DAV POLICE PUBLIC SCHOOL JHAJJAR

SUMMER VACATION HOMEWORK(2025-26)
CLASS-IX

<u>हिंदी</u>

व्याकरण आधारित प्रश्न

1. व्यंजन के कितने भेद होते हैं? नाम भी लिखिए।

2. समास विग्रह करते हुए समास का नाम भी लिखिए।

पथभ्रष्ट, नीलकंठ, आजीवन, चौराहा, चतुर्भुज, दाल -रोटी, शताब्दी, हस्त -लिखित।

3. निम्नलिखित मुहावरों के अर्थ लिखकर उनसे वाक्य निर्माण कीजिए।

(क) आग में घी डालना।

(ख) लाल -पीला होना।

(ग) अंग -अंग ढीला होना।

(घ) कलेजा ठंडा होना।

(ङ) आंखें चार होना।

(च) दर-दर की ठोकरें खाना।

4. सर्वनाम किसे कहते हैं? इसके कितने भेद होते हैं नाम लिखिए।

5. विकारी और अविकारी शब्द किसे कहते हैं उदाहरण सहित स्पष्ट कीजिए।

6. निम्नलिखित पंक्तियों में प्रयुक्त अलंकारों के नाम बताइए।

(क) 'मैया मैं तो चंद्र खिलौना लैहों'।

(ख) सुरभित सुंदर सुखद सुमन तुझ पर खिलते हैं।

(ग) हाए! फूल -सी कोमल बच्ची।

(घ) हरिपद कोमल कमल से।

(ङ) मुदित महिपति मंदिर आए।

 सेवक सचिव सुमंत बुलाए।

(च) हनुमान की पूंछ को लग ना पाई आग ।

लंका सिगरी जल गई गए निशाचर भाग।

(छ) नदियां जिनकी यश धारा -सी।

बहती है अब भी निशि -वासर।

7. अनुस्वार एवं अनुनासिक किसे कहते हैं ? दोनों के पांच -पांच उदाहरण लिखिए।

8. उपसर्ग किसे कहते है? 10 उपसर्गों का प्रयोग करते हुए 20 शब्द बनाइए

9. 10 तत्सम शब्दों के तद्भव शब्द लिखिए।

10.र् और पदेन र का प्रयोग करते हुए 10-10 शब्द बनाइए।

11.A3 साइज शीट पर एक समाचार पत्र तैयार कीजिए जिसमें निम्नलिखित का उल्लेख किया गया हो

*ज्ञानवर्धक कविता ।

*देश विदेश की रोचक विज्ञान वर्धक घटनाएं।

*बच्चों का कोना

*कोई एक विज्ञापन

CHEMISTRY

1.Kinetic energy of particles of water in three vessels A, B and C are E_A, E_B and E_C respectively and $E_A > E_B > E_C$. Arrange the temperatures, T_A, T_B and T_C of water in the three vessels in increasing order.

2.Why do the doctors advise to put strips of wet cloth on the forehead of a person having high fever?

3.Why do wet clothes dry quickly in the sun than in the shade?

4.Why do trees acquire more leaves during summer?

5.How does evaporation differ from boiling?

6.Describe the continuous motion of particles of matter with the help of an activity.

7.Describe an activity to determine the boiling point of water and melting point of ice.

8.While heating ice in a beaker with a thermometer suspended in it, a student recorded the following observations:

Time (in min.)	0	1	2	3	4	5	6	7	8	10	15	20	25	30	35
Temp. (in °C)	−3	−1	0	0	5	8	12	15	19	22	30	50	73	100	100

Based on the above observations, answer the following questions:

(a) State the change(s) observed between 2-3 min. and name the process involved.

(b) Between 30-35 min., the temperature remains constant. State the reason for this. Name the heat involved in the process and define it.
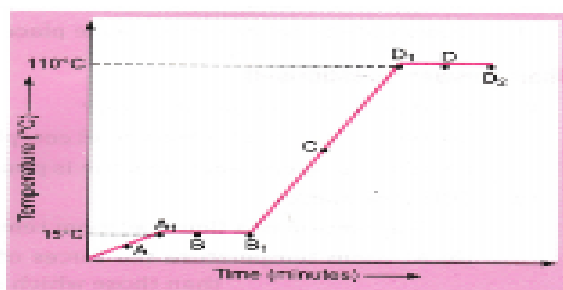
9.You are given the following substances with their melting and boiling points.

