

D.A.V. Public School ,Behror
Summer Vacation Homework (2024-25)

Class – XI

Physics

Chapter -1 (Units and Measurements)

- 1.Name the different unit systems.
- 2.Name the supplementary base quantities along with their units and symbols.
- 3.Name the special units to measure very large and very small lengths.
- 4.Write the SI unit and dimensional formula of the following:
(i)Pressure (ii) power (iii) density. (iv) angle
- 5.Check the correctness of the given equations by dimensional analysis
(a) $S = ut + \frac{1}{2} at^2$. (b) $Mgh = \frac{1}{2} mv^2$
6. The distance covered by a particle in time t is given by $X = a+bt+ct^2+dt^3$.Find the dimensions of a,b,c And d .
7. State the number of significant figures in the following measurements:
(a)0.009m. (b)25.049 N/m. (c)1.80 x10¹¹kg . (d) 5.308 J
- 8.. If the unit of force is1kN, unit of length1km and the unit of time is100s,what will be the unit of mass?

Chapter -2(Motion in straight line)

Here two statements are given- one labeled Assertion(A) and the other labeled as Reason(R).Select the Correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- (a)Both A and R are true and R is the correct explanation of A
- (b)Both A and R are true and R is NOT the correct explanation of A
- (c)A is true but R is false
- (d)A is false and R is also false

1.Assertion: A particle having constant acceleration must always move on a straight line.
Reason: When magnitude of acceleration is constant, then speed of particle may remain constant.

2.Assertion : Displacement of a body may be zero when distance travelled by it is not zero

Reason : The displacement is the longest distance between initial and final position.

3.Assertion : The position-time graph of a uniform motion, in one dimension of a body cannot have Negative slope.

Reason : In one – dimensional motion the position does not reverse, so it cannot have a negative slope.

4.Assertion: For the uniform motion,the slope of position time graph will be constant.

Reason: The slope of position time graph represent velocity of the object and for uniform motion it is Constant.

5. Draw the following graphs for an object under free fall

- (a)Variation of acceleration with respect to time
- (b)Variation of velocity with respect to time
- (c)Variation of distance with respect to time

6-The acceleration of a particle is given by $a = 3t^2 + 2t + 2$,where time t is in second. If the particle starts with a velocity $v = 2\text{m/s}$ at $t = 0$, then find the velocity at the end of 2s.

7. A body covers 200cm in the first 2 seconds and 220cm in next 2 seconds. What will be its velocity at the end Of 7 seconds ? Also find the displacement in 7 seconds.
8. On a 60 km straight road, a bus travels the first 30km with uniform speed of 30km/hr. How fast must the bus Travel the next 30km so as to have average speed of 40km/hr for the entire trip.

Chapter -3(Motion in a plane)

- Under what condition ,the resultant of two vectors will be equal to either of them.
- Determine a unit vector which is perpendicular to both $A = 2\mathbf{i} + \mathbf{j} + \mathbf{k}$ and $B = \mathbf{i} - \mathbf{j} + 2\mathbf{k}$
- A stone falls from a building that is descending at a uniform rate of 12m/s. Find the displacement of the stone from The point of release after 10 sec .
- Find the direction for an umbrella when rain falls vertically with a speed 20m/s and the wind blows from east To west with a speed of 15m/s.
- A projectile is fired at an angle θ with the horizontal with velocity v .Derive the expression for maximum Height attained by it.
- If both the speed of a body and radius of its circular path are doubled, what will happen to centripetal acceleration?
- The sum of two forces acting at a point is 16N and their resultant force is 8N and its direction is Perpendicular to a smaller force .Calculate the two forces.
- An aeroplane travelling at a speed of 500km/hr tilts at an angle of 30° As it makes a turn. What is the radius of the curve?

Chapter-4 (Laws of motion)

Case Study Based Questions

According to Newton's second law of motion , $F = m \cdot a$, where F is the force required to produce an acceleration a in a body of mass m .If $a = 0$ then $F = 0$, i. e , no external force is required to move a body uniformly along a straight line .If a force F acts on a body for t seconds , the effect of the force is given by impulse = $F \times \Delta t$ = change in linear momentum of the body .

