

Summer vacation class-ix

1. Simplify, $(10 + \sqrt{5})(10 - \sqrt{5})$.
 2. Simplify, $2^{\frac{2}{3}} \cdot 2^{\frac{1}{3}}$.
 3. Add $2\sqrt{2} + 5\sqrt{3}$ and $\sqrt{2} - 3\sqrt{3}$.
 4. Express $0.\bar{6}$ in form of $\frac{p}{q}$.
 5. Draw $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$ on separate number line .
 6. Define Remainder Theorem.
 7. Expand $(2x+3y+4z)^2$
 8. Find the remainder when x^3+3x^2+3x+1 is divided by $x+1$
 9. Find the zero of the polynomial $P(x) = x+6$.
 10. Find the value of the polynomial $x^5 - 4x^2 - 3$ at $x=0$.
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11. Rationalise the denominator of $\frac{5}{\sqrt{3}-\sqrt{5}}$.
 12. Simplify $7^{\frac{1}{5}} \div 7^{\frac{1}{3}}$
 13. Subtract $2\sqrt{2} + 5\sqrt{3}$ from $\sqrt{2} - 3\sqrt{3}$
 14. Express $0.0\bar{7}$ in form of $\frac{p}{q}$
 15. Write two numbers whose decimal expansions are non terminating recurring.
 16. Define Factor Theorem.
 17. Expand $(2x-3y+z)^2$.
 18. Find the remainder when x^3+3x^2+3x+1 is divided by $x+2$.
 19. Find the zero of the polynomial $P(x)=x-0.5$
 20. Find the value of the polynomial $5x^3-4x^2+3$ at $x=2$.
 21. Rationalise the denominator of $\frac{1}{\sqrt{5}+\sqrt{2}}$
 22. Simplify $\frac{11^{\frac{1}{2}}}{11^{\frac{1}{4}}}$
 23. Multiply $6\sqrt{5}$ by $2\sqrt{3}$
 24. Express $0.\bar{16}$ in form of $\frac{p}{q}$
 25. Write two numbers whose decimal expansions are non terminating non recurring.
 26. Find the quotient and remainder when $5x^3+x^2+x+1$ is divided by $x+1$.

27. Expand $(-2x+3y+2z)^2$
28. Find the remainder when x^3+3x^2+3x+1 is divided by $x-1$.
29. Find the zero of the polynomial $P(x)=2x+5$.
30. Find the value of the polynomial $5x-4x^2+3$ at $x=-1$.
31. Factorise: (a) $8x^3+y^3+27z^3-18xyz$ (b) $27x^3+y^3+z^3-9xyz$
32. Factorise: (a) $9x^2+6xy+y^2$ (b) $4y^2-4y+1$
33. Factorise: (a) $8a^3+b^3+12a^2b+6ab^2$ (b) $27-125a^3-135a+225a^2$
34. Represent $\sqrt{9.3}$ on the number line.
35. Visualise 3.765 on the number line, using successive magnification.
36. Factorise: (a) x^3-2x^2-x+2 (b) x^3-3x^2-9x-5
37. Evaluate the products without multiplying directly (a) 103×107 (b) 104×96 .
38. Without actually calculating the cubes, find the value
(a) $(-12)^3+(7)^3+(5)^3$. (b) $(28)^3+(-15)^3+(-13)^3$.
39. Evaluate the following using suitable identities: (a) $(99)^2$ (b) $(102)^2$
40. Project: Constructing the square root of $\sqrt{2}$, $\sqrt{3}$, $\sqrt{4}$, $\sqrt{5}$, $\sqrt{6}$ and $\sqrt{7}$ in spiral method.

