

ARTIFICIAL INTELLIGENCE
HOLIDAY'S HOMEWORK CLASS X

- 1. Practical File to be completed upto For Loop programs.**
- 2. Solve all the Case Studies given at the end of chapter 1 from Subject Specific Skill Book.**

Holiday Homework Worksheet – Science
2025-26

Class: 10
Subject: Science

Name: _____
Roll No: _____

PHYSICS

Instructions:

Solve the following numerical questions based on the mirror and lens formulas. Leave adequate space after each question to show your full working. Solutions are provided at the end of the worksheet for reference. Also, attempt the board-based questions thoughtfully.

Part A: Mirror Formula Numericals (Use formula: $1/f = 1/v + 1/u$)

1. An object is placed at a distance of 20 cm from a concave mirror of focal length 10 cm. Find the position and nature of the image.

2. An object 5 cm high is placed at 30 cm from a concave mirror of focal length 15 cm. Find the image distance, height and nature of the image.

3. An object is placed 25 cm from a concave mirror of focal length 10 cm. Determine the image distance and its nature.

4. An object is placed 10 cm in front of a convex mirror of focal length 15 cm. Calculate the position of the image.

5. An object is placed at 18 cm from a concave mirror which forms a real image 9 cm away. Find the focal length of the mirror.

Part B: Lens Formula Numericals (Use formula: $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$)

1. An object is placed 30 cm from a convex lens of focal length 20 cm. Find the image distance and nature of the image.

2. A concave lens has a focal length of 15 cm. An object is placed 25 cm from the lens. Calculate the image distance.

3. An object is 4 cm high and is placed 20 cm from a convex lens of focal length 10 cm. Find the image height and nature.

4. An object is placed 10 cm from a concave lens of focal length 20 cm. Calculate the position and nature of the image.

5. A convex lens forms a real image 40 cm away when an object is placed 60 cm from it. Calculate the focal length of the lens.

Part C: Most Likely Board Exam Questions (2025–26)

1. Define the principal focus of a concave mirror. What is the nature of the image formed when an object is placed at the focus?
2. Distinguish between real and virtual images. Give one example of each.
3. With the help of a ray diagram, explain the formation of image by a convex lens when the object is placed between F and 2F.
4. Why does a ray of light bend when it passes from one medium to another? Name the phenomenon.
5. State the mirror formula and explain the meaning of each term.

- - - - -

Answer Key (For Reference Only)

Solutions: Mirror Formula Numericals

1. $v = -20$ cm (real, inverted image at same distance as object), nature: real and inverted.
2. $v = -30$ cm, height of image = -5 cm (same size, real and inverted).
3. $v = -8.33$ cm (real and inverted).
4. $v = 6$ cm (virtual and erect image).
5. $f = -6$ cm (concave mirror).

Solutions: Lens Formula Numericals

1. $v = 60$ cm, image is real and inverted.
2. $v = -9.375$ cm (virtual and erect).
3. $v = 20$ cm, height of image = 4 cm (same size, real and inverted).
4. $v = -6.67$ cm (virtual and erect).
5. $f = 24$ cm (convex lens).

CHEMISTRY

Note: Write the answers of the questions given below in your scrapfile.

Q. 1. Silver chloride when kept in the open turns grey. Illustrate this with a balanced chemical equation.

[SQP-2020-21][1]

Ans.

Q. 2. Write the balanced chemical equation of any one reaction that CANNOT be classified as combination, decomposition, simple displacement or double displacement.

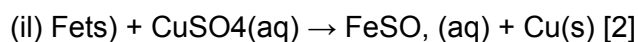
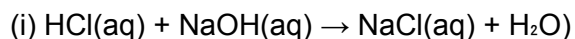
[CFPQ] [1]

Ans.

