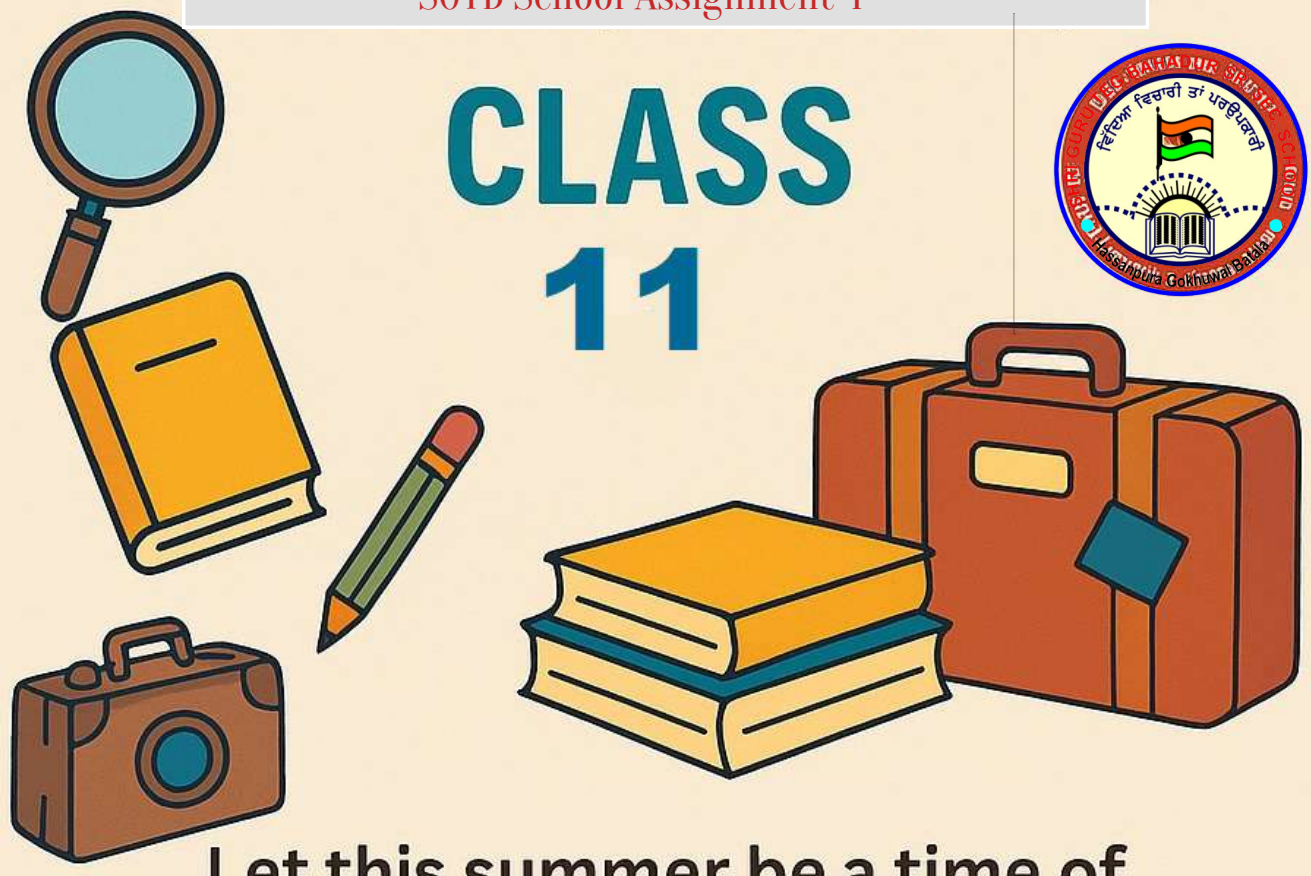
SUMMER HOLIDAY HOMEWORK 2025

SGTB School Assignment-1

CLASS 11



Let this summer be a time of learning, creativity, and joyful explorion!

Complete your holiday homework with interest, enthusiasm, and responsibility.