Summer Vacation - Task 2024

HISTORY

Class – IX

1. What is Democracy? And how democracy enhances the lifestyle of the citizens?
2. As we can see democracy is not giving solution to our problems. Discuss how monarchy or dictatorship can be a better substitute for it.
3. What are the key features of democracy? Explain
4. Write an article on Nelson Mandela and focus on their struggle against Apartheid.
5. Why do we need a Constitution? (500 words)
6. What are the guiding values of the Indian constitution?
7. Write an article on making of the Indian Constitution. (1000 words)
8. Make a note on Election commission of India and explain its composition, functions, limitation and role in Indian democracy. (1500 words)

SUMMER VACATION TASK (2024-25)

GEOGRAPHY & ECONOMICS

CLASS- IX

1. Define Yield.
2. Differentiate between –
 - a) Traditional Farming and Modern Farming Method
 - b) Working Capital and Fixed Capital
3. Explain four factors of production.
4. What are the merits and demerits of Green revolution?
5. Suggest some ways to start non-farming activities in the village areas?
6. Paste pictures of non-farming activities in your H.W note-book.
7. Find out the latitudinal and longitudinal extent of your district?
8. What is a Sub-continent? And why India is called as a sub-continent?
9. India has a long coastline. How these long coastlines boon for India?
10. Name four states have common frontiers with-
 - a) Pakistan
 - b) China
 - c) Nepal
 - d) Bhutan
 - e) Bangladesh
 - f) Myanmar
11. On an outline map of India locate-
 - a) Peninsula
 - b) Gulf
 - c) Bay
 - d) Coast
 - e) Strait
12. Make a PPT on any one of the given topics-
 - a) Natural Disaster (Any)
 - b) Natural Landforms
 - c) Climate Change
 - d) Urbanisation
 - e) Water Resources
 - f) Sustainable Development

SUMMER VACATION TASK 2024-25

SAINIK SCHOOL BHUBANESWAR

BIOLOGY

CLASS IX

1. What is cell theory? Who presented the cell theory? Mention the characteristics of cell theory.
2. Why does the skin of your finger when you wash clothes for a long time?
3. A person takes concentrated solution of salt, after sometimes he starts vomiting. What is the phenomenon responsible for such situations?
4. Prepare 20 number of multiple-choice questions from the chapter – Fundamental unit of Life..
5. Compare between the 3 types of osmotic solution.
6. Why is endocytosis found in animals only?
7. When we add salt into vegetables during cooking process, vegetables release water. Give reason.
8. Name the organelles responsible for making complex cellular network in cells. Write down the functions of those organelles.
9. Draw a prokaryotic cell from the textbook.
10. Name the scientists and their contributions in the field of life sciences from the state of Odisha and Punjab. Write down the biography or life sketch of any one scientist from these two states.
11. Prepare an assignment on any one of the following topics in A4 size paper.
Soil pollution/ Radioactive pollution/ Plastic pollution/ Medical waste pollution/
Artificial light pollution/ Acid rain/ Ground water pollution.
12. Draw a poster on A4 size Art paper or chart paper on the following given topics. (any 1)
Global warming/ Ozone layer/ World environment Day

SAINIK SCHOOL BHUBANESWAR
VACATION TASK SUMMER BREAK 2024-25

CLASS –IX ENGLISH

1. Write 50 Phrasal Verbs and make sentences using them.
2. Write briefly on the following grammar topics.
 - (a) Passive: Usage with examples.
 - (b) Reported Speech: Usage with example.
 - (c) 15 rules of Subject-verb Agreement (Concord) with example.
3. Write the summary of the following chapters.
 - (a) The Fun They Had
 - (b) The Road Not Taken
 - (c) The Lost Child
4. Write an essay on "How did you spent your Summer Vacation?" (300 words)
5. Write a Book Review of any of your favourite book that you have read recently.
You can use the following hints. (500 words)
(Start with a couple of sentences describing what the book is about. ...
Discuss what you particularly liked about the book. ...
Mention anything you disliked about the book. ...
Round up your review. ...
You can give the book a rating, for example a mark out of five or ten, if you like!)

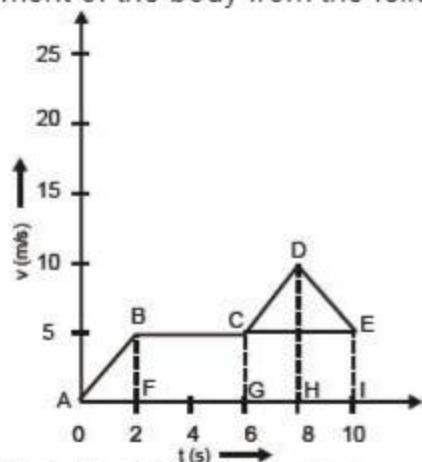
Sainik School Bhubaneswar

Vacation Assignment

Class-IX

Sub-Physics

1. Define acceleration and state its SI unit. What is uniformly accelerated motion.
2. Find the total displacement of the body from the following graph:



3. A car travels at 54 km/h for first 20 s, 36 km/h for next 30 s and finally 18 km/h for next 10 s. Find its average speed.
4. Distinguish between uniform motion and non-uniform motion. Give one example each of uniform and non-uniform motion.
5. The speedometer readings of a car are shown below. Find the acceleration of the car and its displacement.

