



DAV PUBLIC SCHOOL, KOTKAPURA

Where excellence is a tradition...

(Affiliated to C.B.S.E., New Delhi, Affiliation No. 1630101)



SUMMER BREAK ASSIGNMENT

Session: 2025-26

GRADE : XI-SCIENCE

"Holidays are not just for rest, but also a chance to grow, explore, and sharpen your skills beyond the classroom."

Use this time wisely to:

- Strengthen academic understanding & discover new interests.
- ✤ Take care of your mental & physical health.
- ✤ Practice yoga, meditation, & a sport daily.
- ✤ Contribute meaningfully to family & society.
- Study early in the morning when your mind is fresh.
- ✤ Make a simple timetable with 4–5 hours of focused academic work daily.
- ✤ Ensure at least 7–8 hours of sleep.
- ✤ Eat healthy and stay hydrated.
- * Limit screen time and avoid over use of social media.
- ✤ Help with household chores and learn basic life skills.
- Spend quality time with parents, grandparents & siblings.
- Volunteer in your community if possible (teach a child, clean a park/ surroundings).
- * Try your hand at creative writing (poems, blogs, stories, journals).
- *Explore photography, music, painting, DIY crafts or design.*
- ✤ Watch inspiring documentaries or educational videos.
- ***** <u>USE A SEPARATE SINGLE NOTEBOOK FOR HOLIDAY HOMEWORK.</u>
- ✤ Reflect weekly on what you learned and achieved.
- Set small goals & reward yourself when you meet them.
- * REVISE SYLLABUS COVERED IN MONTH OF APRIL & MAY FOR UPCOMING PERIODIC-II EXAMINATION.

"Don't count the days – make the days count."

ENGLISH

Section A: Reading and Comprehension

* **Explore a Classic:** Choose one of the following novels or plays and write a review (100-120 words) focusing on its themes, characters, and your personal response.

* The Old Man and the Sea by Ernest Hemingway

* Julius Caesar by William Shakespeare

* **Newspaper Analysis:** For one week, read any English daily newspaper regularly. Choose three articles on different topics (e.g., social issues, current events, sports). For each article, do the following:

* Summarize the main points in your own words (approx. 100 words).

* Identify the target audience and the purpose of the article.

* Note down any new vocabulary you encountered and find their meanings.

* **Poetry Appreciation**: Select two poems by different poets (they can be from your textbook or any other source). For each poem, write a short analysis (100-120 words) focusing on the following:

* The central idea or theme.

* The poetic devices used (e.g., metaphor, simile, imagery, alliteration).

* Your interpretation of the poem and its message.

Section B: Creative Writing and Grammar

* Speech: Write an original based on one of the following prompts(100 to120 words) :

1.**Benefits of Lifelong Learning**: Highlight the importance of continuous personal and professional development in a rapidly changing world.

2.Cybersecurity: Protecting Yourself in the Digital Age: With increasing cyber threats, discuss practical ways individuals and organizations can safeguard their data and navigate the complexities of online security. You might touch upon topics like phishing scams, data breaches, and the importance of strong passwords.

* **Dialogue Writing**: Write a dialogue (100-120 words) between two friends discussing their career aspirations after completing Class XII.

* Grammar Practice: Complete the following exercises in your notebook:

* **Tenses**: Rewrite the following sentences, changing the tense as indicated in the brackets:

- * She is reading a novel. (Past Perfect Continuous)
- * They will go to the market tomorrow. (Present Continuous)
- * He had finished his work. (Simple Present)
- * **Voice**: Change the voice of the following sentences:
- * The cat chased the mouse. (Passive Voice)
- * The teacher praised the students. (Passive Voice)
- * We are building a new house. (Passive Voice)
- * Narration: Change the following sentences into indirect speech:
- * He said, "I am feeling unwell today."
- * She asked, "Have you seen my book?"
- * The doctor advised, "Take rest and drink plenty of fluids."

