

# SANT KARSHNI PUBLIC SCHOOL

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## SUMMER HOLIDAY HOMEWORK 2024-25

### CLASS- X

#### ENGLISH :

- Life account of any 5 poets from your English text book .
- Write a story on your experience of holidays.

#### MATHS:

- Why the number  $12^n$ , where  $n$  is a natural number, cannot end with 0?
- Why is  $5 \times 7 \times 11 + 7$  is a composite number.
- Find the largest possible positive integer that will divide 398, 436 and 542 leaving remainder 7, 11, 15 respectively.
- Prove that  $\frac{2\sqrt{3}}{5}$  is an irrational number.
- Prove that  $7 - 2\sqrt{3}$  is an irrational number.
- Find the quadratic polynomial whose zeroes are  $2 + \sqrt{3}$  and  $2 - \sqrt{3}$
- Find a quadratic polynomial whose sum and product of zeroes are  $\sqrt{2}$  and 3 respectively.
- Find the zeroes of the polynomial  $mx^2 + (m+n)x + n$ .
- If  $\alpha$  and  $\beta$  are the zeroes of  $2x^2 + 5(x-2)$ .
- If  $\alpha$  and  $\beta$  are zeroes of the quadratic polynomial  $x^2 - (k+6)x + 2(2k-1)$ . Find the value of  $k$  if  $\alpha + \beta = \frac{1}{2}\alpha\beta$
- Solve the following system of linear equations graphically:  $4x - 3y + 4 = 0$ ,  $4x + 3y - 20 = 0$ , calculate the area bounded by these lines and x-axis.
- A two – digit number is 3 more than 4 times the sum of its digit. If 18 is added to the number, the digit exceeds the given number by 9. Find the number.

#### SCIENCE:

##### (PHYSICS)

- A 10 mm long awl pin is placed vertically in front of a concave mirror. A 5 mm long image of the awl pin is formed at 30 cm in front of the mirror. The focal length of this mirror is
  - 30 cm
  - 20 cm
  - 40 cm
  - 60 cm
- Under which of the following conditions a concave mirror can form an image larger than the actual object?
  - When the object is kept at a distance equal to its radius of curvature
  - When an object is kept at a distance less than its focal length
  - When an object is placed between the focus and centre of curvature
  - When an object is



kept at a distance greater than its radius of curvature

3. Magnification produced by a rear-view mirror fitted in vehicles

- (a) is less than one
- (b) is more than one
- (c) is equal to one
- (d) can be more than or less than one depending upon the position of the object in front of it

4. Rays from Sun converge at a point 15 cm in front of a concave mirror. Where should an object be placed so that size of its image is equal to the size of the object?

- (a) 15 cm in front of the mirror
- (b) 30 cm in front of the mirror
- (c) between 15 cm and 30 cm in front of the mirror
- (d) more than 30 cm in front of the mirror

5. A full-length image of a distant tall building can definitely be seen by using

- (a) a concave mirror
- (b) a convex mirror
- (c) a plane mirror
- (d) both concave as well as plane mirror

6. In torches, searchlights and headlights of vehicles the bulb is placed

- (a) between the pole and the focus of the reflector
- (b) very near to the focus of the reflector
- (c) between the focus and centre of curvature of the reflector
- (d) at the centre of curvature of the reflector

7. The laws of reflection hold good for

- (a) plane mirror only
- (b) concave mirror only
- (c) convex mirror only
- (d) all mirrors irrespective of their shape

8. A child is standing in front of a magic mirror. She finds the image of her head bigger, the middle portion of her body of the same size and that of the legs smaller. The following is the order of combinations for the magic mirror from the top.

- (a) Plane, convex and concave
- (b) Convex, concave and plane
- (c) Concave, plane and convex
- (d) Convex, plane and concave

9. Under what condition in an arrangement of two plane mirrors, incident ray and reflected ray will always be parallel to each other, whatever may be the angle of incidence. Show the same with the help of a diagram.

10. Draw ray diagrams showing the image formation by a concave mirror when an object is placed

- (a) between pole and focus of the mirror
- (b) at focus
- (c) between focus and centre of curvature of the mirror
- (d) at the centre of curvature of the mirror
- (e) a little beyond the centre of curvature of the mirror
- (f) at infinity

11. Draw ray diagrams showing the image formation by a convex mirror when an object is placed

- (a) at infinity
- (b) at a finite distance from the mirror

12. Size of the image of an object by a mirror having a focal length of 20 cm is observed to be reduced to  $\frac{1}{3}$ rd of its size. At what distance the object has been placed from the mirror? What is the nature of the image and the mirror?

13. An arrow 2.5 cm high is placed at a distance of 25 cm from a diverging mirror of focal length of 20 cm. Find the nature, position and size of the image formed.

14. A diverging mirror of radius of curvature 40 cm forms an image which is half the height of the object. Find the object and image position.