Substance	Melting point (°C)	Boiling point (°C)

X	-219	-183
Y	119	445
Z	– 15	78

Identify the physical states of X, Y and Z at room temperature (30°C).

10. The temperature-time graph given alongside shows the heating curve for pure wax.

From the graph answer the following:

(a) What is the physical state of the substance at the points A, B, C and D?

(b) What is the melting point of the substance?

(c) What is its boiling point?

(d) Which portions of the graph indicates that change of state is taking place?

(e) Name the terms used for heat absorbed during change of states involved in above process.

Biology

1. We eat food composed of all the nutrients like carbohydrates, proteins, fats, vitamins, minerals and water. After digestion, these are absorbed in the form of glucose, aminoacids, fatty acids, glycerol etc. What mechanisms are involved in absorption of digested food and water?
2. (a) Which factors determine the cell shape?
    (b) What are genes? What is their chemical nature? Give their function.

3. Name two cell organelles that can synthesize some of their proteins in a plant cell. Mention one function of each of them.

4. Draw a plant cell and label the parts which :

    (a) Determines the function and development of the cell.

    (b) Packages materials coming from the endoplasmic reticulum.

(c) Provides resistance to microbes to withstand hypotonic external media without bursting.

(d) Is site for many biochemical reactions necessary to sustain life.

(e) Is a fluid contained inside the nucleus.

5.   (a) Why are the chloroplasts called "Kitchens of the cell".

(b) State of site of light and dark phase of photosynthesis.

(c) Give the technical name for vacuolar membrane.

(d) Enlist two functions of vacuoles.

(e) Why are the mitochondria considered the "power plants" of the aerobic cells?

6.   A. Why is Golgi body called condensation membrane?

B. Name two types of plastids.

C. What are the three major functional regions of a cell?

7.   In Biology practical class, the teacher asked Renuka and Sahil to keep the onion peel and RBC in two different beakers of hypotonic solution. Renuka noticed that the onion peel swelled while Sahil witnessed the RBCs explode quickly. Why did this happen? Give reason by supporting the Activity performed by both of them.

8.   Why does the skin of your finger shrink when you wash clothes for a long time?

9.   Read the following information and answer the questions based on information and related studied concepts.

     A membrane surrounds each cell, separating its contents from the outside world. To sustain their sophisticated structure and function, large and complex cells, such as those seen in multicellular animals, require a lot of chemical activity. These cells use membrane-bound tiny structures within themselves to keep different kinds of activities apart from one another. The cytoplasm is a jelly-like fluid that fills the space between the plasma membrane and the plasmamembrane's outer layer, and it includes a variety of specialised cell organelles. Endoplasmic reticulum, Golgi apparatus, Lysosomes, Ribosomes, Nucleus, Chloroplast, Mitochondria, and Plastids are some of the organelles found in cells. For the cell, each of these organelles has a distinct purpose. An electron microscope is required to see some of these organelles. They're significant since they play a key role in cell function.

(a) Name any five cell organelles.

(b) Name the jelly-like fluid substance present in cells.

(c) What name is given to the functional segments of DNA? What is the function of these functional segments?

10.   Read the given passage and answer the questions that follow based on the passage and related studied concepts.

Camilo Golgi was the first to define the Golgi apparatus, which consists of a system of membrane-bound vesicles (flattened sacs) stacked almost parallel to each other called cisternae.

These membranes are frequently coupled to the ER membranes, making up a complicated cellular membrane system. The Golgi apparatus packages and transports the material synthesised near the ER to numerous targets inside and beyond the cell. Storage, modification and packing of objects in vesicles are among its functions. Complex sugars can be produced from simple sugars in the Golgi apparatus in some instances. The development of lysosomes is also aided by the Golgi apparatus.

(a) What will happen if the organelle shown above is removed?

(b) Name the cell organelle which has (i) Cristae (ii) Cisternae

(c) What is the importance of cell sap?

