The Wisdom School, Sirsa

Summer Holiday Homework

Session 2026 – 27

Grade –10 **+ 1**

Subjects	Syllabus
English	1. Prepare a project report on life and history of 'Khushwant Singh' with two examples of his short literary works/extracts on assignment sheets. 2. Prepare an attractive poster to spread awareness about any one social issue such as Mental Health, Environmental Conservation, Cyber Safety, Gender Equality, or Sustainable Living. Use suitable slogans, illustrations, and informative messages to make the poster impactful and creative.(On A3 size sheet) 3. Revise and learn the syllabus covered till date to ensure better understanding and retention of concepts.
Math	Do examples of chapter 1. Sets 2. Relation and functions 3. Trigonometry 4. Complex Numbers Do MCQ of elements book of chapter 1 and chapter 4 Do Worksheet of Ch – 1 and Ch – 4 Make an assignment based on chapter Sets Instructions All the sums must be done in Separate notebook.
Chemistry	Complete the worksheet neatly in your Chemistry notebook with proper question numbers. Show all calculations clearly and maintain neat presentation.
Biology	Complete the worksheet neatly in your Biology Notebook with proper question no . Make diagram well labelled and neatly
Physics	Complete the worksheet neatly in your physics notebook with proper question numbers. Show all calculations clearly and maintain neat presentation.
Psychology	(i) Write notes of Ch- 1 Variation in psychological attributes Ch – 31 Meeting life challenges Ch – 6 Attitude and Social cognition Ch – 7 Social influence and Group processes (ii) Make diagram of GAS model and IQ score graph 15 times
Political Science	(i) Write notes of Ch – Legislature Ch – Enecutive Ch – Judiciary (Supreme Court) Ch – End of Bipolarity Ch – Alternative centres of Power (ii) Revise Indian Political map and World Map 10 times
Geography	Revise and make notes of Ch – Primary activities Ch – Secondary Activities Ch – The World population Distribution, Density and Graph Ch – Human Development

Accounts	Do all solved and unsolved questions of chapters Ch – 9 Journal entries Ch – 11 Cash book Prepare notes and learn ch – 2 Accounting terms
Economics	Learn and prepare notes of the following chapters Ch – 1 Economics and Economy Ch – 2 Central Problems of an Economy Ch – 3 Consumer's Equilibrium – utility Analysis Ch – 5 Theory of demand Ch – 12 Forms of Market : Perfect Competition
Business Study	Write and Learn the Book Work of Unit 1, Unit 2.1 to 2.4 Revise Complete Unit 1 and 2.
AI	• Revise and complete question/answers of Unit 1 (Part A), Unit 1 (Part B) in fair notebook. • Also Draw mind map for each . • Explore website : Experiment with Google
Music	• Definition of Sangeet • Laya and it's type • Prichay of teentaal and it's ekgun practice on hands with taali or khaali • Learn Sargam 1st in Teentaal, 2nd in Ektaal, 3rd in Dadrataal, 4th in Kehrwataal, 5th in Jhaptaal, 6th in Rupaktaal, 7th in Jhaptaal, 8th in Dadrataal and try to play on Harmonium app. • Swar and its type

Chapter: Structure of Atom

Section A

(Choose the correct option)

1. The model of atom which compared the atom to a "plum pudding" was proposed by:
   a) Rutherford
   b) Bohr
   c) J.J. Thomson
   d) Chadwick
2. The maximum number of electrons that can be accommodated in the n = 3 shell is:
   a) 8
   b) 18
   c) 32
   d) 9
3. Which quantum number determines the shape of an orbital?
   a) Principal quantum number
   b) Magnetic quantum number
   c) Spin quantum number
   d) Azimuthal quantum number
4. The total number of orbitals present in p-subshell is:
   a) 1
   b) 2
   c) 3
   d) 5
5. According to Hund's rule:
   a) Pairing of electrons occurs first
   b) Electrons enter degenerate orbitals singly first
   c) Electrons occupy lowest shell only
   d) Electrons move in circular paths

Section B – Very Short Answer Questions

6. State two limitations of Rutherford's atomic model.
7. Write the electronic configuration of:
   a) Calcium (Z = 20)
   b) Chromium (Z = 24)

8. How many electrons can have the following set of quantum numbers?
   a) n = 2
   b) l = 1
9. Define:
   a) Orbital
   b) Node
10. Differentiate between orbit and orbital.

