BHAVAN'S BHAGWANDAS PUROHIT VIDYA MANDIR, NAGPUR

CURRICULUM PLAN
(2023-24)

STD: X SUBJECT: BIOLOGY

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BHAVAN'S B.P. VIDYA MANDIR, NAGPUR
CURRICULUM PLAN
SESSION:2023-24
SUBJECT:-BIOLOGY (Std. X)

Month	Weekly Dates	No. Of Periods	Name Of The Topic	Sub-Topics	Activities / Smartclass Modules	Assignments & Evaluation	Learning Outcomes (21st Century Skills/SDG's)
APRIL	05/4 – 08/04	1	CH-5 LIFE PROCESSES	Introduction 5.1: What are Life Processes?	**Experiential learning :** 1:Chlorophyll, Carbon dioxide, Light is necessary for Photosynthesis 2:Action of saliva on starch.	1 .Read the chapter 2 .Diagram practice will be given. 3.Role plays on Various Systems 4.Written test Questions given will be discussed.	Students will be able to: 1. Recognize that photosynthesis is a photochemical reaction. 2.Identify the specific regions of digestion with specific biocatalysts. 3. Analyse that energy is produced in varying quantities during glucose breakdown in cellular respiration.
	10/4 – 15/04	3		5.2: Nutrition 5.2.1: Autotrophic Nutrition 5.2.2: Heterotrophic Nutrition	**Smartclass Modules:-** 1. Modes of nutrition. 2. Nutrition in animals. **Subject Enrichment:** **1:PRACTICAL**: To prepare a temporary mount of leaf peel to show stomata		
	17/04 – 21/04	2		5.2.3: How do Organisms obtain their nutrition? 5.2.4: Nutrition in Human beings	**2: Art Integrated Activities:** Sikkim: Small Step to Big Leap **Smartclass Modules:-** Respiration and breathing Anaerobic respiration in yeast and human muscles.		
	24/04 – 29/04	3		5.3 : Respiration	**Experiential learning :** Human respiratory system. a) Air is passed into lime water with pichkari b) Air is exhaled into lime water. 4.What happens when yeast is added to fruit juice?(Fermentation) **PRACTICAL:** To show that CO_2 is produced during respiration.		
MAY	02/05 – 04/05	1					

JUNE 4th Week	20/06 – 24/06	2	CH-5 LIFE PROCESSES **Contd….**	5.4.1: Transportation in human beings 5.4.2(1)Transportation in plants	**Smartclass Modules:** Transportation of blood Transportation in plants Human Excretory system	Diagram practice will be given. 2. Questions given will be discussed 3. Crossword,Puzzles or Role plays (Any one) to be conducted .	Students will be able to : 1.Explain the mechanism and importance of double circulation. 2. will be aware of various ways through which plants excrete. 3. know the significance of Haemodialysis. **21st Century Skills incorporated:** Students will be able to : **1)Critically analyse** Various physiological processes related to various systems in plants and animals **Life skill:** **Good Health and Well Being (SDG)**They will understand the importance of exercise ,physical activities in day to day life to maintain good health.
5th Week	26/6 – 30/6	2		(2)Transportation of food and other substances. 5.5.1: Excretion in human beings. 5.5.2: Excretion in plants. Que. & ans discussion			

JULY 1st Week & 2nd Week	1/7, 3/7-7/7	3	CH – 6 CONTROL AND COORDINATION	Introduction 6.1: Animal nervous system 6.1.1: What happens in reflex action? 6.1.2: Human brain 6.1.3: How are tissues protected?	**Smartclass Modules:-** 1. Reflex action and reflex arc. 2. Central nervous system. **Experiential Learning:** Activity no: 6.1 Activity correlating sense organs: Putting sugar in mouth and closing the nose **Toy based learning:** To make children play games based on brain exercises : Putting the ball in the bucket	1 .Read the chapter 2 .Diagram practice will be given. 3.Role plays on Various Systems 4.Written test Questions given will be discussed.	Students will be able to : 1.associate the chain of events that occur after a stimulus, to the response 2: identify various steps involved in movement of information through a neuron. 3: recognize the importance of functioning of various parts of human brain. 4: know about various types of responses shown by plants. **21st Century Skills incorporated:** Students will be able to **Life Skill:** Mandatory Use of Helmet/Seat belts while Driving **Collaboration Skill:** How nervous and Endocrine system collaborate and coordinate with other systems of the body Students will be able to: 1) Associate the role of hormones and nervous system in initiating a response.
3rd Week	10/7 – 15/7	3		6.1.4: How does the nervous tissue cause action? 6.2: Coordination in plants. 6.2.1: Immediate response to stimuli.	**Art based activity:** To draw a well labeled Diagram Depicting Reflex Arc, Human Brain, Endocrine system **Smartclass Modules:-** 3. Plant movement. Phototropism Geotropism **Experiential Learning:** Touch me not plant activity to understand Thigmotropism 4. Animal hormones		
4th Week	17/7 – 22/7	3		6.2.2: Movement due to growth. 6.3 Hormones in animals (Que. & Answer discussion)			