Time	Speedometer
9:25 am	36 km/h
9:45 am	72 km/h

7. An artificial satellite is moving in a circular orbit of radius 36,000 km. Calculate its speed if it takes 24 hours to revolve around the earth.
8. (a) Define average speed.
(b) A bus travels a distance of 120 km with a speed of 40 km/h and returns with a speed of 30 km/h. Calculate the average speed for the entire journey.
9. Define uniform and non-uniform motion. Write one example for each.
10. What does the odometer of an automobile measure? Which of the following is moving faster? Justify your answer.
(a) A scooter moving with a speed of 300 m per 1 minute.
(b) A car moving with a speed of 36 km per hour.
11. A car travels from stop A to stop B with a speed of 30 km/h and then returns back to A with a speed of 50 km/h. Find
(a) Displacement of the car.
(b) Distance travelled by the car.
(c) Average speed of the car.
12. Velocity-time graph for the motion of an object in a straight path is a straight line parallel to the time axis.
(a) Identify the nature of motion of the body.
(b) Draw the shape of distance-time graph for this type of motion.

13. Draw the distance-time graph for uniform and non-uniform motion of an object.
14. A particle moves over three quarters of a circle of radius r . What is the magnitude of its distance and displacement?
15. A bus accelerates uniformly from 54 km/h to 72 km/h in 10 secs. Calculate-
 - (a) Acceleration in m/s^2
 - (b) Distance covered by the bus in meters during this interval.
16. A car moves with a speed of 30 km/h for half an hour, 25 km/h for one hour and 40 km/h for two hrs. Calculate the average speed of the car.
17. A car is travelling at 20 km/h, it speeds upto 60 km/h in 6 seconds. What is its acceleration?
18. A car accelerates from 6 ms^{-1} to 16 ms^{-1} in 10 sec. Calculate-
 - (a) The acceleration and
 - (b) The distance covered by the car in that time.
19. A circular track has a circumference of 210 m with AB as one of its diameters. A car moves from A to B along the circular path with a uniform speed of 10 m/s. Find-
 - (a) Distance covered by the car,
 - (b) Displacement of the car, and
 - (c) Time taken by the car in reaching from A to B.
20. A bus starting from rest moves with uniform acceleration of 0.1 m/sec^2 for 2 min. Find
 - (a) The speed acquired.
 - (b) The distance travelled.

Practical/Project work

Write below mentioned experiments in your physics lab manual

- ❖ Determination of density of solid (denser than water) by using a spring balance and a measuring cylinder.
- ❖ Establishing the relation between the loss in weight of a solid when fully immersed in (a) tap water, (b) strongly salty water with the weight of water displaced by it by taking at least two different solids.

CHAPTER-1. MATTER IN OUR SURROUNDINGS

QUESTIONS

(To be done in separate vacation notebook)

1. What are the characteristics of the particles of matter?
2. Give reasons
 - (a) A gas fills completely the vessel in which it is kept.
 - (b) A gas exerts pressure on the walls of the container.
 - (c) A wooden table should be called a solid.
 - (d) We can easily move our hand in air but to do the same through a solid block of wood we need a karate expert
 - (e) We can get the smell of perfume sitting several metres away.
3. What produces more severe burns, boiling water or steam?
4. Tabulate the differences in the characteristics of states of matter.
5. How do we liquefy the gases?
6. Water as ice has a cooling effect, whereas water as steam may cause severe burns. Explain these observations.
7. It is a hot summer day, Priyanshi and Ali are wearing cotton and nylon clothes respectively. Who do you think would be more comfortable and why?
8. You want to wear your favourite shirt to a party, but the problem is that it is still wet after a wash. What steps would you take to dry it faster?
9. Why does the temperature of a substance remain constant during its melting point or boiling point?
10. Comment on the following statements:-
 - (a) Evaporation produces cooling.
 - (b) Rate of evaporation of an aqueous solution decreases with increase in humidity.
11. Why does a desert cooler cool better on a hot dry day?
12. Why does our palm feel cold when we put some acetone or petrol or perfume on it?
13. How does the water kept in an earthen pot (matka) become cool during summer?
14. Why are we able to sip hot tea or milk faster from a saucer rather than a cup?
15. Convert the following temperatures to the Celsius scale.
 - (a) 293 K
 - (b) 470 K.
16. Convert the following temperatures to the Kelvin scale.
 - (a) 25°C
 - (b) 373°C.

