

# PM SHRI KV PERAMBALUR- WINTER BREAK HOME WORK

## CLASS-IX - BIOLOGY

Q. 1.

### **Help the Earth**

**Plant a garden.** Even if you live in a tiny apartment, you can plant tomatoes, herbs, or flowers in a container. Learn how to grow **container plants** that can make a difference for the environment and give you something productive to do with your time.



**In corporate your observation into learning.**

1. Check the apical region of the plants and see how growth happens at the apex of shoot.
2. Check the sprouting leaves and branches from the nodal region of the stem/trunk of a plant.
3. Check out difference in the width of a tree trunk and branches.

Q.2. Make a portfolio on “Natural Resources”.

Q.3 Make a file on “ADVANCEMENT AGRICULTURAL PRACTICES AND FOOD PRODUCTION”

## HINDI

शीतकालीन अवकाश गृह कार्य

1- शीतकालीन अवकाश में विद्यालय में योग प्रशिक्षण शिविर आयोजित करने का अनुरोध करते हुए प्राचार्य को ईमेल लिखिए।

2- निम्न विषयों में से किसी एक पर अनुच्छेद लिखिए प्रिय खेल विद्यालय का वार्षिकोत्सव, पर्यावरण प्रदूषण

3- सच्चा मित्र शीर्षक पर एक लघु कथा लिखिए।

## SANSKRIT

शब्दरूपाणि (मति, अस्मद् , युष्मद्)

## ART EDUCATION

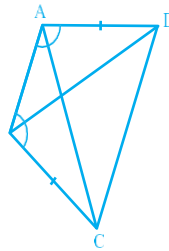
Select any folk art from the link sent and make some improvisation in your drawing copy and colour it. <https://youtu.be/r6XQSfTYZPo?si=MwOu0JOPM--dJfy0>

## MATHS

1. Diameter of the base of a cone is 10.5 cm and its slant height is 12 cm. Find its curved surface area and volume.
2. Curved surface area of a cone is  $308 \text{ cm}^2$  and its slant height is 14 cm. Find
  - (i) radius of the base and volume
  - (ii) total surface area of the cone.
3. The slant height and base diameter of a conical tomb are 25 m and 14 m respectively. Find the cost of white-washing its curved surface at the rate of 210 per  $100 \text{ m}^2$
4. A right triangle ABC with sides 8 cm, 15 cm and 17 cm is revolved about the side 15 cm. Find the volume of the solid so obtained.
5. Twenty-seven solid iron spheres, each of radius 4cm and surface area S are melted to form a sphere with surface area S'. Find the
  - (i) radius R of the new sphere,
  - (ii) ratio of S and S'
6. Use suitable identities to find the following products:
  - (i)  $(3 - 2x)(3 + 2x)$
  - (ii)  $(3x + 4)(3x - 5)$
7. If  $x + y + z = 0$ , show that  $x^3 + y^3 + z^3 = 3xyz$ .
8. Find the value of k, if  $x = 2, y = 1$  is a solution of the equation  $2x + 3y = k$ .
9. Write four solutions for each of the following equations:
  - (i)  $2x + 3y = 16$
  - (ii)  $\pi x + 2y = 9$
  - (iii)  $3x = 4y$
10. Sides of a triangle are in the ratio of 12 : 17 : 25 and its perimeter is 1080cm. Find its area.
11. An isosceles triangle has perimeter 40 cm and each of the equal sides is 14 cm. Find the area of the triangle.

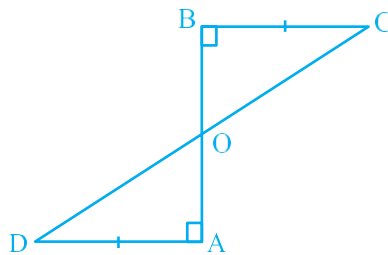
12. ABCD is a quadrilateral in which  $AD = BC$  and angle  $DAB = \text{angle } CBA$  then Prove that

- (i) angle  $ABD = \text{angle } BAC$
- (ii)  $BD = AC$
- (iii) angle  $ABD = \text{angle } BAC$ .



B

AD and BC are equal perpendiculars to a line segment AB. Show that CD bisects AB.



13. prove all given theorems

i) Chords equidistant from the centre of a circle are equal in length.

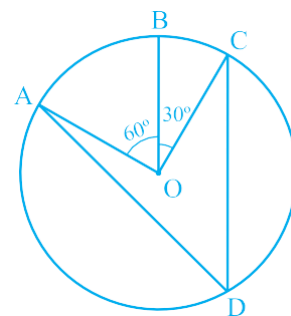
ii) The line drawn through the centre of a circle to bisect a chord is perpendicular to the chord.

iii) The sum of either pair of opposite angles of a cyclic quadrilateral is  $180^\circ$ .

14. Two circles of radii 5 cm and 3 cm intersect at two points and the distance between their centres is 4 cm. Find the length of the common chord.

