LAKSHMIPAT SINGHANIA ACADEMY
TERM -1 PROJECT
SESSION-2024-25
CLASS-X

ENGLISH:

2 PROJECTS HAVE BEEN DESIGNED BELOW.BOTH THE PROJECTS ARE GROUP PROJECTS.
PROJECT 1 IS FOR JAL AND VAYU HOUSE.
PROJECT 2 IS FOR AGNI AND PRITHVI HOUSE.
PLEASE ADHERE TO THE INSTRUCTIONS GIVEN AGAINST EACH PROJECT.

PROJECT 1: CLIMATE ACTION (GOAL13: SUSTAINABLE DEVELOPMENT GOALS)

Climate change is increasing the frequency and intensity of extreme weather events such as heat waves, droughts, floods and tropical cyclones, aggravating water management problems, reducing agricultural production and food security, increasing health risks, damaging critical infrastructure and interrupting the provision of basic services such water and sanitation, education, energy and transport.

Students are to design **a power point presentation**, consisting 10 slides on the impact of climate change

1. 1 power point presentation will be submitted by each House.
2. The slides should contain the following:
   - Slide 1 - Names of house members
   - Slide 2 -Introduction to the topic
   - Slide 3 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
   - Slide 4- Integrate climate change measures into national policies, strategies and planning
   - Slide 5- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
   - Slide 6-Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change
   - Slide 7-Promote mechanisms for raising capacity for effective climate change-related planning

- Slide 8-Pronote management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities
- Slide 9- A poster on the topic
- Slide 10-Bibliography

LEARNING OBJECTIVE:

•Students have learnt to compose with clarity, coherence and precision.

LEARNING OUTCOME:

•Students will be made aware of the various issues related to climate change.

•Students will develop a collaborative approach and learn to work as a team and value time.

•Students will learn to express their concern and develop awareness through poster designing.

PROJECT 2: Goal 9: Industry, innovation and infrastructure - The Global Goals.
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

A functioning and resilient infrastructure is the foundation of every successful community. To meet future challenges, our industries and infrastructure must be upgraded. For this, we need to promote innovative sustainable technologies and ensure equal and universal access to information and financial markets. This will bring prosperity, create jobs and make sure that we build stable and prosperous societies across the globe.

Students are to design **a power point presentation**, consisting 10 slides on industry, innovation and infrastructure.

1. 1 power point presentation will be submitted by each house.
2. The slides should contain the following:
   - Slide 1 - Names of House members
   - Slide 2 -Introduction to the topic
   - Slide3-DEVELOP SUSTAINABLE, RESILIENT AND INCLUSIVE INFRASTRUCTURES
   - Slide 4- PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION
   - Slide 5- INCREASE ACCESS TO FINANCIAL SERVICES AND MARKETS
   - Slide 6-UPGRADE ALL INDUSTRIES AND INFRASTRUCTURES FOR SUSTAINABILITY
   - Slide 7- ENHANCE RESEARCH AND UPGRADE INDUSTRIAL TECHNOLOGIES

- Slide 8-SUPPORT DOMESTIC TECHNOLOGY DEVELOPMENT AND INDUSTRIAL DIVERSIFICATION
- Slide 9- A comic strip on Industry, innovation and infrastructure - The Global Goals.
- Slide 10-Bibliography

LEARNING OBJECTIVE:

•Students have learnt to compose with clarity, coherence and precision.

LEARNING OUTCOME:

•Students will be made aware of the global goal of Industry, innovation and infrastructure

•Students will develop a collaborative approach and learn to work as a team and value time.

• Students will learn to express their emotions through a creative dialogue exchange through comic strips.

RUBRICS FOR EVALUATION-

PARAMATERS	5	4	3
Authenticity of the contents and appropriate expression- (5)	Content is unique and proper research done and concepts properly explained but lacks expression	Not Unique but the concepts are well explained	Neither unique nor well explained
Timely submission demonstrates concise knowledge and understanding of the theme (5)	The submission addresses the requirement in meaningful and relevant way. The information is concise and accurate	The submission addresses the requirement. The information is presented accurately and in a concise manner	The submission somewhat addresses the requirement, but not in a cohesive or concise manner
Use of Technology (5)	Accesses suggested sites and employed technologies fluently	Accesses suggested sites and employed technologies adequately with support	Struggled while using technology. Struggled with teacher-provide strategies and resources

Creativity and Art Integration (5)	The concept and presentation in submission is creative, especially as compared with other submissions	The concept in the submission is somewhat creative	The concepts in the submission lacks creativity

SCIENCE:-

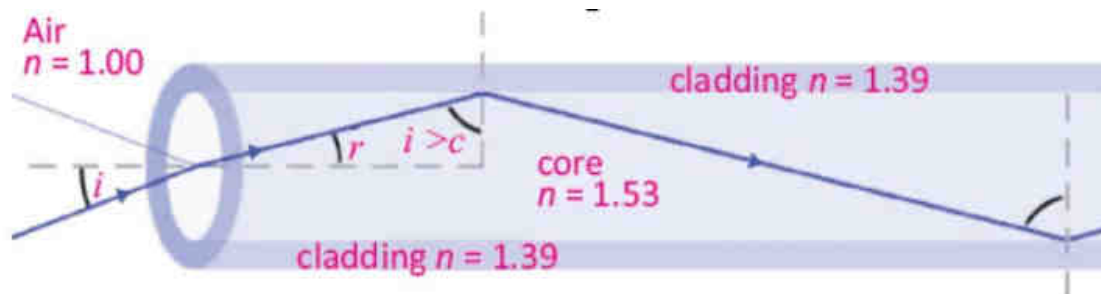**PHYSICS**   **FULL MARKS: 06**

HOUSE- (VAYU & JAL)

Industry, Innovation and Infrastructure

LEARNING OBJECTIVES: Students will learn about

- Fibre Optic Communication- basic working Principle of it
- Advantages and limitations of Fibre Optics in modern Communication System.