Session 2025-2026

10+1 Physics
Assignment - 1

Instructions

- *Write & Revise syllabus of chapter covered in Month of April May 2025. (i) Chapter 1: Unit and Measurements (ii) Chapter 2: Kinematics*
- *The Assignment consists of 30 MARKS out of which, 10 MARKS will be allotted for the PROJECT FILE (Decorated Cover) and 5 Marks Neat and Clean Handwriting & the remaining 15 MARKS for the whole content based on the file.*
- *Use Pencil for Diagrams, Sketch, Sparkle Pen Colourful etc.*
- *Complete your Class Notes till 05/07/2025 on the notebook.*
- *Write the whole Content on the Decorated Assignment with colourful Pages*
- *Handwriting Should Be Neat and Clean.*
- *Questions are compulsory to write on the assignment.*
- *Make a Index page in the assignment.*
- *Each and every Question is compulsory to Attempt.*
- *All the students take help any kind of books, YouTube or Internet.*

1. Prepare alecture, power point presentation of thetopics assigned from bimonthly syllabus (inan innovative way).

Any one of the following topics can be selected for presentation:-

1. Applications of dimensions
2. Derivation of equations of motion
3. Triangle and parallelogram laws of vector addition
4. Subtraction of two vectors and relative velocity
5. Resolution of a vector
6. Dot and cross product of two vectors
7. Projectiles given horizontal projection
8. Projectiles give angular projection
9. Uniform circular motion, centripetal and net acceleration
10. Law of conservation of linear momentum and applications
11. Pulley system
12. Man in a lift
13. Friction and coefficient of friction
14. Movement of a body in plane (i) downward (ii) upward (iii) horizontal
15. Turning a level circular turn, banking of road and rails
16. Motion in a vertical circle

- All the students will present their power point presentations in class after the summer vacation as per teacher's schedule.

- All lectures/power point presentations should be for minimum 7 mins to maximum 10 mins.
- PPT should be of 15-20 slides. Slides can be increased if required.

2. Prepare a working/3-D innovative model for science exhibition (model should be based on an innovative solution for any problem of your society/environment, it should be cost- effective and eco-friendly with no side effects)

3. ASSIGNMENT: HIGHER-ORDER THINKING QUESTIONS:
- Students will create 10 multiple-choice questions and 5 subjective questions based on the bimonthly syllabus.
- Questions should be original and not copied from other sources.
- Teachers will assign specific topics/chapters to each student.
- Students will submit their questions along with an answer key.

EXERCISE QUESTIONS FROM BIMONTHLY SYLLABUS OF 12TH CLASS TO BE SOLVED IN SEPARATE NOTEBOOK BY THE STUDENT: CHAPTER 1-3

Chapter 1: Units and Measurements

MULTIPLE CHOICE QUESTIONS:

1. The units that are used for fundamental physical quantities are called
(A) System of units (B) fundamental units
(C) Derived units (D) All of these

2. Which of the following physical quantity has same unit in CGS, FPS, MKS and SI systems of unit?
(A) Mass (B) Length (C) Time (D) Energy

3. Which of the following physical quantity is not a fundamental quantity?
(A) Length (B) temperature (C) electric current (D) energy

4. The SI unit of electric current is
(A) watt (B) joule (C) volt (D) ampere

5. The SI unit of solid angle is
(A) Radian (B) degree (C) steradian (D) radian/metre

6. pascal is the unit of
(A) force (B) pressure (C) force (D) energy

7. The SI unit of frequency is
(A) metre/second (B) radian/second (C) newton-metre (D) hertz

8. Which of the following statement is incorrect regarding significant figures?
(A) All non-zero digits are significant.
(B) All the zeros between two non-zero digits are significant.
(C) The trailing zero(s) in a number with a decimal point are significant.
(D) The power of 10 is counted while counting the number of significant figures.

9. The number of significant figures in 30600 (A) 3 (B) 2 (C) 5 (D) 4

10. The number of significant figures in 0.03400 (A) 2 (B) 3 (C) 4 (D) 5

11. Which of the following pairs of physical quantities have same dimensions?
(A) Force and power (B) force and torque
(C) Torque and work (D) torque and power

12. The dimensional formula of frequency

(A) $[M^0L^0T^{-1}]$ (B) $[M^0L^1T^{-2}]$ (C) $[M^1L^1T^{-2}]$ (D) $[M^0L^1T^0]$

13. The dimensional formula of gravitational constant

(A) $[M^{-1}L^3T^{-2}]$ (B) $[M^1L^3T^{-2}]$ (C) $[M^2L^3T^{-1}]$ (D) $[M^2L^{-2}T^0]$

14. Which of the following physical quantity has a unit but no dimensions?

(A) Strain (B) relative density (C) plane angle (D) stress

15. Which of the following constant is a dimensionless constant?

(A) G (B) π (C) c (D) h

TWO MARK QUESTIONS

1. What are basic units? Give one example.
2. Write the SI unit and dimensional formula for moment of inertia.
3. State the principle of homogeneity of dimensions.
4. Give any two limitations of dimensional method.

THREE MARK QUESTIONS

1. Check the dimensional correctness of the equation $x = v0t + ½\ at^2$ where the symbols having their usual meaning.

2. Check the dimensional correctness of the equation $T = 2\pi\sqrt{\frac{l}{g}}$ where $\boldsymbol{l}$ is the length of pendulum, T is its time period and g is the acceleration due to gravity.

