

DAV Public School, Ballabgarh

Summer Vacation Homework – Class IX (Session 2020-21)

ENGLISH

- Design a magazine. It should have 5 sections -
 - (1) An attractive cover page with theme and name of the magazine
 - (2) An article on the topic - Nature Has Its Own Ways to Heal Itself
 - (3) Famous quotes or sayings of eminent personalities - 6 at least
 - (4) Good and sensible jokes / poem / wrap / cartoons (at least 3-4)
 - (5) Game / Riddle / puzzle based on Tenses / Verbs / Prepositions / Conjunctions (1 on any one topic) like Snake and Ladder on Prepositions (Use only 5 sheets of A3 size)
- Write a short story in 200- 250 words on the theme - Nothing is Impossible
- Create a diary of your own from the scrap available at home, decorate it and daily write about any virtuous act performed by you.(50 words)
- Read the following chapters from the book MOMENTS:
 - (1) The Happy Prince
 - (2) The Last LeafWrite the message and get most authors wish to convey to the readers and describe one character that fascinates you the most.
- Complete all the chapters of Beehive and Moments that have already been discussed in online classes in Literature Register.

डी0 ए0 वी0 पब्लिक स्कूल बल्लभगढ़
कक्षा-नवमी, विषय-हिन्दी
ग्रीष्मावकाश कार्य

❖ व्याकरण कार्य-

- i. अन, अति, अनु, आ, उप, दुर, परा, प्रति, स्व, ला, वे, हम, उपसर्गों से तीन-तीन शब्दों का निर्माण कीजिए।
- ii. अक्कड़, अन्, आवना, आलु, आहट, आन, आवट, दार, कार, पन, प्रत्ययों से तीन-तीन नए शब्दों का निर्माण कीजिए।
- iii. अपने प्रिय मित्र को पत्र लिखकर कोरोना वायरस के कारण हुए लोकडाउन में घर में किए गए रचनात्मक कार्य व अन्य अनुभवों का विवरण देते हुए पत्र लिखिए।

❖ रचनात्मक कार्य-

- iv. पर्यावरण संरक्षण / जल संरक्षण पर पाँच आकर्षक स्लोगन चित्र सहित लिखिए।
(A-4 शीट पर बनाएं)
- v. उपसर्ग, प्रत्यय अथवा पर्यायवाची शब्दों को आकर्षक आकृति में रचनात्मक व सुन्दर तरीके से बनाइए।

नोट -

- प्रश्न संख्या 1 से 3 तक व्याकरण कार्य कॉपी में करने हैं।
- पढ़ाए गए सभी पाठों को याद करें।



विषय-संस्कृत

1. श्लोकपाठ- परोपकारः/परिश्रमः से सम्बद्ध कोई तीन श्लोक अथवा कोई एक संस्कृत-गीत सस्वर स्मरणार्थ।
2. चित्राधारित वर्णन- नदी अथवा उद्यान में से किसी एक पर पाँच वाक्य संस्कृत में लिखें (सचित्र)।
3. पुस्तक - पाठ 2, 3 और 4 साभ्यास पठन व स्मरण हेतु।
4. व्याकरण- प्रथम सत्र के सभी शब्दरूप, धातुरूप तथा 1 से 100 तक संख्या शब्द स्मरण हेतु।
नोट- उपर्युक्त में से 1 और 2 का कार्य A4 शीट पर अथवा कम्प्यूटर द्वारा सुन्दर ढंग से बनाकर प्रस्तुत करेंगे॥

SOCIAL SCIENCE

- Do Project Work on any one of Disasters i.e. Natural or Manmade Disaster, For e.g. - Flood, Draught, Tsunami, Earthquake, Industrial Accidents & so on

The Project should be of 10-12 pages.

It must be hand written.

Relevant images should be pasted.

