



NIRJA SAHAY DAV PUBLIC SCHOOL, KANKE

Holiday Homework

Mathematics

1. Write the properties of Transformation of graphs with at least two examples.
2. Draw the graphs of all trigonometric functions and write domain and range of all trigonometric functions.
3. Draw the graph and write domain and range of Identity function, constant function, Modulus function, Signum function, Greatest Integer function, Least Integer function, Fractional part function.
4. Prove the Formulas of
 - I. $\tan(A + B)$
 - II. $\tan(A - B)$
 - III. $\cot(A + B)$
 - IV. $\cot(A - B)$
 - V. $\sin(A + B) \cdot \sin(A - B)$
 - VI. $\cos(A + B) \cdot \cos(A - B)$
 - VII. $\sin(A + B) + \sin(A - B)$
 - VIII. $\sin(A + B) - \sin(A - B)$
 - IX. $\cos(A + B) + \cos(A - B)$
 - X. $\cos(A + B) - \cos(A - B)$
 - XI. $\sin C + \sin D$
 - XII. $\sin C - \sin D$
 - XIII. $\cos C + \cos D$
 - XIV. $\cos C - \cos D$
 - XV. $\sin 2A$
 - XVI. $\cos 2A$
 - XVII. $\tan 2A$
 - XVIII. $\cot 2A$
 - XIX. $\sin 3A$
 - XX. $\cos 3A$
 - XXI. $\tan 3A$
 - XXII. $\sin A \left\{ \text{in } \frac{A}{2} \right\}$
 - XXIII. $\cos A \left\{ \text{in } \frac{A}{2} \right\}$
 - XXIV. $\tan A \left\{ \text{in } \frac{A}{2} \right\}$
 - XXV. $\cot A \left\{ \text{in } \frac{A}{2} \right\}$
 - XXVI. $\sin A \left\{ \text{in } \frac{A}{3} \right\}$
 - XXVII. $\cos A \left\{ \text{in } \frac{A}{3} \right\}$
 - XXVIII. $\tan A \left\{ \text{in } \frac{A}{3} \right\}$

NIRJA SAHAY DAV PUBLIC SCHOOL, KANKE RANCHI

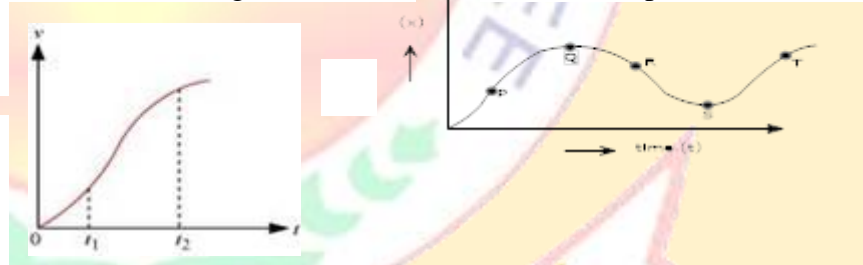
SUMMER HOLIDAY HOMEWORK

STD – XI

SUBJECT - PHYSICS

1. Under what condition is the relation $s = vt$ correct?
2. Two balls of different masses are thrown vertically upward with same initial speed. Which one will rise to a greater height?
3. A railway train 400m long is going from New Delhi railway station to Kanpur. Can we consider railway train as a point object?
4. Shipra went from her home to school 2.5km away. On finding her home closed she returned to her home immediately. What is her net displacement? What is the total distance covered by her?
5. Under what condition the displacement and the distance of a moving object will have the same magnitude?
6. What is the shape of the displacement time graph for uniform linear motion?

7. Figure shows a displacement time graph. Comment on the sign of



8. The velocity-time graph of a particle in one-dimensional motion is shown in Fig.

Which of the following formulae are correct for describing the motion of the particle over the time-interval t_2 to t_1 ?

(a) $x(t_2) = x(t_1) + v(t_1)(t_2 - t_1) + \left(\frac{1}{2}\right)a(t_2 - t_1)^2$

(b) $v(t_2) = v(t_1) + a(t_2 - t_1)$

(c) $v_{\text{Average}} = (x(t_2) - x(t_1)) / (t_2 - t_1)$

(d) $a_{\text{Average}} = (v(t_2) - v(t_1)) / (t_2 - t_1)$

(e) $x(t_2) = x(t_1) + v_{\text{Average}}(t_2 - t_1) + \left(\frac{1}{2}\right)a_{\text{Average}}(t_2 - t_1)^2$

(f) $x(t_2) - x(t_1) = \text{area under the } v-t \text{ curve bounded by the } t\text{-axis and the dotted line shown.}$

9. Sameer went on his bike from Delhi to Gurgaon at a speed of 60km/hr and came back at a speed of 40km/hr. What is his average speed for entire journey.



10. Figure shows displacement – time curves I and II. What conclusions do you draw from these graphs?

11. Displacement of a particle is given by the expression $x = 3t^2 + 7t - 9$, where x is in meter and t is in seconds. What is acceleration?

12. A particle is thrown upwards. It attains a height (h) after 5 seconds and again after 9s comes back. What is the speed of the particle at a height h ?

13. The displacement x of a particle moving in one dimension under the action of constant force is related to the time by the equation where x is in meters and t is in seconds. Find the velocity of the particle at (1) $t = 3s$ (2) $t = 6s$.