Optical fibers are fabricated with high quality composite glass/quartz fibres. Each fibre consists of a core (inner) and cladding (outer). Optical fibers works on the principle of **Total Internal Reflection (TIR).** When light ray strikes at the internal surface of optical fiber cable called such that incidence angle (i) is greater than critical angle(i_c), then incident light ray reflects in the same medium along the length of the fiber and comes out of the other end.

1. What is the phenomenon on which working principle of optical fibers is based on? Do a brief research and discuss about the types of optical fiber cables. Support your answer with relevant pictures.

2. "Optical fibers has wide usage in fiber-optic communications, where they permit transmission over longer distances and at higher bandwidths than electrical cables." Make a poster on what are the various fields where optical fibers are used in a broad way – Advantages and Limitations.

LEARNING OUTCOMES: Students should learn about:

- Fibre Optic Communication- basic structure and working principle
- Advantages and limitations of Fibre Optic Communication System.

https://en.wikipedia.org/wiki/Fiber-optic_communication

https://en.wikipedia.org/wiki/Optical_fiber

https://www.nai-group.com/optical-fiber-technology-how-it-works/

https://www.techtarget.com/searchnetworking/definition/fiber-optics-optical-fiber

https://stl.tech/blog/10-ways-optical-fibre-has-changed-the-world/

HOUSE- (PRTHIVI and AGNI)

Climate Change

LEARNING OBJECTIVES:

Students will learn about-

- Relation between Global Warming and Climate Change
- Electromagnetic Radiations and its effect on the temperature on the earth's atmosphere.
- Measures to reduce the effects of global warming.

The term "**climate change**" was a popular topic in newspapers and journals from mid-April to the last week of May last year 2023, i.e., when it was extremely hot in our country. This shows that common people care about climate only when they are affected by it the most. We should be vigilant about this phenomenon at all times of the year to understand and find ways to improve it.

Climate change is caused by two factors, namely natural activities and human activities. Along with the increasing contribution of climate change, the earth will be increasingly unfit for habitation.

1. What are Electromagnetic Radiations? How is the rise in temperature of the earth's surface affected by the sun's electromagnetic radiation? Support your answer with relevant pictures.

2. Identify a landmark building or monument which is vulnerable or has been affected by changing weather conditions. Find out the reason behind it getting affected and list various ways to protect the monument.

<div align="center">OR</div>

Prepare a poster/ banner on the effects of trapping of heat by greenhouse gases and suggest ways to prevent it. Collect headlines from different news sources to highlight these points - untimely floods, intense summer heat and forest fires.

LEARNING OUTCOMES: Students should learn about

- Relation between Global Warming and Climate Change.
- Measures to reduce the effects of global warming.
   https://www.britannica.com/science/electromagnetic-radiation
   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6513191/
   https://en.wikipedia.org/wiki/Electromagnetic_radiation

CHEMISTRY   **FULL MARKS = 6**

(PRITHVI AND AGNI)

CLIMATE ACTION

LEARNING OBJECTIVES: The students will learn about:

- Effect of climate change and greenhouse gases on environment
- Explore different ways to prevent it.

The carbon cycle plays a key role in regulating Earth's global temperature and climate by **controlling the amount of carbon dioxide in the atmosphere**. The greenhouse effect itself is a naturally occurring phenomenon that makes Earth warm enough for life to exist.

Answer the given questions with relevant pictures.

   1. What can we do to combat climate change?

   2. Identify a landmark building or monument which is vulnerable or has been affected by changing weather conditions. Find out the reason behind it getting affected and list various ways to protect the monument.

3. Prepare a poster/banner on the effects of heat trapping by greenhouse gases and climate change and some ways by which it can be prevented. Collect headlines from different news sources to highlight these points- untimely floods, intense summer heat, forest fires.

LEARNING OUTCOMES:

Students learnt about

- Effect of climate change and greenhouse gases on environment
- Explored different ways to prevent it.

HOUSE- JAL AND VAYU
INDUSTRY, INNOVATION AND INFRASTRUCTURE

LEARNING OBJECTIVES: The students will learn about:

- Plastics used in different industries.
- Effect of plastics in our daily life.

Plastics is versatile, hygienic, lightweight, flexible and highly durable. It accounts for the largest usage of plastics worldwide and is used in numerous packaging applications including containers, bottles, drums, trays, boxes, cups and vending packaging, baby products and protection packaging.

Plastics are also important part of various industries like construction, automotive, electrical and electronic application, packaging, etc.

1. Select any 2 industries and list different information like types of plastics used, their chemical names, use, whether recyclable or not.

2. Nowadays a type of plastics are made which are known as compostable plastics. What are they, are they really compostable? Explain with example.

3. Plastic has seeped into every aspect of our existence. Can we live without it? Debate for and against the topic – JAL – For, VAYU- Against

LEARNING OUTCOMES:

Students learnt about

- Plastics used in different industries.

- Effect of plastics in our daily life.

BIOLOGY   **FULL MARKS – 8**

HOUSES – AGNI & PRITHVI

CLIMATE ACTION

Learning objective-

Students will be able to –

- Describe the causes of climate change
- Understand how Arctic life is affected by climate change.
- Understand the role of mankind towards climate control.

Climate change is one of the biggest challenges to the health of our planet, which also impacts human health worldwide. By taking action to mitigate climate change, we can safeguard the well-being of current and future generations and preserve the beauty and diversity of life on Earth.

1. Elaborate any two causes of climate change in our planet.

2. Explain any four Arctic species and how they have been affected by climate change in the last century.

3. State few steps man has taken to protect polar animals.

Learning Outcome:

Students were able to –

- Understand the role of man in climate change
- Rationalize human act and its adversities on Arctic life
- Find logic in the steps taken by United Nations

HOUSES – JAL & VAYU

Industry, Innovation and Infrastructure

Learning objective-

Students will be able to –

- Gain information about biological industries

- Find out the innovations which are anticipated in this century.
- Explain how technology is modifying food

Industry is the production of goods or related services within an economy. Innovation is a new idea, device or method. Infrastructure refers to the fundamental facilities and systems serving a country, city or area, including the services and facilities necessary for its economy to function.