15. ABCD is a cyclic quadrilateral whose diagonals intersect at a point E. If angle  $DBC = 70^\circ$ , angle  $BAC = 30^\circ$ , find angle  $BCD$ . Further, if  $AB = BC$ , find angle  $ECD$ .

16. A, B and C are three points on a circle with centre O such that angle  $BOC = 30^\circ$  and angle  $AOB = 60^\circ$ . If D is a point on the circle other than the arc ABC, find angle  $ADC$ .



17. Solve question no. 2 (Page no. 52) from your mathematics textbook.

**Prove that :**

18. Two triangles are congruent if two angles and the included side of one triangle is equal to two angles and the included side of another triangle.

19. Angles opposite to equal sides of an isosceles triangle are equal.

### **CHEMISTRY**

1. Write the chemical formula for first twenty elements in periodic table.
2. Make a 3dimensional molecular model for any three elements using clay.

### **ARTIFICIAL INTELLIGENCE**

prepare portfolio on the following topics

1. 4W canvas
2. Smart Home Floor Plan

## PHYSICS

1. Look at the activities listed below. Reason out whether or not work is done in the light of your understanding of the term 'work'.

- Suma is swimming in a pond.
- A donkey is carrying a load on its back.
- A wind-mill is lifting water from a well.
- A green plant is carrying out photosynthesis.
- An engine is pulling a train.
- Food grains are getting dried in the sun.
- A sailboat is moving due to wind energy.

2. An object thrown at a certain angle to the ground moves in a curved path and falls back to the ground. The initial and the final points of the path of the object lie on the same horizontal line. What is the work done by the force of gravity on the object?

3. A battery lights a bulb. Describe the energy changes involved in the process.

4. Certain force acting on a 20 kg mass changes its velocity from 5 m s<sup>-1</sup> to 2 m s<sup>-1</sup>. Calculate the work done by the force.

5. A mass of 10 kg is at a point A on a table. It is moved to a point B. If the line joining A and B is horizontal, what is the work done on the object by the gravitational force? Explain your answer.

6. The potential energy of a freely falling object decreases progressively. Does this violate the law of conservation of energy? Why?

7. What are the various energy transformations that occur when you are riding a bicycle?

8. Does the transfer of energy take place when you push a huge rock with all your might and fail to move it? Where is the energy you spend going?

9. A certain household has consumed 250 units of energy during a month. How much energy is this in joules?

10. An object of mass 40 kg is raised to a height of 5 m above the ground. What is its potential energy? If the object is allowed to fall, find its kinetic energy when it is half-way down.

## SOCIAL STUDIES

### **History**

Choose one revolutionary figure (like Napoleon Bonaparte or Maximilien Robespierre). Prepare a one-page biography with illustrations, focussing on their contributions and controversies.

### **Geography**

#### Map Work

1. Mark the following on a political map of India:

- Major rivers: Ganga, Brahmaputra, Godavari, Krishna
- Mountain ranges: Himalayas, Western Ghats, Eastern Ghats
- Plains: Indo-Gangetic Plain

## Democratic politics

## SOCIAL STUDIES

A. Describe major functions of Election commission?

B. Write difference between general Election and By-Election?

### Note:

1. Complete the holiday homework in A4 sheets.

2. Complete all your classwork notebooks during the winter break.

## ENGLISH

### Part A: Fill in the Blanks (Choose the correct word/form of the verb)

1. He \_\_\_ (run/runs) every morning to stay fit.
2. Neither he nor his friends \_\_\_ (was/were) present at the meeting.
3. She \_\_\_ (has/have) already finished her homework.
4. If I \_\_\_ (am/were) you, I would apologize immediately.
5. The train \_\_\_ (arrive/arrives) at 10 AM daily.

### Part B: Error Spotting (Identify the error and correct it)

6. He did not wrote the letter yesterday.
7. Everyone were excited for the trip.
8. This is the bestest dish I have ever eaten.
9. She has lived here since five years.
10. I prefer tea than coffee.

### Part C: Sentence Transformation

11. Rewrite as directed:

She said, "I am busy." (Change into indirect speech)

The book is so interesting that I couldn't put it down. (Use: too)

### Part D: Combine the Sentences

12. I was tired. I went to bed early.
13. He is honest. He is successful.

### Part E: Correct the Sentences

14. He don't like playing cricket.
15. We are waiting since two hours.
16. The boy which won the race is my cousin.

### Part F: Fill in with Prepositions

17. She is interested \_\_\_ learning French.
18. The cat jumped \_\_\_ the table.
19. He has been working here \_\_\_ 2019.

### Part G: Punctuate the Sentences

20. Where is my book asked Ramesh
21. 2. Prepare a speech in 150 words to present in the REPUBLIC DAY CELEBRATION of your school/Write an article for your school magazine on 'CHILD LABOUR- A CURSE' in about 150 words. (any one) Do in your homework book.