5th Week	24/7 – 28,31/7	3	CH – 7 HOW DO ORGANISMS REPRODUCE?	Introduction 7.1: Do organisms create exact copies of themselves? 7.1.1: The importance of variation.	**Smartclass Modules:-** Types of reproduction Asexual Reproduction **Experiential learning** Making the students mount the slides depicting budding in yeast To make them grow potatoes to show vegetative propagation Activity 7.5	**PERIODIC TEST-I** **Ch.05 Life Processes** **24/07** Read the chapter 2 .Diagram practice will be given. 3.Role plays on Various Systems 4.Written test Questions given will be discussed.	
AUGUST 1st Week	1/8-5/8	2	CH – 7 HOW DO ORGANISMS REPRODUCE? Contd…	7.2.1: Fission 7.2.2: Fragmentation 7.2.3: Regeneration 7.2.4: Budding 7.2.5: Vegetative propagation 7.2.6: Spore formation 7.3: Sexual reproduction. 7.3.1: Why sexual mode of reproduction?	To make them grow bread mould and observe under microscope **PRACTICAL** To study binary fission in Amoeba, budding in yeast & hydra with the help of prepared slides. **Research based Experiential learning:** To dissect and display the whorls of a flower. **Smart Class Modules:-** Sexual Reproduction in flowering plants **PRACTICAL:** To identify the different parts of a dicot seed (pea, gram, or red kidney bean)	**PERIODIC TEST-II** **28 th August** **Ch.06 Control and Coordination**	2: Recognize various types of reproduction exhibited by plants and animals. 3. Relate certain identifying features to specific parts where they are found. 4. Identify the different parts of flowers, seeds and their functions. 5:Differentiate between male and female reproductive structures of plants and human body. **21st Century Skills:** **Students will be able to :** **Information Literacy Skill:** Understand the current status of population,how population could be controlled
2nd Week	7/8-12/8	3					
3rd Week	14/8-17/8 to 19/8	1					
4th Week	21/8-26/8	3		7.3.2: Sexual reproduction in flowering plants. 7.3.3: Reproduction in human beings. 7.3.3: a) Male			

5th Week SEPTEMBE 1st Week	28/8 – 31/8 1/9- 2/9	1 1		reproductive system. 7.3.3 b) Female reproductive system. 7.3.3 c) What happens when the egg is not fertilized? d) Reproductive health Que. & ans discussion			**Life skill:** Understand importance of banning Prenatal Sex determination **(SDG-Gender Equality)** **Critically analyse** why population control is the need of the hour**(SDG- Population Control)**
SEPTEMB ER 2nd Week 3rd Week	4/9-8/9 11/9 – 16/9,18/ 9	2 2	CH – 8 HEREDITY	8.1: Accumulation of variation during reproduction. 8.2: Heredity 8.2.1: Inherited trait **8.2.2** Rules of inheritance of traits. **PORTION COMPLETION:18th September**	**Research Based Activity:** Activity no: 8.1: To find out Law of Inheritence	Read the chapter 2 .Diagram practice will be given. 3.Role plays on Various Systems 4.Written test Questions given will be discussed **HALF YEARLY PORTION:-** **CH-05 LIFE PROCESSES** **CH-06 CONTROL AND COORDINATION** **CH-07 HOW DO ORGANISMS REPRODUCE?**	Students will be able to: 1.relate environmental changes to adaptive changes in organisms. 2.appreciate Mendel's contribution to genetics. 3.difference between acquired and inherited traits. **21st Century Skills:** **Problem Solving,** **Critical thinking,** **Information Literacy,** **Mathematical thinking,** While making Punnette Square
OCTOBER 2nd Week	12/10-14/10 16/10 –	6	**REVISION FOR HALF YEARLY**	**8.2.2** Rules of inheritance of traits. Contd.	**HALF YEARLY EXAM:-** **26th September to 11th October** **Smartclass Modules:-** Monohybrid Cross Dihybrid Cross	Read the chapter 2 .Diagram practice will be given. 3.Role plays on Various Systems 4.Written test Questions given will be discussed	