- A cricket ball of mass 150g is moving with a velocity of 12m/s and is hit by a bat so that the ball is turned back with a velocity of 20m/s. If duration of contact between the ball and the bat is 0.01 sec. The impulse of the force is
(a) 7.4Ns. (b) 1.2Ns (c) 4.8Ns . (d) 4.7Ns
- Average force exerted by the bat is
(a) 480N (b) 120N (c) 1200N . (d) 840N
- The retardation of the ball is
(a) 1600m/s². (b) 320 m/s². (c) 3200m/s². (d) 160 m/s²
- An impulsive force of 100N acts on a body for 1s. What is the change in its linear momentum?
(a) 10Ns (b) 100Ns (c) 1000Ns (d) 1Ns

BANKING OF ROADS

The maximum permissible velocity with which a vehicle can go round a level curved road without skidding depends On μ , the coefficient of friction between the tyres and the Road. The value of μ decreases when road is smooth or Tyres of the vehicle are worn out or the road is wet and so On. Thus force of friction is not a reliable source for Providing the required centripetal force to the vehicle. A Safer course of action would be to do the 'banking' of such roads.

- The phenomenon of raisingof the curved road above the inner edge is called banking of Roads
(a) Inner edge (b) Centre (c) Outer edge (d) None of these
- Normal reaction R of the banked road acts
(a) Along the surface of contact (b) Opposite to the weight w

- (c) Perpendicular to the surface of contact (d) Any arbitrary direction
7. Centripetal force in case of a car moving on a banked circular road is provided by the following Components of various forces
 (a) $R \sin \theta$, $f \cos \theta$ (b) $R \cos \theta$, $f \sin \theta$ (c) R , f (d) R , weight
8. The speed at which a banked road can be rounded even when there is no friction
 (a) $(rg / \tan \theta)^{1/2}$ (b) $(rg \tan \theta)^{1/2}$ (c) Zero (d) Infinity

CHEMISTRY

Q.1 Calculate the no. Of molecules present in 34.2 g of cane sugar ($C_{12}H_{22}O_{11}$) 1 drop of water having mass 0.05 g. 124 g of P_4

Q.2 Calculate the no. Of moles in

i) 392 g of H_2SO_4 ii) 44.8 lt of CO_2 at STP

iii) 6.022×10^{23} molecules of O_2 iv) 65×10^{-6} g of C

Q.3 A solution of oxalic acid is prepared by dissolving 0.63g of acid in 250 cm³ of solution.

Calculate a) Molarity b) Molarity

Q.4 How many grams of NaOH should be dissolved to make 100 cm³ of 0.15M NaOH Solution?

Q.5 An aqueous solution of NaCl is marked 10% (w/w) on the bottle. The density of Solution is 1.07 g mL⁻¹. What is molality and molarity? What is the mole fraction of each Component in a solution.

Q.6 H_2SO_4 used in lead storage cell is 38% by mass and has density of 1.30 g cm³. Calculate its Molarity.

Q.7 i) Calculate empirical formula of gold chloride which contain 35.1% chlorine (atomic Mass of Au = 197) A substance was found to have the following % composition : K = 31.84% , Cl = 28.98% , O = 39.18% . Calculate its empirical and molecular formula if its molecular mass is 122.5.

Q.8 i) Find out the atomic no, atomic mass, no. of proton, electron and neutron present in

Element with notation $^{92}_{238}U$.

ii) A monoatomic anion of unit charge contains 45 neutrons and 36 electrons. Find at. No., mass no. of ion with its identification.

Q.9 Calculate wave no. and wavelength of radiation having frequency of 4×10^{14} Hz.

Q.10 Calculate the wavelength of photon in Å° unit having energy of 1 eV.

Q.11 Calculate the radii of Bohr's 5th orbit for H- atom and also calculate the radius of 3rd orbit of He^+ ion.