PHYSICS

1.Suppose a ball of mass m is thrown vertically upwards with an initial speed v, its speed decreases continuously till it becomes zero. Therefore, the ball begins to fall downward and attains the speed v again before striking the ground. It implies that the magnitude of initial and final momenta of the ball are same. Yet, it is not an example of conservation of momentum. Explain why.

2.Describe our walking in terms of Newton's third law of motion.

3.What is momentum? Write its SI unit. Interpret force in terms of momentum. Represent the following graphically

(a) momentum versus velocity when mass is fixed.

(b) momentum versus mass when velocity is constant.

4.Derive the unit of force using the second law of motion. A force of 5 N produces an acceleration of 8 ms^{-2} on a mass m1 and an acceleration of 24 ms^{-2} on a mass m2. What acceleration would the same force provide if both the masses are tied together?

5.Using second law of motion, derive the relation between force and acceleration. A bullet of 10 g strikes a sand-bag at a speed of 103 m/s and gets embedded after travelling 5 cm. Calculate

(i) the resistive force exerted by the sand on the bullet

(ii) the time taken by the bullet to come to rest.

6.Two friends on roller-skates are standing 5 m apart facing each other. One of them throws a ball of 2 kg towards the other, who catches it, How will this activity affect the position of the two? Explain your answer.

7.A truck of mass M is moved under a force F. If the truck is then loaded with an object equal to the mass of the truck and the driving force is halved, then how does the acceleration change?

8.Suppose a ball of mass m is thrown vertically upward with an initial speed v, its speed decreases continuously till it becomes zero. Thereafter, the ball begins to fall downward and attains the speed v again before striking the ground. It implies that the magnitude of initial and final momentums of the ball are same. Yet, it is not an example of conservation of momentum. Explain why?

9.Two identical bullets are fired one by a light rifle and another by a heavy rifle with the same force. Which rifle will hurt the shoulder more and why?

10.There are three solids made up of aluminium, steel and wood, of the same shape and same volume. Which of them would have highest inertia?

Social Science

General Instructions-

- Attempt all questions in your fair notebook.
- Prepare assignment separately on the assignments pages.

1. Which island group of India lies to its south-west?

2. The latitudinal location of India is?

3. Why is India called a subcontinent?

4. Palk Strait and Gulf of Mannar separate which two countries ?

5.Which is the northernmost range of the Himalayas ?

6.Which is the highest peak of India?

7. Which is the highest peak in the world? Where is it situated?

8. How is the northern plain divided on the basis of the differences in the relief?

9. What is Bhangar?

10. Which is the highest peak of the Deccan plateau?

11. What is the difference between 'weather' and 'climate'?

12. What are the six major controls of the climate of India?

13. Why do the coastal regions of India experience moderate temperatures throughout   the year?

14. What is the significance of the 'Jet Stream' in influencing the climate of India?

15. Explain the term 'monsoon'. How does it affect the climate of India?

16. In which hemisphere does India lie with reference to the Prime Meridian? Mention the

 value of the Standard Meridian of India.

17. Why is India said to enjoy a strategic position with reference to the international

Trade Route?

18.Why is the Indian Ocean named after our country? Give three reasons.

19. What is Purvanchal?

20. Write about the main features of the Shiwaliks .

21. Describe the four features of the Indian desert.

22. Explain the term 'break' in the monsoon and its impact on rainfall distribution in India.

23. Describe the mechanism of the monsoon in India.

24. Name the three parallel ranges of the Himalayas, and state one typical characteristic of each.

25. Explain the social structure of France before the French Revolution. How did the division into estates contribute to social inequality?

26. Discuss the economic causes that led to the French Revolution. How did France's financial crisis impact the common people?

27. Describe the significance of the 'Storming of the Bastille' on July 14, 1789. How did this event symbolize the end of the old regime?

28.What was the 'Reign of Terror'? Analyze the measures taken by Robespierre's government during this period.

29.Assess the impact of the French Revolution on the world. How did it influence other nations and contribute to the spread of revolutionary ideas?

Assignment work for holidays-

Discuss the role of human activities in altering the natural climate patterns of India. Provide examples and suggest sustainable practices.