Section C – Short Answer Questions

11. Explain Bohr's atomic model with its postulates.
12. Calculate the wavelength of radiation having frequency $5 \times 10^{14}\ s^{-1}$.
    (Speed of light = $3 \times 10^{8}\ ms^{-1}$)
13. Explain the significance of all four quantum numbers.
14. Write the electronic configuration of the following and identify the type of orbital in which the last electron enters:
    a) Fe (Z = 26)
    b) Cu (Z = 29)
15. Calculate the energy of an electron in the third orbit of hydrogen atom.

Section D – Long Answer Questions

16. Explain Rutherford's α-particle scattering experiment along with observations and conclusions.
17. Describe de Broglie's concept of matter waves. Calculate the de Broglie wavelength of an electron moving with velocity $2.0 \times 10^{6}\ ms^{-1}$.
    ($h = 6.626 \times 10^{-34}$ Js, mass of electron = 9.1×10^{-31} kg)
18. Explain Aufbau principle, Pauli exclusion principle and Hund's rule with suitable examples.
19. Write the electronic configuration of the following atoms and ions:
    a) Na^{+}
    b) O^{2-}
    c) Fe^{2+}
    d) Cl^{-}
20. Calculate the number of spectral lines obtained when an electron falls from n = 6 to n = 2.

Chapter: Some Basic Concepts of Chemistry

Section A

(Choose the correct option)

1. The number of significant figures in 0.005060 is:
   a) 2
   b) 3
   c) 4
   d) 5
2. The molar mass of Na_2CO_3 is:
   a) 84 g mol^{-1}
   b) 96 g mol^{-1}
   c) 106 g mol^{-1}
   d) 116 g mol^{-1}
3. The volume occupied by 2 moles of any gas at STP is:
   a) 11.2 L
   b) 22.4 L
   c) 44.8 L
   d) 67.2 L
4. The empirical formula mass of CH_2O is:
   a) 12
   b) 18
   c) 30
   d) 44

Section B – Short Answer Questions

5. Calculate the number of atoms present in 4.6 g of sodium.
   (Na = 23 u)
6. Calculate the percentage of oxygen in H_2SO_4.
   (H = 1 u, S = 32 u, O = 16 u)
7. 5.6 L of a gas is present at STP. Calculate the number of moles and molecules present in it.
8. Calculate the molarity of a solution containing 9.8 g of H_2SO_4 dissolved in 250 mL solution.

Section C – Long Answer Questions

9. A compound contains 75% carbon and 25% hydrogen. Its molar mass is 32 g mol^{-1}. Determine:
   a) Empirical formula
   b) Molecular formula
10. Calculate the empirical formula of a compound containing:

- 52.17% carbon
- 13.04% hydrogen
- 34.79% oxygen

11. A hydrated salt contains 47.7% oxygen, 19.1% sulfur, 28.6% sodium and remaining water of crystallization. Determine the empirical formula of the salt.
12. 3.0 g of carbon combines with 8.0 g of oxygen to form carbon dioxide.
    a) Calculate the mass of oxygen required to completely react with 9 g of carbon.
    b) Calculate the mass of CO_2 formed.
13. A solution is prepared by dissolving 15.8 g of $KMnO_4$ in water to make 500 mL solution. Calculate its molarity.
    (K = 39 u, Mn = 55 u, O = 16 u)

Worksheet (Biology)

Chapters 1 & 2: The Living World and Biological Classification

Section A – Choose the correct option (1 Mark Each)

