SAINIK SCHOOL PUNGLWA, NAGALAND

SUMMER VACATION ASSIGNMENT: 2025-26

CLASS IX

Subject : English

Q1. From the text, **Words and Expressions:**

Cadets to work out all the exercises under the heading VOCABULARY, GRAMMAR and EDITING from Unit 2,3,4,7 and 8

Q2. Write daily top five news headlines from any newspaper in your copy.

Subject : Hindi

निम्नलिखित गतिविधि का कार्य A 4 पेपर पर करें :

1. निम्न विषय पर 250-300 शब्दों में निबंध लिखिए |

   (i) ऑनलाइन खरीददारी : समय की माँग

   (ii) मानव जीवन में शिक्षा का महत्त्व

   (iii) अंतर्राष्ट्रीय फलक पर चमकता सितारा : भारत हमारा

2. बचेंद्रीपाल और तेनजिंग की एवरेस्ट यात्रा का वर्णन अपने शब्दों में करें |

   { दोनों पर्वतारोहियों का जीवन परिचय, संघर्ष तथा सफलता का पूर्ण वर्णन करें | }

3. राष्ट्र विकास में विद्यार्थियों की महत्त्वपूर्ण भूमिका होती है विषय पर दो मित्रों के संवाद लिखिए |

4. आप अपने दोस्तों के साथ दिल्ली भ्रमण पर जाना चाहते हैं इस हेतु अपने पिता से अनुमति के लिए पत्र लिखिए |

5. आपने एक व्यायामशाला खोली है जिसमें प्रशिक्षित शिक्षकों द्वारा नवीनतम मशीनों की सहायता से शरीर को स्वस्थ रखना सिखाया जाएगा विज्ञापन तैयार करें |

6. निम्न में से किसी एक विषय पर चार्ट पेपर तैयार करें :- (शब्द-विचार, अर्थ के आधार पर वाक्य भेद, विराम चिह्न, स्वर संधि)

7. दैनिक हिंदी समाचार- पत्र से प्रतिदिन पाँच प्रमुख ख़बरें पढ़कर प्रतिदिन लिखें।
(बिंदु संख्या -07 की गतिविधि एक लघु उत्तरपुस्तिका में दिनांक सहित लिखें ।)

Subject : Mathematics

1. Rationalize the Denominator

a) $\frac{1}{\sqrt{2}}$ b) $\frac{1}{1-\sqrt{2}}$ c) $\frac{\sqrt{2}}{2+\sqrt{2}}$ d) $\frac{2}{3\sqrt{5}}$ e) $\frac{\sqrt{5}-1}{\sqrt{5}+1}$

2. Simplify the Expressions

a) (5 + √7)(2 + √5) b) (√11 - √7)(√11 + √7) c) $5 + \sqrt{2} - 3\sqrt{2}$

d) $2 + \sqrt{2} - 2$ e) $(\sqrt{2} + \sqrt{3})^2$

3. Write the co-efficient of:

a) x^2 in $2x^2 + 3x$ b) x^3 in $x^4 + x^3 + 1$ c) x^2 in $3x^2 + 2x + 1$

d) x in $2\sqrt{2} + 4x$ e) x^2 in $3x^2 + 2$

4. Factorize:

a) $x^3 - 23x^2 + 142x - 120$ b) $y^2 - 5y + 6$ c) $49a^2 + 70ab + 25b^2$

d) $a^2 - \frac{b^2}{4}$ e) $6x^2 + 17x + 5$

5. Evaluate Using Suitable Identities

a) $(999)^3$ b) $(999)^2$ c) 102 × 98 d) $(102)^2$ e) $(97)^3$

6. Locate these points on a graph:

a) (0,0) b) (-1,2) c) (-4,7) d) (-1,-1) e) (2,0) f) (0,2)

7. Write 7 rational numbers between:

a) $\frac{4}{5}$ and $\frac{7}{13}$ b) $\frac{1}{2}$ and $\frac{3}{2}$ c) 5 and 6 d) $\frac{1}{7}$ and $\frac{4}{7}$ e) $\frac{3}{4}$ and $\frac{4}{7}$

8. Write three rational numbers equivalent to:

a) $\frac{2}{5}$ b) $\frac{1}{2}$ c) $\frac{4}{5}$ d) $\frac{6}{7}$ e) $\frac{3}{2}$

9. Represent the following irrational numbers on the number line:

a) $\sqrt{11}$ b) $\sqrt{7.7}$ c) $\sqrt{2}$ d) $\sqrt{11.5}$ e) $\sqrt{23}$

10. Insert five irrational numbers between $\sqrt{2}$ and $\sqrt{3}$.

11. Write the following in decimal form and state what kind of decimal expansion each has:

a) $\frac{4}{7}$ b) $\frac{238}{5}$ c) $\frac{27}{30}$ d) $\frac{22}{7}$ e) $\frac{1}{3}$