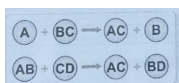
Q.3. When hydrogen gas is passed over heated copper (II) oxide, copper and steam are formed. Write the balanced chemical equation with physical states for this reaction. State what kind of chemical reaction is this? [2]

Q.4. What is a combination reaction? State one example giving a balanced chemical equation for the reaction. [2]

Q. 5. Identify the displacement and the double displacement reaction from the following reactions.



Ans.



Q. 6.

Identify the types of reaction mentioned above in (1) and (2). Give one example for each type in the form of a balanced chemical equation

[CBSE SQP 2022] [3]

Ans.

Q. 7. Mention with reason the colour changes observed when

(a) Silver chloride is exposed to sunlight.

(b) Copper powder is strongly heated in the presence of oxygen.

(c) A piece of zinc is dropped in copper sulphate solution.

[CBSE Board 2020] [3]

Ans.

Q.8. (a) Define corrosion.

(b) What is corrosion of iron called?

(c) How will you recognise the corrosion of silver?

(d) Why is corrosion of iron a serious problem?

(e) How can we prevent corrosion of iron?

[Board Term-1, 2016] [NCERT 2017] [5]

Ans.

BIOLOGY

General Instructions: The following work has to be done in the Science scrapbook.

1. Paste the worksheet 29 and 30 given in class group in scrap book.
 2. Draw a flowchart to show the breakdown of glucose by various pathways.
 3. Draw a labelled diagram of human respiratory system
 4. Diagrammatic representation of different stages in the holozoic nutrition (feeding) of Amoeba.
 5. Diagrammatic representation of the Human respiratory system.
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CLASS – X
SOCIAL SCIENCE
(2025-26)
Holidays Homework

Dear Student

1. Learn all the chapters which are done so far in the class.

2. PROJECT

Each student must compulsorily undertake any **one project** on the following topics:

Refer ANNEXURE III on the CBSE website (curriculum) cbse.nic.in (page 27)

Consumer Awareness

OR

Social Issue (any one)

OR

**Sustainable
Development**

a) In Consumer Awareness Project. (Refer to Economics ch-5 Consumer Awareness)

- Highlight how the consumers are exploited in the market place.
- International Consumer Movement
- Write about rights and duties as a consumer and legal measures available to protect from being exploited in the market.
- Role of Govt. in consumer awareness program
- Supply newspaper clippings, drawing, pictures to make the project relevant
- Prepare the project in a colored scrap book, if possible, different forms of art may be integrated in the project work.

OR

b) In the Social Issues Project

- Highlight any two social issues like child labour, Domestic violence, Corruption, poverty, illiteracy etc.,
- Problems related to the social, issues and its impact on society.
- Role of Govt. in dealing with social issue.
- Supply newspaper cutting, drawing, pictures to make the project relevant
- Prepare the project in a colored scrap book. If possible, different forms of art may be integrated in the project work.

OR

c) In the project Sustainable Development (Refer to Geography ch-1 Resource and Development)

- Write the meaning of Sustainable Development with example
- Need for sustainable development in global scenario.

- Take a case study of any one country who witnessed the the transition of monarchy to democracy or where democracy evolved through popular struggle.
- Steps taken by different countries on global level (ex-International Earth Summit, Agenda 21)
- Role of people in struggle for democracy and its impact.
- Role of Indian govt. to promote or create awareness for sustainable development
- Supply newspaper cutting , pictures to make the project relevant
- Prepare the project in a colored scrap book

Instructions:

- It should have minimum 15 pages (including pictures and written content)
- It should be handwritten by the students themselves.
- It should have a cover page ,Index, Acknowledgement and Bibliography.
- Add relevant pictures, newspaper clippings.
- Write your name, class section at the bottom of the index page.

