



CLASS - X

WORKSHEET

SESSION 2025-26





Class – X Subject: Physics Topic: Reflection and Refraction

- 1) Draw the ray diagram in each case to show the position and nature of the image formed when the object is placed:
 - (i) at the centre of curvature of a concave mirror
 - (ii) between the pole P and focus F of a concave mirror
 - (iii) in front of a convex mirror
 - (iv) at 2F of a convex lens
 - (v) in front of a concave lens
- 2) An object 2 cm in size is placed 30 cm in front of a concave mirror of focal length 15 cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? What will be the nature and the size of the image formed? Draw a ray diagram to show the formation of the image in this case.
- It is desired to obtain an erect image of an object, using a concave mirror of focal length 20 cm.
 - (i) What should be the range of distance of the object from the mirror?
 - (ii) Will the image be bigger or smaller than the object?
 - (iii) Draw a ray diagram to show the image formation in this case.
- 4) The refractive index of water is 1.33 and the speed of light in air is 3 x 10 ⁸ ms-1. Calculate the speed of light in water.
- 5) The refractive index of glass is 1.50 and the speed of light in air is 3 x 10 ⁸ ms-1. Calculate the speed of light in glass.
- 6) The speed of light in a transparent medium is 0.6 times that of its speed in vacuum. What is the refractive index of the medium?
- 7) Determination of focal length of a spherical mirror which forms a three times magnified real image of an object placed 16 cm in front of it.
- 8) State the law of refraction of light that defines the refractive index of a medium with respect to the other. Express it mathematically. How is refractive index of any medium 'A' with respect to a medium 'B' related to the speed of propagation of light in two media A and B? State the name of this constant when one medium is vacuum or air. The refractive indices of glass and water with respect to vacuum are 3/2 and 4/3 respectively. If the speed of light in glass is 2 x 10⁸ m/s, find the speed of light in (i) vacuum, (ii) water.
- 9) A 9 cm needle is placed 12 cm away from a convex mirror of focal length 30 cm. Give the location of image and magnification. Describe what happens to the image as the needle is moved farther from the mirror.
- 10) Ashu placed a pencil perpendicular to principal axis in front of a converging mirror of focal length 15 cm. The image formed is twice the size of the pencil. Calculate the distance of the object from the mirror.

SUBJECT : संस्कृत

अधोलिखित अपठित गद्यांश पठित्वा प्रश्नानाम उत्तराणि लिखत -

प्रश्न =1 रामायणम् लौकिकसंस्कृतस्य प्रथमः ग्रन्थः । अस्मिन् ग्रन्थे मर्यादापुरुषोत्तमस्य श्रीरामस्य जीवनस्य वृत्तं वर्तते। अस्य लेखकः महर्षिः वाल्मीकिः आसीत्। सः आदिकविः आसीत् अतः तस्य रचना 'आदिकाव्यम्' इति कृत्वा विद्वांसः स्मरन्ति । एतत् काव्यम् अनुष्टुप् छन्दसि निबद्धम् । अत्र श्लोकानां चतुर्विंशतिसहस्रं वर्तते, तेन रामायणं 'चतुर्विंशति-साहस्त्री-संहिता' इति नाम्ना अपि विद्वद्भिः स्मर्यते। इदं कविना नारदमुनेः प्रेरणया ब्रह्मणः वचनेन च रचितम ।

रामायणे कविना यद् वर्णनं कृतम् तत्सर्वत्र अलौकिकं विद्यते। महर्षिः वाल्मीकिः श्रीरामस्य समकालीनः भवति सति यद् वर्णनं कृतवान् तत्सर्वं सत्यं प्रतीयते। अतः तद्वर्णनं निर्विवादं वर्तते। महर्षिः वाल्मीकिः श्रीरामस्य वर्णनं अवताररूपे न कृत्वा केवलं मर्यादापुरुषोत्तमरूपे कृतवान् । अतः तद् वर्णनम् अलौकिकं नास्ति । ऐतिहासिकाः जनाः अपि तदेव स्वीकुर्वन्ति ।

1. एकपदेन उत्तरत -

(i) रामायणे कस्य जीवनस्य वृत्तं वर्तते ?

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(ii) कः आदिकविः आसीत् ?
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॥. पूर्णवाक्येन उत्तरत .

(i) किमर्थम् आदिकाव्यम् इदम् ?

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(ii) रामायणं कविना केन कारणेन रचितम् ?
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॥.. भाषिककार्यम्

(i) 'वाल्मीकिः' अस्य पदस्य विशेषणपदम् लिखत ।

(क) महर्षिः	(ग) उभयोः		
(ख) आदिकविः	(घ) कविः		

(ii) 'सः आदिकविः आसीत्' अत्र 'सः' पदं कस्मै प्रयुक्तम् ?