ENGLISH

Revise all the topics covered upto now.

Write your responses to the questions listed below in your notebook, ensuring that your work is tidy.

1. Who are Margie and Tommy? What have you learned about them from the story?

2.How is the school in the story'The Fun They Had' different from the schools today?

3.What does the mechanical teacher teach Margie? How is it different from a human teacher?

4.What message is Isaac Asimov trying to convey through this story?

5.What was written in the old book that surprised Margie and Tommy?

6.Imagine you are Margie. Write a diary entry describing your thoughts after learning about old schools.

7.Why did the child refuse all the things he had wanted earlier, after getting lost?

8.Why did the child lag behind his parents?

9.Who helped the lost child? What did he try to do to console him?

10.What message does the story convey about a child's needs and priorities?

11."The bond between parents and child is stronger than any attraction." Discuss with reference to The Lost Child.

12.Imagine you are the lost child. Write a diary entry about your experience at the fair.

13.What do the two roads symbolize?

14.What does the poet mean by "And that has made all the difference"?

15.What dilemma does the speaker face? How does he feel about it later?

16.Explain the line:

"Two roads diverged in a yellow wood…"

17.Imagine you are the speaker years later. Write a diary entry reflecting on how choosing the road "less travelled by" affected your life.

18.You felt extremely nervous before a big exam or performance. Write a diary entry expressing your thoughts.

19.A surprise birthday party was thrown for you. Write a diary entry describing your happiness and emotions.

20.You witnessed a road accident and helped the injured. Write a diary entry on what happened and how it affected you.

21.Your best friend moved to another city. Write about the memories and how you felt saying goodbye.

Choose the correct verb form.

22.I _____ (am learning/learned/will learn) French next month.

23.They _____ (have completed/had completed/will complete) the work before sunset.

24.If you _____ (study) harder, you would have passed the exam.

25.They _____ (live) in this city since 2005.

26.By next March, I _____ (work) in this company for 10 years.

27.By the time the teacher arrived, the students _____ (complete) their homework.

Each sentence contains a tense-related error. Correct it

28.He is knowing the answer but didn't speak.

29.By the time we reached, the movie has already started.

30.She was writing the report since morning.

Information Technology

Unit-1

1 _____ can be in the form of images, characters, numbers and symbols.

(a) Data   (b) Information technology

(c) Services   (d) Technology

2. The full form of BPM is _____.

3. The full form of BPO is _____.

4. Business transactions that take place over the internet is known as ____.

5. After-sales service and long term maintenance and support services have increased in demands due to new technology and more Complex products. (T/F)

6. Aglycometer is a device designed to assess an individual's blood pressure.(T/F)

7. Assertion (A): MNCs have their headquarters outside India but operate in multiple locations worldwide including those in India.

   Reason (R): They cater to external clients (both domestic and/or global).

8. Assertion (A): The internet has evolved into a central hub for entertainment.

   Reason (R): The convergence of various media forms on online digital platforms enhances user experiences and contributes to the internet's role as a multifaceted entertainment hub.

9. Name the term which denotes a set of activities that helps the business to run smoothly.

10. Write any one way in which computers can be used in the field of 'Science and Engineering'.

11. De Praveen Chander, a heart doctor at your local clinic, has a special machine that helps him see how hearts work. This machine can find early signs of heart problems and suggest the right treatment.

    What is the name of the machine he is using?

12. Imagine a city where the local government adopts a comprehensive digital system to enhance services and streamline administrative processes. This technological approach positively impacts both citizens and government officials, fostering a more accessible and efficient local administration. What is the term that describes this use of digital platforms for improved governance?

13. Which software are used in digital communication?

14. List the various uses of IT in a banking system.

15. What are the various processes of education where IT is used?

Unit-2

1. Winch mouse operation is used to select an item?

(a) Left Click   (b) Right Click

(c) Scroll   (d) Drag and Drop

2. ____ keys consists of alphabets (A-Z) and numbers(0-9).