PRACTICALS WRITTEN PART

(To be done in practical record notebook)

1. Preparation of:
 - a) a true solution of common salt, sugar and alum
 - b) a suspension of soil, chalk powder and fine sand in water
 - c) a colloidal solution of starch in water and egg albumin/milk in water and distinguish between these on the basis of
 - (i) transparency
 - (ii) filtration criterion
 - (iii) stability
2. Preparation of
 - a) A mixture
 - b) A compound using iron filings and sulphur powder and distinguishing between these on the basis of:
 - i) appearance, i.e., homogeneity and heterogeneity
 - ii) behaviour towards a magnet
 - iii) behaviour towards carbon disulphide as a solvent
 - iv) effect of heat
3. Perform the following reactions and classify them as physical or chemical changes:
 - a) Iron with copper sulphate solution in water
 - b) Burning of magnesium ribbon in air
 - c) Zinc with dilute sulphuric acid
 - d) Heating of copper sulphate crystals
 - e) Sodium sulphate with barium chloride in the form of their solutions in water.
4. Verification of the law of conservation of mass in a chemical reaction.
5. Determination of the melting point of ice and the boiling point of water.



SAINIK SCHOOL BHUBANESWAR
SUMMER VACATION TASK 2024 (CLASS IX)
INFORMATION TECHNOLOGY

- Q.1 What do you mean by Communication?
- Q.2 Why communication skill is required?
- Q.3 What is the need of communication skill?
- Q.4 Write two ways of:
- a. Giving information to someone
 - b. Receiving information from someone
- Q.5 Write all the elements of communication cycle.
- Q.6 What do you mean by perspective in communication. Explain with example.
- Q.7 What are the factors affecting perspectives in communication?
- Q.8 What are 7Cs in reference to communication?
- Q.9 Name three different methods of communication.
- Q.10 What do you mean by verbal communication?
- Q.11 Name two important forms of verbal communication.
- Q.12 Identify the following as Oral or Written Communication.
- a. Group Discussion
 - b. Letters, notes, email
 - c. Business discussion
 - d. Talking on a phone
 - e. SMS
 - f. Classroom teaching
- Q.13. Mention the advantages of verbal communication.
- Q.14 Write the disadvantages of verbal communication.
- Q.15 Explain 3Ps of Public Speaking in brief.
- Q.16. What do you mean by non-verbal communication.
- Q.17. Name any four ways of non verbal communication.
- Q.18. What do you mean by visual communication?
- Q.19. What are the advantages of visual communication?
- Q.20. What do you mean by written communication?

ASSIGNMENT ON OPEN OFFICE WRITE

Q.21 Create a letterhead of any company or institution that you got and insert the Watermark with that company name in the document.

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Ref. No. / Dated /

HINDU SCHOOL OF ARCHITECTURE
SCHEMATA

Approved by COA, In Affiliation with DCRUST, Murthal, Website : www.hsas.in

ASSIGNMENT ON COMMUNICATION SKILL

Q. 22 Making poster on effective communication skills in A4 size Paper.

SEND PROJECT OF OPEN OFFICE WRITER IN THE FOLLOWING GOOGLE FORM LINK:

https://docs.google.com/forms/d/1ay8MwYaOceWgTr_KawfyvkIyFWp_1AySjMG5OUjwnzU/edit

or

EMAILID: 1261@sainikschoolbhubaneswar.org

SAINIK SCHOOL BHUBANESWAR

Library Vacation task: Class IX

1. Write a Book Review of your favourite book read from the School Library. Use A4 sheet for the activity. Draw border and write neatly.
2. Prepare a short report on the following current affairs topics. Word limit : 120 to 150 words
 - a. Net-zero with respect to environment
 - b. UNESCO intangible cultural heritage from India.
3. Write about the following international relations group and their objectives. Word limit 50 to 60
 - a. Quad
 - b. Act East policy
 - c. Neighborhood First policy
 - d. BRICS
 - e. BIMSTEC
 - f. SCO
 - g. SAARC
 - h. ASEAN
 - i. G20