Speaking Skills-Prepare a speech on any current issue to be delivered in front of your class for speaking assessment.

Literature Textbook-

Prepare a Powerpoint presentation on any one given topic

• The Portrait of a Lady.

- We are not Afraid to Die If We Can All be Together
- The Summer of the Beautiful White Horse
- The Adress

VI. Vocabulary Enrichment

Maintain a Vocabulary Journal with 20 new words:

- Word
- Part of Speech
- Meaning
- Sentence
- Synonyms/Antonyms

PHYSICS

Chapter 1 Units and Measurements

1. Find the dimensions of the quantity q from the expression : $T=2\pi \sqrt{\frac{ml^3}{3vq}}$, where T is the time

period of a bar of length l, mass m and Young's modulus Y.

2. Check the correctness of the relation, $Snth=u+\frac{a}{2}(2n-1)$, where u is initial velocity, a is acceleration and Snth is the distance travelled by the body in nth second.

3. Find the dimensions of a/b in the relation $P=ax+bt^2$, where P is pressure, x is distance and t is time.

4. Find the dimensions of $\frac{a \times b}{c}$ in the relation y= 4 sin at + 3 cos bt -ct, where t is time and y is distance.

5. The depth x to which a bullet penetrates a human body depends on (i) coefficient of elasticity, η and (ii) KE (E_k) of the bullet, By the method of dimensions, show that $\mathbf{X} \propto (\frac{Ek}{n})^{1/3}$

6The heat produced in a wire carrying an electric current depends on the current, the resistance and the time. Assuming that the dependance is of the product of powers type, guess an eqn. between these quantities using dimensional analysis. The dimensional formula of resistance is $ML^2A^{-2}T^{-3}$ and heat is a form of energy.

7. The distance of nearest star from earth is 10^{13} km. Calculate the time taken by a laser beam to return to earth after reflection from the star.

8. The moon is observed from two diametrically opposite points A and B on earth. The angle subtended at the moon by the two directions of observation is 1°54'. Given the diameter of earth to be about 1.276×10^7 m, calculate the distance of moon from earth.

9. The time period of oscillation T of a small drop of liquid under surface tension depends upon the density ρ , the radius r and surface tension σ . Using dimensional analysis show that $T \propto \sqrt{(\rho r^3/\sigma)}$

10. The units of force, velocity and energy are 100 dyne,10cms⁻¹ and 500erg respectively. What are the units of mass, length and time?

11. Convert 10N into dyne using dimensional analysis.

Chapter 2 Motion in a straight line

12. Prove the following relations by calculus and graphical method: b) $S = ut + 1/2 at^2$

a) $v^2 - u^2 = 2as$

c) v = u + at

d)
$$S_{nth} = u + \frac{a}{2}(2n-1)$$

13. The position of the particle at any instant is given by $x=a+bt^2$, where, a=6m and $b=3.5ms^{-2}$, t is measured in seconds. Find. A particle is moving along x-axis. The position of the particle at any instant is given by $x=a+bt^2$, where, a=6m and $b=3.5ms^{-2}$, t is measured in seconds.

14. The velocity of a particle is $v=v_0+gt+ft^2$. If its position is x=0 at t=0, then what is its displacement after time (t=1).

15. The displacement of a particle moving in one dimension under the action of a constant force is related to the time t be the equation $t = \sqrt{x + 3}$. Find the displacement of the particle when its velocity is zero.

16. Velocity distance graph is shown in figure. Plot the acceleration distance graph corresponding to the given velocity distance graph.



17.A car moving with a speed of 50 km/h, can be stopped by brakes after atleast 6 m. If the same car is moving at a speed of 100 km/h.What is the minimum stopping distance ?

18. Drops of water from the roof of a house 6 m high fall at regular intervals. The first drop reaches the ground at an instant of time when third drop leaves the roof. Find the height of the second drop at that instant.