3. Derive the expression for period of a simple pendulum which depends on its length (*l*) and acceleration due to gravity (g) using dimensional analysis.

Ch 2 MOTION IN A STRAIGHT LINE

MULTIPLE CHOICE QUESTIONS:

1. If the distance covered by a particle is zero, then it's displacement

(A) may or may not be zero (B) cannot be zero (C) must be zero (D) negative

2. The numerical ratio of distance travelled to displacement is

(A) always equal to one (B) always less than one (C) always more than one (D) greater than equal to one

3. The area under velocity-time graph represents

(A) Displacement (B) uniform acceleration (C) average speed (D) average velocity

4. The slope of the tangent drawn to position-time graph at any instant gives

(A) Instantaneous velocity (B) instantaneous acceleration (C) Average velocity (D) average speed

5. Stopping distance of a vehicle moving with uniform acceleration is directly proportional to

(A) Acceleration (B) square of the acceleration (C) initial velocity (D) square of initial velocity

6. The slope of velocity time graph gives

(A) average velocity (B) acceleration (C) average speed (D) distance travelled

7. When a body thrown vertically upward, it will take t time to reach its highest point. Then the time taken to return to ground is (A) 2t (B) t^2 (C) t (D) $\sqrt{t}$

8. A body thrown from the top of a tower in horizontal direction and at the same time another body dropped from the same point. The two bodies will reach the earth

(A) Simultaneously (B) dropped body reached first (C) depending on their masses
(D) horizontally thrown body reach first

9. A body cannot have (A) A constant speed and varying velocity (B) an acceleration and a constant speed (C) A uniform velocity and varying speed (D) non zero speed and zero acceleration.

10. A body is released from the certain height. After falling for some time, suppose the acceleration due to gravity vanishes. Then

(A) Body continues to move with uniform acceleration (B) Body continues to move with uniform retardation (C) Body continues to move with uniform variable velocity (D) Body continues to move with

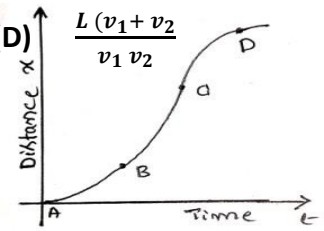
uniform/constant velocity.

11. A vehicle travels half the distance L with speed v_1 and the other half with speed v_2, then

12. its average speed is (A) $\frac{v_1+v_2}{2}$ (B) $\frac{2v_1+v_1}{v_1+v_2}$ (C) $\frac{2v_1 v_2}{v_1+v_2}$ (D) $\frac{L(v_1+v_2}{v_1 v_2}$

13. The distance-time graph for a particle in motion as shown in figure. The maximum instantaneous velocity of the particle is around the point.

(A) A (B) C (C) B (D) D



TWO MARK QUESTIONS:

1. Write any two differences between instantaneous speed and instantaneous velocity.
2. Draw a position-time graph for a body moving with constant speed.
3. Draw a position-time graph for a body moving in positive direction with negative acceleration.
4. Define average velocity and uniform velocity.
5. A body moving with an initial velocity 5m/s and uniform acceleration 1 m/s^2. Determine its velocity after 20 s. **[25 m/s]**

THREE MARK QUESTIONS:

1. Derive the expression $v = v0 + at$ using velocity-time graph.

2. Derive the expression $V^2 – u^2 = 2aS$ using $v – t$ graph.

3. Mention three applications of velocity-time graph.

4. A car moving along a straight road with a speed of 126 km/h is brought to a stop within a distance of 200 m. What is the retardation of the car? **(3.06 ms^{-2})**

5. A stone thrown vertically upward with velocity of 20 m/s. Calculate the maximum height reached by it. (g = 10 ms^{-2}). **(20 m)**

FIVE MARK QUESTIONS:

1. Derive the three equations of motion using velocity-time graph.

2. A body covers the first one-third distance at a constant speed of 20ms^{-1}, next one-third distance with a speed of 40 ms^{-1} and last one-third distance at 60 ms^{-1}. Calculate the average velocity of the body over the complete journey. **(32.72 ms^{-1})**

3. A player throws a ball vertically upwards with a speed of 29.4 ms^{-1}. Calculate

(i) maximum height attained by the ball (ii) time taken by the ball to reach the highest point.