Q.12 The mass of electron is 9.1×10^{-31} Kg. If its K.E is 3×10^{-25} J. Calculate its wavelength.

Q.13 Two particles A and B are in motion. If the wavelength associated with particle A is 10⁻⁸ m, Calculate the wavelength associated with particle B if its momentum is half of A.

Q.14 If an electron is moving with a velocity 600 ms⁻¹ which is accurate upto 0.005% then

Calculate the uncertainty in its position. ($h = 6.63 \times 10^{-34}$ Js, mass of e = 9.1×10^{-31} Kg).

Q.15 Which of the following orbital is not possible? 7s, 2d, 3f, 1p

Q.16 Give the electronic configuration of following ions? Cu^+ ii) Cr^{+3} iii) H^- iv) S^{2-}

- Q.17 Neon gas is generally used in sign boards. If it emits strongly at 616 nm. Calculate a) frequency of the emission b) distance travelled by the radiation in 30 sec. c) Energy of quantad) No. Of quanta present if it produce 2 J of energy.
- Q.18 Which one of the following pairs would have a larger size? Explain:-
K or K⁺ b) Br or Br⁻ c) O²⁻ or F⁻
- Q.19 Which of the following pairs of elements would have more -ve .G.E? Explain a) N or O b) S or O c) C or Si
- Q.20 Draw the trends in periodic properties of elements:-
a) E.G.E b) I.E c) Atomic radii d) Metallic character
e) Non metallic character f) Electronegativity
- Q.21 Give the IUPAC names of the following compounds:-
- Q.22 Write the state of hybridization of all the atoms in CH₂=C=CH₂ and draw its orbital Structure
- Q.23 Draw the resonance structures for the following compounds. Show the electron shift
Using curved-arrow notation.
a) C₆H₅OH b) C₆H₅NO₂ c) CH₃CH=CHCHO
d) C₆H₅—CH₂⁺ e) C₆H₅—CHO
- Q.24 Explain the terms Inductive and electromeric effects. Which electron displacement Effect explains the following correct orders of acidity of the carboxylic acid?
Cl₃C-COOH > Cl₂CH-COOH > ClCH₂-COOH
CH₃CH₂COOH > (CH₃)₂CHCOOH > (CH₃)₃C-COOH
- Q.25 The quantum no. Of 6 electrons are given below. Arrange them in order of increasing Energies. List of any of these combinations has same energy:
N = 4, l = 2, m = -2, s = -1/2 d) n = 3, l = 2, m = -1, s = +1/2
N = 4, l = 1, m = 0, s = +1/2 e) n = 3, l = 2, m = -2, s = -1/2
N = 3, l = 1, m = -1, s = +1/2 f) n = 4, l = 1, m = 0, s = +1/2
- Q.26 Write and learn the atomic no. 1 to 30 with atomic mass and electronic configuration Of Element.

Subject Biology

CHAPTER-BREATHING AND EXCHANGE OF GASES: -

1. Define partial pressure of a gas. [1]
2. Name the other pigments which are present in animals besides haemoglobin. [1]
3. What is the difference between alveolar air and inspired air? [1]
4. Define vital capacity. [1]
5. What is the role of carbonic anhydrase in RBC's? [1]
6. What is carbamino haemoglobin? [1]
7. Name the place where actual exchange of gases takes place in insects. [1]
8. What is the percentage of O₂ in inspired & expired air? [1]
9. What is the utility of chloride shift? [1]
10. Give role of intercostals muscles in expiration. [2]
11. Explain Erythrocytes can carry out anaerobic metabolism only. [2]
12. Describe how our brain gets a continuous supply of oxygen form the atmosphere. [2]
13. What is chloride shift? Explain. [2]
14. Explain briefly the first step is respiration? [2]
15. Write a note on bronchitis and its prevention. [2]
16. What is the difference between carbamino haemoglobin and oxyhaemoglobin. [2]