15. Suppose you want to observe an erect image of a candle flame using a concave mirror of focal length 20 cm. State the range of distance of the candle flame from the mirror. List two other characteristics of the observed image. Draw a ray diagram to show the formation of image in this case.
16. When an object is placed at a distance of 50 cm from a concave spherical mirror, the magnification produced is  $-1/2$ . Where should the object be placed to get a magnification of  $-1/5$ ?
17. The diagram shows a dish antenna which is used to receive television signals from a satellite. The antenna (Signal detector) is fixed in front of the curved dish.



- (a) What is the purpose of the dish?  
 (b) Should it be concave or convex?  
 (c) Where should the antenna be positioned to receive the strongest possible signals?
18. An object placed 20cm in front of a mirror is found to have an image 15cm (a) in front of it, (b) behind the mirror. Find the focal length of the mirror and the kind of mirror in each case.
19. A man holds a spherical shaving mirror of radius of curvature 60cm and focal length 30cm, at a distance of 15cm from his nose. Find the position of image, and calculate the magnification.
20. What is the type of mirror and the nature and position of image formed by the following mirrors if the magnification produced by the mirrors are: -  
 (i) +3 (ii) -2 (iii)  $+1/3$  (v) +1 (vi) -1

### (CHEMISTRY)

1. Read the activities given in Ch-1 NCERT and prepare a 4 minutes video on any one activity based on the activities given or any other innovative activity

OR

Read the topic "How to prepare a natural indicator?". Then prepare the indicator, make the video of checking acidic and basic substances using that indicator Send the prepared video on the teachers' mail id

2. Prepare a presentation/project on the chemical composition of 10 common medicines and edible items. Presentation should in soft copy and mailed on teachers' school id or Project should in hard copy.
3. Read the chapter "Chemical reactions and equations" and "Acids, bases and salts". Prepare 20 questions along with answers (soft copy/hard copy). Soft copy should be mailed on the teachers' school id.

### (BIOLOGY)

1. Select an appropriate diagram from the chapters in your syllabus and draw the well labelled diagram on the chart paper. Prepare a 10 days diet chart of everyday meal mentioning the different sources of all nutrients (Carbohydrates, Fats, Proteins, Vitamins and Minerals)
2. Plant a sapling at your home on World Environment day or any other suitable day. Water it regularly and take images of its regular growth.

OR

Take images of plants/trees at your home along with you. Make images (hard copy)



3. Prepare a presentation/project on "HUMAN DISEASES" (symptoms, prevention, possible treatment along with the names of medicines and precaution to be taken). Presentation should in soft copy and mailed on teachers' school id. Project should in hard copy.

4. Read chapter – Life-processes and make 20 questions along with answers (soft copy/hard copy). Soft copy should be mailed on the teachers' school id.

### **COMPUTER :**

**Solve give questions.**

- i. What is stress?
- ii. What are the types of stress?
- iii. Write symptoms of stress.
- iv. What is meditation?
- v. How does yoga helps to release stress?
- vi. Write your strengths.
- Vii. Write your weakness.
- viii. Solve questions given on page no. 55 in computer book.

### **HINDI :**

1. 'राम-लक्ष्मण परशुराम संवाद' नामक पाठ से परियोजना कार्य फाइल तैयार कीजिए।
2. राम-लक्ष्मण परशुराम संवाद पाठ-2 (काव्य) तथा गद्य पाठ-2 के शब्दार्थ लिखिए एवं याद कीजिए।
3. औपचारिक एवं अनौपचारिक पत्र में अन्तर लिखिए।
4. अलंकार- श्लेष, अतिशयोक्ति, मानवीकरण एवं उत्प्रेक्षा की परिभाषा उदाहरण सहित लिखिए।
5. 'आजादी का महत्व' नामक शीर्षक पर एक अनुच्छेद लिखिए।

### **SST:**

**Serial no. 1 to 5 are short answer type questions. Answer the these questions in about 40-60 words.**

Q1: Why is the issue of sustainability important for development?

Q2: "The Earth has enough resources to meet the needs of all but not enough to satisfy the greed of even one person". How is this statement relevant to the discussion of development? Discuss.

Q3: What is the main criterion used by the World Bank in classifying different countries? What are the limitations of this criterion, if any?

Q4: Why do we use averages? Are there any limitations to their use? Illustrate with your own examples related to development.

Q5: List a few examples of environmental degradation that you may have observed around you.

**Serial no. 6 to 15 are long answer type questions. Answer the these questions in about 100-120 words.**

Q.6: Examine the majoritarian measures implemented by the Sri Lankan government to establish Sinhala supremacy in the country. How did it lead to civil war in Sri Lanka? What was its impact?

Q.7: Analyse the Belgium model of power Sharing.

Q.8: Discuss the various power sharing mechanism of the modern democracies.

Q.9: Analyse the impact of majoritarian measures of the Sri Lankan government on Tamil population of Sri Lanka.

Q.10: "Power is shared among different social groups". Explain with the help of examples.

Q.11: What are the different forms of power sharing in modern democracies? Give an example of each of them.

Q.12: State moral reasons for power sharing with an example from the Indian context.

Q.13: State prudential reasons for power sharing with an example from the Indian context.

Q.14: Discuss the features of horizontal distribution of power. Why is it known as the system of "checks & balances"?