19. A food packet is released from a helicopter which is rising steadily at $2ms^{-1}$, After two second (i) What is the velocity of the packet ? (ii) How far is it below the helicopter? Take $g=9.8ms^{-2}$.

20. An object accelerates uniformly along a straight line with acceleration of 10m/s. at t=0 it is at x = -8m and moving with velocity of 3m/s. what is the position of the object at t=3s? 21.The velocity - time graph for a vehicle is shown if fig. Draw acceleration - time graph from it.



22. An insect crawling up a wall crawls 5 cm upwards in the first minute but then slides 3 cm downwards in the next minute. It again crawls up 5 cm upwards in the third minute but again slides 3 cm downwards in the fourth minute. How long will the insect take to reach a crevice in the wall at a height of 24 cm from its starting point? How does the position-time graph of the insect look like?

23. As soon as a car just starts from rest in a certain direction, a scooter moving with a uniform speed overtake the car. Their velocity- time graphs are shown in Fig . Calculate

(i) the difference between the distance travelled by the car and the scooter in 15 s

(ii) the time when the car will catch up the scooter and

(iii) the distance of car and scooter from the starting point at that instant.



24. The speed-time graph of a particle moving along a fixed direction is shown in figure. Obtain the distance traversed by the particle between (a)t=0s to 10s(b)t=2s to 6s **Speed (ms⁻¹)**



25. Points P,Q and R are in vertical line such that PQ=QR. A ball at (P) is allowed to fall freely. What is the ratio of the times of descent through PQ and QR ?

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

27. Look at the graphs (a) to (d) carefully and state, with reasons, with of these cannot possibly represent one dimensional motion of a particle.



28. Shows the position-time graphs of three cars A, B and C On the basis of the graphs answer the following questions:

a. Which car has the highest speed and which the lowest?
b. Are the three cars ever at the same point on the road?
c. When A passes C, where is B?
d. What is the time interval during car A travel between the time it passed cars B and C ?.
e. What is the relative velocity of car B with respect to car C?



29. Piot i) x-t graph ii) v-t graph iii) acceleration time graph for uniform motion, Uniformly accelerated and Uniformly decelerated motion. 30. A car moving with a speed of 25 ms⁻¹ takes a U-turn in 5 seconds, without changing its speed. What is the average acceleration during these 5 seconds? **Multiple Choice Ouestions Chapter -1 (Units and Measurement)** 31. If force (F), velocity (V) and time (T) are taken as fundamental units, then the dimensions of mass are C. $[Fv^{-1}T^{-1}]$ A. $[FvT^{-1}]$ B. $[FvT^{-2}]$ D. $[Fv^{-1}T]$ 32. If momentum (p), area (A) and time (t) are taken to be fundamental quantities then energy has the dimensional formula C. $(P^1A^{1/2}T^1)$ A. $(P^1A^{-1}T^1)$ D. $(P^1A^{1/2}T^{-1})$ B. $(P^2A^1T^1)$ 33. If the energy (E) ,velocity (v) and force (F) be taken as fundamental quantities, then the dimension of mass will be C. $[Ev^{-2}]$ B. $[Fv^{-1}]$ D. $[Ev^2]$ A. $[Fv^{-2}]$ 34. If E = energy, G= gravitational constant, I=impulse and M=mass, then dimensions of GIM^2/E^2 are same as that of C. length D. force A. time B. mass 35. In a system of units if force (F), acceleration (A) and time (T) are taken as fundamental units, then the dimensional formula of energy is C. F^2AT A. $FA^{2}T$ B. FAT^2 D. FAT 36. Plank 's constant (h) speed of light in vacuum (C) and newton 's gravitational constant (G) are three fundamental constant .Which of the following combinations of these has the dimension of length? D. $\sqrt{\frac{hc}{g}}$ B. $\frac{\sqrt{hG}}{c^{\frac{3}{2}}}$ C. $\frac{\sqrt{hG}}{5}$ 37. The force is given in terms of time t and displacement x by the equation $F = A \cos Bx + C \sin Dt$ The dimensional formula of ADB is : A. $[M^0LT^{-1}]$ C. $[M^{1}L^{1}T^{-2}]$ D. $[M^2L^2T^{-3}]$ B. $[ML^2T^{-3}]$ 38. In the formula $X=5YZ^2$, X and Z have dimensions of capacitance and magnetic field, respectively. What are the dimensions of Y in SI units? B. $[M^{-2}L^{0}T^{-4}A^{-2}]$ A. $[M^{-2}L^{-2}T^{6}A^{3}]$ C. $[M^{-3}L^{-2}T^8A^4]$ D. $[M^{-1}L^{-2}T^4A^2]$ 39. If speed (V), acceleration (A) and force (F) are considered as fundamental units, the dimension of Young 's modulus will be : A. $V^{-2}A^{2}T^{-2}$ B. $V^{-2}A^{2}F^{2}$ C. $V^{-4}A^2F^2$ D. $V^{-1}A^2F$ **Chapter- 2 (Motion in straight line)** 40. A car travels the first half of a distance between two places at a speed of 30km/hr and the second half of the distance at 50km/hr. The average speed of the car for the whole journey is C. 36.5km/hr A. 42.5km/hr B. 40.0km/hr D. 35.0km/hr 41. A 100 m long train is moving with a uniform velocity of 45km/hr. The time taken by the train to cross a bridge of length 1 km is C. 8s A. 58s B. 68s D. 88s