1. Which taxonomic category includes organisms that can interbreed and produce fertile offspring?
    - (a) Genus
    - (b) Family
    - (c) Species
    - (d) Order
2. Which property of living organisms can also be demonstrated outside the body in laboratory conditions?
    - (a) Growth
    - (b) Reproduction
    - (c) Metabolism
    - (d) Consciousness
3. The branch of science that deals with identification, nomenclature and classification is called:
    - (a) Ecology
    - (b) Taxonomy
    - (c) Anatomy
    - (d) Physiology
4. Binomial nomenclature was proposed by:
    - (a) Aristotle
    - (b) Whittaker
    - (c) Carolus Linnaeus
    - (d) Darwin
5. Which kingdom includes organisms with chitinous cell walls and absorptive mode of nutrition?
    - (a) Protista
    - (b) Fungi
    - (c) Monera
    - (d) Plantae
6. Methanogens are commonly found in:
    - (a) Marine algae
    - (b) Human intestine
    - (c) Rumen of cattle
    - (d) Root nodules of legumes
7. Which protist is known for causing red tides in oceans?
    - (a) Euglena
    - (b) Amoeba
    - (c) Dinoflagellates
    - (d) Slime moulds
8. Which fungal group is commonly called sac fungi?
    - (a) Basidiomycetes
    - (b) Ascomycetes
    - (c) Phycomycetes
    - (d) Deuteromycetes
9. Viroids differ from viruses because they:
    - (a) Lack nucleic acid
    - (b) Lack protein coat
    - (c) Possess DNA only
    - (d) Reproduce independently
10. Which of the following correctly explains the role of phycobiont and mycobiont in lichens?

- (a) Phycobiont absorbs water while mycobiont prepares food
- (b) Mycobiont fixes nitrogen while phycobiont provides shelter
- (c) Phycobiont synthesizes carbohydrates while mycobiont absorbs minerals and water
- (d) Both partners independently perform photosynthesis

11. Which one of the following organisms is correctly matched with its kingdom?
- (a) Nostoc — Protista
- (b) Saccharomyces — Monera
- (c) Chlamydomonas — Protista
- (d) Methanobacterium — Fungi

12. Which one of the following is not a criterion used by R. H. Whittaker in five kingdom classification?
- (a) Cell structure
- (b) Mode of nutrition
- (c) Phylogenetic relationship
- (d) Colour of organism

Section B – Assertion and Reason Questions

Choose the correct option:
- (a) Both Assertion and Reason are true and Reason is the correct explanation.
- (b) Both Assertion and Reason are true but Reason is not the correct explanation.
- (c) Assertion is true but Reason is false.
- (d) Assertion is false but Reason is true.

1. Assertion: Growth cannot be taken as a defining property of living organisms.
   Reason: Non-living objects may also increase in mass by external addition.
2. Assertion: Consciousness is the ability to sense surroundings and respond.
   Reason: All organisms from prokaryotes to humans exhibit consciousness.
3. Assertion: Mycoplasma can survive without oxygen.
   Reason: Mycoplasma completely lacks a cell wall.
4. Assertion: Classification helps in understanding evolutionary relationships.
   Reason: Organisms placed in the same taxa share similarities.
5. Assertion: Cyanobacteria are photosynthetic autotrophs.
   Reason: They possess chlorophyll-a similar to higher plants.
6. Assertion: Viruses are inert outside the host cell.
   Reason: Viruses lack cellular organisation.
7. Assertion: Euglenoids are not placed under Plantae.
   Reason: They lack chlorophyll pigments.
8. Assertion: Lichens indicate SO_2 pollution.
   Reason: The algal component of lichens is highly sensitive to pollutants.
9. Assertion: Protists are primarily aquatic organisms.
   Reason: All protists possess cilia for locomotion.
10. Assertion: Whittaker's classification was based on cell structure and mode of nutrition.
    Reason: All organisms with cell walls were grouped under Plantae.

Section C – Case Study Based Questions

Case Study 1

A scientist collected samples from a hot spring. The organisms present were unicellular and lacked membrane-bound organelles. They were able to survive in very high temperatures and extreme conditions.