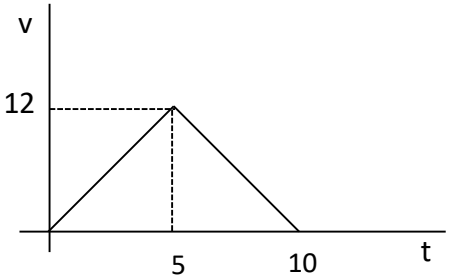
(h = 44.1m, t = 3s)

4. A body let fall from the top of a tower covers 45 m in the last second of its fall. Find the height of the tower. (g = 10 ms^{-2}). **(125 m)**

5. A body projected vertically upwards with a velocity of 15 ms^{-1} from the top of a tower reaches ground in 5s. Find the height of the tower. (g = 9.8 ms^{-2}). **(47.52m)**

6. A ball A thrown vertically upwards reaches the balcony of a house 100m high. At the same time another ball B is dropped from rest from the balcony of the house. When and where will the two balls pass each other. (g = 10 ms^{-2}). **(t = √5 s, at a height x = 75m above the ground)**

7. From the velocity time graph given below, calculate the distance travelled during the time interval 2s to 6 s.



(36m)

Ch 3 MOTION IN A PLANE

MULTIPLE CHOICE QUESTIONS:

1. The physical quantity that has both magnitude and direction is called

(A) Scalar (B) vector (C) dimensional (D) phasor

2. Which of the following is not a vector quantity?

(A) work (B) impulse (C) displacement (D) momentum

3. Two vectors are said to be equal if they have

(A) Only same magnitude (B) same magnitude and perpendicular

(C) Only in same direction (D) same magnitude and same direction

4. If a vector is multiplied by a positive scalar, the resulting quantity is

(A) A scalar having same magnitude as initial vector.

(B) A vector having same direction as initial vector.

(C) A vector having different direction of initial vector.

(D) A scalar having magnitude different from that of initial vector.

5. Which of the following statement is incorrect?

(A) In one dimensional motion, the velocity and acceleration of an object are always along the same line

(B) In two or three dimensional motion the angle between velocity and acceleration vectors may have any value between 0^o and 180^o.

(C) The maximum height attained by a projectile is always equal to its horizontal rage.

(D) The resultant acceleration of an object in circular motion is towards the centre only if the speed is constant.

6. It is found that $\vec{A} + \vec{B} = \vec{A}$. This necessarily implies

(A) $\vec{B} = 0$ (B) $\vec{A}$ and $\vec{B}$ are opposite to each other

(C) $\vec{A}$ and $\vec{B}$ are perpendicular to each other (D) $\vec{A}.\vec{B} \leq 0$

7. The motion in a plane can be treated as superposition of two separate simultaneous one dimensional motion along two _____directions.

(A) Same (B) perpendicular (C) opposite (D) any

8. The resultant of two vectors acting at a point is minimum if they are

(A) in same direction (B) perpendicular to each other

(C) making an angle 120^o with each other (D) opposite to each other

9. In a projectile motion, the maximum range is always equal to

(A) maximum height (B) twice of the maximum height

(C) thrice of the maximum height (D) four times the maximum height.

10. At maximum height, the velocity and accelerations of the projectile are

(A) In same direction (B) perpendicular to each other (C) Opposite to each other (D) both are zero

11. For maximum range for a projectile, the angle of projection should be

(A) 45^o (B) 30^o (C) 60^o (D) 90^o

12. For maximum height of a projectile, the angle of projection should be

(A) 45^o (B) 30^o (C) 60^o (D) 90^o

13. The trajectory of a projectile motion is a

(A) parabola (B) straight line (C) circle (D) hyperbola

14. If a body is projected with an angle θ to the horizontal, then

(A) Its velocity is always perpendicular to its acceleration.

(B) Its velocity becomes zero at its maximum height.

(C) Its velocity is in horizontal direction at maximum height

(D) When the just hitting the ground, its velocity and acceleration are in same direction.

15. The centripetal acceleration is

(A) Directly proportional to its velocity and radius of the circular path.

(B) Directly proportional to its velocity and inversely radius of the circular path.

(C) Directly proportional to its square of its velocity and inversely proportional to square of

(D) the radius of the circle.

(E) Directly proportional to its square of its velocity and inversely proportional to the radius of the circular path.

TWO MARK QUESTIONS:

1. Define scalar product of two vectors. Give an example for scalar product of vector.

2. Write the expression for resultant of two concurrent vectors ***A*** and ***B*** and explain the terms.

3. Write the expression for time of flight of a projectile motion and explain the terms.

4. Write the expression for range of a projectile and explain the terms.

5. Write the expression for centripetal acceleration and explain the terms.

THREE MARK QUESTIONS:

1. Explain the triangle method of vector addition.

2. If $\vec{A} = 3\hat{\imath} + 2\hat{\jmath}$ and $\vec{B} = \hat{\imath} - 2\hat{\jmath} + 3\hat{k}$, find the magnitude of $\vec{A} + \vec{B}$.