42. A ball rolls up a slope. At the end of three seconds its velocity is 20 cm/s, at the end of eight seconds its velocity is 0. What is the average acceleration from the third to the eighth second?

A. 2.5 cm/s B. 4.0 cm/sC. 5.0 cm/s D. 6.0.cm/s 43. A car moving with a speed of 25 ms⁻¹ takes a U-turn in 5 seconds, without changing its speed. The average acceleration during these 5 seconds is B. 10ms⁻² C. 2.5ms^{-2} D. 7.5ms^{-2} A. $5 m s^{-2}$ 44. If $t=\sqrt{x+4}$ then find $\left(\frac{dx}{dt}\right)$ at t=4 A. 0 **B**. 1 C. 4 D. -1 45. The motion of a particle is described by the equation $x=a+bt^2$ where a=15 cm and b=3 cm/s². Its instantaneous velocity at time 3 sec will be D. $32 cm s^{-1}$ A. 33 cm s^{-1} B. 18cms⁻¹ C. 16cms^{-1} 46. A body sliding down on a smooth inclined plane slides down 1/4th distance in 2s. I will slide down the complete plane in A. 4s **B.** 5s C. 2s D. 3s 47. Which of the following distance-time graphs is not possible? Explain why?



48. Two balls of equal masses are thrown upwards, along the same vertical direction at an interval of 2 seconds, with the same initial velocity of 40m/s. Then these collide at a height of (Take g=10m/s2).

A. 50 m B. 75 m C. 100 m D. 125 m

49. If a particle is thrown vertically upwards , then its velocity so that it covers same distance in 5th and 6th seconds would be .

A. 48m/s B. 14m/s C. 49m/s D. 7m/s 50. A parachutist after bailing out falls 50m without friction. When parachute opens, it decelerates at 2m/s2. He reaches the ground with a speed of 3m/s. At what height, did the bail out?