17. What is functional residual capacity? [2]
18. Describe the transport of O₂ and CO₂? [2]
19. What is hypoxia, artificial hypoxia & Anaemic hypoxia? [3]
20. How is respiration regulated? [3]
21. Differentiate between vital lung capacity and total lung capacity. [3]
22. Explain the mechanism of breathing in humans. [3]
23. Define oxygen dissociation curve? Why it has sigmoidal pattern? [3]
24. What is the role of carbonic anhydrase? Show by series of reactions how carbonic anhydrase starts the reactions leading to the formation of hemoglobinic acid? [5]
25. Describe transport mechanism of CO₂. [5]
26. Describe in brief the respiratory organs of man. [5]
27. Explain how our heart muscles get a continuous supply of atmospheric oxygen. [5]

CHAPTER-EXCRETORY PRODUCTS AND THEIR ELIMINATION

1. In which part of nephron filtration takes place? [1]
2. What difference is observed in the ascending and descending limb of Henle's loop with reference to permeability of water? [1]
3. What is the PH of urine. [1]
4. Name the three kinds of nitrogen excretion. [1]
5. What are podocytes? [1]
6. Besides water, name any two constituents of human sweat. [1]
7. What happens in glomerulonephritis? [1]
8. Name the excretory organ of cockroach. [1]
9. Name the hormone which controls the concentration of sodium in the body. [1]
10. Differentiate between Rennin and Renin? [2]
11. What are the two intrinsic mechanisms that provide auto regulation of glomerular filtrate? Explain any one of these. [2]
12. How is the permeability of the distal convoluted tubule and the collecting tubule controlled for regulating the water content inside the body? [2]
13. Kidneys do not play a major role in excretion in ammonotelic animals. Justify. [2]
14. Define glomerular filtration rate. What is its value in a healthy human? [2]
15. What is the significance of frog's tadpole being ammonotelic and the adult frog being ureotelic? [2]
16. Describe the blood vessels called vasa recta found in relation to uriniferous tubules. What is their function? [2]
17. What is the chief nitrogenous waste product in birds? Give two advantages of this mode of excretion. [2]
18. Terrestrial animals are generally either ureotelic or uricotelic, not ammonotelic. Why? [2]
19. A person suffering from very low blood pressure passes no urine. Why? What suggestion would you offer for the removal of waste products from the blood in such a situation. [3]
20. Explain briefly how micturition is a reflex process; but is also under some voluntary control. [3]
21. Describe urea cycle. [3]

22. What is a dialysis machine? When is it needed? [3]
23. Suppose the kidneys of a person are damaged, can you predict what is going to happen to him? [3]
24. How does liver both as a digestive as well as an excretory organ? [3]
25. Describe briefly the structure and function of renal corpuscle. [5]
26. Describe the mechanism of urine formation. [5]
27. Describe the renal excretory system of man. [5]

CHAPTER- LOCOMOTION AND MOVEMENT:

1. Name the functional contractile unit of muscle. [1]
2. What is arthritis? [1]
3. What is the total number of bones present in the left pectoral girdle and the left arm respectively in a normal human? [1]
4. Name the tissue which connects muscles to the bone? [1]
5. What is the function of myoglobin? [1]
6. What causes fatigue of muscle fibers? [1]
7. What is a tendon? [1]
8. Which type of movable joint makes the hip joint? [1]
9. Name the heaviest and longest bone in the human body? [1]
10. List functions of skeleton in higher animals? [2]
11. Define a joint. [2]
12. What is osteoporosis? Name two factors which are responsible for osteoporosis. [2]
13. Which kinds of muscle fibers are richly found in the extensor muscles present on the back of human body? What characteristics enable those fibers to serve their purpose? [2]
14. Give differences between red and white muscle fibers, other than color. [2]
15. What are floating ribs? How many of them are there? [2]
16. Why can a red muscle fiber work for a prolonged period, while a white muscle fibre suffers from fatigue soon? [2]
17. What is the function of girdles? [2]
18. What makes the synovial joints freely movable? List any four types of synovial joints. [2]
19. Explain the initiation of muscle contraction. What is the role of sarcoplasmic reticulum, Myosin head and F - action during contraction in striated muscles? [3]
20. What are the three types of muscle tissue? Write two characteristic points about the structure of each of them? [3]
21. Represent diagrammatically a sarcomere and label its parts. Which of these parts shorten during muscle contraction? [3]
22. Describe any three disorders of the muscular system. [3]
23. Differentiate between Endoskeleton and Exoskeleton. [3]
24. Explain the following -
 - a) Antagonistic muscles
 - b) Tetanus
25. Threshold stimulus What is the role of Ca^{++} and ATP in muscle contraction? [5]
26. Describe the various kinds of joint in human body. According to mobility giving one example of each. [5]
27. Explain sliding filament theory of muscle contraction. [5]