- Do following Art Integration Activity in a Scrap Book:
 - a) L-1 Economics
Any five differences between Modern Farming & Traditional Farming (Images with explanation)
 - b) L-2 Eco-Case Study
P-17 Sakal (Minimum 5 Questionnaire should be there)
 - c) L-2 Geography
Any one physical division of India (Brief explanation with relevant pictureS)
- Learn all the lessons done in class for UT

SCIENCE

(PHYSICS) Assignment II

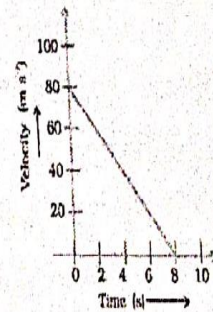
- **Revise chapter 8 motion, chapter 9 from pg 114 to 122 for test after vacations.**
- **Do complete your notebook in all respect**

Ch: Force And Laws Of Motion

1. There are three solids made up of aluminium, steel and wood of the same shape and same volume. Which of them would have highest inertia?
2. Why do passengers jumping out of a rapidly moving bus fall forward with his face downwards, if they do not run forward?
3. A feather of mass 5 g is dropped from a height. It is observed to fall down with a constant velocity. What is the net force acting on it?
4. A bullet fired against a glass window pane makes a hole in it. And the glass pane is not cracked. But on the other hand, when a stone strikes the same glass pane, it gets smashed. Why is it so?
5. Interpret force in terms of momentum. Represent the following graphically:
 - (a) momentum versus velocity when mass is fixed.
 - (b) momentum versus mass when velocity is constant.
6. A hunter has a machine gun that can fire 50 g bullets with a velocity of 150 m/s. A 60 kg tiger springs at him with a velocity of 10 m/s. How many bullets must the hunter fire per second into the tiger in order to stop him in the track?
7. A force of 5 N changes the velocity of a body from 10m/s to 20m/s in 5 second. How much force is required to bring about the same change in 2 second?
8. When a ball is thrown upwards, its momentum first decreases and then increases. Is conservation of linear momentum violated in this process?

9. A motor car of mass 200kg is moving with a certain velocity. It is brought to rest by the application of brakes, within a distance of 20m when the average resistance being offered to it is 500N. What was the velocity of the motor car? ✓

10. Velocity versus time graph of a ball of mass 50 g rolling on a concrete floor is shown in Fig. Calculate the acceleration and frictional force of the floor on the ball.



11. Do action and reaction act on the same body or on different bodies? Explain your answer with the help of example. How are they related in magnitude and direction? Write the total momentum of the gun and the bullet before firing?

12. What will be the percentage change in momentum of a body when both its mass and velocity are doubled?

13. In the adjoining figure the card is flicked with a push.



(a) What do you observe in above case and why?

(b) State the law involved in this case.

(c) What will be your observation if the above coin is replaced by a heavy five rupee coin? Justify your answer.

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

Q15. a) A rocket can move in air free space but a jet plane cannot. Why?

b) Why is the foot of man injured when he hits a stone?

BIOLOGY

- Learn chapter 5 and 6 for test after vacations.
- Do the given assignment in fair copy.

Ch – 6 : Tissues (Assignment 2)

1. What happens to cells formed by meristematic tissue ?
2. If the tip of a sugarcane plant is removed from a field, even then it keeps on growing in length. Why ?
3. A nail is inserted in the trunk of a tree at a height of 1 metre from a ground level. After 3 years, where will the nail be present ?
4. Growth in plant is restricted to certain regions, give reason for this fact. Mention two growth regions in plants.
5. What are stomata? Write about their structure and function?
6. If a potted plant is covered with a glass jar, water vapour appears on the wall of the glass jar. Why ?
7. List the characteristics of cork. How are they formed ? Mention their role.
8. Why are xylem and phloem called complex tissues ? How are they different from each other ?
9. Water hyacinth float on water surface. Explain.
10. State the difference between the tissue of the outer layer of the branch of a tree and the outer layer of a young tree stem.
11. (a) Show the diagrammatic representation of the location of lateral meristem and intercalary meristem in plant body.
(b) Name the meristem responsible for the increase of girth of root or stem.
(c) Write two differences between meristematic and permanent tissues in tabular form.
12. (a) Draw a diagram of epidermis of the leaf showing surface view and label stomata with guard cells and epidermal cells.
(b) Answer the following :
 - (i) How the epidermis of the plants living in very dry habitats is adapted ?
 - (ii) Write functions of guard cells of stomata in the leaf.

13. Describe three functions of the protective tissue in plants.

14. Why is the epidermis present as a thick waxy coating of cutin in desert plants ?

15. Give reasons :

- (a) Meristematic cells have prominent nucleus and dense cytoplasm but they lack vacuoles.
- (b) Intercellular spaces are absent in sclerenchymatous tissues.
- (c) We get a crunchy and granular feeling when we chew pear fruit.
- (d) Branches of tree move and bend freely in high wind velocity.
- (e) It is difficult to pull out the husk of a coconut tree.