A. 111m B. 293m C 182m D. 243m

Revise Chapter 3 Motion in plane till vector product (from SL Arora including objective type questions, Assertion Reason and Numericals

CHEMISTRY

- 1. Distinguish between Proton, Neutron & Electron.
- 2. Give the difference between Isotopes, isobars & Isotones.
- 3. Why e/m ratio of anode rays is different for different gases?
- 4. Why are the atomic masses of most element is fractional?
- 5. An atom of an element contains 29 electrons and 35 neutrons. Deduce
 - a. the number of protons and
 - b. the electronic configuration of the element
 - c. Mass Number
- 6. Explain the Rutherford's scattering experiment and also give its drawbacks.
- 7. Calculate the wavenumber of yellow radiation having wavelength of 5800Å.
- 8. Define (a) Electromagnetic spectrum (b) Black Body and Black body radiation. (c) Photoelectric Effect
- 9. Calculate the wavelength, frequency and wave number of light wave whose time period is 2×10^{-10} sec?
- 10. Yellow light emitted from sodium lamp has wavelength of 580 nm. Calculate the frequency and wave number of yellow light.
- 11. Write any four differences between compounds and mixtures.
- 12. Write any four postulates given by Dalton atomic theory and Modern atomic theory.
- 13.Copper sulphate crystals contain 25.45% copper and 36.07% water. If the law of constant proportions is true then calculate the weight of copper required to obtain 40 g of crystalline copper sulphate.
- 14.Calculate the mass of 1 atomic mass unit in grams.
- 15.Calculate the number of moles in 7.9 milligram of calcium.
- 16.Calculate the number of gold atoms in 300 mg of gold ring of 20 carat gold.
- 17.An organic compound containing carbon hydrogen and oxygen gave the following percent is composition:
- 18.C= 40.68%, H= 5.08% and rest is oxygen
- 19. The vapour density of the compound is 59. Calculate the molecular formula of the compound.
- 20.Calculate the volume of oxygen at NTP that would be required to convert 5.2 L of carbon monoxide to carbon dioxide.
- 21.3 gram of hydrogen react with 29 gram of oxygen to yield water.
 - a. What is the limiting reactant?
 - b. Calculate the maximum amount of water that can be formed.
 - c. Calculate the amount of one of the reactants which remains unreacted.
- 22.8 g of sodium hydroxide is dissolved in water and the solution is made to 100 cm3 in a volumetric flask. Calculate the molarity of the solution.
- 23.Calculate the mole fraction of benzene in a solution containing 30% by mass of it in CCl₄.
- 24.Calculate the number of moles and the amount in gram of NaOH in 250 cm³ of a 0.100 M NaOH solution.
- 25.2.8 g of KOH is dissolved in water to give 200 cm³ of solution. Calculate the molarity of KOH in the solution.
- 26.How much volume of 10 M HCl should be diluted with water to prepare 2.00 L of 5 M HCl?
- 27.Concentrated aq. Sulphuric acid is 98% by mass and has density 1.84g/cc. What volume of the concentrated acid is required to make 5.0 litre of 0.5M H₂SO₄ solution?

- 28. How much of iron can be theoretically obtained by the reduction of 1 kg of Fe₂O₃?
- 29.20 g KClO₃ is heated to give oxygen. The total gas is combined with hydrogen. What mass of Zn is needed to give the required hydrogen with H_2SO_4 .
- 30. Calculate the volume of SO_2 gas at STP obtained by burning 500 g of sulphur containing 4% sand by weight.

BIOLOGY

- Solve the MCQs, Assertion Reason and Case Study Based questions from Elementary of Biology from Ch- 14, 15, 16, 18 and 19.
- ✤ Draw Mind maps of Chapter 14, 15, 16, 18 and 19.
- Prepare a PPT on
- Ch -15 Body Fluids and Circulation. (Roll No. 1 to 10)
- Ch -16 Excretory Products and their Elimination (Roll No. 11 to 20)
- Ch-18 Neural Control and coordination (Roll no. 21 to 30)
- Ch- 19 Chemical coordination and Integration (Roll no. 31 to 46)
- Do the given assignment of chapter-14,15, 16, 18 AND 19 on Fair Notebook.
- Activity:

♦ Draw each and every Diagram of Ch- 14, 15, 16, 18 AND 19 from NCERT on A4 sheets.