3. Two forces of 4 N and 3 N act at a point making an angle of 60^o with one another. Find the magnitude of resultant of the two forces.

4. Obtain the expression for time of flight of a projectile motion.

5. Obtain the expression for maximum height of a projectile motion.

6. A projectile is projected at an angle of 30^o to the horizontal with an initial speed of 20 ms^{-1}. Calculate its time of flight.

7. Obtain the expression for horizontal range of a projectile motion.

8. A stone of mass 2 kg is tied with a string of length 1.5 m is rotating in a circle with a constant speed of 10 ms^{-1}. Calculate its centripetal acceleration.

FIVE MARK QUESTIONS:

1. Derive the expression for magnitude and direction of resultant of two concurrent vectors.

2. Obtain the equation of path of a projectile. OR Show that the trajectory of a projectile is a parabola.

3. What is centripetal acceleration? Derive the expression for centripetal acceleration.

4. The resultant of two forces acting at an angle of 120^o is at right angle to the smaller force. If the greater force is 8 N, find the smaller force and the resultant. **(F = 4 N, R = 6.93 N)**

5. A football player kicks a ball at an angle of 30^o to the horizontal with an initial speed of 20 ms^{-1}. Calculate (A) maximum height and (B) horizontal range reached by the ball. **(H = 5 m, R = 34.64 m).**

6. The ceiling of a long hall is 25m high. What is the maximum horizontal distance that a ball thrown with a speed of 40ms^{-1} can go without hitting the ceiling of the hall? **(150.5m)**

7. A football player kicks a ball so that it just clears a 4 m high wall at a distance of 5 m. It falls at a distance of 11 m from the wall. Determine the initial speed and the angle of projection of the ball. **(v_0 = 12.59 ms^{-1}, $\theta = 49.3^o$)**

Prepared by:- Rakesh Kumar Lecturer Physics

Happy Summer Vacation !!!!!!!!!!!!!!!

Shri Guru Teg Bahadur Sen. Sec. School
Hassanpura Gokhuwal Batala

Session: 2025-26

Summer vacation

Sunshine, good times, and unforgettable memories await you at our summer holiday extravaganza!

Starting: Monday, 2 June,2025

Ending: Monday, 30 June, 2025

Chemistry holidays homework.

- **Important instructions ----**
- **Write the assignment homework on decorated sheets or colourful pages.**
- **You may use A4 colorful sheets.**
- **Handwriting should be neat and clean.**
- **All Questions are compulsory to attempt.**
- **Each and every thing is compulsory to write on assignment.**
- **Your marks will be Updated on portal according to your work and performance.**
- **Complete your work till 30/06/25 .**

1. PART- A

1.Substances whose compositions are not uniform and different components are mixed are called _____

a) Homogenous substances
b) Heterogeneous substances
c) Pure substances
d) Elements

2. A _____ is made up of two or more pure substances which may be in any ratio.

a) Mixture
b) Element
c) Molecule
d) Atom

3. Matter can be divided into two types i.e. mixture and pure substance.

a) True
b) False

4. Which of the following is not a pure substance?

a) Copper
b) Gold
c) Sugar solution
d) Water

5. What are pure substances classified as?

a) Elements and Atoms
b) Molecules and Compounds
c) Elements and Compounds
d) Atoms and Molecules

6. When two or more atoms of different elements combine with each other in a fixed ratio, the molecule of a ____ is obtained.

a) Compound

b) Element
c) Atom
d) Ion

7. Compounds cannot be separated by chemical methods.
a) True
b) False

8.Point out an example of a compound.
a) Sugar solution
b) Hydrogen
c) Ammonia
d) Sodium

1. 9. Which among the three states of matter has a definite shape and size?
a) Solids
b) Liquids
c) Gases
d) Vapor

10.Water is a/an _____
a) Element
b) Compound
c) Pure substance
d) Mixture

11. A pure substance which contains only one type of atom is called —————.
(a) An element
(b) a compound
(c) a solid
(d) a liquid

12. The smallest particle that can take part in chemical reactions is —————.
(a) Atom
(b) molecule
(c) Both (a) and (b)
(d) none of these

13. The smallest particle that can take part in chemical reactions is —————.
(a) Atom
(b) molecule
(c) Both (a) and (b)
(d) none of these