	21/10 25/10- 27/10 30/10 , 31/10	 1	**EXAM: 18/9-21/9**	8.2.3: How do these traits get expressed? 8.2.4: Sex determination.			**(SDG-Gender Equality)**Understand importance of banning Prenatal Sex determination and also that males determines the sex of a child
NOVEMBER 1st Week 2nd Week	1/11-4/11	2 2	CH.13. OUR ENVIRONMENT	Introduction 15.1: What happens when we add waste?	**DIWALI VACATION: 10/11 – 22/11** **Art based Activity:** To Draw 2 step, 3 step, 4 step Foodchains in Notebook		Students recall various components of ecosystem.
4th Week	6/11-9/11	1		15.2: Ecosystem and its components.	**Research based activity:** Activity no 13.4 Which chemicals are responsible for the depletion of Ozone layer Activity no: 13.6 To find out information about Biodegradable and Non biodegradable Substances		They will be able to 1:apply 3R's principle to save environment. 2: explain the various issues related to environment. 3.Students are aware of human activities that harm the ecological balance
5th Week	23/11 – 25/11 28/11 – 30/11	1 1		15.2.1: Food chain and food web			

DECEMBER	1/12,2/12 –4/12 to 8/12 11/12 – 16/12	4 3		15.3.1: Ozone layer and its depletion. 15.3.2: Managing the garbage we produce **PORTION COMPLETION: 16 DECEMBER**	**Smartclass Modules:-** 1. The chain theory-food chain. 2. Food web. 3. Ozone layer. 4. Land pollution and modes of waste disposal.	**Periodic Test-03** **4th December** Ch.08 Heredity	**21st Century Skills:** Information Literacy, Critical thinking, Life Skills, Problem Solving, Social skills, Computational skills, Drawing skill. **SDG'S:** 1.Clean Water and Sanitation 2.Responsible consumption and production 3.Climate action 4.Life on land 5.Affordable and Clean energy
DECEMBER 4th Week	18/12 - 23/12	3		**Revision for preliminary Exam:** **Chapter 6: Life Processes.** **Chapter 7: Control and Coordination**		**PRELIMINARY EXAM PORTION:-** **CH-06 LIFE PROCESSES** **CH-07 CONTROL & COORDINATION** **CH-08 HOW DO ORGANISMS REPRODUCE?** **CH-09 HEREDITY AND EVOLUTION** **CH-15 OUR ENVIRONMENT**	

5th Week JANUARY	26/12-30/12 1/1/24 – 6/1/24	3 2		**Chapter 9: Heredity** **Chapter 9: How do Organisms Reproduce**			

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BHAVAN'S B.P.VIDYA MANDIR, NAGPUR

SESSION 2023-24

STD: X

SUBJECT: BIOLOGY

LIST OF EXPERIMENTS:-

1: Preparing a temporary mount of a leaf peel to show stomata.

2: Experimentally show that carbon dioxide is given out during respiration.

3:Studying (a) binary fission in *Amoeba,* and (b) budding in yeast and Hydra with the help of prepared slides.

4: Identification of the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean).

BHAVAN'S B. P.VIDYA MANDIR, NAGPUR
CURRICULUM PLAN
SESSION: 2023-24
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STD.: X

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

Assessment Criteria: The students will be assessed on the basis of various skills like Design Thinking, Artistic skills, their creativity and presentation. They will also be observed while working in Groups. for their group coordination and punctuality.

Duration of the Task: 2 weeks.

Follow up / Feedback: Regular follow up of the activity will be taken up by the teacher. Proper guidance will be provided, wherever and whenever required, the students will be asked to report and give feedback to the teacher.