English Core

QUESTIONS TO BE ANSWERED IN OWN WORDS :

- 1— How important you find the character of Khosrove ?
 - 2— How does khuswant singh describe his grandfather's portrait?
 - 3— I resolved to forget the address of all the things I had to forget. That would be the easiest. Mention the circumstance which made the narrator forget the address.
 - 4— All the people on board, 'The wave Walker' contributed in their own way to save the ship from capsizing. Explain.
 - 5— Children today are so addicted to 'gadgets and gizmos' that outdoor games have taken a backseat. Write an article for your school magazine on the topic, "Children and gadgets".
 - 6— Inspired by the government's cleanliness Drive, your school DAV Behror, organizing a Poster Making competition on the topic "Cleanliness is next to Godliness". Prepare a suitable poster.
 - 7— Define voice. write the types of voice. E the Rules to be followed while interchanging voices.(DO THIS IN A CHART PAPER)
 - 8— write an application to the principal praying to waive the fees for three months.
 - 9— Make 10 words out of these letters (E,E,B,R,D). Don't use less than 3 letters in a word.
 - 10— write a paragraph on the topic "Fashion among students" .
 - 11— change the following into passive voice :
 - A.. He writes a letter.
 - B.. He doesn't write a letter.
 - C.. Does he write a letter ?
 - D.. Doesn't he write a letter?
 - E .. He is writing a letter.
 - F.. Is he writing a letter ?
 - G... Is he not writing a letter ?
 - H ... Isn't he writing a letter ?
 - I... He has written a letter .
 - J.. He hasn't written a letter .
 - K.. Has he written a letter ?
 - L... Has he not written a letter?
- This way manage to include each and every type of sentences from the Tense and transform them into passive voice.
- 12— Rearrange the following jumbled words into a meaningful sentences:
 - A— of It's residents/ becomes a/It reflect/a house/ the personality/ home when.
 - B— Has to look/ no rules/How our /there are /as to/ home.
 - C— Thing is/ inhabiting them/ should enjoy /the important /that we
 - D— About/ houses are /our lives/ personal statements.
 - E— The confidence/ in ourselves/ they reflect/ we have
 - F— We have /will be /the more/ individualistic/ confidence/ the more /our homes.

Mathematics

- 1.Which of the following set:The set of animals living on the earth.
(a)Finite set (b)Infinite set (c)Null set (d)none of these