1. What is India's position in the context of Biological industry?
2. How does bio-technology empower and benefit patients?
3. Explain the basic infrastructure of a biotechnology laboratory.
4. Explain in brief the future of agricultural revolution.

Learning outcome-

Students were able to –

- Appreciate India's role in Biological industry.
- Illustrate the efficiency of medical science in future days.
- Understand how technology is modifying food

EVALUATION RUBRICS FOR PHYSICS AND CHEMISTRY

	3x2	3x1.5	3x1
Details of Research on the topic(2)	Content is well researched ,genuine with detailed explanation	Not well researched , but the concepts are well explained	Neither well researched , nor well explained
Presentation (2)	Well presented	Average	Sketchy
Creativity and Art Integration(2)	The concept in submission is creative, especially as compared with other submissions	The concept in the submission is somewhat creative	The concepts in the submission lacks creativity

EVALUATION RUBRICS FOR BIOLOGY

	4x2	3x2	4x1
Details of Research on the topic(2)	Content is well researched ,genuine with detailed explanation	Not well researched , but the concepts are well explained	Neither well researched , nor well explained

Presentation (2)	Well presented	Average	Sketchy
Creativity and Art Integration(2)	The concept in submission is creative, especially as compared with other submissions	The concept in the submission is somewhat creative	The concepts in the submission lacks creativity
Ethical aspect (2)	Concept well related to life problems	Concept is related to life problems is not well explained	Lack of problem solving aspect

SOCIAL SCIENCE

ALIGNED WITH CBSE PROJECT TOPIC

GEOGRAPHY

TOPIC: LIFELINES OF NATIONAL ECONOMY   **FULL MARKS: 10**

SUB TOPIC: TRANSPORT

Transport is the movement of humans, animals and goods from one location to another. Transportation moves people and goods from one place to another using a variety of vehicles across different infrastructure systems. It does this using not only technology (namely vehicles, energy, and infrastructure), but also people's time and effort; producing not only the desired outputs of passenger trips and freight shipments, but also adverse outcomes such as air pollution, noise, congestion, crashes, injuries,

and fatalities. If agriculture and industries are supposed to be the body of the country, transport may be said to be the nerves and veins of the economy.

AGNI HOUSE: ROADWAYS

Case Study on India's Highway Revolution: A look at five transformative expressways set to redefine travel in 2024.

JAL HOUSE: WATERWAYS

Case Study on Inland Water Transportation in India: Past, Present and Future.

VAYU HOUSE: RAILWAYS

Case Study on Underwater Metro Tunnel, Kolkata

PRITHVI HOUSE: AIRWAYS

Case Study of the Indian Aviation Sector: Soaring High or Turbulence Ahead.

- **Students will have to research the mode of transport assigned to their group. Locate the following on the political map of India as assigned to each group:**
(a) **Roadways: Golden Quadrilateral Super Highways- East West and North South corridor.**
(b) **Waterways: Major Sea Ports- Kolkata, Mumbai, Chennai and Kandla.**
(c) **Railways: Railway Zonal Headquarters- Bhubaneswar, Jaipur, Secunderabad and Jabalpur.**
(d) **Airways: Major Airports- Delhi, Kolkata, Chennai and Mumbai.**

- **Students will write about the advantages and disadvantages of the mode of transport assigned to them with any two relevant pictures.**

- **Students will provide a brief report on the <u>CASE STUDY</u> assigned to them. (80 Words)**
  <u>PROJECT FORMAT:</u>
✓ Projects need to be done in groups.
✓ Support the project with relevant pictures.
✓ Students will make a PowerPoint presentation (maximum 8 slides including cover page, acknowledgement, index, content and bibliography)
  The following questions to be answered by all the groups. **(House wise)**
  Content –

1. Today, India is well-linked with the rest of the world despite its vast size, diversity and linguistic and socio-cultural plurality. Justify.
2. What are your contribution in making sustainable travel a reality? (Two points)

SUBJECT INTEGRATION: History, Life-skills, Political Science, Physics, Economics, Mathematics, A.I. and English.

LEARNING OBJECTIVE:
- ✓ To explain the role of infrastructure in the development of an area.
- ✓ To establish a relationship between needs and mode of transport system.
- ✓ To identify the pattern and networks of important roads, railways, airways, and waterways.
- ✓ To appreciate the role of transport in changing the way of life in rural and urban areas.

LEARNING OUTCOME: The learning outcome will include –
- ✓ Independent research work.
- ✓ Collaboration.
- ✓ Awareness and awakening among all.
- ✓ Explain the basic concepts of transportation and the importance of transportation.
- ✓ They will be able to explain all modes and components of transport.

LINKS:
https://ncert.nic.in/textbook.php?ln=en
https://en.wikipedia.org/wiki/Transport_in_India
https://www.linkedin.com/pulse/case-study-underwater-tunnel-kolkata-hrushikesh-bang
https://www.financialexpress.com/business/infrastructure-kolkata-metro-update-indias-first-underwater-metro-tunnel-to-be-made-operational-by-2023-2484846/
https://www.financialexpress.com/business/roadways-indian-expressways-in-2024-delhi-dehradun-expressway-delhi-mumbai-expressway-delhi-amritsar-katra-expressway-dwarka-expressway-bengaluru-chennai-expressway-3356046/
https://www.researchgate.net/publication/350107515_Inland_Water_Transportation_in_India_Past_Present_and_Future_Theme_Transportation_Planning
https://www.managementstudyguide.com/case-study-of-indian-aviation-sector.htm

HISTORY

TOPIC: SOCIAL ISSUES IN INDIA- A CBSE PROJECT

Social issues are the threads that intricately weave through the fabric of our society demanding our attention, empathy and action. They are the challenges and complexities that affect individual, communities, even the entire nation often leaving a profound impact on people's lives

LEARNING OBJECTIVES

To create awareness amongst students about various social issues prevailing in India to study the various state and central level programs related to social and economic issues In India Explain important psychological aspects of social problems: poverty, child abuse, pollution etc. Students will soak up technological innovations and approaches to solving societal problems.