14. The significant figures in 0.00051 are —————.
(a) 5
(b) 3
(c) 2
(d) 26

15. Formation of CO and CO2 illustrates the law of ————–.
(a) Law of conservation of mass
(b) Law of Reciprocal proportion
(c) Law of Constant Proportion
(d) Law of Multiple Proportion
16. The number of significant figures in 6.02×10^{23} is ————–.
(a) 23
(b) 3
(c) 4
(d) 26
17. The prefix 10^{18} is ————–.
(a) giga
(b) exa
(c) kilo
(d) mega
18. The mass of an atom of carbon is ————–.
(a) 1g
(b) 1.99×10^{-23} g
(c) 1/12 g
(d) 1.99×10^{23} g
19. A measured temperature on Fahrenheit scale is 200F. What will this reading be on the Celsius Scale?
(a) 40 ℃
(b) 94 ℃
(c) 93.3 ℃
(d) 30 ℃
20. Which of the following pairs of gases contains the same number of molecules?
(a) 16 g of O_2 and 14 g of N_2
(b) 6 g of O_2 and 22 g of CO_2

(c) 28 g of N_2 and 22 g of CO_2 (d) 32 g of CO_2 and 32g of N2

PART – B

TABLE 43–3
GROUND-STATE ELECTRON CONFIGURATIONS

ELEMENT	SYMBOL	ATOMIC NUMBER (Z)	ELECTRON CONFIGURATION
Hydrogen	H	1	$1s$
Helium	He	2	$1s^2$
Lithium	Li	3	$1s^2 2s$
Beryllium	Be	4	$1s^2 2s^2$
Boron	B	5	$1s^2 2s^2 2p$
Carbon	C	6	$1s^2 2s^2 2p^2$
Nitrogen	N	7	$1s^2 2s^2 2p^3$
Oxygen	O	8	$1s^2 2s^2 2p^4$
Fluorine	F	9	$1s^2 2s^2 2p^5$
Neon	Ne	10	$1s^2 2s^2 2p^6$
Sodium	Na	11	$1s^2 2s^2 2p^6 3s$
Magnesium	Mg	12	$1s^2 2s^2 2p^6 3s^2$
Aluminum	Al	13	$1s^2 2s^2 2p^6 3s^2 3p$
Silicon	Si	14	$1s^2 2s^2 2p^6 3s^2 3p^2$
Phosphorus	P	15	$1s^2 2s^2 2p^6 3s^2 3p^3$
Sulfur	S	16	$1s^2 2s^2 2p^6 3s^2 3p^4$
Chlorine	Cl	17	$1s^2 2s^2 2p^6 3s^2 3p^5$
Argon	Ar	18	$1s^2 2s^2 2p^6 3s^2 3p^6$
Potassium	K	19	$1s^2 2s^2 2p^6 3s^2 3p^6 4s$
Calcium	Ca	20	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$
Scandium	Sc	21	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d$
Titanium	Ti	22	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^2$
Vanadium	V	23	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^3$
Chromium	Cr	24	$1s^2 2s^2 2p^6 3s^2 3p^6 4s 3d^5$
Manganese	Mn	25	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5$
Iron	Fe	26	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^6$
Cobalt	Co	27	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^7$
Nickel	Ni	28	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^8$
Copper	Cu	29	$1s^2 2s^2 2p^6 3s^2 3p^6 4s 3d^{10}$
Zinc	Zn	30	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10}$

- 21. Read the table and write the given Elements with their symbols, atomic number. Also write down their respective electronic configuration.

22. Prepare an assignment on given topics:

- Solute
- Solvent
- Solution
- Compound

- Mixture
- Atomic number
- Atomic mass
- Mass number
- Molarity
- Molality
- Normality
- Formality

  Also find the relationship between molarity and normality with their respective formulas.

  Ready only one model on a given topics

  Atomic structure model / Electrochemical cell / Rusting of iron.
- **Important note**
- **Complete your assignment in a proper format.**
- **Remaining syllabus should be revised.**
- **Model presentation should be fine and full of understanding.**
- **Model should be in attractive format .**

CLASS - XI

Instructions

1. Revise and practice all the done in class room
2. Worksheets of all the students will be shared in class and worksheets solve in respective subject registers.
3. Label holiday homework and submit in a decorated handmade A4 size folders
4. Originality of the work will be appreciated
5. Project/ Homework will be assessed on the basis of neatness, creativity and originality of ideas
6. Completed practical files / project files are also to be submitted along with holiday homework
7. Make the colourful chart with colourful pictures.
8. Writing should be very good and neat
9. Do your vacation work by yourself.
10. It is necessary to do all the work on , according to this your number will be filled on portal

Homework

1 Describe each of the following sets in Roster from

(i) {x : x is a positive integer and a divisor of 9}

(ii) {X:XZ and |x|≤ 2}

(iii) {x: x is a letter of the word 'PROPORTION'}

(iv) {x:x = n/n^2 + 1 and1 ≤ n ≤ 3,wherenN N }

2. Write the set {1/2 , 2/3 , 3/4 , 4/5 , 5/6 , 7/8 , 8/9 , 9/10 } in the set-builder from.

3. Describe the following sets in Roster form:

(i) {x : x is a letter before e in the English alphabet}.