2. Let $A = \{1, 3, 5\}$, $B = \{1, 2, 3\}$. Then $A \cup B$ is equals to:
 (a) $\emptyset$ (b) $\{1, 2, 3, 4, 5\}$ (c) $\{1, 3\}$ (d) $\{5\}$
3. If the set A has 3 elements and the set $B = \{3, 4, 5\}$, then the number of elements in $A \times B$ are
 (a) 9 (b) 29 (c) 6 (d) 26
4. The range of $f(x) = 2 - 3x$, $x \in \mathbb{R}$, $x > 0$ is
 (a) $(-\infty, 2]$ (b) $[2, \infty)$ (c) $(-\infty, 2)$ (d) $(-2, \infty]$
5. Convert 250 into radian measure:
 (a) $5\pi/36$ (b) $36/5\pi$ (c) $\pi/36$ (d) none of these
6. Find the degree measures corresponding to the -4 radian measures.
7. Express complex number $19 + i$ in the form $a + ib$.
8. Solve $24x < 100$, x is a natural number.
9. What is the domain of $\sin x$.
10. What is the range of $\sec x$.
11. If ${}^nC_8 = {}^nC_9$, find ${}^nC_{17}$.
12. If $1/6! + 1/7! = x/8!$, find x .
13. A coin is tossed three times. write down its sample space in this experiment.
14. A card is drawn from a well shuffled deck of 52 cards. Find the probability that the no. of black cards.
15. $10Cr = 10Cr + 2$, find r
16. Write down into simplest form $10!/4!$
17. If a die is thrown twice. write down the sample space.
18. $A = \{1, 2, 3, 4\}$ $B = \{2, 3, 4\}$ find $A \cup B =$
19. $A = \{4, 6, 8, 10, 12, 14\}$ $14 \in A$ (T/F)
20. $A = \{1, 2\}$ $B = \{3, 4\}$ Write $A \times B$, How many subset will $A \times B$ have
21. A wheel makes 360 revolution in one minute. through how many radians does it turn in one minute.
22. $\cot(A + B) = \dots\dots\dots$
23. A function f is define by $F(x) = 2x - 5$. Write down the value of $f(-3)$
24. Write in standard form of complex no: $3 + 4i - (4i - 3)$
25. Find the conjugate : $Z = \sqrt{3} - 4i$
26. Find modulus of $4 - 3i$
27. $\cos 2x = \dots\dots\dots$
28. $19 + i19 = \dots\dots\dots$
29. Find the conjugate : $Z = 3 - 4i$
30. Find the modulus: $Z = 6 + 8i$

SECTION B

1. If $A = \{1, 2, 3, 4\}$, $B = \{3, 4, 5, 6\}$, $C = \{5, 6, 7, 8\}$ and $D = \{7, 8, 9, 10\}$. Find $B \cup C \cup D$.
2. Write the relation $R = \{(x, x^3) : x \text{ is a prime number less than } 10\}$ in roster form.
3. Find the value of $\sin 765^\circ$.
4. Find the multiplicative inverse of $-i$.
5. Solve the inequalities $3x - 2 < 2x + 1$.
6. How many words can be formed from the given words with or without meaning from the word BETTER.
7. Prove that $\tan 4x = \frac{4\tan x(1 - \tan^2 x)}{1 + \tan^4 x - 6\tan^2 x}$
8. HOW many words can be formed by using "PERMUTATIONS" which starts
 (a) With P and ends with S. (b) P and S come together.
9. Find value of $\tan 75^\circ$
10. Find the multiplicative inverse: of $3 + i\sqrt{5}$

11. $\cos 4x = 1 - 8\sin 2x \cos 2x$. (Prove it)
12. Find the Domain and range: $\sqrt{4-x^2}$
13. $G=\{7,8\}$ $H=\{5,4,2\}$ find the Cartesian product($G \times H$)
14. $A=\{2,4,6,8\}$ $B=\{1,3,5,7,9\}$ $U = \{1,2,3,4,5,6,7,8,9\}$
Prove that:
 $A' = B$ and $B' = A$ Where A' and B' are complements of sets
15. Find the multiplicative inverse: of $z = \sqrt{5} + 3i$
16. Write the standard form of complex no $(1-i) - (1+i6)$
17. Find the Trigonometric function :if $\cot x = 3/4$, x lie in III Quadrant.
18. $A=\{1,2\}$ find $A \times A \times A$
19. $A=\{1,2,3,4,5\}$ $B=\{3,5,8,15\}$ $C = \{6,7,9,11\}$ find $A \cap (B \cap C)$
20. Find the domain and range of the function $f(x) = |x-3|$