METHODOLOGY:

- To explore the Project ON SOCIAL ISSUES each HOUSE will produce digital documentary shorts, or 8–10-minute videos that present research findings on a chosen social issue. The goal of digital documentary shorts is to help students make learning visible, communicate their findings, and take informed action as citizens. Students will research their issues and find evidence to support their ideas. This included textual evidence from digital media (e.g. videos and pictures), interviews with other students and community members, and print sources.

- Students can   develop digital storyboards, which is a way to graphically display images in a sequence so students can visualize an animation or video.

- Students used Windows Movie Maker software to create their digital shorts.

- HOUSES   will be assigned   one contemporary social issue to work on.

1) **AGNI HOUSE: POVERTY AND ECONOMIC INSECURITY**

1a) **Poverty is a multidimensional concept. How has World Bank and United Nations defined poverty?**

1b) How has Dr. Amartya Sen provided a useful alternative to understanding poverty?

2) What are the challenges faced by INDIA's urban poor? Is Poverty   the outcome of inequalities or Deprivation?

3) Analyse the poverty reduction in INDIA in the last 3 decades

4) What is the influence of poverty on crime?

Reference:

[Urban-poor-in-India-Addressing-the-challenges-1.pdf (cbgaindia.org)](#).

[India releases its first report on urban poverty | Cities Alliance](#)

[Poverty Reduction in India: An Analysis of last three decades - Civilsdaily](#)

[Poverty And Crime In India Free Essay Example (paperap.com)](#)

[Is poverty the mother of crime? Empirical evidence of the impact of socioeconomic factors on crime in India – JGU Research Blog – O.P. Jindal Global University](#)

2) JAL-GENDER ISSUES IN India and Providing Workplace Diversity

1) Various studies indicate a huge gap in the gender ratio in workplaces, with research identifying that six in every 10 jobs prefer male candidates to women. What steps towards making an equitable workplace are required in a growing economy like India?

2) **What is a Gender-Inclusive culture?**

3) How will Jal House break barriers and build equality, which will pave the way to inclusive workplaces? Give examples to support your project.

4) Gender Equality in India – Empowering Women is Empowering India .JUSTIFY

Reference:

https://timesofindia.indiatimes.com/blogs/voices/gender-diversity-in-the-workplace/

https://kinaracapital.com/importance-of-inclusivity-in-workspaces-for-women-in-india/

[Gender Inequality in Indian Society | Causes & Awareness of Gender Inequality in India (careindia.org)](#)

3) Prithvi- Child Labour and Addressing Child Abuse Issues.

1a) what is child labour? What are its forms and causes?

1b) what are your opinions and suggestions to combat this social evil?

2) [Child labour](#) is a violation of both Child protection and Child Rights. The [International Labour Organization report](#) indicates that a total of 3.3 million children are in situations of forced labour on any given day. Make digital magazine and photo gallery

3) Global meeting on [Target 8.7 of the Sustainable Development Goals – has committed to ending by 2025.](#)- explain through your project the strategies adopted.

4) Historically, we have witnessed constructive changes in laws, policies and recognition of human rights and child rights. The Constitution of India guarantees children's Rights .Highlight the Rights.

Reference:

https://www.legalserviceindia.com/legal/article-1246-child-labour-is-child-abuse-for-which-you-have-no-excuse.html#google_vignettettps://theindianlaw.in/child-labour-in-india-and-its-constitutional-implications

4) VAYU – POLLUTION AND PLASTIC WASTE MANAGEMENT.

1) Pollution is a social issue or an environmental issue? Justify?

2) Discuss **the effective and practical control measures for minimizing environmental pollution in your region?**

3) Plastic pollution is an environmental injustice to the vulnerable groups.

4) Why is the plastic waste crisis a social issue?

Plastic pollution is an environmental injustice to vulnerable communities – new report (unep.org)

5 Biggest Environmental Issues in India in 2024 | Earth.Org

Explained: What Lancet report says about India's pollution problem - The Hindu

- **Learning outcome: When** creating a project on social issues in India, it's essential that students delve into the complexities of these challenges and their impact on people and communities. Highlight the effects of poverty on people's lives, including health disparities, limited opportunities, and vulnerability to crime.
- Addressing child labour is crucial not only for the well-being of children but also for ensuring better learning outcomes and breaking the cycle of poverty
- STUDENTS will understand the importance of responsible plastic waste management to mitigate environmental harm and promote sustainability.

RUBRICS FOR EVALUATION

	5	4	3	2	1
Content (4)	-	Applicable to Theoretical knowledge and all facts are correct. Map work and Case Study done perfectly.	Applicable to Theoretical knowledge and all facts are correct. One or two factual errors.	Applicable to Theoretical knowledge and all facts are correct. Few factual errors. Map work not shaded	Applicable to theoretical knowledge and all facts are not at all relevant to the topic. Map is missing.

			Map work done but not shaded/colored correctly. Case Study should be descriptive and completed with one error.	correctly. All states are not marked. Case Study should be descriptive and completed with two error.	Case Study not attempted.
Presentation (3)	-	-	Overall impact of the project is attractive and appealing to the viewers. Students are well prepared. Teamwork is visible. Project is compiled up to the mark.	Overall impact of the project is quite appealing to the viewers. Students are well prepared. Teamwork is visible. Project is fairly compiled.	Some attempt has been made to make the presentation appealing to the viewers. Students are well prepared. Teamwork is visible. Project is not compiled up to the mark.
Graphics/ Photographs/Charts/ Relevance to the topic and Team Work (3)	-	-	Presentation includes relevant photographs/ charts/ Maps/ model/diagrams are correct/relevant to the topics. Independent research work and collaboration shown	Presentation includes relevant photographs/ charts/ Maps/ model/diagrams are partially correct/relevant to the topics. Team work shows	Graphics / Chart /models are not clear. They are irrelevant to the topic. No group coordination shown.

			by the team members. Tried to adapt the new technology.	communication gap.	