(क) रामायणाय (ग) ब्रह्मणे

(ख) वाल्मीकिने (घ) रामाय

(iii) 'एतत् काव्यम् अनुष्टुप् छन्दसि निबद्धम्' । अत्र 'एतत् काव्यम्' कं प्रति सङ्केतं करोति ?

(क) कविताम्	(ग) कालिदासम
	V / V V

(ख) रामायणम् घ) महाभारतम्

(iv) अनुच्छेदे 'रचितम्' इति क्रियापदस्य कर्तृपदं किमस्ति ?

(क) वचनेन ग) प्रेरणया

(ख) ब्रह्मणः घ) कविना

IV. उपरिलिखितस्य अनुच्छेदस्य समुचितं शीर्षक लिखता

प्रश्न =2 भवती सुषमा । भवत्याः अनुजा रमा अस्ति। रमां प्रति वार्षिकपरीक्षायै लिखिते पत्रे मञ्जूषापद-सहायतया रिक्तस्थानानि पूरयत् ।

प्रिये (i)----- रमे!

नवदिल्लीतः

दिनाङ्कः 17/7/25....

आशीर्वादाः।

अत्र (ii)------ तत्रास्तु । तव मासिक-परीक्षायाः (iii)------ मया दृष्टः । गणित विषये त्वया (iv)------अङ्काः प्राप्ताः । भवती गणितविषयस्य नित्यम् (v)------ कुर्यात् येन वार्षिकपरीक्षायाम् गणितविषयेऽपि (vi) ------अङ्कान् प्राप्नुयात् (vii)------- च उत्तमम्

(viii)-----अस्ति ।

SUBJECT: INFORMATION TECHNOLOGY

MCQ(MULTIPLE CHOICE QUESTIONS)

1. By what method we can know what the receiver understood or got the message

A) transmitting

B) feedback

C) message

D) listening

2. . What is a sentence?

A) A group of ideas.

B) A group of words that communicate a complete thought.

C) A set of rules to write correctly.

D) A set of words that is grammatically correct

3. Which type of word is generally not used in verbal communication.

A) Technical

B) Simple

C) Easy

D) Local Language

4. _____ are a group of words that together act as a grammatical units.

A) Imperative

B) Interrogative

C) Phrase

D) Exclamatory

5. Using abbreviations in communication leads to which type of communication barrier

A) Language/ Linguistic

B) Physical

C) Cultural

D) Organisational

6. which can be used to overcome the communication barrier

A) Using a translator

B) By writing a letter

C) Not communicating at all

D) Using your own language

7. Stress management prevents ______.

A) psychological disorders

B) behavioural problems

C) both of the above

D) none of the above

8. Which of the following help to manage stress?

- A) Self-awareness of symptoms of stress
- B) Speaking out to the family and friends
- C) Both of the above

D) None of the above

SHORT ANSWER

1. What do you mean by Self motivation?

2. List the different types of verbal communication. Include examples for each verbal communication type.

- 3. What is communication?
- 4. Explain communication cycle.
- 5. What ia an article

LONG ANSWER

1. What are the different types of self-management skills?

2. What do you mean by 7 Cs of effective communication.

3. Difference between verbal and non verbal communication

4. Explain Self Awareness and types of self Awareness?

5. Techniques to handle Stress Management?

6. What do you mean by feedback? Let's take a scenario. Radha is your co-worker. Together you are making a report on how to manage the waste in your store. Since she has not finished her part of the report on time, the whole report has got delayed and the manager has given you both a warning. Write down the feedback you would like to give your co-worker on managing time. Try to keep the feedback specific and polite.

7. Write down the common communication barriers you may come across when you move to a new city or country

ASSERTION AND REASONING

Consider the question 1 and 2 and answer the following from below option

A)Both A and R are correct and R is correct explanation of (A).

B) Both (A) and (R) are correct and (R) is not the correct explanation of (A).

C) (A) is True but (R) is False.

D) (A) is False but (R) is True

1.Assertion A): Classroom communication involves the clear decoding of messages by the students.

Reason R): By increasing redundancy, we can improve the fidelity of communication.

2.Assertion : Pictures and audio- visuals gives us more understanding than teaching and writing on the black board .

Reason : The device which helps in explaining the concepts easily through pictures is known as visual communication device

3. Assertion : Communication is the basic survival need of human being.

Reason: Communication builds relationships

4. Assertion: Stress is a symptom not a disease

Reason: The immediate outcome of harmful external provocation leads to state of stress causing disease

5. Assertion :- The self management skills helps us to manage ourselves. II

Reason :- That does not mean we have to develop a positive attitude, self control, discipline etc

हिंदी गृहकार्य

1. सूरदास और तुलसीदास जी का संक्षिप्त परिचय दीजिए और उनका चित्र भी लगाइए ।

2. राम, लक्ष्मण, परशुराम और विश्वामित्र के बारे में पांच पांच वाक्य लिखिए ?