3. The concept of typing on a keyboard without actually looking at it is called _____.

4. The pause sign on the Lesson Control Panel is used to restart a lesson. (T/F)

5. In Rapid typing tutor, yellow letters denote wrong inputs within the acceptable timeframe. (T/F)

6. Assertion (A): Placing the index finger on the left mouse button, the middle finger on the right button and supporting the mouse with the palm allows for precise control and efficient navigation during computer.

Reason (R): The hand positioning in touch typing contradicts the standard mouse design, Se awkward and uncomfortable grip

(a) Both (A) and (R) are correct and (R) is the correct explanation of (A)

(b) Beth (A) and (R) are correct but (R) is not the correct explanation of (A)

(c) (A) is correct but (R) is incorrect.

(d) (A) is incorrect but (R) is correct

7). Assertion (A): FOSS, or Free and Open Source Software, is free to use, and you can see, change share the code it is built from.

Reason (R): FOSS discourages community collaboration, letting users work together to Understand, improve, and customize the software.

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

(b) Both (A) and (R) are connect but (R) is not the correct explanation of (A)

(c) (A) is correct but (R) is incorrect.

(d) (A) is incorrect but (R) is correct

8. How many arrow keysp are there on a keyboard?

9. What do you mean by accuracy in touch typing?

Note:1. Solve in Fair Notebook
2.Chapters: Number System and Polynomial
Coordinate Geometry
Lines and Angles
Herons Formula

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1   If $x = -\dfrac{1}{3}$ is a zero of a polynomial $p(x) = 27x^3 - ax^2 - x + 3$, then find the value of 'a'.

2   Represent $\sqrt{17}$ on number line.

3   Simplify $\left[5\left[8^{\frac{1}{3}} + 27^{\frac{1}{3}}\right]\right]^{\frac{1}{4}}$.
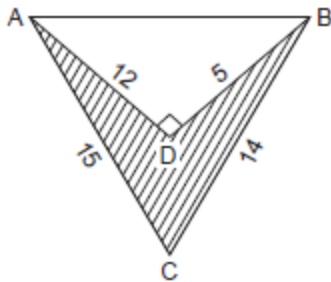
4   Locate $\sqrt{13}$ on the number line.

5   Find the value of x and y, if $\dfrac{\sqrt{2}}{3\sqrt{6} - \sqrt{5}} = x\sqrt{3} - y\sqrt{10}$.

6   Simplify:

(i) $\left(\dfrac{64}{125}\right)^{-\frac{2}{3}}$ (ii) $\left[\dfrac{15^{\frac{1}{4}}}{3^{\frac{1}{2}}}\right]$ (iii) $\left(\dfrac{12^{\frac{1}{5}}}{27^{\frac{1}{5}}}\right)$

7   Find the area of shaded region in the given figure. (All measurements are in cm)

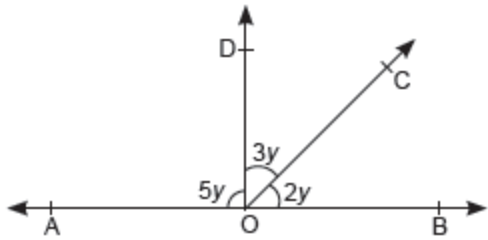8   Find the area of quadrilateral ABCD as shown in figure given below:
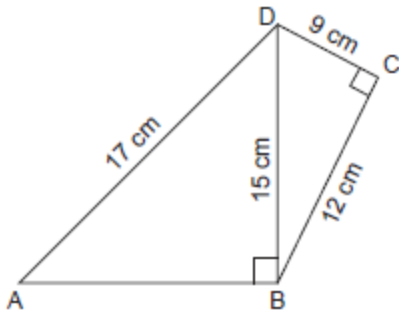
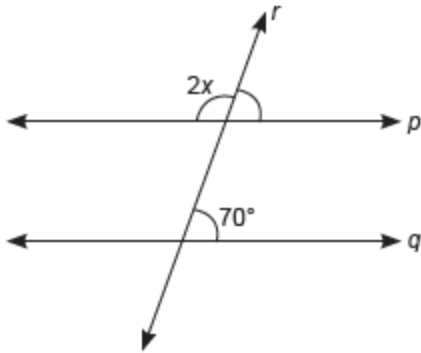9   Simplify $\sqrt{72} + \sqrt{800} - \sqrt{18}$.

