2) They will be asked to draw neat and well labelled diagram.
3) Regular and timely submission
4) Do the correction where ever asked

Art – Integrated Activity/Project/Subject Enrichment (2023-2024)

Assessment Criteria: Regularity
Punctuality
Neatness

Duration of the Task: Annual

Follow up / Feedback: Teacher will guide the students in case of incorrect answers and improper drawings and labellings.

Assessment Rubric: Regularity – 02
Punctuality – 02
Neatness – 01
05

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SKN : RASHMI CHOURIKAR

ASHTI: Manisha Borikar 08/5/23

TMN : Nidhi Agnihotri 08/05/2023.

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Multiple Assessment.

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Art – Integrated Activity/Project/Subject Enrichment (2023-2024)

Subject: Science (Chemistry) Class: X

Topic: Ch: 3 Metals and Non-metals

Sub-topic: Methods of preventing corrosion.

Nature of Task: Group activity.

Task: Chart making on methods of preventing corrosion.

Skills Assessed: Knowledge, Psychomotor, Creativity, Neatness.

Learning Objectives: Students will learn to

- Express their thoughts and ideas on methods of preventing corrosion.
- Explore various methods of preventing corrosion.
- Enhance their creativity, collaborative skills and aesthetic skill.

Procedure: (i) Students will gather colourful pictures and information on various methods of preventing corrosion – painting, oiling, greasing, galvanising, chrome plating, anodising and alloy making.

(ii) Teacher will guide the students to divide work among team members such as

- collection of pictures
- gathering information
- organising information and pictures on chart.

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Art – Integrated Activity/Project/Subject Enrichment (2023-2024)

Assessment Criteria: (i) Knowledge
(ii) Creativity
(iii) Neatness
(iv) Team work.

Duration of the Task: one week

Follow up / Feedback: Teacher will guide the students in case they are unable to make an Informative chart.

Assessment Rubric:

(i) Knowledge	– 02
(ii) Creativity	– 01
(iii) Neatness	– 01
(iv) Team work	– 01
Total	05

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