Assessment Rubric:

Design Thinking	– 1 m
Presentation & Creativity	– 1 m
Relevant content	– 1 m.
Group Dynamics	– 1 m
Punctuality	– 1 m
Total	5 m

Subject Coordinator's: Name and Signature

CL : MEENA CHITRA DOLKE SMOPKAR

SKN : Mrs. Vidya Nandanvar

ASHTI: Tabassum. Ali

TMN : Pushpila C.

KORADI: Pooja. Bhagat

CHB: MOUDA Madhurima Mukherjee

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(SMT. NIRUPAMA PADMARAJ)
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(SMT. VANDANA BISEN)
PRINCIPAL
BVM, ASHTI

11/5/23

(SMT. PARWATI G. IYER)
PRINCIPAL
BVM, TRMN

(MS.SARBANI BOSE)
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Bhavan's B.P. Vidya Mandir, Nagpur

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

Subject: Biology (1·3·1) Class: X

Topic: Our Environment

Sub-topic: SIKKIM – Small steps to Big Leap – The cleanest State of India.

Nature of Task: Group Activity (Subject Enrichment)
(6 Groups Per class). (Art Integrated Activity).

Task: Display Board Presentation (Art Integrated Activity)

Skills Assessed: Design Thinking, Artistic skills, Creativity and Presentation
Critical Thinking, Observation, Colour Scheme & Dimensions.

Learning Objectives:
- Students should be able to research and learn about the steps taken by SIKKIM → towards achieving the coveted position of – 'The Cleanest State of India.'
- Students should be able to develop artistic skills, design thinking, Group Dynamics
- They should learn the pictorial representation of Data collected during research work and present in effective manner.

Procedure: The following steps will be taken –
- The whole class will be divided into 6 Groups.
- Each group will be instructed and guided to prepare a colourful Poster addressing the issues (any one) which have been undertaken by Sikkim to emerge as "The cleanest state of India."
- Each group will prepare one poster on any one topic given – (1) Ban on Plastic. (2) Preventing open Defaecation (3) Farming Practices of Sikkim (4) Solution to Air Pollution (5) Reducing Land slides. (6) Potential use of Signage System.
- The Posters will be displayed on the class Display Board with the common main Heading :–

SIKKIM.
SMALL STEPS TO BIG LEAP
"THE CLEANEST STATE OF INDIA"
(Posters to be displayed below)

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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 or labellings.

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

Subject Coordinator's: Name and Signature

CL : CHITRA DOLKE Meena Salodkar

SKN : Vidya Nandanwar

ASHTI: Tabassum-Ali

TMN : Pushpila C

KORADI: Pooja Bhagat

CHB: —

MOUDA: Madhurima Mukherjee

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SCIENCE (BIO)

PORTFOLIO

Bhavan's B.P. Vidya Mandir, Nagpur

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

Subject: Science Class: X

Topic: Portfolio

Sub-topic: Notebook

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 potentials in writing
3) Complete their work on regular basis with neatness and punctuality.
4) Determine their work on regular basis ~~with~~, 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 diagrams.
3) Regular and timely submissions
4) Do the corrections wherever asked.

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

Assessment Criteria: 1) understanding
2) Reasoning
3) Regularity
4) Neatness

Duration of the Task: 45 min

Follow up / Feedback: Teacher will take rounds and will guide the students if they face any difficulties in doing the experiment. She will also guide them by writing the procedure, observation and inference in case they need any help.

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

Subject Coordinator's: Name and Signature

CL : CHITRADEEP MEENA SALODKAR

SKN : Vidya Nandanwar

ASHTI: Tabassum. A

TMN : Pushpita C Pehall

KORADI: Pooja Bhagat

CHB: —

MOUDA: Madhurima Mukherjee

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Science BIO
Subject Enrichment

Bhavan's B.P. Vidya Mandir, Nagpur

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

Subject: BIOLOGY Class: X

Topic: Subject Enrichment

Sub-topic: Practicals

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 hands on activity.

2) To make the students aware about the experimental set up required for the process

3) To make the students realize and think about the principle of every experiment performed.

Procedure: 1) Teacher will demonstrate the experiment by making the experimental set up.

2) She will ask the students to observe the activity and to note down the observations

3) Students will perform the experiment, they will note the observations, draw diagram draw inference and note it down in their practical Record.