



# THE JAIN INTERNATIONAL SCHOOL, KANPUR

Quality Education in a disciplined environment

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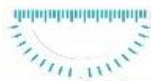
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# Summer

# HOLIDAY

# HOMework

## CLASS:- X (2024-25)





**The Jain International School, Kanpur**  
**Class X**

SUBJECT	HOMEWORK ASSIGNED
HINDI	<p>1. अपनी पाठ्य पुस्तक क्षितिज के पढ़ाए गए पाठों में से किसी एक पाठ का परियोजना कार्य / वर्किंग मॉडल तैयार कीजिए। या व्याकरण से संबंधित किसी एक पाठ पर वर्किंग मॉडल तैयार कीजिए।</p> <p>2. रचना के आधार पर वाक्यों के (20) भेद उदाहरण सहित स्पष्ट करें व कमेंट शीट पर लिखें।</p> <p>3. 'माता अंचल' पाठ पर एक पीपीटी तैयार कीजिए।</p> <p>4. 'करत करत अभ्यास के जड़मति होत सुजान' इस विषय पर 150- 200 शब्दों में एक अनुच्छेद कमेंट शीट पर लिखें।</p>
ENGLISH	<p><b>Question 1.</b> You encountered two strange people. They were different from normal human beings but they were quite interesting and exciting. As Manish Manisha, using your ideas, write a story in about 150-200 words narrating your experience with them.</p> <p><b>Question 2.</b> A TRAVEL BROCHURE (To be written in English Classwork Notebook) Do research on FAMOUS ARCHITECTURAL STRUCTURES (any 3 – 4 monasteries/temples ) of Sikkim. Prepare a travel brochure describing them. You can use the following guidelines to make your brochure informative and attractive (with pictures).</p> <ol style="list-style-type: none"> <li>1) Name of the temple/monastery</li> <li>2) Location</li> <li>3) How to get there</li> <li>4) Architectural details</li> <li>5) Historical background</li> <li>6) Best time to visit</li> </ol>
MATHS	Do the given worksheet in class notebook
S.SCI	<p>Chart and model on the given topics</p> <p>Roll no. 1 to 7 - Sustainable Development</p> <p>Roll no. 8 to 14 - Consumer Awareness</p> <p>Roll no. 15 to 22 - Social Issues</p> <p>Roll no. 23 to 31 - Indian National Movements</p>
PAINTING	Make two canvas painting of your choice
IT	Create your own blog using any of the following blog services : <a href="http://www.wordpress.com">www.wordpress.com</a> , <a href="http://www.blogger.com">www.blogger.com</a> and publish your blog. Post some interesting content like story, report social problems, , report of a visit to any place etc.regularly.

PHYSICS	Do the given worksheet in fair copy.
CHEMISTRY	Complete the given worksheet
BIOLOGY	1. Do the given worksheet in your biology notebook. 2. Prepare a project file on topic -NAMAMI GANGE. Do research about the project, mention it and paste related pictures. 3. Prepare a working model on the topic given below as per your roll number: a) Human digestive system Roll no. 1-4 b) Human respiratory system Roll no. 5-8 c) Human heart Roll no. 9-12 d) Nephron Roll no. 13-16 e) Neuron Roll no. 17-20 f) Human brain Roll no. 21-24 g) Endocrine system Roll no. 25-28 h) Human excretory system 29-31