ARTIFICIAL INTELLIGENCE

Theme - Sustainable Development Goal

Sub Topic (House wise):-
- Climate Action   - Jal House, Vayu House
- Industry Innovation and Infrastructure - Agni House, Prithvi House

Learning Objective:
- Identify the problem underlying the sub topic.
- Foster a deeper understanding of Sustainable Development Goal.
- Research on AI based skills and soft skills required for futuristic solutions.
- Empower youth to become human-centric designers and users of AI.

Learning Outcome:

Students will be able to:

- Develop 21st century's creative presentation and communication skill.
- Create videos using 3rd party video editing application.
- Enhance their IT skill as design thinkers by providing prospective solutions.

Introduction:
The **Sustainable Development Goals (SDGs)** are a collection of 17 interlinked global goals to transform our world. They were designed to be a "blueprint to achieve a better and more sustainable future for all" and part of the United Nations 2030 Agenda for Sustainable Development. They were agreed by 193 countries in September 2015.

Each of the 17 goals strive for the universal reduction of climate change and poverty, and the improvement of education, health, and economic growth. United Nations describes the SDGs as seeking to "protect the planet, and improve the lives and prospects of everyone, everywhere" and you as *students* of *today will be the change makers of tomorrow.*

Resources:
https://www.unoosa.org/oosa/en/ourwork/space4sdgs/sdg13.html#:~:text=Sustainable%20Development%20Goal%2013%20urges,today%20and%20even%20more%20tomorrow.
https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-13
https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-9

To Do:-

Amongst the 17 of them only 2 goals were chosen to work on for you. Research on the sub topic given for your house. Create an approximately 150-second video explaining a proposed AI-enabled solution for the given topic.

Guidelines for shooting the video:-

- **You must be in regular school uniform and properly groomed**.
- Prefer to take video in landscape orientation.
- There should be enough light at the location.
- An organized/ clean background is expected.
- Use any free video editing software in order to present your research work.

[Note- Project planning, video making and upload will be done individually. Each house will be given chance to present their proposals in school after summer vacation]

Video Content:-

Once you have identified a problem statement and ideated a proposed solution using Artificial Intelligence, you have to share it in the form of an approximately 150 seconds video.

The 150 second's video should consist of the following –
i. Self-Introduction [20 seconds] a. Name of student and school b. Name of the House c. Theme and sub theme
ii. Problem Statement [40 seconds] a. Talk about the problem you want to solve. b. Why do you want to work on this problem?
iii. Proposed Solution [90 seconds] a. What is your idea to solve the problem? b. Why do you think your idea is innovative? c. How will you work on the solution? d. What role will artificial intelligence and related technology play in your solution?

[Note: You may include supporting data with resource links in your video]

Submission Process:-

i. Create a word file.
ii. Write your Full name, class section, House, Subject, mention the Project theme-sub theme
iii. Upload the video on your YouTube channel, **make it unlisted.**
iv. Copy the YouTube link in the same document.
v. Add the consent form duly filled up.
vi. Save your word file as ClassSec_Name_AIProj and submit through Teams.

Consent form for Photograph, Video or Audio Recording

I, _____ (full name) of class-_____ sec_____, do hereby give my consent to the use my image, video, voice, and or all three of them, for the Artificial Intelligence Term1 project (Session 2024-25).

I agree that all such pictures, video or audio recordings and any reproduction thereof shall remain the property of the academy and will be used for educational purposes only.

Date: _____

Criteria	5	3	1
Potential Impact & Clarity of Explanation (4)	The proposed AI- enabled solution have the potential to make a significant impact in addressing the problem identified and the video clearly explains the same.	The proposed AI- enabled solution may make a significant impact in addressing the problem identified and the video somewhat Explains the same.	The proposed AI- enabled solution does not have the potential to make a significant impact in addressing the problem identified and the video fails to explain the solution
Quality of Production (4)	Audio and video quality is excellent for the viewer to understand the presentation	Audio and video quality is moderate for the viewer to understand the presentation	The video contains no audio.
Personal grooming and Team coordination (4)	Was properly groomed and in School uniform. Consistently stays during group presentation. Effectively encourages and supports the efforts of the group as a whole.	Was not properly groomed but in School uniform. Focuses on the group presentation, most of the time. Usually encourages and supports the efforts of the group as a whole	Was not present during group presentation. OR Not groomed properly and not in school uniform.
Consent documentation (4)	Clear documentation of consent obtained.	Consent obtained with incomplete information.	No evidence of consent available.

MATHEMATICS:

CLIMATE ACTION

BY PRITHVI HOUSE AND AGNI HOUSE

Climate change is now affecting every country on every continent. It is disrupting national economies and affecting lives, costing people, communities and countries dearly today and even more tomorrow.

LEARNING OBJECTIVES:

Students will be able to find solution for:

- Urgent action to combat climate change and its impacts.
- To address climate change, countries adopted the Paris Agreement to limit global temperature rise to well below 2 degrees Celsius

1. Why action is required to change the climatic conditions.
2. Research and find how the production of electric vehicle affect the change in climate conditions.
3. Collect the data of production of four wheel electric vehicles till 2023 in India of different companies and represent them graphically.

LEARNING OUTCOMES:

- Implementation of the Paris Agreement is essential for the achievement of the <u>Sustainable Development Goals</u>, and provides a roadmap for climate actions that will reduce emissions and build climate resilience.