(ii) {x N : x^2 < 25}

(iii) { x N : x is a prime number, 10 < x < 20 }

(iv) {x N : x = 2n, n N}

(v) {x N : x > x}

(vi) {x : x is a prime number which is a divisor of 60}.

(vii) {x : x is a two digit number such that the sum of its digits is 8}

(viii) The set of all letters in the word 'Trigonometry'.

(ix) The set of all letters in the word ‘Better’.

4. Describe the following sets in set-builder form:

(i) a = { 1, 2, 3, 4, 5, 6}

(ii) B = {1, 1/2, 1/3, 1/4, 1/4,.....}

(iii) C = {0, 3, 6, 9, 12,.....}

(iv) D = {10, 11, 12, 13, 14, 15}

(v) E = {0}

(vi) {1, 4, 9, 16,....., 100}

(viii) {2, 4, 6, 8,.....}

(viii) {5, 25, 125, 625}

5. List all the elements of the following sets:

(i) A= {x : $x^2 \leq 10$, X Z }

(ii) B = {x: x = 1/2n-1 , 1≤n≤5}

(iii){C = x: x is an integer , ½< 9/2 }

(iv) D = {x : x is a vowel in the word : ‘EQUATION’}

(v) E = {x : x is a month of the year not having 31 days}

6. Write the set 1/2 , 2/5 , 3/10 , 4/17 , 5/26 , 6/37 , 7/50 in the set-builder form.

7. Which of the following sets are finite and which are infinite?

(i) Set of concentric circles in a plane.

(ii) Set of letters of the English Alphabets

(iii) $\{x \in N : x < 5\}$

(iv) $\{x \in N : x < 200\}$

(v) $\{x \in Z : x < 5\}$

(vi) $\{x \in R : 0 < x < 1\}$

8. Which of the following sets are equal?

(I) $A = \{1, 2, 3\}$

(ii) $B=\{x \in R: x^2-2x+1=0\}$

(iii) $C = \{1, 2, 2, 3\}$

(iv) $D = \{x \in R : x^3- 6x^2 +11x - 6 = 0\}$

9. Write the following intervals in the set-builder form:

(i) (-7,0)

(ii) [6,12]

(iii)(6,12]

(iv)[-20, 3)

12. Let A = {a, b, {c, d}, e}. Which of the following statements are false and why?

1. {c.d}A 2. {c,d}A 3.{{c ,d}}A 4.aA

5. aA 6.{a,b,e}A

13.Let A [F] A = {{1, 2, 3},{4, 5},{6, 7.8}} . Determine which of the following is true or false.

(i) 1A

(ii) {1,2,3}A

(iii) {6,7,8}A

(iv) {{4,5}}A

(v) A

14. Write down all possible subsets of each of the following sets:

(i) {a}

(ii) {0, 1}

(iii) {a, b, c}

(iv) {1, {1}}

15. If A and B are two sets such that A (i) A B (ii) AB

16. Let U={1,2,3,4,56,7,8,9}, A={1,2,3,4}, B={2,4,8} and C={3,4,5,6}

(i) A’

(ii) B’

(iii) (AC)’

(iv) (AB)’

(v) (A’)’

(vi) (B−C)’

Ch.2 - Relations and Functions

1. Find x and y, if (x + 3, 5) = (6, 2x + y)

2. Let A = {1, 2, 3} and B = {x : x N , x is prime less than 5} . Find A ×B and B × A×

3. If A×B ={(a,1),(b,3),(a,3)(b,1),(a,2),(b,2)}, find A and B.

4. Let A and B be two sets such that A × B consist of 6 elements. If three elements of A × B are : (1, 4),

(2, 6), (3, 6). Find A × B and B × A.

5. The Cartesian produce A × A has 9 elements among which are found (–1, 0) and (0, 1). Find the set A

and the remaining elements of A × A.

6. Let A and B be two sets such that n (A) = 5 and n (B) = 2. If a, b, c, d, e are distinct and (a, 2), (b, 3) ,

(c, 2), (d, 3), (e, 2) are in A × B, find A and B.