Answer the following questions:

1. To which kingdom do these organisms belong?
2. What type of cells do they possess?
3. Name the group of organisms adapted to extreme conditions.
4. Mention one characteristic feature of their cell wall.

Case Study 2

Riya observed a patch on a tree trunk consisting of green and white colored organisms living together. Her teacher explained that it was an example of symbiosis.

Answer the following questions:

1. Identify the organism observed by Riya.
2. Name the two partners involved in this association.
3. Which partner prepares food?

4. Why are these organisms considered good pollution indicators?

Section D – Short Answer Questions

1. Explain why reproduction cannot be considered an all-inclusive defining characteristic of living organisms.
2. Differentiate between taxonomy and systematics with suitable examples.
3. Explain the significance of binomial nomenclature in biological classification.
4. Describe any three distinguishing features of archaebacteria.
5. Differentiate between cyanobacteria and mycoplasma.
6. Explain the unique characteristics of dinoflagellates.
7. Describe the role of slime moulds during unfavorable environmental conditions.
8. Differentiate between ascomycetes and basidiomycetes.
9. Explain why viruses are regarded as a connecting link between living and non-living.
10. Describe the structure and importance of lichens.
11. Mention economic importance of bacteria.
12. What is diatomaceous earth? Mention one of its uses.

Section E – Long Answer Questions

1. Explain the hierarchical system of classification and discuss the importance of species as a basic unit.
2. Describe the structure and economic importance of eubacteria with suitable examples.
3. Discuss the different modes of nutrition found in Kingdom Protista.
4. Explain the major characteristics of Kingdom Monera.
5. Describe the life cycle patterns and reproductive methods in fungi.
6. Discuss Whittaker's five kingdom classification and mention its merits.
7. Draw well labeled diagram of (i) Bacteriophage and (ii) TMV
8. Make the outline of the five kingdom Classification. What are advantages and disadvantages of this classification?
9. What are the three important characteristics of development? discuss the interrelationship between growth, development and reproduction in the maintenance of life

PHYSICS WORKSHEET
CH: Units and Measurements

Q1. The angle subtended by a coin of radius 1 cm held at a distance of 80 cm from your eyes is
a) 1.43°
b) 0.72°
c) 0.0125°
d) 0.025°

Q.2 The units of surface tension are
a) Nm
b) Nm^2
c) Nm^{-1}
d) N-s

Q.3 Which of the following pairs have same dimensions?
a) Specific heat and latent heat
b) Impulse and momentum
c) Surface tension and force
d) Moment of inertia and torque

Q.4 rad / sec is the unit of
a) Angular displacement
b) Angular velocity
c) Angular acceleration
d) Angular momentum

Q.5 Dimensional formula for linear momentum is
a) $[ML^2T^{-2}]$
b) $[ML^0T^{-2}]$
c) $[ML^{-1}T^{-2}]$
d) $[MLT^{-1}]$

Q.6 In the relation $F= a \sin K_1 x + b \sin K_2 t$, the SI units of K_1/K_2 is
a) s/m
b) m/s
c) s m
d) m s

Q.7 A physical quantity is measured and the result is expressed as 'nu' where u is the unit used and n is the numerical value. If the result is expressed in various units then
a) n is directly proportional to u
b) n is directly proportional to u^2
c) n is directly proportional to $\sqrt{u}$
d) n is directly proportional to 1/u

Q.8 Two quantities A and B have different dimensions. Which mathematical operation may be physically meaningful?
a) A/B
b) A+B
c) A-B
d) A=B

Q.9 **Assertion:** Force cannot be added to pressure.
Reason: The dimensions of force and pressure are different.

Q.10 **Assertion:** When we change the unit of measurement of a quantity, its numerical value changes.
Reason: Smaller the unit of measurement smaller is its numerical value.

Q.11 What is the basis of the principle of homogeneity of dimensions?

Q.12 Can a quantity have dimensions but still no units?

Q.13 Magnitude of force F experienced by a certain object moving with speed 'v' is given by $F = Kv^2$, where K is a constant. Find the dimensions of K.

Q.14 State the uses of dimensional analysis

Q.15 What is the difference between the measurements 4.0 cm and 4.000 cm?