MATHEMATICS PROJECT GRADING RUBRIC

CATEGORY	GREAT WORK (4)	GOOD WORK (3)	SATISFACTORY (2)	COULD BE BETTER (1)
TOPIC CONTENT – ACCURACY (4)	Content regarding Roman numerals and population density well explained. All facts are accurate	Content regarding Roman numerals and population density well explained. 90 – 95% of the facts are accurate	Explanation needs improvement 80 – 89% of the facts are accurate	More points need to be added. Less than 80% of the facts are accurate
WRITING- VOCABULARY EDITING- LANGUAGE (4)	Use of mathematical terms in the proper way. Presentation is Free from grammatical errors	Use of few mathematical terms in the proper way. The presentation may have one or two grammatical errors	Less use of mathematical terms in the proper way. The presentation may have few grammatical errors	No Use of mathematical terms in the proper way. There are many grammatical errors
GRAPHICS- FORMULAE (4)	Images and pictures go well with the text and there is good mix of text and graphics	Images and pictures go well with the text , but they are inappropriately sized, too small or hard to read	Images and pictures go well with the text , but they are too few and the project seems text heavy.	There are no Images and pictures or they do not go with the topic.
OVERALL PRESENTATION (4)	The presentation Is exceptionally attractive, in terms of design, layout and neatness.	The presentation is attractive, in terms of design, layout and neatness.	The presentation is acceptably attractive, though it may be a bit messy.	The project is distractingly mess or very poorly designed.
USE OF IMAGES AND COLOURS (4)	Diagrams are properly done with the correct	Diagrams are done with the colours. Combination of	Diagrams are not	Diagrams are not done neatly with the correct

	choice of colours	colours could have been better.	done neatly with the correct choice of colours	choice of colours. Needs a lot of improvement in terms of presentation and neatness.

INDUSTRY INNOVATION AND INFRASTRUCTURE.

– BY VAYU HOUSE AND JAL HOUSE

A functioning and resilient infrastructure is the foundation of every successful community. To meet future challenges, our industries and infrastructure must be upgraded. For this, we need to promote innovative sustainable technologies and ensure equal and universal access to information and financial markets

LEARNING OBJECTIVES:

Students will be able to know about:

- Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

1. Research and find how the production of electric vehicle affect the change in Industry innovations.
2. Collect the data of production of four wheel electric vehicles till 2023 in India of different companies and represent them graphically.
3. Wind energy is another prominent renewable energy source, with wind turbines converting kinetic energy from the wind into electrical power. Wind energy mathematics involves calculations such as wind speed, turbine rotor diameter, and power output. By applying principles of aerodynamics and fluid mechanics, engineers can design wind turbine systems that maximize energy capture while minimizing structural loads and operational costs. Give a formula to find the wind turbine efficiency.

LEARNING OUTCOMES:

Students will-

We need to promote innovative sustainable technologies and ensure equal and universal access to information and financial markets. This will bring prosperity,

create jobs and make sure that we build stable and prosperous societies across the globe.

MATHEMATICS PROJECT GRADING RUBRIC

CATEGORY	GREAT WORK (4)	GOOD WORK (3)	SATISFACTORY (2)	COULD BE BETTER (1)
TOPIC CONTENT – ACCURACY (4)	Content regarding Symmetry, calories and BMI well explained. All facts are accurate	Content regarding Symmetry, calories and BMI well explained. 90 – 95% of the facts are accurate	Explanation needs improvement 80 – 89% of the facts are accurate	More points need to be added. Less than 80% of the facts are accurate
WRITING- VOCABULARY EDITING-LANGUAGE (4)	Use of mathematical terms in the proper way. Presentation is Free from grammatical errors	Use of few mathematical terms in the proper way. The presentation may have one or two grammatical errors	Less use of mathematical terms in the proper way. The presentation may have few grammatical errors	No Use of mathematical terms in the proper way. There are many grammatical errors
GRAPHICS- FORMULAE (4)	Images and pictures go well with the text and there is good mix of text and graphics	Images and pictures go well with the text but they are inappropriately sized, too small or hard to read	Images and pictures go well with the text , but they are too few and the project seems text heavy.	There are no Images and pictures or they do not go with the topic.
OVERALL PRESENTATION (4)	The presentation Is exceptionally attractive, in terms of design, layout and neatness.	The presentation is attractive, in terms of design, layout and neatness.	The presentation is acceptably attractive, though it may be a bit messy.	The project is distractingly mess or very poorly designed.
USE OF IMAGES AND COLOURS	Diagrams are properly done	Diagrams are done with the colours.	Diagrams are not done neatly with	Diagrams are not done neatly with the

(4)	with the correct choice of colours	Combination of colours could have been better.	the correct choice of colours	correct choice of colours. Needs a lot of improvement in terms of presentation and neatness.

HINDI 2ND LANGUAGE

HOUSE - PRITHVI AND AGNI

विषय – जलवायु परिवर्तन (सतत विकास लक्ष्य क्रमांक –13)

वर्तमान में जलवायु परिवर्तन वैश्विक समाज के समक्ष मौजूद सबसे बड़ी चुनौती है एवं इससे निपटना वर्तमान समय की बड़ी आवश्यकता बन गई है। इसके अतिरिक्त पिछली सदी से अब तक समुद्र के जल स्तर में भी लगभग 8 इंच की बढ़ोतरी दर्ज की गई है। आँकड़े स्पष्ट करते हैं कि यह समय जलवायु परिवर्तन की दिशा में गंभीरता से विचार करने का है। जलवायु परिवर्तन के दुष्प्रभाव एवं उससे संबंधित संभाव्य परिस्थितियों का उल्लेख करते हुए एक सचित्र प्रस्तुतिकरण (PPT) तैयार कीजिए जिसमें जलवायु परिवर्तन के प्रभाव तथा समाधान के साथ-साथ भारत सरकार द्वारा उठाए गए कदमों की समीक्षा का भी समावेश हो।