CHEMISTRY

1. Read and learn ch-1 & ch-2 (upto solutions , colloid and suspension)taught for a class test.
2. Do all in text qns. Of ch-2 and complete your class notes.
3. Write experiment- 2. To prepare –a true solution , colloid and suspension
Experiment-3. To separate components of a mixture containing salt, sand and ammonium chloride.
In your practical file.
4. Do assignment given, in your chemistry copy.

Assignment-1 CH:Matter in Our Surroundings

- Q.1 Even 2-3 crystals of potassium permanganate can impart colour to a large volume of water which characteristic property of particles of matter is illustrated by this observation?
- Q.2 Which state of matter is characterized by the following properties:
a) A substances with a fixed arrangement of particles.
b) A substances that has large distances between the particles.
- Q.3 Why do we call sponge a solid even it is easily compressible?
- Q.4 What are the two factors responsible for interconversion of matter?
- Q.5 What is diffusion? What are the factors on which rate of diffusion depends.
- Q.6 When a liquid boils, its temperature remains the same, so where does the heat go?
- Q.7 A student spilled a bottle of ammonia in one corner of the laboratory. Soon the whole laboratory was filled with pungent irritating smell. The students immediately opened the windows and doors and switched on the exhaust fans. After sometime, student got relief. Explain what did actually happen?
- Q.8 Carbon dioxide which is a gas under normal conditions of temperature and pressure can be liquefied by compressing it to 70 atm at ordinary temperature. What happens when pressure is suddenly released?
- Q.9 Arrange the particles of the three states of matter:-
a) In order of increasing randomness.
b) Decreasing order of inter particle distances.
- Q.10 How boiling is different from evaporation. Give 2 points.

- Q.11 In a hot summer day, Priyanka & Asha are wearing cotton & nylon clothes respectively . Who would be more comfortable & why?
- Q.12 (a) Name the state of matter in which
(i) Layers of particles can slip and slide over each other
(ii) Particles just move around randomly, because of very weak force of attraction.
(b) List two ways by which a gas can be converted into a liquid.
- Q. 13 Why clothes dry faster when we spread them out.
- Q.14 Differentiate b/w solids, liquids & gases on the basis of- (a) Density b) compressibility
c) K.E d) Shape & volume e) intermolecular forces
- Q.15 Discuss the various factors which affect rate of evaporation. Latent heat of evaporation of two liquids A and B is 100J/kg and 150J/Kg respectively. Which can produce more cooling effect and why?

MATHEMATICS

1. The area of a parallelogram is 392 m^2 . If its altitude is twice the corresponding base, determine the base and height.
2. The adjacent sides of a parallelogram are 36cm and 27cm in length .If the distance between the shorter sides is 12cm, find the distance between the longer sides.
3. A rectangular lawn, 75m by 60m, has two roads, each 4m wide, running through the middle of the lawn, one parallel to length and other parallel to breadth. Find the cost of gravelling the roads at Rs 5.50 per m^2
4. Using Heron's formula, find the area of an equilateral triangle if its side is 'a 'units.
5. Find the percentage increase in the area of a triangle if its each side is doubled.
6. Find the percentage decrease in the area of a triangle if its each side is halved.
7. Find the area of a triangle, two sides of which are 18cm and 10cm and the perimeter is 42cm.
8. Find the area of an equilateral triangle one of whose sides measure 16 cm, using heron's formula.
9. An isosceles triangle has perimeter 30cm and each of the equal sides is 12cm. Find the area of the triangle.
10. Sides of a triangle are in the ratio 12: 17: 25 and its perimeter is 540 cm. Find its area.
11. A rhombus shaped field has green grass for 18 cows to graze. If each side of the rhombus is 30 m and its Longer diagonal is 48 m, how much area of grass field will each cow be grazing
12. Two parallel sides of a trapezium are 60 cm and 77 cm and the other sides are 25 cm 26 cm. find the area of the trapezium
13. Two parallel sides of a trapezium are 120cm and 154cm and other sides are 50cm and 52cm. Find the area of the trapezium
14. The perimeter of a right triangle is 12 cm and its hypotenuse is 5 cm. Find its area.
15. The lengths of two adjacent sides of a parallelogram are 51cm and 37cm and one of its diagonal is 20cm. Find its area.
16. Write seven rational numbers between $\frac{1}{2}$ & $\frac{1}{3}$.
17. Find 5 rational and 5 irrational number between $\frac{3}{4}$ & $\frac{6}{7}$.
18. Find 5 rational and 5 irrational number between $\frac{5}{4}$ & $\frac{2}{5}$.
19. Find 5 rational and 5 irrational number between $\sqrt{5}$ & $\sqrt{6}$.
20. Find 5 rational and 5 irrational number between $\sqrt{13}$ & $\sqrt{17}$.
21. Represent the following rational number in the form of $\frac{p}{q}$ (i) $2.\overline{347}$ (ii) $12.\overline{13}$ (iii) $23.\overline{71}$
(iv) $7.4\overline{167}$ (v) $84.3\overline{24}$