3. Interdisciplinary Project

- Under the inter disciplinary project, each section of std.X is divided into five groups.
- Each group will have 10 Roll numbers.approx.
- Every student needs to take up a topic allotted roll number wise.
- Each roll no. will make a power point presentation of 2/3 page.
- Each group will have a group leader who will combine all the PPTs.
- Finally, each group will have a power point presentation with 25/30 slides each.
- Each roll no. will also take print out of their 2/3 individual work and keep it in their respective portfolios.
- Refer ANNEXURE IV and ANNEXURE V (PAGE 31 TO 33) of Social_Science_Sec_2025-26.pdf from cbse.nic.in
- Each roll no needs to write content pertaining to their allotted topic in their POWER POINT PRESENTATION, also paste relevant pictures related to the topics in their slides. Take their print as well.

ROLL NO.	ROLL NO.	ROLL NO	ROLL NO	ROLL NO	TOPIC
1	11	21	31	41	the impact of World War II on the global economy
2	12	22	32	42	consequences of the Great Depression on the global economy.
3	13	23	33	43	India's economic condition during the Great Depression and relate it to the present economic condition of India and US.
4	14	24	34	44	post-war recovery efforts and their impact on the global economy
5	15	25	35	45	the role of the Bretton Woods Institutions in rebuilding the world economy
6	16	26	36	46	the efforts made towards decolonization and independence of

					nations
7	17	27	37	47	the impact of Bretton Woods institutions in the post war economy
8	18	28	38	48	World Trade Organization in building new nations and promoting fair trade practices.
9	19	29	39	49	the reasons for the end of the Bretton Woods system
10	20	30	40	50	the impact of globalization on the Indian economy and the challenges faced by India in the process of globalization
				51	Group leader (need to combine all the slides together and add page no ANNEXURE-V (Page no 33 at the end of all the slides and fill the same.

In case the group has 10 members, the roll no.10 will do the work of group leader as well or the teacher may use his/her own discretion in making any of the roll no. as group leader.

Apart from the above Power Point Presentation, **each student needs to do page no 31,32 of Annexure IV. (Handout 1 for Day 4 of Inter Disciplinary Project of Class X) Refer CBSE Curriculum 2025-26**

Write the answers of the questions given in a separate sheet based on the title: **The Role of Waterways and Airways in Post-World War II- World and India.** Keep the same in the Portfolio.

4.MAP WORK

Do the following maps in India political map and keep it in the portfolio.

CH 1. Resources and Development Identify: Major soil types.







CH-3Water Resource: - Locating and labeling

- Salal
- Bhakra Nangal
- Tehri
- Rana Pratap Sagar
- Sardar Sarovar
- Hirakud
- Nagarjuna Sagar
- Tungabhadra

CH.4 Agriculture: Identify:

- Major areas of Rice and Wheat
- Largest/ Major producer states of Sugarcane, Tea, Coffee, Rubber, Cotton and Jute

5.On an A4 size sheet, draw and the following Agricultural tools and implements. (Ch- Agriculture)

		
Plough	Sickle	Trowel
Drawn over soil to turn it over and cut furrows and <u>planting of seeds.</u>	<u>used</u> for cutting corn, lopping, or trimming.	Scoop/lift plants or earth.
		
Mattock	Shovel	Rake
Used for digging and chopping	Used for removing and throwing loose matter or earth	<u>used</u> especially for drawing together cut grass or smoothing loose soil or gravel.