3. किस आधार पर हम यह कह सकते हैं कि नेताजी का चश्मा नामक पाठ में देशभक्ति की भावना छिपी हुई है ?

4. नई कोचिंग सेंटर के प्रचार हेतु एक आकर्षक विज्ञापन तैयार कीजिए।

5. "हिंदी मात्र भाषा नहीं मातृभाषा है ।" इस कथन की व्याख्या कीजिए ?

SUBJECT : CHEMISTRY

<u>Task I</u>:

Prepare a secret message using invisible ink made by lemon.

Link is been shared for further clue.

www.wikihow.com/Make-an-Invisible-Ink-Message.

Prepare its video and share it on personal number of a teacher.

<u> Task II</u> :

Prepare a sample of the best homemade bathroom cleaner using vinegar and baking soda. Prepare its video and show its working .Write all the steps involved in its preparation on A-4 size paper also state as which type of reaction is it? Write a chemical equation of the reaction.

Task III:

(3) Complete class work up to chapter – 1.

- (4) Complete homework up to chapter 1.
- (5) Complete all activity of chemistry in Notebook .
- (6) Learn all Topics studied so far.

SUBJECT: BIOLOGY

LET'S IMBIBE SOME MORAL VALUES AND SAVE THE ENVIRONMENT

Be a responsible citizen:

- 1. Never throw the wrappers around.
- Find a bin nearby and put the wrapper in it.
- No dustbin nearby: put the wrapper in your pocket and a put it in dustbin when you find one.
- Make a small bin for the car or carry an eco friendly bag to dispose off any wrappers. 'NEVER THROW THEM ON STREETS'.
- 2. 'RESOURCES ONCE WASTED CAN NOT BE USED BY ANYONE'.
- Turn off lights and other electrical appliances whenever you leave the room.
- Take a small portion of serving (food) in the plate, so as you can finish the food.
- Don't waste water. Every drop is precious!



Survey and Research on The Global Impact of Respiratory Diseases.

Based on this research and survey you have to give presentation in the school (when it will reopen in campus) on the occasion of World Lung Day (WLD),

September 25.

This is to raise awareness among the people about to protect their lungs by being physically active, stop smoking, reducing air pollution and getting vaccinated.

Task-1

'Respiratory diseases impose an immense worldwide health burden".

Find out the five most common respiratory diseases which are the causes of severe illness and death worldwide. Paste pictures and fill the necessary information in a table.

Format is given below:

S.No	Respiratory disease (Name)	Scope of the disease	Prevention	Treatment	Control and Elimination
1					
2					
3					
4					
5					

Note:

Source of Information for the Assignment:

It can be a Newspaper clipping, an article from a magazine or an Internet.

You have to write the reference of source of information you will use for your assignment.

Why Reference?

When you are writing an essay, report or any other form of academic writing, your own thoughts and ideas inevitably build on those of other writers, researchers or teachers. It is essential that you acknowledge your debt to the sources of data, research and ideas on which you have drawn by including references to, and full details of, these sources in your work. Referencing your work allows the reader:

1. To distinguish your own ideas and findings from those you have drawn from the work of others.

2. To follow up in more detail the ideas or facts that you have referred to.

Task-2

Draw and design a catchy caption for World Lung Day- 2020.

Click a picture of it and paste it at the bottom of your Assignment.



	SUBJECT: MATHEMATICS			
1.	Express each of the following integers as a product of its prime.			
	I) 420			
	II) 468			
2.	Determine the prime factorisation of each of the following positive integers:			
	l) 20570			
	II) 58500			
	III) 45470971			
3.	Explain why 7 x 11 x 13 + 13 and 7 x 6 x 5 x 4 x 3 x 2 x 1 + 5 are composite numbers.			
4.	Explain why 3 × 5 × 7 + 7 is a composite number.			
5.	Check whether 6 ⁿ can end with the digit 0 for any natural number n.			
6.	Find the LCM and HCF of the following pairs of integers and verify that LCM × HCF = Product of the integers:			
	I) 2510 and 92			
	II) 336 and 54			
7.	Find the LCM and HCF of the following integers by applying the prime factorisation method:			
	I) 12, 15 and 21			
	II) 17, 23 and 29			
	III) 8, 9 and 25			
	IV) 40, 36 and 126			
	V) 84, 90 and 120			
	VI) 24, 15 and 36			
8.	Given that HCF (306, 657) = 9, find LCM (306, 657).			
9.	The HCF of the two numbers is 145, and their LCM is 2175. If one number is 725, find th other.			
10	The HCF of the two numbers is 16, and their product is 3072. Find their LCM.			