✤ Make a Crossword or Puzzle:

Topics to include

- * Ch- Body Fluids and Circulation
- * Ch- Neural Control and Coordination
- * Ch- Excretory Products and Their Elimination

Note : Assignment will be shared in the Broadcast Groups.

MATHEMATICS

- Solve MCQ, Assertion-Reason and Case Based Questions of chapter 1(Sets), chapter-2 (Relations and Functions), chapter-4 (Complex Numbers and Quadratic Equations) and chapter-5 (Linear Inequalities) from objective RD Sharma and NCERT Exemplar questions from subjective RD Sharma on separate note book.
- Revise chapter 1, 2, 4, 5 from NCERT.

PHYSICAL EDUCATION

Do written practice of the given question:

1.Enlist the career opportunities available in the field of physical education.

- 2. Name any two wearable gears.
- 3. Define physical education.
- 4. Name any four objectives of physical education.
- 5. When was the fit India movement launched?
- 6. Name some technological advancement in sports.
- 7. What is the full form of NCTE?
- 8.Write a short note on the Fit India Program.

9. Write a note on the teaching career in physical education.

10. Classify various plane surfaces in sports?

11.Explain in detail the physical education development in India after independence. 12 what do you mean by NOC?

13. How many rings are there in Olympic symbols that mention their colours also?

14.explain the fundamental principle of Olympism.

15. Mention rules for competitions in ancient Olympic games.

16. Write a short note on the summer Olympic games.

17. Who started the modern Olympic games?

18. Explain in detail about ancient Olympics.

One chart on topic - sports event, any games, injury, nutritions, Olympic games and Khelo India games

MUSIC

यदा श्रोता श्रुतिं जानन्ति,

तदा गायकः गातुं शक्नोति"

("When the listener knows the music, the singer can sing)

1.write and learn the definition of sangeet, Swar, Saptak from your book of sangeet Pravah

2. Write and learn the Biography of Vishnu Narayan Bhatkhande

3. Write Ektaal and Kehrva taal with proper description (परिचय), Ekgun, Dugun in different boxes

4.write the various parts of Tanpura (from Sangeet Pravah)

(paste the printed photo of Tanpura with various parts on your notebook)

5.Write Bhajan or Shabad

6.write about your favorite singer

7.write and learn10 Alankars (Sargam)

8.make a model of any musical instruments like guitar, Tabla, Harmonium, dholak etc. With wooden things, thermocole, card board, dried coconut shell etc....

Note : Make a habit of listening to a classical singer and gather information about his or her life .

(Singers like Ajay, Kaushiki Chakraborty, Nirali Kartik, Bhumika etc.)

"May your summer be filled with laughter, joy, and cherished memories with family and friends."

PAINTING

Learn and Write:

Q1 Describe Miniature Painting.

Q2 Describe about Jain School, Pala School and Central School.

Q3 Characteristics of Rajasthani School.

Q4 Characteristics of Pahari School.

Q5 Describe these Paintings-:

1) Bani-Thani

2) Chaugan Players

3) Krishna on Swing

Q6) Complete your 6 Painting Sheets on A3 Size-:

2 Still Life, 2 Nature, 2 Real Life Composition

INFORMATICS PRACTICES

- 1. Write short notes on following topics:
- a) IoT & WoT
- b) Cloud Computing and its types
- c) Blockchain technology
- d) Grid Computing
- e) Artificial Intelligence
- f) Virtual Reality & Augmented Reality
- g) Computer Memory and its types
- h) Hardware and it's types
- i) Software and it's types
- j) Data capturing, retrieval and recovery
- 2. Prepare a presentation (comprising 5-8 slides) on Any One of the following topics:
 - a) Robotics & their ethical uses
 - b) Sensors & their types
 - c) Applications of NLP
 - d) Real life applications of Machine Learning