12. Express the following in p/q form (where p, q are integers and q ≠ 0):

a) $0.0\overline{001}$ b) $5.\overline{3}$ c) $10.5\overline{23}$ d) $0.\overline{3}$ e) $4.0\overline{35}$

13. Write the following rational numbers as decimals:

a) $\frac{-37}{20}$ b) $\frac{3564}{12}$ c) $\frac{14}{25}$ d) $\frac{327}{500}$ e) $\frac{3}{4}$

14. Find the degree of the following polynomials:

a) $x^3 + 2x^2 + 1$ b) x c) $\sqrt{2}x^2 + 7$ d) $x + x^3 + x^5$ e) $3x + 7$

15.**Activity: Shape Collection**

Make or collect any one of the Geometrical Shapes.

Shape Options:

Rectangle, Square, Circle, Trapezium, Right-angled Triangle, Scalene Triangle, Isosceles Triangle, Equilateral Triangle, Rhombus, Kite, Parallelogram, Cube, Cuboid, Cone, Cylinder, Sphere, Right Angle, Obtuse Angle, Acute Angle, Reflex Angle, Frustum.

Subject : Physics

1. Define uniform motion and give one example.
2. What is the SI unit of speed and how is it different from velocity?
3. A car covers 100 km in 2 hours. Calculate its average speed.
4. State whether the following is scalar or vector: (a) Speed (b) Displacement.
5. If a body moves in a straight line with constant speed, what will be the acceleration? Explain.
6. Define acceleration and write its SI unit.
7. A bus starts from rest and moves with an acceleration of 1 m/s^2. What will be its speed after 5 seconds?
8. What is meant by non-uniform motion? Give one example.
9. A car is moving with a speed of 60 km/h. Convert this speed into m/s.

10. A cyclist covers a distance of 500 meters in 100 seconds. What is his speed in m/s?
11. A body is thrown vertically upwards. What will be its velocity at the highest point? Why?
12. Differentiate between distance and displacement with one example.
13. An object moves 20 m north, then 15 m south. What is the total distance and the displacement?
14. State the difference between average speed and instantaneous speed.
15. Why is the motion of the moon around the Earth considered accelerated motion even though its speed is constant?

Subject : Chemistry

Q.1 To observe and document real-life examples of interconversion of states of matter, and investigate how temperature, pressure, and surface area affect the rate of evaporation and sublimation. Present your work. **Photo journal** (handmade scrapbook or digital PowerPoint) with:

- Photos of each example
- Description of the process
- Scientific explanation (particles gain/lose energy)
- Everyday application

Subject : Biology

- Write all the textual question and answers from the chapter: **THE FUNDAMENTAL UNIT OF LIFE**

Subject : Social Science

GEOGRAPHY

1. Every Cadet has to compulsorily undertake one project on Disaster Management.
2. Project should include:
    a. Name of the disasters, their consequences and management.
    b. What steps should be taken in advance to face such situations.

c. How to create awareness and preparedness among the community.

(**Do any One**)

(i) Earthquake-Causes and Mitigation.

(ii) Flood – Causes and Mitigation.

(iii) Global Warming-Causes and Mitigation.

ECONOMICS

1. Project on the various farming and non- farming activities taking place in your area/Territory. Also find out about the different types of crops grown in your area during the year.

Note- The project should be handwritten and done on a file.

DO ANYONE OUT OF POLITICAL SCIENCE AND HISTORY

Make a project file on 'Democracy v/s Dictatorship'. Do the case study of three different countries.

Note: Work to be done on A4 size sheet

OR

1. Draw or paste symbols used by French People at the time of Revolution.

2. Write Declaration of Rights

Note: Work to be done on A4 size sheet

Subject : Computer Applications

Q1. Prepare an assignment to compare and contrast Analog, Digital, and Hybrid Computers based on the following aspects:

- Working principles
- Components used
- Speed and accuracy
- Applications
- Real-life examples

Also, include clear diagrams of each type of computer.

Instructions:

1. Cover Page:

- Title: *Analog, Digital, and Hybrid Computers – A Comparative Study*
- Your Name, Roll Number, Class, and Date

2. **Introduction:**
    - Briefly explain what computers are and why different types exist.
3. **Main Body:**

- Create **separate sections** for:
    - **Analog Computers**
    - **Digital Computers**
    - **Hybrid Computers**
- For each type, include:
    - Definition
    - Working Principle
    - Major Components
    - Speed and Accuracy
    - Common Applications
    - Real-life Examples
    - Diagram

4. **Comparison Table:**
    - Design a table comparing all three types across the mentioned criteria (working principle, components, speed, accuracy, and applications).
5. **Most Relevant Type Today:**
    - Identify which type of computer is **most relevant in today's world**.
    - Provide **reasons and examples** to support your choice.
6. **Conclusion:**
    - Summarize key differences and your understanding of each type.

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