LEARNING OBJECTIVES:

- सतत विकास लक्ष्य क्रमांक -13 के प्रति विद्यार्थियों को जागरूक करना ।

- सतत विकास के लिए हो रहे शहरीकरण और औद्योगिकीकरण के कारण आए सतत परिवर्तन के प्रति सचेत करना।

- पर्यावरण की परिस्थितियों में परिवर्तन, प्राकृतिक आपदाओं एवं प्रदूषण से आए जलवायु के नित बदलाव के प्रति सजग होना।

- सतत विकास के लक्ष्यों के उद्देश्यों की परख तथा उपयुक्त भाषा-कौशल का विकास।

Learning Outcomes

- समसामयिक विषयों के प्रति जानकार हुए।

- भविष्य में जलवायु परिवर्तन संबंधी संकट से निपटने के लिए उठाए जाने वाले कदमों की आवश्यकता के प्रति जानकार हुए ।

- सृजनात्मकता का विकास हुआ।

- स्थितियों की परख तथा उपयुक्त भाषा-कौशल का विकास हुआ।

HOUSE - VAYU AND JAL

विषय – प्रौद्योगिकी क्षमता निर्माण (सतत विकास लक्ष्य क्रमांक –9)

लक्ष्य क्रमांक –9 का उद्देश्य लचीला बुनियादी ढाँचा बनाना, टिकाऊ औद्योगीकरण को बढ़ावा देना और नवाचार को बढ़ावा देना है। समावेशी और सतत औद्योगीकरण को बढ़ावा देने के लिए वित्तीय सेवाओं और बाज़ारों तक पहुँच बढ़ाने के लिए मुख्यतः सूचना और संचार प्रौद्योगिकी तक सार्वभौमिक पहुँच बढ़ाना आवश्यक है। उद्योग, नवाचार और बुनियादी ढाँचा के विकास की आवश्यकता और उससे संबंधित संभावनाओं का उल्लेख करते हुए एक सचित्र प्रस्तुतिकरण (PPT) तैयार कीजिए जिसमें इस क्षेत्र में भारत सरकार द्वारा उठाए गए कदमों की समीक्षा का भी समावेश हो।

Learning Objectives

- सतत विकास लक्ष्य क्रमांक -9 के प्रति विद्यार्थियों को जागरूक करना ।

- नवाचार और आर्थिक विकास को बढ़ावा देने के उद्देश्य से विकासशील देशों को प्रौद्योगिकी हस्तांतरण तथा उनकी तकनीकी क्षमताओं को बढ़ाने में सहायता करने के लिए उठाए गए कदमों के प्रति सचेत करना।

- आर्थिक विकास, सामाजिक विकास के लिए उद्योग नवाचार और बुनियादी ढाँचे के सतत विकास और तकनीकी प्रगति के प्रति सजगता में वृद्धि।

- सतत विकास के लक्ष्यों के उद्देश्यों की परख तथा उपयुक्त भाषा-कौशल का विकास।

Learning Outcomes

- समसामयिक विषयों के प्रति जानकार हुए।

- भविष्य में विकास के लिए प्रौद्योगिकी हस्तांतरण को बढ़ावा देने के लिए उठाए जाने वाले कदमों की आवश्यकता के प्रति जानकार हुए ।

- सृजनात्मकता का विकास हुआ।

- स्थितियों की परख तथा उपयुक्त भाषा-कौशल का विकास हुआ।

RUBRICS FOR EVALUATION

मानदंड	5	4	3	2
विषय वस्तु की प्रभावी एवं सटीक जानकारी (5)	विषय सामग्री से जुड़े तथ्य प्रयुक्त लेखों में सटीक एवं विषयानुरूप है।	एक या दो तथ्यात्मक त्रुटियों के अलावा अधिकांश तथ्य सही एवं विषयानुरूप है।	कुछ तथ्य विषयानुरूप है पर तीन से अधिक त्रुटियाँ पाई गईं है।	प्रयुक्त लेखों में विषय सामग्री स्पष्ट नहीं है।
सचित्र प्रस्तुतिकरण (5)	अच्छे ढंग की तैयारी,टीम के सदस्यों का समन्वय सराहनीय,प्रस्तुतिकरण स्पष्ट एवं प्रभावी	पर्याप्त तैयारी,टीम के सदस्यों का परस्पर सहयोग देखा गया। प्रस्तुति के दौरान स्पष्टता पाई गई पर प्रभावी नहीं हो पाई।	कुछ विद्यार्थी ही लिखित विषय में सहयोग देने के लिए तैयार, टीम के सदस्यों में परस्पर सहयोग का अभाव देखा गया। लिखित अभिव्यक्ति में आत्मविश्वास की कमी पाई गई।	छात्र तैयार नहीं ,टीम वर्क का अभाव एवं लिखित प्रस्तुति अस्पष्ट एवं विषयानुरूप नहीं।
तकनीक एवं इंटरनेट संसाधनों का रचनात्मक उपयोग, विषयानुरूप चित्र संकलन (5)	परियोजना के विषय की प्रभावी अभिव्यक्ति के लिए इंटरनेट से संकलित तथ्यों एवं तस्वीरों का अच्छा उपयोग ।	परियोजना के विषय की अभिव्यक्ति के लिए इंटरनेट से संकलित तथ्यों एवं तस्वीरों का कुछ उपयोग ।	इंटरनेट से संकलित तथ्यों एवं तस्वीरों, का उपयोग कम होने के कारण विषय की अभिव्यक्ति स्पष्ट तौर पर नहीं हो पाई।	इंटरनेट से संकलित तथ्यों एवं तस्वीरों का उपयोग नहीं होने के कारण विषयानुरूप