**THE JAIN INTERNATIONAL SCHOOL, KANPUR**

**HOLIDAY HOMEWORK (2024 - 25)**

**SUBJECT: Chemistry**

**CHAPTER: chemical reaction and equation**

**CLASS: 10<sup>th</sup>**

**Answer the following question**

- 1. What is a balanced chemical equation? Why should chemical equation be balanced?**
- 2. What do the symbols ↓ and ↑ indicate in a balanced chemical equation?**
- 3. Give one example of a chemical reaction characterized by the change in temperature?**
- 4. What is a precipitate? Give one example.**
- 5. What is the burning characteristic of magnesium ribbon?**
- 6. What is the valency of lead in lead nitrate?**
- 7. What is the chemical formula of quick lime and name the product formed when reacts with water?**
- 8. What is the formula of crystalline ferrous sulphate?**
- 9. What is the other name of ferrous sulphate?**
- 10. Why decomposition reaction of water is called electrolysis of water?**
- 11. A solution of a substance X is used for white washing (a) name the substance X and write its formula (b) write the reaction of a substance X named in (a) above with water**
- 12. Identify the substance that are oxidized and the substance that are reduced in the reaction**  
 (a)  $4\text{Na} + \text{O}_2 \rightarrow 2\text{Na}_2\text{O}$   
 (b)  $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$   
**What happens when dilute hydrochloric acid is added to iron fillings?**
- 13. What does one mean by exothermic and endothermic reactions? Give examples.**
- 14. Why respiration is considered an exothermic reaction? Explain.**
- 15. Why do we apply paint on iron articles?**
- 16. Oil and food containing items are flushed with nitrogen. Why?**
- 17. Explain the following terms with examples of each**  
 (a) Corrosion                      (b) Rancidity
- 18. Why do most article become dull when exposed to air?**
- 19. How can you chemically remove the black coating of copper oxide?**
- 20. Name two anti-oxidants which are usually added to fat and oil containing food?**



## The Jain International School, Kanpur

Class:X Subject: Biology Topic: Life processes

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### Answer the following questions:

1. Define all the steps involved in the process of nutrition.
2. Give two examples of parasites in plants, two in humans and two in animals.
3. Explain the terms catabolism, anabolism and metabolism.
4. Do plants have heterotrophic mode of nutrition? Explain them and give two examples of heterotrophic nutrition in plants.
5. Name the photosynthetic organ, photosynthetic organelle and site of photosynthesis.
6. Write the function of Villi and alveoli? Write the point of similarities and dissimilarities between these two.
7. Give the appropriate terms to the following statement:
  - a) any substance taken into the body for the purpose of providing nutrition.
  - b) conversion of complex food particles into simpler food particles in presence of enzymes.
8. What is an alimentary canal?
9. Write the differences between excretion and secretion.
10. Give the overall reaction for photosynthesis. From where do plants get the raw materials needed for it?
11. How does the Amoeba intake food? Explain briefly and draw related diagram.
12. Write the accessory glands of man that help in digestion of food. Mention one role of each gland.
13. What is mastication and peristaltic movement? Write its importance.
14. Mention any two roles of each bile juice, HCl and saliva in the process of digestion.
15. In which form do plants and animals store their food respectively?
16. Mention the main steps involved in the process of photosynthesis. Write in short about each step.
17. Discuss the digestion of food in the small intestine of humans in detail.
18. What is emulsification of fat? Why is it necessary?
19. Explain dental caries. Write about its causes and remedies.
20. What precautions do we take in the preparation of slide of stomata?
21. Name two sphincter muscles present in the alimentary canal and their role.
22. Draw a well-labeled diagram of the section of leaf, stomata, chloroplast (inside view), human digestive system and respiratory system.
23. Explain the point of difference between symbiotic and saprophytic nutrition. Give two examples of each.
24. What are enzymes? Name any five enzymes and their role.
25. Answer the following:
  - a) Solution used to test the presence of starch in green leaves.
  - b) Solution used to remove chlorophyll from the leaf.
  - c) Why do we use KOH?



**The Jain International School, Kanpur**  
**Holiday Homework Worksheet**  
**Subject-Mathematics (041)**  
**Class: X**

**Real numbers**

1. The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, find the other.
2. Prove that  $6 - 7\sqrt{3}$  is an irrational number, given that  $\sqrt{3}$  is an irrational number.
3. If HCF of 65 and 117 is expressible in the form of  $65n - 117$ , find the value of  $n$ .
4. Find the greatest number that will divide 43, 91 and 183 so as to leave the same remainder in each case.
5. Prove that  $\sqrt{7}$  is an irrational number.
6. Examine whether  $15^n$  can end with the digit 0 for any  $n \in N$ .
7. Three sets of English, Mathematics and Science books containing 336, 240 and 96 books respectively have to be stacked in such a way that all the books are stored subject wise and the height of each stack is the same. How many stacks will be there?
8. Find the largest number which divides 438 and 606, leaving remainder 6 in each case.

**Polynomials**

9. Find the quadratic polynomial, sum and product of whose zeroes are -1 and -20 respectively. Also, find the zeroes of the polynomial so obtained.
10. Find the value of  $k$  such that the polynomial  $x^2 - (k + 6)x + 2(2k - 1)$  has sum of its zeroes equal to half of their product.
11. If  $\alpha$  and  $\beta$  are zeroes of the quadratic polynomial  $4x^2 + 4x + 1$ , then form a quadratic polynomial whose zeroes are  $2\alpha$  and  $2\beta$ .
12. If one zero of the quadratic polynomial  $f(x) = 4x^2 - 8kx + 8x - 9$  is negative of the other, then find zeroes of  $kx^2 + 3kx + 2$ .
13. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $f(x) = 6x^2 + x - 2$ , find the value of  $\left(\frac{\alpha}{\beta} + \frac{\beta}{\alpha}\right)$ .