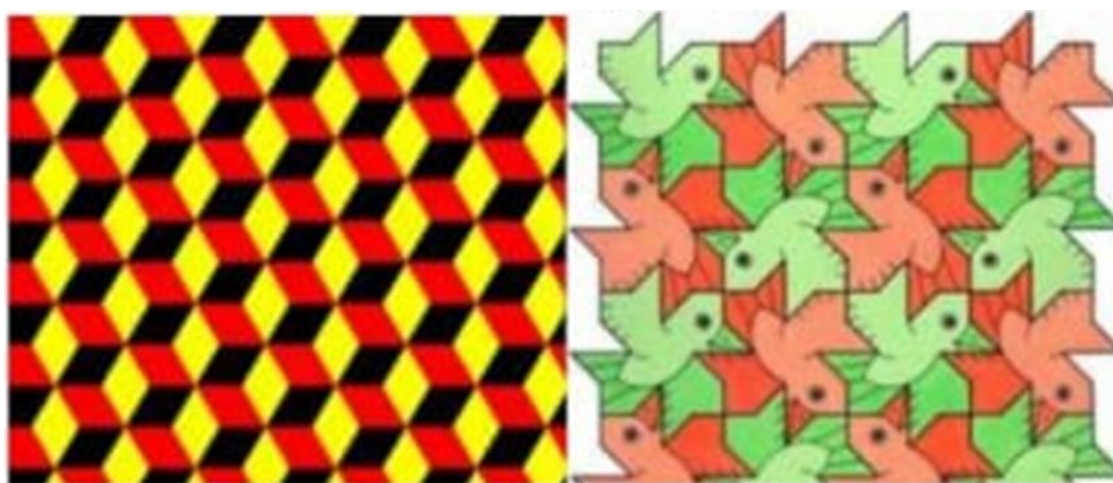
CLASS X

HOLIDAYS HOMEWORK MATHS 2025-26

1 Tiling or tessellation of a flat surface is the covering of a plane using one or more geometric shapes, called tiles, with no overlaps and no gaps.

This work is of practical importance in waste management and other fields where region development is important.

Task: Students are required to use A4 sheet and make design in the form of Tessellation by any medium of colours or paper pieces etc. Examples of Tessellation are shown below.



2. Write a note on Mathematician Heron's and mention his contribution in Mathematics.

3. Create a colorful Mathematics text book cover using your creativity.

4. Draw and color Sierpinski Triangle.

Solve the following assignment on A4 Sheets.

SHORT ANSWER TYPE QUESTIONS

Q1. What is the H.C.F of the smallest composite number and the smallest prime number? (CBSE 2018)

Q2. If 'p' is a prime number then what is the L.C.M of p, p², p³?

Q3. Find the sum of exponents of prime factors in the prime factorization of 216?

LONG ANSWER TYPE QUESTIONS

Q4. Three sets of English, Hindi and Mathematics books have to be stacked in such a way that all the books are stored topic wise and the height of each stack is the same. The number of English books is

96, the number of Hindi books is 240 and the number of Mathematics books is 336. Assuming that the books are of the same thickness, determine the number of stacks of English, Hindi and Mathematics books.

Q5. Two brands of chocolates are available in packs of 24 and 15 respectively. If I need to buy an equal number of chocolates of both kinds, what is the least number of boxes of each kind I would need to buy?

Q6. Prove that $\sqrt{7}$ is an irrational number.

Q7. Find HCF and LCM of 404 and 96 and verify that $\text{HCF} \times \text{LCM} = \text{Product of the two given numbers}$.

Reason-Assertion based question:

Choose the correct answer out of the following choices:

(a) Assertion and Reason both are correct statements and Reason is the correct explanation of Assertion.

(b) Assertion and Reason both are correct statements and Reason is not the correct explanation of Assertion.

(c) Assertion is correct statement but Reason is wrong statement.

(d) Assertion is wrong statement but Reason is correct statement.

Assertion: The HCF of two numbers is 16 and their product is 3072. Then their $\text{LCM}=192$

Reason: if a and b are two positive integers, then $\text{HCF} \times \text{LCM} = a \times b$

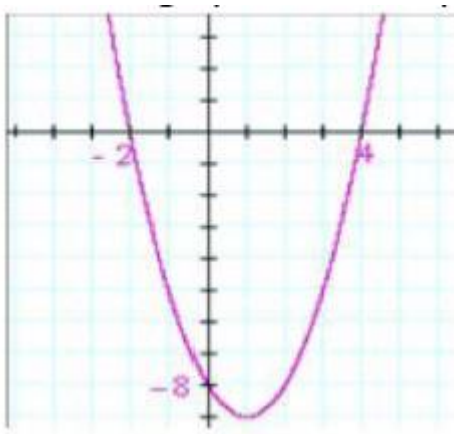
Ch : Polynomials

CASE BASED STUDY

An asana is a body posture, originally and still a general term for a sitting meditation pose, and later extended in hatha yoga and modern yoga as exercise, to any type of pose or position, adding reclining, standing, inverted, twisting, and balancing poses. In the figure, one can observe that poses can be related to representation of quadratic polynomial.