7. Let A = {−1, 3, 4} and B = {2, 3} . Represent the following products graphically i.e. by lattices:

(i) A × B (ii) B × A (iii) A × A

8. If the ordered pairs (x, –1) and (5, y) belong to the set {(a, b): b = 2a –3}, find the values of x and y.

9. If a{−1,2,3,4,5} and b{0,3,6}, write the set of all ordered pairs (a, b) such that a + b = 5.

10. If a{2,4,6,9} and b{4,6,18,27}, then form the set of all ordered pairs (a, b) such that a divides b and a < b.

11. If A={1,2,3} and B ={2,4}, what are A × B, B × A, A × A, B × B, and (AB)(BA)?

12. If A = {–1,1} , find A ×A

13. If A={-1,1}, find A

15. If A={1,3,5,7},B={2,4,6,8,10} and let R={(1,8),(3,6), (5,2),(1,4) be a relation from A to B then

Domain (R) = {1, 3, 5} and Range (R) = {8, 6, 2,}

16 Let A ={1,2,3,4,5,6} . Let R be a relation on A defined by R= {a, b): a ,b,is exactly divisible by a}

1 write R in roaster form (ii) Find the domain of R [Domain (R) (iii) Find the range of R.

17. If a function f :R→R be defined by

,{3x−2 , x<0 1 ,x=0 4x+1 , x>0}

Find: f(1),f(−1),f(0),f(2)

18. If F(x)= $3x^4-5x^2+9$, find f(x-1)

19. If f(x)= x+1/x , prove that $[f(x)]^3=f(x^3)+3f(1/x)$

20. If f(x)= 1/2x+1, x-1/2, then show that f(f(x))=2x+1/2x+3, prove that x-3/2

21. If $f(x)= x^3-1/x^3$, show that $f(x)+f(1/x)=0$

22. Find the domain of the following real valued functions

1. $f(x)=1/x=2$

2. $f(x)=x-1/x-3$

3. $f(x)= 2x-3/x^2-3x+2$

4. $f(x)=x^2+3x+5/x^2-5x+4$

23. Find the domain and range of the function $f(x)= x^2-9/x-3$

24.Activity- Make a assignment on A4 size paper - topic define set and types of set, define subset, union of set, intersection of set, complement of set.

25. Activity -Make chart on Trigonometric formulas

Holiday homework of biology +1

A) make a herbarium file (at least 15 leaves) on scrapbook and write both scientific name and common name of plant.

B) Answer the following questions:-

1. Make a flow chart of plant kingdom.
2. Make a flow chart of animal kingdom.
3. Write the features of bryophyta.
4. Explain the functions of vascular tissues in plants.
5. Explain the reproduction in fungi.

C) make a chart on respiratory system.

Holidays homework of Punjabi class - 11th & 12th

ਆਪਣੀ ਕਿਤਾਬ ਵਿੱਚੋਂ ਡਾਕਟਰ ਬਰਿੰਦਰ ਕੌਰ ਦਾ ਲਿਖਿਆ ਲੇਖ 'ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ' ਪੜੋ ਅਤੇ ਦਿੱਤੀਆਂ ਹਦਾਇਤਾਂ ਅਨੁਸਾਰ ਹੇਠਾਂ ਦਿੱਤਾ ਕਾਰਜ ਕਰੋ।

- ਲੇਖ ਦਾ ਕਵਰ ਪੇਜ ਬਣਾਓ|
- ਡਾਕਟਰ ਬਰਿੰਦਰ ਕੌਰ ਬਾਰੇ ਵਿਸ਼ੇਸ਼ ਜਾਣਕਾਰੀ ਦਿਓ|
- ਇਸ ਲੇਖ ਦੇ ਵਸਤੂ ਨਿਸਠ ਪ੍ਰਸ਼ਨ ਉੱਤਰ ਅਤੇ ਸੰਖੇਪ ਉੱਤਰਾ ਵਾਲੇ ਪ੍ਰਸ਼ਨ ਉੱਤਰ A4 ਰੰਗੀਨ ਸ਼ੀਟ ਉੱਤੇ ਕਰਕੇ ਕਵਰ ਪੇਜ ਵਾਲੀ ਫਾਈਲ ਬਣਾਓ।

ਜਾਂ

'ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ' ਦਾ ਮਾਡਲ ਤਿਆਰ ਕਰੋ ।

ਕਲਾਸ ਵਿੱਚ ਕਰਾਏ ਗਏ ਸਾਰੇ ਸਿਲੇਬਸ ਨੂੰ ਯਾਦ ਕਰੋ।

English holidays homework

1. **Activity work**
   Make chart on Determiner
2. **Write Translation Sentences 1 to 25**
3. **Write comprehensive Questions and answers of both poems**
   On Friendship
   Prayer of woods
4. **Learn and Write the question answer of chapter -The School for Sympathy**