14. A balloon is ascending at the rate of 4.9m/s. A packet is dropped from the balloon when situated at a height of 245m. How long does it take the packet to reach the ground? What is its final velocity?

15. A car moving on a straight highway with speed of 126km/hr. is brought to stop within a distance of 200m. What is the retardation of the car (assumed uniform) and how long does it take for the car to stop?

16. A particle is moving along a straight line and its position is given by the relation $x = (t^3 - 6t^2 - 15t + 40)m$

Find (a) The time at which velocity is zero.

(b) Position and displacement of the particle at that point.

(c) Acceleration for the particle at the line.

17. A stone is dropped from the top of a cliff and is found to travel 44.1m during the last second before it reaches the ground. What is the height of the cliff? $g = 9.8m/s^2$

18. Define (i) $v = u + at$ (ii) $v^2 - u^2 = 2as$ by calculus method

19. A drunkard walking in a narrow lane takes 5 steps forward and 3 steps backward, followed again by 5 steps forward and 3 steps backward, and so on. Each step is 1 m long and requires 1 s. Plot the $x-t$ graph of his motion. Determine graphically and otherwise how long the drunkard takes to fall in a pit 13 m away from the start.

20. A car moving along a straight highway with a speed of 126km h^{-1} is brought to a stop within a distance of 200m. What is the retardation of the car (assumed uniform), and how long does it take for the car to stop?

Class: XI

SUB: CHEMISTRY

1. Update the entire notes of "Unit– Some basic concepts of Chemistry" in notebook.
2. Revise and learn taught topics.
3. Solve NCERT Intext Exemplar and Exercises Questions of chapter one.
4. Update portion of U.T-1.

SUMMER HOLIDAY HOME WORK - 2023

CLASS-XI

BIOLOGY

I. SOME THING TO DO : Activity

- ❖ Prepare a herbarium for following:
 - (a) Phyllotaxy of leaves (any 3 types)
 - (b) Pinnately and Palmetaly
Compound leaves with name. (one for each)

II SOME THING TO WRITE

- ❖ Write scientific name of following. (in biology copy)
 - (a) Human Being (b) Frog (c) Potato (d) Chilly
 - (e) Tiger (f) Dog (g) Brinjal (h) Mango
- ❖ Describe with a well labelled diagram family:
Solanaceae (in biology copy)

III. SOMETHING TO REMEMBER :

- ❖ Learn the definition of Following
 - (a) Binomial Nomenclature
 - (b) Classification.
 - (c) Kingdom
 - (d) Family
 - (e) Clase
 - (f) Genes
 - (g) Species.

कक्षा: ग्यारहवीं

विषय: हिंदी

1. पाठ्यपुस्तक (आरोह भाग- 1) (गद्य) पाठ -'नमक का दारोगा' के प्रश्नोत्तर अपनी गृह कार्य कॉपी में लिखिए।
2. कला एकीकृत योजना के अंतर्गत कबीर दास की जीवनी पर आधारित सचित्र बिंदुवार प्रस्तुतीकरण (PPT)के रूप में वर्णित कीजिए।
3. निम्न में से किसी एक विषय पर रचनात्मक लेखन कीजिए ।
 - (क)पुस्तकें मनुष्य की सबसे अच्छी मित्र
 - (ख)मेरा सहपाठी वरुण
 - (ग) अपने क्षेत्र में लगने वाले प्रमुख बाज़ार का वर्णन

(घ) स्कूल की छुट्टियाँ

4. आपकी विद्यालय में होने वाले वार्षिकोत्सव में आप को पुरस्कृत किया गया। इस संदर्भ में प्रधानाचार्या को धन्यवाद पत्र लिखिए जिसमें आगे के मार्गदर्शन का अनुरोध कीजिए।
- * 5. आपको विद्यालय में आयोजित काव्य पाठ में पुरस्कार मिला, इस अनुभव को डायरी में लिखिए।
6. नाटक(drama) और फिल्म की पटकथा(screen play) में अंतर बताइए।
7. वाद- विवाद प्रतियोगिता हेतु 'राष्ट्रीय शिक्षा-नीति-2020' विषय के पक्ष/विपक्ष में अपने विचार तैयार करें। (निर्धारित समय 03 मिनट)

Class: XI

SUB: COMPUTER SCIENCE

1. Prepare an art integrated activity on **"Functional Components of a Computer System"** in Power Point Presentation.
(submit printout only)
2. What are the two parts of main memory?
3. Why are the secondary storage devices required?
4. What do you mean by Booting?
5. Briefly explain the function of Operating System.
6. Define OMR.
7. Write the features of MICR.
8. Differentiate between RAM & ROM.
9. Explain the characteristics of ALU, CU & MU.
10. Prepare a chart in A4 sheet on **"Different Memory Units of a Computer System"**.

**HOLIDAY HOMEWORK
STD XI ENGLISH**

Section 1 - READING SKILL

1. Read the editorial of an English Newspaper of your choice and express your views on the same.
2. Read any two novels and write book review copy.

Suggested Readings:

- a) The Invisible Man - H G Wells
 - b) Wings of Fire - A P J Abdul Kalam
3. Prepare and practice for Periodic Test I

Section 2 - SPEAKING SKILL

1. Prepare speech on the following topics:

- a) Impact of social Media on Youth
- b) Mental Health Awareness

2. Community outreach programme:

- a) Community Garden
- b) Each One Feed One

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