Q.16 Express 0.00000538 in powers of 10.

Q.17 If $x= 2at- 5bt^2$, where x is in metres and t in seconds, find the dimensions of a and b.

Q.18 The velocity of sound waves 'v' through a medium may be assumed to depend on:
i. The density of the medium 'd'and
ii. The modulus of elasticity 'E'.

Deduce by the method of dimensions the formula for the velocity of sound. Take dimensional constant K=1. {Elasticity = stress/ strain}

Q.19 Find the dimensional formulae of

i. Charge
ii. Potential
iii. Resistance
iv. Impulse

Q.20 If the units of force, energy and velocity are 20N, 200J and 5m/s, Find the units of length, mass and time.

Physics Worksheet
Class - 11
(Ch: 2 Motion in a straight line)

Q1. The velocity of a particle is given by v=(312+2t) m/s. The instantaneous acceleration at t = 2 s is
(a) 13 ms-2
(b) 14 ms-2
(c) 15 ms-2
(d) Zero

Q.2 A body is thrown upward and after some time the body reaches its maximum height, at maximum height:

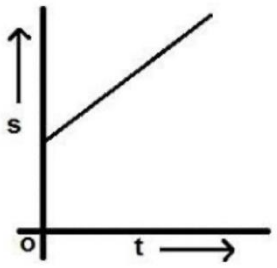
a) Its velocity and acceleration both are zero.

b) Its velocity is zero and acceleration is maximum.

c) Its velocity is maximum and acceleration is minimum.

d) Its velocity is zero and acceleration is equal to the acceleration due to gravity.

Q3. The displacement-time curve of a body is shown in the following figure, then:



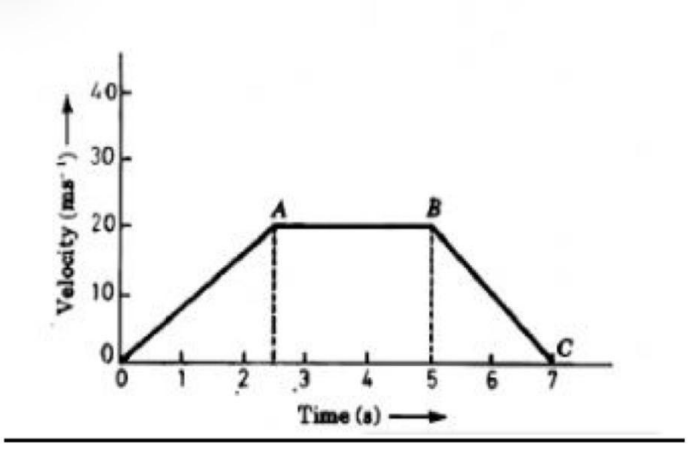
(a) The body is moving with uniform velocity with zero initial velocity

(b) The body is moving with uniform velocity with a finite initial velocity

(c) The body is moving with zero acceleration with zero initial velocity

(d) The body is moving with uniform velocity with a finite initial velocity

Q.4 Velocity time graph for a vehicle is shown. Find the distance travelled by the body.



a) 90 m

b) 95 m

c) 100 m

d) 110 m

Q.5 The acceleration of a moving body can be found from

a) Area under distance – time graph

b) Area under velocity – time graph

c) Slope of the velocity – time graph

d) Slope of the distance – time graph

Q.6 Under what conditions s=vt holds good?

Q.7 Two stones of different masses are thrown vertically upward with the same initial speed. Which one will rise to a greater height?

Q.8 Can speed of an object be negative? Justify

Q.9 A body is thrown with a speed of 40m/s vertically upward; it will return to the thrower's hand after a time of: (assume g=10m/s2)

Q.10 What causes variation in the velocity of the particle?

Q.11 A stone is thrown vertically upwards. Draw the

[i] velocity-time graph

[ii] speed-time graph for the complete journey of the body.

Q.11 If the displacement of a body is zero, is the distance covered by it necessary zero?