1. What is the shape of the poses shown in the above figures?
2. In the graph, how many zeroes are there for the polynomial?



3. Write the zeroes represented in the above graph and form a quadratic polynomial using those zeroes.

ग्रीष्मावकाश कार्य (सत्र 2025–26)
कक्षा दसवीं विषय हिंदी

1. मुहावरे

अपनी पाठ्यपुस्तक के पढ़ाए गए पाठों कबीर तथा बड़े भाईसाहब में से मुहावरे चुनिए एवं उनका अर्थ लिखकर वाक्यों में प्रयोग कीजिए। कम से कम 20 मुहावरे दोनो पाठों के मिलाकर होने चाहिए।

2. वर्ग पहेली

निम्नलिखित वर्ग पहेली में दिए गए मुहावरे छाँटिए और उनके अर्थ लिखकर वाक्य में प्रयोग कीजिए।

नौ	घा	व	भ	र	ना	लो	क	आ
दो	अ	चू	ला	ह	क	हे	ह	ड़े
ग	रु	क	ई	गु	में	के	र	हा
या	त	हो	क	ज़	द	च	ब	थों
र	हो	ना	र	र	म	ने	र	ले
ह	जा	च	ना	र	ख	च	सा	ना
हो	ना	कों	च	ने	च	बा	ना	क
जा	न	प	र	खे	ल	ना	ट	न
ना	क	भौं	सि	को	ड़	ना	क	क

2. विज्ञापन

अलग अलग विषयों से संबंधित पाँच हिंदी विज्ञापन समाचार पत्र अथवा पत्रिका से काटकर चिपकाइए।

3. अंडमान द्वीपसमूह पर एक वृत्त चित्र (documentary) तैयार कीजिए

अथवा

अंडमान द्वीपसमूह पर एक यात्रा-वृत्तांत लिखिए।

4. इंटरनेट की सहायता से 'उत्तराखंड का खूबसूरत प्रदेश कौसानी' पर जानकारी एकत्र कीजिए तथा एक परियोजना तैयार कीजिए।

नोट : सारा कार्य आंतरिक मूल्यांकन के अंतर्गत जाँचा जाएगा।

कार्य आकर्षक, सृजनात्मक, मौलिक और प्रस्तुति योग्य होना चाहिए।

इसके अंक परीक्षा में जोड़े जाएँगे।

Name: _____

Class X: _____

Section: _____

Roll No.: _____

Holiday Homework (English)**Instructions:**

1. Get this assignment printed on an A4 size sheet.
2. Tick ✓ the most suitable answer.
3. Submit it on the day of reopening of school after summer vacations.

1. I _____ working all afternoon and have just finished the assignment.

A have been

C shall be

B had been

D am

2. Rohan _____ the movie before he read the review.

A watches

C had watched

B have watched

D was watching

3. He _____ in the States but he still does not have a command over the English language.

A have been living

C have lived

B has been living

D living

4. By the next month, we shall _____ the project.

A has completed

C completed

B completing

D have completed

5. Every boy and girl _____ in the class today.

A are present

C have present

B is present

D had present

6. He _____ daily for a year now.

A exercises

C has been exercising

B was exercising

D have been exercising

7. I _____ this book since morning.

A had been reading

C have had read

B has been reading

D shall be reading

8. According to the prevailing rate, two dozen _____ rupees one hundred.

A costs

C costing

B cost

D costed

9. The Council _____ made its decision.

A have

D having

B have had

C has

10. The wise leader and politician _____ assassinated.

A are

C have been

B has been

D have had been

11. Neither of the paintings _____ sold.

A have been

D was

B were

Correct Ans. B

C are

12. Sita or her brothers _____ to be blamed.

A is

C are

B has

D was

13. The Chief guest, with his wife, _____.

A has left

C have left

B are leaving

D left

14. The quality of products _____ over time.

- | | |
|-----------------------|------------------|
| A are degrading | C have degrading |
| B have been degrading | D were degraded |