22. Assuming that x, y and z are positive real numbers, simplify the following :

(i) $\left(x^{-\frac{2}{3}} \cdot y^{-\frac{1}{2}}\right)^2$ (ii) $(\sqrt{x})^{-\frac{2}{3}} \sqrt{y^4} \div \sqrt{xy^{-\frac{1}{2}}}$ (iii) $\sqrt[5]{243x^{10}y^5z^{10}}$ (iv)

$\sqrt[3]{xy^2} \div x^2y$ (v) $\sqrt[4]{\sqrt[3]{x^2}}$ (vi) $\frac{\left(\frac{81}{16}\right)^{-\frac{3}{4}} \times \left(\frac{25}{9}\right)^{-\frac{3}{2}} \times \left(\frac{2}{5}\right)^{-3}}{(125)^{\frac{2}{3}} \times (8)^{\frac{4}{3}}}$

23. Simplify : (i) $\frac{3}{5-\sqrt{3}} + \frac{2}{5+\sqrt{3}}$ (ii) $\frac{4+\sqrt{5}}{4-\sqrt{5}} + \frac{4-\sqrt{5}}{4+\sqrt{5}}$ (iii) $\frac{\sqrt{5}-2}{\sqrt{5}+2} - \frac{\sqrt{5}+2}{\sqrt{5}-2}$

(iv) $\frac{3\sqrt{2}-2\sqrt{3}}{3\sqrt{2}+2\sqrt{3}} + \frac{\sqrt{12}}{\sqrt{3}-\sqrt{2}}$ (v) $\frac{7+3\sqrt{5}}{3+\sqrt{5}} - \frac{7-3\sqrt{5}}{3-\sqrt{5}}$ (vi)

$\frac{1}{2+\sqrt{3}} + \frac{2}{\sqrt{5}-\sqrt{3}} + \frac{1}{2-\sqrt{5}}$ (vii) $\frac{2}{\sqrt{5}+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{2}} - \frac{3}{\sqrt{5}+\sqrt{2}}$ (viii)

$\frac{\sqrt{6}}{\sqrt{2}+\sqrt{3}} + \frac{3\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \frac{4\sqrt{3}}{\sqrt{6}+\sqrt{2}}$ (ix) $\frac{5\sqrt{3}+10\sqrt{2}}{\sqrt{32}+\sqrt{72}} - \frac{\sqrt{3}}{\sqrt{8}}$ (x) $\frac{\sqrt{5}+\sqrt{3}}{\sqrt{80}+\sqrt{48}-\sqrt{45}-\sqrt{27}}$

24. If $a = \frac{2-\sqrt{5}}{2+\sqrt{5}}$ and $b = \frac{2+\sqrt{5}}{2-\sqrt{5}}$, find $a^2 - b^2$.

25. . Draw the graph of the equation and find the points where the graph intersect the axis

(i) $x + y = 7$ (ii) $2y + 3 = 9$ (iii) $y - x = 2$ (iv) $3x - 2y = 4$ (v) $x + y - 3 = 0$

26. The equation of x-axis is (a) $x = 0$ (b) $y = 0$ (c) $x = k$ (d) $y = k$

27. 13. Any point on the y-axis is of the form (a) $(x,0)$ (b) $(0,x)$ (c) $(0,y)$ (d) $(y,0)$

28. 14. Draw the graph of the equation $7x + 3y = 12$

29. 15. Find the value of a if $(-1, 1)$ is a solution of the equation $k + 3y = -7$.

30. 16. If $(3,1)$ is a solution of the equation $2k + 3y = -17$. find the value of k.