10   Simplify $\left(\sqrt{x^3}\right)^{\frac{2}{3}}$

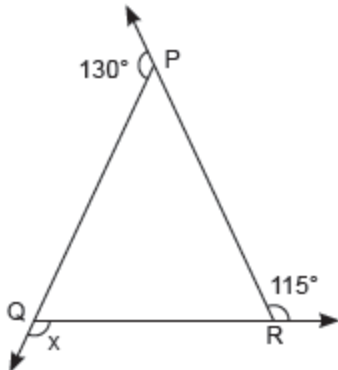11   Find the value of $\dfrac{2^0 + 7^0}{5^0}$.

12 If $(a, b) = (0, 22)$, then find the value of a and b.

13 In which quadrant, the points P(2, – 3) and Q(– 3, 2) lie?

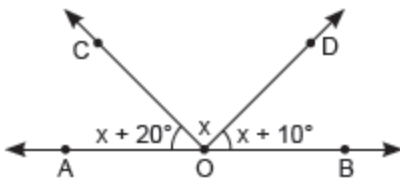14 In the given figure, if AOB is a line then find the measure of $\angle$BOC, $\angle$COD and $\angle$ DOA.

15 In the given figure, $p \,||\, q$. Find the value of x.

16 In the given figure, find the value of x.

17 In the given figure, find the value of x.

18 Find the area of an equilateral triangle with side $2\sqrt{3}$ cm.

19 Factorise:
(i) $y^3 - 7y + 6$
(ii) $2x^3 - 5x^2 - 19x + 42$
(iii) $3z^3 - 4z^2 - 12z + 16$
(iv) $x^3 - 6x^2 + 11x - 6$

20 Examine whether $x - 1$ is a factor of the following polynomials:
(i) $2x^3 - 5x^2 + x + 2$ (ii) $4x^3 + 5x^2 - 3x + 6$

21. Find the value of k, if $x + k$ is the factor of the polynomials:

(i) $x^3 + kx^2 - 2x + k + 5$ (ii) $x^4 - k^2x^2 + 3x - 6k$

22. Find the following products by using suitable identities.

(i) $(2x + 5)(2x - 5)$ (ii) $(x^2 + 4)(x^2 - 4)$

(iii) $(4 + 5x)(4 + 5x)$ (iv) $(3x + 4y)(3x - 8y)$

23. Evaluate the following products by using suitable identities.

(i) 104×105 (ii) 102×98 (iii) $116 \times 116 - 106 \times 106$

24. Show that whether $g(x)$ is a factor of the polynomials:

(i) $f(x) = 2\sqrt{2}x^2 - 5\sqrt{x} - 3\sqrt{2}$; $g(x) = x - 2$

(ii) $f(x) = 2x^4 - 12x^3 + 18x + 14$; $g(x) = x - 2$

(iii) $f(x) = 7x^2 - 2\sqrt{8}x - 6$; $g(x) = x - \sqrt{2}$

25. Factorise the following using suitable identities:

(i) $x^3 + \dfrac{3}{2}x^2 + \dfrac{3}{4}x + \dfrac{1}{8}$

(ii) $(x + 3)^2 + p^2 + 2p(x + 3)$

(iii) $2x^2 + 11x - 21$

(iv) $\dfrac{1}{2}y^2 - 3y + 4$

26. Find three rational numbers between 0.131331333133331... and 0.242442444244442... .

27. Simplify $8\sqrt{242} - 5\sqrt{50} + 3\sqrt{98}$.

28. If $\sqrt{2} = 1.4142$, then simplify $\sqrt{\dfrac{\sqrt{2}-1}{\sqrt{2}+1}}$.

29. Find the value of x for which $\left(\dfrac{3}{4}\right)^6 \times \left(\dfrac{16}{9}\right)^5 = \left(\dfrac{4}{3}\right)^{x+2}$.

30. Evaluate: (i) $(3^2 + 4^2)^{\frac{1}{2}}$ (ii) $(1^3 + 2^3 + 3^3)^{\frac{1}{2}}$

31. Simplify $[1^3 + 2^3 + 3^3 + 4^3 + 5^3]^{\frac{1}{2}}$.