Q.15: "Power sharing is the best way to avoid social conflicts". Evaluate the given statement.



## Part - II

### RESOURCES AND DEVELOPMENT

- Q.1. Which one of the following types of resources is iron ore?  
(a) Renewable (b) Flow (c) Biotic (d) Non-renewable
- Q.2. Which one of the following is the main cause of land degradation in Punjab?  
(a) Intensive cultivation (b) Over irrigation (c) Deforestation (d) Overgrazing
- Q.3. Resource which can be renewed again are:-  
(a) National Resource (b) Potential Resource (c) Renewable Resources (d) Stock
- Q.4. How much percentage of land is plain in India?  
(a) 41 % (b) 45% (c) 43% (d) 47%
- Q.5. Which Soil is known as Black Cotton soil?  
(a) Red Soil (b) Arid Soil (c) Mountain Soil (d) Black Soil
- Q.6. Soil can be Conserved by:-  
(a) Cutting of Trees (b) Over Grazing (c) Planting of Trees (d) Excessive mining
- Q.7: Land degradation due to over irrigation can be seen in the states of:-  
(a) Punjab and Haryana (b) Assam (c) Orissa (d) Mizoram
- Q.8: Which one of the following is an example of Biotic Resource:-  
(a) Rock (b) Mountain (c) Mineral (d) Flora
- Q.9: They are Gifts of Nature which satisfy Human wants:-  
(a) A Commodity (b) a Thing (c) Resources (d) None of Them
- Q.10: Which one of the following is an example of non- renewable resources  
(a) Solar Energy (b) Tidal Energy (c) Petroleum (d) Hydel Energy
- Q.11: On the Basis of ownership resources can be classified into:-  
(a) Two Types (b) Three Types (c) Four Types (d) None of Them
- Q.12: How many Economic zones are there in India?  
(a) Five (b) One (c) Two (d) Ten
- Q.13: Soil is a:-  
(a) Renewable Resource (b) Potential Resource (c) Non- Resource (d) None of them
- Q.14: In which one of the following states is terrace cultivation practised?  
(a) Punjab (b) Haryana (c) Uttar Pradesh (d) Uttaranchal
- Q.15: Which one of the following is the main cause of land and water pollution in India in recent years?  
(a) Industrial Effluents (b) Chemical Fertilizer (c) Deforestation (d) None of them
- Q.16. What are natural resources?
- Q.17. Give examples of human-made resources?
- Q.18. How was black soil formed?
- Q.19. Where are black soils found in India?
- Q.20. Why is conservation of resources necessary?
- Q.21. Name inexhaustible resources of energy?
- Q.22. What is resource development?
- Q.23. What is resource planning?
- Q.24. Classify resources on the basis of origin and availability?
- Q.25. What do you mean by land degradation? How does industry cause land degradation?
- Q.26. What precaution should be taken while using the natural resources?
- Q.27. Which resources demand extra care and why? Give examples?
- Q.28. How soil is the basic resources of agriculture?
- Q.29. Justify the statement, "Resources are a function of human activities".
- Q.30. Explain the classification of resources on the basis of exhaustibility and give two examples each.
- Q.31. Give two examples of renewable resources.
- Q.32. Name three states having black soil and the crop which is mainly grown in it.
- Q.33. What steps can be taken to control soil erosion in the hilly areas?
- Q.34. How are natural resources important for man? Give five points.



- Q.35. What do you understand by "sustainable economic development?"
- Q.36. What is agenda 21?
- Q.37. What type of soil is found in the river deltas of the eastern coast? Give three main features of this type of soil.
- Q.38. How has technical and economic development led to more consumption of resources?
- Q.39. Explain 3 stages of resource planning. State the methods of controlling soil erosion?
- Q.40. Whom did Gandhiji make responsible for the depletion of resources at the global level?
- Q.41. State the geographical factors that are responsible for the evolution of black soil. Why is it considered the most suitable for growing cotton?
- Q.42. What type of soil is found in the river deltas of the eastern coast? Give three main features of this type of soil.
- Q.43. What steps can be taken to control soil erosion in the hilly areas?
- Q.44. How have technical and economic development led to more consumption of resources? Explain how human activities have caused land degradation?
- Q.45. Distinguish between Natural Resources and Cultural Resources?
- Q.45. Distinguish between Renewable and Non-renewable resources.
- Q.45. Distinguish between Re-usable and Non-reusable resources.
- Q.46. Differentiate between Alluvial soil and Black soil.
- Q.47. Differentiate between Khadar soil and Bhangar soil?
- Q.48. What is the role of human being in the process of resources development and management? Why is a resource necessary for human beings?
- Q.49. Why is conservation of resources necessary? Discuss the methods of conservation of soil resources?
- Q.50. What is fallow land? Give two examples showing how it is converted into cultivated land?

**Complete your Holiday Homework in Separate Note Book.**

**Note:- Summer holiday homework is available on school website:- [www.santkarshnipublicschool.in](http://www.santkarshnipublicschool.in) and respective classes whatsapp groups.**