15. The news _____ not updated timely.

- | | |
|--------|-------|
| A were | C is |
| B have | D are |

16. They _____ into their cars and drove away.

- | | |
|------------|--------|
| A has got | C gets |
| B have got | D got |

17. Each of the four army soldiers _____ for the mission.

- | | |
|--------------|-------------------|
| A were ready | C was ready |
| B are ready | D have been ready |

18. The thief and the eye-witness _____.

- | | |
|---------------------|----------------|
| A has escaped | C was escaping |
| B has been escaping | D have escaped |

19. Back in my native place, I _____ a smartphone.

- | | |
|----------------|---------------|
| A did not have | C did not had |
| B do not have | D do not had |

20. Choose the correct sentence.

- A When I woke up, he has already eaten breakfast.
B When I woke up, he had already eaten breakfast.
C When I had woken up, he had already ate breakfast.
D When I had woken up, he has already ate breakfast.

21. I _____ the medicine as prescribed by the doctor for a week now.

- | | |
|--------------------|------------------------|
| A takes | C would have taken |
| B have been taking | D have had been taking |

22. You and I _____ the obligations.

- | | |
|-----------------------|------------------|
| A am fulfilled | C have fulfilled |
| B has been fulfilling | D has fulfilled |

23. Two-thirds of the food supply _____ for the month.

- | | |
|-----------------|-------------------|
| A has been used | C have been using |
| B were used | D has been using |

24. The technique of paraphrasing _____.

- | | |
|-----------------------|------------------------|
| A are practised | C have to be practised |
| B has to be practised | D is practising |

25. "Shyam and his brothers" _____ a famous sweet shop in our neighbourhood.

- | | |
|-------------|--------|
| A are | C is |
| B have been | D have |

26. By the time she was fifteen, she _____ a beautiful singer.

- | | |
|----------------|----------------|
| A shall become | C had become |
| B become | D has becoming |

27. Neither she nor I _____ at home.

- | | |
|--------|------------|
| A were | C has been |
| B was | D be |

28. My friends and I _____ stuck there.

- | | |
|------------|-----------------|
| A had been | C has been |
| B was | D have had been |

29. Choose the correct sentence.

- | | |
|--|---------------------------------------|
| A Sam have gone to buy some groceries. | C Sam be going to buy some groceries. |
| B Sam had going to buy some groceries. | D Sam is going to buy some groceries. |

30. Chris _____ to attend the programme.

- | | |
|------------------|-------------------|
| A did not wanted | D does not wanted |
| B did not want | |
| C do not wanted | |

31. There is an error in each line. Identify the error and supply the correct answer.

		Incorrect	Correct
Man is the nobler of all animals, the final	(a)		
product of untold age of progressive	(b)		
evolution, but there is not consciously	(c)		
striving to live over to his heritage.	(d)		
The beasts hold a world conference to	(e)		
confabulate in the authenticity of man's	(f)		
claim to be the better of creations and	(g)		
the monarch in all that walks on the earth.	(h)		
The lion chair the meeting. The tiger rose first.	(i)		

32. The following sentences are incorrect. Rewrite them correctly in the box provided.

a. I have been living in Ireland there for two years.

b. She did not want to do work today.

c. Harry lent his book to me on yesterday.

d. Sherry, my friend, who is a writer.

e. I wanted to stay out away of this.

f. I have wrote this song yesterday.

g. I would like that you deliver this letter for me.

h. The office where I work at is very small.

i. She wrote to me this letter.

j. I asked to him if he wants to go out.