SUMMER VACATION TASK-2024-25

SAINIK SCHOOL BHUBANESWAR

CLASS –IX (A) ODIA

- 1) ନିମ୍ନ ବିଷୟ ଗୁଡ଼ିକର ଅଭ୍ୟାସ କର ।
 - କ) ବନ୍ଦେ ଉତ୍କଳ ଜନନୀ
 - ଖ) ଜାତୀୟ ଜୀବନ
 - ଗ) ବୁଢ଼ା ଶଙ୍ଖାରି
- 2) ଯେ କୌଣସି 50 ଟି ଶବ୍ଦର ବିପରୀତ ଶବ୍ଦ ଲେଖ ।
- 3) ଯେ କୌଣସି 50ଟି ଯୁଗ୍ମ ଶବ୍ଦ ଲେଖ ।
- 4) ଯେ କୌଣସି 25ଟି ଶବ୍ଦର ସ୍ତ୍ରୀ ଲିଙ୍ଗ ଲେଖ ।
- 5) ଯେ କୌଣସି 40ଟି ସମାନ ଉଚ୍ଚାରଣ ହେଉଥିବା ଶବ୍ଦ ମାନଙ୍କର ଅର୍ଥ ର ପାର୍ଥକ୍ୟ ଦର୍ଶାଅ ।
- 6) ଶବ୍ଦର ପ୍ରକାରଭେଦ ଦର୍ଶାଅ ଓ ଏହାର ଉଦାହରଣ ଦିଅ ।

SAINIK SCHOOL BHUBANESWAR 2024-25

SUMMER VACATION TASK

CLASS- IX

HINDI

1. 'दुःख का अधिकार' पाठ के आधार पर समाज में व्याप्त आर्थिक विषमता , भेदभाव और कठिनाइयों का वर्णन करते हुए इन विषमताओं को दूर करने के क्या उपाय हो सकते हैं? लिखिए ।
2. रैदास के पदों के आधार पर रैदास की भक्ति भावना और उनके ईश्वर के स्वरूप का वर्णन अपने शब्दों में कीजिए ।
3. "पशु - पक्षी भी प्रेम और मानवीय भावनाओं को समझते तथा प्रकट करते हैं।" 'गिल्लू' पाठ के आधार पर गिल्लू के मानवीय व्यवहार एवं चरित्र का वर्णन कीजिए ।
4. निम्नलिखित विषयों पर पत्र लिखिए -
 - (क) ग्रीष्मावकाश का सदुपयोग करने की सलाह देते हुए अपने छोटे भाई को ।
 - (ख) छुट्टियों में अपनी किसी यात्रा का वर्णन करते हुए अपने मित्र को ।
5. निम्नलिखित विषयों पर अनुच्छेद लिखिए -
 - अनुशासन का महत्व
 - शिक्षा है अनमोल रतन
 - वृक्ष हमारे मित्र
 - कंप्यूटर के चमत्कार
 - बिन पानी सब सून
6. निम्नलिखित विषयों पर संवाद लिखिए -
 - (क) जल संरक्षण की बात करते हुए दो नागरिकों के मध्य ।
 - (ख) बढ़ती महँगाई के ऊपर चिंता व्यक्त करते हुए दो ग्राहकों के मध्य ।
 - (ग) योग का महत्व बताते हुए दो मित्रों के मध्य ।
7. रहीम के दोहों का मानव जीवन में महत्व बताते हुए लगभग 200 शब्दों एक लघु निबंध लिखिए ।
8. विराम चिह्न की परिभाषा बताते हुए प्रमुख विराम चिह्नों को दर्शाता हुआ एक आकर्षक चार्ट तैयार कीजिए ।
9. ओडिशा की कला संस्कृति पर एक PPT बनाइए ।
10. कोई एक स्वरचित कविता या कहानी लिखिए ।