SECTION C

1. Let $f = \{(1,1), (2,3), (0,-1), (-1,-3)\}$ be a function from Z to Z defined by $f(x) = ax + b$, for some Integers a, b . Determine a, b .
2. Prove that $\cos 4x + \cos 3x + \cos 2x / \sin 4x + \sin 3x + \sin 2x = \cot 3x$.
3. If $x - iy = a - ib / c - id$, prove that $(x^2 + y^2)^2 = a^2 + b^2 / c^2 + d^2$
4. Solve the inequalities on the number line $x/2 > 5x-2 / 3 - (7x-3)/5$
5. Prove that $\tan 4x = 4 \tan x (1 - \tan^2 x) / 1 - 6 \tan^2 x + \tan^4 x$.
6. Solve the following inequalities graphically: $3x + 5y \leq 15$, $x \leq 15$, $y \leq 20$, $x, y \geq 0$:
7. From the word "AGAIN" a dictionary is formed. Find its 50th word.
8. Solve graphically $x + y \leq 4$

$$\begin{aligned} X + y &\geq 0 \\ X &\geq 0 \\ Y &\geq 0 \end{aligned}$$

9. In a group of students, 100 students know Hindi, 50 know English, 25 know both, each student know either Hindi or English. How many students are there in the group

OR

- $A = \{1,3,3,4,5,6\}$, $B = \{3,5,7\}$ $C = \{7,8,9\}$ prove that $((A \cup B) \cup C) = A \cup (B \cup C)$
10. Determine the Domain and Range of relation R Defined by $R = \{x, x+5\} : x \in \{0,1,2,3,4,5\}$
11. Prove that $\cot x \cdot \cot 2x - \cot 2x \cdot \cot 3x - \cot 3x \cdot \cot x = 1$
12. Find the value of $\sin((-11\pi)/3)$
13. Find the value of $\sin 75^\circ$
14. If $((1+i)/(1-i))^m = 1$ Find the value of m .
15. In a group of 70 people 37 like coffee, 53 like tea and each person likes at least one of the two drink how many people like both coffee and tea.
16. (i) Find the Domain and Range $\sqrt{9-x^2}$
17. Find the Domain of function $(x^2+3x+5)/(x^2-5x+4)$
18. Prove that $(\cos^4 x + \cos^3 x + \cos 2x) / (\sin^4 x + \sin^3 x + \sin 2x) = \cot 3x$
19. Prove that $\cos 6x = 32 \cos^6 x - 48 \cos^4 x + 18 \cos^2 x - 1$
20. If $a + ib = [(x+i)]^2 / [(2x)]^2 + 1$ prove that $a^2 + b^2 = [(x^2+1)]^2 / [(2x)]^2 + 1$
21. if α and β are different complex numbers with $|\alpha| = 1$, then find $|(\beta - \alpha)/(1 - \alpha\bar{\beta})|$
22. find the modulus of $(1+i)/(1-i) - (1-i)/(1+i)$

D.A.V. Public School, Behror
Holiday Homework(Session-2024-25)
Class 11th
Sub.Hindustani Music(Vocal)

नोट:सभी प्रश्नों को अच्छे से कॉपी में लिखें व याद करें।

- 1.नाद, श्रुति,स्वर, सप्तक, थाट, जाती,लय-ताल के बारे में लिखें व याद करें।
- 2.मारगी व देसी संगीत और राग के बारे में विस्तार से लिखें व याद करें।
- 3.आलाप व तान को विस्तार से लिखें व याद करें।

I.P.(065)

- Q.1 Write different types of python data types.
- Q.2 Write a python program for calculator.
- Q.3 Write a python program of looping.
- Q.4 Make a Google form for quiz.
- Q.5 Write and learn different types of python character set.
- Q.6 Write and learn about Role of Operating System.
- Q.7 Write the structure of SQL programs.
- Q.8 Write the use of python language.
- Q.9 What is array?
- Q.10 Write five program of list, tuple, dictionary.

Physical Education

- Q1. Discuss the health – related and administration related career in physical education.
- Q2.Explain any two elements of Yoga .
- Q3.How can yoga help in maintaining healthy lifestyle.
- Q4. Explain the role of Yoga in sports.
- Q5. Explain the procedure of measuring somatotypes in brief.