**Pair of linear equations in two variables**

14. Solve the following pair of linear equations by substitution method:
  - (a)  $2x - 3y = 13, 7x - 2y = 20$
  - (b)  $\frac{x}{2} - \frac{y}{9} = 6, \frac{x}{7} + \frac{y}{3} = 5$
  - (c)  $0.4x + 0.3y = 1.7, 0.7x - 0.2y = 0.8$
  - (d)  $4x + 6y = 3xy, 8x + 9y = 5xy$
15. Find the value of  $k$  for which the given system of equations has infinitely many solutions:  
 $kx + 3y = k - 3,$   
 $12x + ky = k$
16. The larger of two supplementary angles exceeds the smaller by 18 degrees. Find the angles.
17. A railway half ticket cost half the full fare but the reservation charges are the same on a half ticket as on a full ticket. One reserved first-class ticket from the stations A to B costs Rs. 2530. Also, one reserved first-class ticket and one reserved first-class half ticket from stations A to B costs Rs. 3810. Find the full first-class fare from stations A to B and also the reservation charges for a ticket.
18. If 45 is subtracted from twice the greater of two numbers, it results in the other number. If 21 is subtracted from twice the smaller number, it results in the greater number. Find the numbers.
19. Yash scored 40 marks in a test, receiving 3 marks for each right answer and losing 1 mark for each wrong answer. Had 4 marks been awarded for each correct answer and 2 marks being deducted for

each incorrect answer then Yash would have the score 50 marks? How many questions were there in the test?

20. 5 years hence the age of Jacob will be 3 times that of his son. 5 years ago Jacob's age was 7 times that of his son. What are their present ages?

**Coordinate Geometry**

21. Show that the points A (7,10), B (-2,5) and C (3, -4) are the vertices of an isosceles right triangle.
22. Show that the points A (3, 0), B (4, 5), C (-1, 4) and D (-2, -1) are the vertices of rhombus. Find its area.
23. If  $P(x, y)$  is equidistant from the points A (6, -1) and B (2,3), show that  $x - y = 3$ .
24. Find the coordinates of the point which divides the join of A (-1,7) and B (4, -3) in the ratio 2: 3.
25. Find the centroid of the triangle ABC whose vertices are A (-1,0), B (5, -2) and C (8,2).

**Project**

Prepare a working model of Math (related to your syllabus)



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Class:X Subject: Physics

Electrical resistivity of a given material depends upon

- i) its length ii) its thickness iii) its shape iv) the nature of its material
- b) In an ammeter, there are 10 more marks between 0A and 2A marks. The least count of the ammeter is
  - i) 0.1 ii) 0.02 iii) 0.2 iv) 0.01
- c) When a wire stretches up to twice of its original length, its resistance will be
  - i) double ii) four times iii) half iv) no change.
- d) Potential difference is measured by
  - i) ammeter ii) galvanometer iii) voltmeter iv) rheostat

Q2) write one word for followings;

[0.5X2]

- a) Name the SI unit of specific resistance
- b) Rate of flow of electron is known as
- c) What happened to the resistance of a metal wire if its temperature increased?
- d) How should we connect four resistances so as to have a minimum value of equivalent resistance?

Q3) a) when a potential difference of 3.0 volt is maintained across a wire, a current of 0.75A flows through the wire. Find the resistance of wire. [1X3]

- b) Write Ohm's law.
- c) Define electric resistivity.
- d) Define electric potential at a point.
- e) Calculate the potential difference between two terminals of a battery, if 100 j of work is required to transfer 20 C charge from one terminal of the battery to the other.
- f) Write two differences between ammeter and voltmeter.

Q4) a) Derive expression for equivalent resistance of three resistor of resistance  $R_1, R_2$  and  $R_3$  connected in series

[2X1]

b) An aluminum wire has a radius 0.5mm and a resistance of  $2.6 \times 10^{-8}$  ohm-m. how much length of this wire would be necessary to make a resistance 10 ohm.