Q.12) Draw the nature of a position –time graph for a motion of a particle moving with

[i] positive acceleration

[ii] zero acceleration

[iii] negative uniform velocity.

Q.13 Sahil went on his bike from Delhi to Gurgaon at a speed of 60 km/h and came back at a speed

of 40 km/h. What is his average speed for the entire journey?

Q.14 A train takes 1 hr. to go from one station to another. It travels at a speed of 30km/h for first half hour and at a speed of 50km/h for the next half hour. Find the average speed of the train.

Q.15 A stone is thrown in a vertically upward direction with a velocity of 5 ms−1. If the acceleration of the stone during its motion is 10 ms−2 in the downward direction, what will be the height attained by the stone and how much time will it take to reach there?

Chapter 1: Sets

Section A

1. Write the set of letters in the word "MATHEMATICS" in roster form.
2. If A = {1, 2, 3} and B = {3, 4, 5}, find A ∪ B.
3. Is the set of all months with 32 days a null set? Justify.
4. Write the set {x : x ∈ N, x < 6} in roster form.
5. If U = {1,2,3,4,5,6,7,8,9} and A = {2,4,6,8}, find A'.

Section B

6. If A = {x : x is a prime number < 10}, B = {2, 4, 6, 8}, find A ∩ B and A - B.
7. State whether each statement is true or false:
   a) {a} ⊂ {a, b, c}
   b) {a} ∈ {a, b, c}
8. If n(U) = 50, n(A) = 20, n(B) = 25, n(A ∩ B) = 10, find n(A ∪ B) and n(A' ∩ B).
9. List all subsets of {p, q}.
10. Two finite sets have m and n elements. The total number of subsets of first set is 56 more than the second. Find m and n.

Section C

11. In a survey of 100 students: 60 play cricket, 50 play football, 30 play both. Find:
    a) Students who play at least one game
    b) Students who play only cricket
    c) Students who play neither
    Use Venn diagram.
12. If A = {1,2,3,4}, B = {3,4,5,6}, C = {5,6,7,8}, verify:
    A ∪ (B ∩ C) = (A ∪ B) ∩ (A ∪ C)
13. Let U = {1,2,3,...,10}, A = {1,3,5,7,9}, B = {2,3,5,7}. Find:
    a) (A ∪ B)'
    b) A' ∩ B'
    What do you notice?
14. In a group of 70 people: 37 like coffee, 52 like tea, and each person likes at least one. How many like both coffee and tea? How many like only tea?

Section D

15. If A and B are two sets such that n(A - B) = 14 + x, n(B - A) = 3x, n(A ∩ B) = x, and n(A ∪ B) = 50, find. x

Chapter 5: Complex Numbers and Quadratic Equations*
Worksheet

Section A

1. Write the conjugate of 3 - 4i.
2. Find the modulus of -5 + 12i.
3. Express $(1 + i)^2$ in a + ib form.
4. If z = 2 - 3i, find $z + \bar{z}$.
5. What is the value of i^{17}?
6. Find the real part of (3 + 2i)(3 - 2i).
7. If (x + iy)(2 - 3i) = 4 + i, find x and y.

Section B

8. Simplify: (2 + 3i)/(4 - 5i) and write in a + ib form.
9. Find the multiplicative inverse of 4 - 3i.
10. If $z_1 = 1 + i$, $z_2 = 2 - 3i$, find z_1z_2 and z_1/z_2.
11. Prove that $|z_1z_2| = |z_1||z_2|$ using $z_1 = 1 + i$, $z_2 = \sqrt{3} + i$.
12. Solve for real x, y: (1 + i)x - 2i + (2 - 3i)y + i = i.
13. Find the square root of -15 - 8i.
14. If |z| = 2, find the value of $|z + 3/z|^2$.

Section C

15 Solve $x^2 + 4x + 13 = 0$ in the set of complex numbers.

16. If 1 + i is a root of $x^2 + ax + b = 0$ where a, b $\in$ R, find a and b.

17.. Find the value of $x^3 + 7x^2 - x + 16$ when x = 1 + 2i