31. 17. Verify that $x = 2, y = -1$, is a solution of the linear equation $5x + 3y = 7$

32. The taxi fare in a city is as follows: For the first kilometer, the fare is Rs. 8 and for the subsequent distance it is Rs. 5 per km. Taking the distance covered as x km and total fare as Rs. y, writes a linear equation for this information, and draw its graph.

33. The cost of a pen is four times the cost of the pencil. Express the statement in a linear equation in two variables. Also draw its graph.

34. The cost of two pencils is same as cost of 5 erasers. Express the statement in a linear equation in two variables. Also draw its graph.

35. The cost of a toy elephant is same as cost of three balls. Express the statement in a linear equation in two variables. Also draw its graph.

36. The cost of a pen is four times the cost of a pencil express the statement as a linear equation in two variables.

37. Given point P $(3, 4)$. What is the distance of point P from (a) x axis (b) y axis?

38. Plot the points P $(1, 0)$, Q $(4, 0)$ and S $(1, 3)$. Find the coordinate of the point R such that PQRS is a square.

39. Plot the points A (4, 0), B (4, 4) and C (0, 4) on the graph. Join OA, AB, BC, and CO. Name the figure so formed and measure its sides
40. How many axis and quadrants are there in a Cartesian plane?
41. Plot the points on a graph paper: (a) (3, 4) (b) (-2, 3) (c) (-1,-2) (d) (5,-1)
42. Check whether the points (1, 5), (0, 3) lie on the line $y = 3 + 2x$ or not
43. Find the area of the triangle whose vertices are (0, 4), (0, 0) and (2, 0) by plotting them on graph.
44. Find the equation of a line parallel to x – axis at a distance of 2 units below x - axis
45. Find the coordinates of the point
 (a) Which lies on x and y axis both
 (b) Whose ordinate is – 4 and which lies on y axis
 (c) Whose abscissa is 5 and which lies on x – axis
46. Write the coordinates of a point left of y – axis and on y – axis at a distance of 6 units
47. Draw the graph of the equation (a) $y = 3x$ (b) $x = 4$ (c) $y = 5$
48. Give five examples of data that you can collect from day to day life.
49. The blood groups of 30 students of Class VIII are recoded as follows: A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O
 Represent this data in the form of a frequency distribution table. Which is the most common, and which is the rarest, blood group among these students?
50. The relative humidity (in %) of a certain city for a month of 30 days was as follows: 98.1, 98.6, 99.2, 90.3, 86.5, 95.3, 92.9, 96.3, 94.2, 95.1, 89.2, 92.3, 97.1, 93.5, 92.7, 95.1, 97.2, 93.3, 95.2, 97.3, 96.2, 92.1, 84.9, 90.2, 95.7, 98.3, 97.3, 96.1, 92.1, 89
- (i) Construct a grouped frequency distribution table with classes 84 - 86, 86 - 88
- (ii) Which month or season do you think this data is about?
- (iii) What is the range of this data?
51. A study was conducted to find out the concentration of sulphur dioxide in the air in parts per million (ppm) of a certain city. The data obtained for 30 days is as follows:
 0.03, 0.08, 0.08, 0.09, 0.04, 0.17, 0.16, 0.05, 0.02, 0.06, 0.18, 0.20, 0.11, 0.08, 0.12, 0.13, 0.22, 0.07, 0.08, 0.01, 0.10, 0.06, 0.09, 0.18, 0.11, 0.07, 0.05, 0.07, 0.01, 0.04.
- (i) Make a grouped frequency distribution table for this data with class intervals as 0.00 - 0.04, 0.04 - 0.08, and so on. (ii) For how many days, was the concentration of sulphur dioxide more than 0.11 parts per million?
52. If the mean of 2, 4, 6, 8, x, y is 5 then find the value of x+y.
53. Write the class mark of 90-110 group.
54. If the ratio of mean and median of a certain data is 2:3, then find the ratio of its mode and mean.

55. Tally marks are used to find

56. The following marks were obtained by the students in a test. 81, 72, 90, 90, 86, 85, 92, 70, 71, 83, 89, 95, 85, 79, 62

What is the range?

57. In a histogram, each class rectangle is constructed with base as (a) Frequency
(b) class interval (c) range (d) size of the class

58. The mean of 10 numbers is 20, If 5 is subtracted from every number, what will be the new mean.

59. Find the mean of first 10 even natural no.

60. Calculate the mean for the following distribution.

X	5	6	7	8	9
F	4	14	1	1	3