				अभिव्यक्ति नहीं हो पाई।
भाषा की उपयुक्तता समग्र प्रस्तुति (5)	प्रस्तुतीकरण में वाक्य विन्यास, वर्ण विन्यास एवं विराम चिह्न संबंधी त्रुटियों का न होना। सहज एवं बोधगम्य भाषा का उपयुक्त प्रयोग परियोजना का समग्र प्रभाव दर्शकों के लिए रोचक और आकर्षक।	प्रस्तुतीकरण में वाक्य विन्यास, वर्ण विन्यास एवं विराम चिह्न संबंधी कुछ त्रुटियों का ही होना। विषय की सहज अभिव्यक्ति। परियोजना का समग्र प्रभाव दर्शकों का ध्यान आकर्षण करने के लिए पर्याप्त।	वाक्य विन्यास, वर्ण विन्यास एवं विराम चिह्न संबंधी त्रुटियों के कारण भाषा की उपयुक्तता का अभाव पाया जाना। परियोजना की समग्र प्रस्तुति को आकर्षक बनाने के लिए कुछ प्रयास किया गया।	वाक्य विन्यास, वर्ण विन्यास एवं विराम चिह्न संबंधी अत्यधिक त्रुटियों के कारण विषयानुरूप भाषा का प्रयोग न हो पाना । समग्र प्रस्तुति को रोचक बनाने के लिए विद्यार्थियों के प्रयास में अभाव।

LAKSHMIPAT SINGHANIA ACADEMY

PROJECT PLAN, TERM -I

2024-25

Theme :   Climate Action

Integration : Art, IT, Hindi, History ,

Marks : 20

CLASS-X

SUBJECT: Bengali 2nd language

বর্তমান পরিস্থিতিতে জলবায়ুর পরিবর্তন ও এই পরিবর্তন সংক্রান্ত সমস্যা মানুষের জীবনে গুরুত্বপূর্ণ প্রভাব ফেলেছে। তাছাড়া আবহাওবা দপ্তরের পরিসংখ্যান অনুযায়ী সমুদ্রের জলরাশির উচ্চতাও প্রায় ৪ ইঞ্চি বৃদ্ধি পেয়েছে। এই বিষয়টি দেশের সকল আধিকারিকদের তথা সমগ্র জাতির জন্য এক গম্ভীর পরিস্থিতি তৈরি করেছে। এই জলবায়ু পরিবর্তনের কুপ্রভাব এবং তার ফলে ভবিষ্যতে যে সংকটময় পরিস্থিতি সৃষ্টি হতে চলেছে তার উল্লেখ করে একটি সচিত্র পত্রিকা তৈরি কর যাতে জলবায়ু পরিবর্তনের প্রভাব, সমাধানের উপায় এবং সরকার কর্তৃক নেওয়া সমস্ত পদক্ষেপের উল্লেখ থাকবে।

পরিযোজনাকার্যের উদ্দেশ্য:

- ➤ Sustainable development এর ১৩ নম্বর লক্ষ্যের প্রতি শিক্ষার্থীদের সচেতন করা।
- ➤ জলবায়ুর পরিবর্তনের কারণ ও তার সমাধান সম্পর্কে অবহিত হওয়া
- ➤ জলবায়ু পরিবর্তন সম্পর্কিত বিভিন্ন সমস্যা ও তার সমাধান সম্পর্কে
- ➤ সরকারি পদক্ষপ বিষয়ে ধারণা লাভ করা।
- ➤ সৃজনশীলতা, ভাষাশৈলীও চিন্তাশক্তির বিকাশ সাধন করা।

পরিযোজনা কার্যের কাঙ্খিত ফলাফল:

- ➤ সমসাময়িক বিষব সম্পর্কে অবহিত হবে।
- ➤ জলবায়ু পরিবর্তন সংক্রান্ত বিভিন্ন সমস্যা ও তার সমাধান সম্পর্কে ধারণা লাভ করবে।

➢ পরিস্থিতির উপযুক্ত বিচার বিশ্লেষণ করে যথাযথ সিদ্ধান্ত নিতে সক্ষম হবে।
➢ সচেতন নাগরিক হতে সক্ষম হবে।

RUBRICS

Skills– দক্ষতা	Competency – যোগ্যতা			
	4	3	2	1
Content (4 marks)	সকল বিষয় সঠিক ভাবে লেখা হবে এবং প্রতিটি ক্ষেত্র আলাদা ভাবে প্রতিফলিত হবে	বিষয়বস্তুর উল্লেখে অপ্রতুলতা	প্রয়োজনীয় বিষয়ের প্রতিটি ক্ষেত্রের উল্লেখ নেই	অসম্পূর্ণ কাজ
Research (4 marks)	বিষয়ের স্পষ্ট ও যথাযথ উল্লেখ	প্রয়োজনীয় বিষয়ের অসম উল্লেখ	প্রয়োজনীয় বিষয়ের অনুপস্থিতি	ভুল পদ্ধতি বেছে নেওয়া
Creativity (4 marks)	বিষয়বস্তুর সাথে সমতা বজায় রেখে মৌলিক চিন্তাশীলতা	বিষয়বস্তুর সাথে সমতা বজায় থাকলেও মৌলিকতার অভাব	বিষয়বস্তু ও নামকরণে সমতার অভাব	নামকরণের অনুপস্থিতি
Art Integration (4 marks)	পরিচ্ছন্ন কাজ, উপযুক্ত প্রচ্ছদ ভাবনা, উপযুক্ত শিল্পভাবনা	উপযুক্ত প্রচ্ছদ কার্যের অপ্রতুলতা , সৃজনশীলতার অভাব	উপযুক্ত প্রচ্ছদের অভাব	প্রচ্ছদের অনুপস্থিতি
Overall Presentation (4 marks)	সুন্দর, পরিচ্ছন্ন উপস্থাপনা	সুন্দর, পরিচ্ছন্ন উপস্থাপনা, কার্যে আত্মবিশ্বাসের অভাব	কার্যে পরিচ্ছন্নতার অভাব	বানান ভুলের বাহুল্য