12	Find the smallest number that, when increased by 17, is exactly divisible by both 520 and 468.
13	Find the smallest number which leaves remainders 8 and 12 when divided by 28 and 32, respectively.
14	What is the smallest number that, when divided by 35, 56 and 91, leaves remainders of 7 in each case?
15	A rectangular courtyard is 18m 72cm long and 13m 20 cm broad. It is to be paved with square tiles of the same size. Find the least possible number of such tiles.
16	Find the greatest number of 6 digits exactly divisible by 24, 15 and 36.
17	A circular field has a circumference of 360 km. Three cyclists start together and can cycle 48,60 and 72 km a day around the field. When will they meet again?
18	In a morning walk, three persons step off together, their steps measuring 80 cm, 85 cm and 90 cm, respectively. What is the minimum distance each should walk so that he can cover the distance in complete steps?
19	Find the largest number, which divides 615 and 963, leaving the remainder 6 in each case.
20	An army contingent of 616 members is to march behind an army band of 32 members in a parade. The two groups are to march in the same number of columns. What is the maximum number of columns in which they can march?
21	A merchant has 120 litres of oil of one kind, 180 litres of another and 240 litres of the third kind. He wants to sell the oil by filling the three kinds of oil in tins of equal capacity. What should be the greatest capacity of such a tin?
22	During a sale, colour pencils were being sold in packs of 24 each and crayons in packs of 32 each. If you want full packs of both and the same number of pencils and crayons, how many of each would you need to buy?
23	144 cartons of Coke Cans and 90 cartons of Pepsi Cans are to be stacked in a Canteen. If stack is of the same height and is to contain cartons of the same drink, what would be the greatest number of cartons each stack would have?
24	Find the greatest number, which divides 285 and 1249, leaving remainders 9 and 7, respectively.
25	What is the largest number that divides 626, 3127 and 15628 and leaves remainders of 1, 2 and 3, respectively?
26	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?
27	The traffic lights at three different road crossings change after every 48 seconds, 72 seconds and 108 seconds respectively. If they change simultaneously at 7a.m. at what time will they change simultaneously again?
-	

28 Show that following numbers are irrational.

 $\sqrt{2},\sqrt{3},\sqrt{5},\,rac{1}{\sqrt{2}}$, $7\sqrt{5}$, $\,6+\sqrt{2},\,\,3-\sqrt{5}$, $rac{2}{\sqrt{7}}$, $2\,-3\sqrt{5},2\sqrt{3}-1$

SUBJECT : SOCIAL SCIENCE

GEOGRAPHY:

CHAPTER: 1- RESOURCES AND DEVELOPMENT

I. Answer the following questions:

- 1. What is a Resource?
- 2. What is Sustainable Development?
- 3. Classification of resources:
 - On the basis of origin
 - On the basis of exhaustibility
 - On the basis of ownership
 - On the basis of status of development
- 4. Write about the first Earth summit.
- 5. Write about Agenda-21.
- 6. Expand UNCED.
- 7. What are the three steps involved in resource planning in India?
- 8. Define the following:
 - 1. Bangar
 - 2. Khaddar
 - 3. Bhabar
 - 4. Terai
 - 5. Reh / kallar
- On an outline physical map of India mark and label: MAJOR SOIL TYPES (Textbook page no: 9)

ECONOMICS

CHAPTER 1- DEVELOPMENT

- 1. What is National Income?
- 2. What is meant by Per capita income?
- 3. What is Human Development?
- 4. What is Human Development Index?
- 5. What is meant by Economic Growth and Economic Development?
- 6. Expand UNDP, WDR , IMR , NAR , PDS and HDI.
- 7. What is Infant Mortality Rate?
- 8. What is Literacy rate?
- 9. What is Net Attendance Ratio?
- 10. Collect latest information related to India:
 - A. Infant Mortality Rate
 - B. Literacy rate
 - C. Rank on Human Development Index
 - D. Net Attendance Ratio

SUBJECT : ENGLISH

1.Read the lesson," A triumph of surgery "and on the basis of your understanding, prepare a comic strip on a chart paper. Use colours and your creativity to portray your understanding and views.

2.You are Rahul or RidHhi, a resident of 12,Nakshatra Bagh,Greater Kailash. Write a letter to the editor complaining about the poor sanitary conditions of your area and the problems being faced by the residents.

3.Prepare a project report on the life and history of Robert Frost with two examples of short poems.

4.Read the English newspaper daily for 15 days.Paste any one news article along with pictures and paste it in your fair notebook with day,date and time.

5. Revise the syllabus covered.