

ROYAL OAK INTERNATIONAL SCHOOL
SR. SEC. CBSE AFFILIATED-531174

HOLIDAY HOMEWORK

2026-27

| Class: IX



New Palam Vihar, Sector 110, Dwarka Expressway, Gurugram, Haryana

8010019161,9312209420,93184 10106

roisggn@gmail.com

www.royaloakinternationalschool.co.in

FOR THE PARENTS

Dear Parents,

As the summer break begins, your role changes from supervisor to mentor. Summer vacation is a critical bridge for consolidating complex academic concepts and developing advanced self-regulation skills.

We request your support in helping them establish a balanced daily routine that accommodates rigorous self-study, research-based project work, and essential downtime. Please encourage independent research and critical thinking, refraining from direct intervention in their assignments. Your strategic guidance will help them build the maturity, accountability, and academic stamina required for the upcoming session and future competitive challenges.

Thank you for your continued cooperation and support.

Instructions for the students:

1. Systematically review all syllabus topics covered in April and May to secure your foundations.
2. Ensure all subject assignments and practical files strictly adhere to the provided marking schemes.
3. Set weekly micro-deadlines across the break to prevent a last-minute rush and low-quality submissions.
4. Execute all research, data collection, and project work independently to build genuine concept mastery.
5. Use diverse academic resources, case studies, and critical problem-solving to elevate your assignment quality.
6. Focus on innovative presentation and unique insights, ensuring your work is entirely free from plagiarism.
7. Maintain an impeccably neat, structured, and professional format suitable for senior-school board evaluations.
8. Dedicate your free time to exploring career interests, reading advanced literature, or learning new technical skills.
9. Manage your screen time intentionally, prioritize physical fitness, and maintain a healthy summer sleep cycle.

Wishing you a productive and enjoyable holiday season!

Regards

TEAM ROIS

Please note the following:

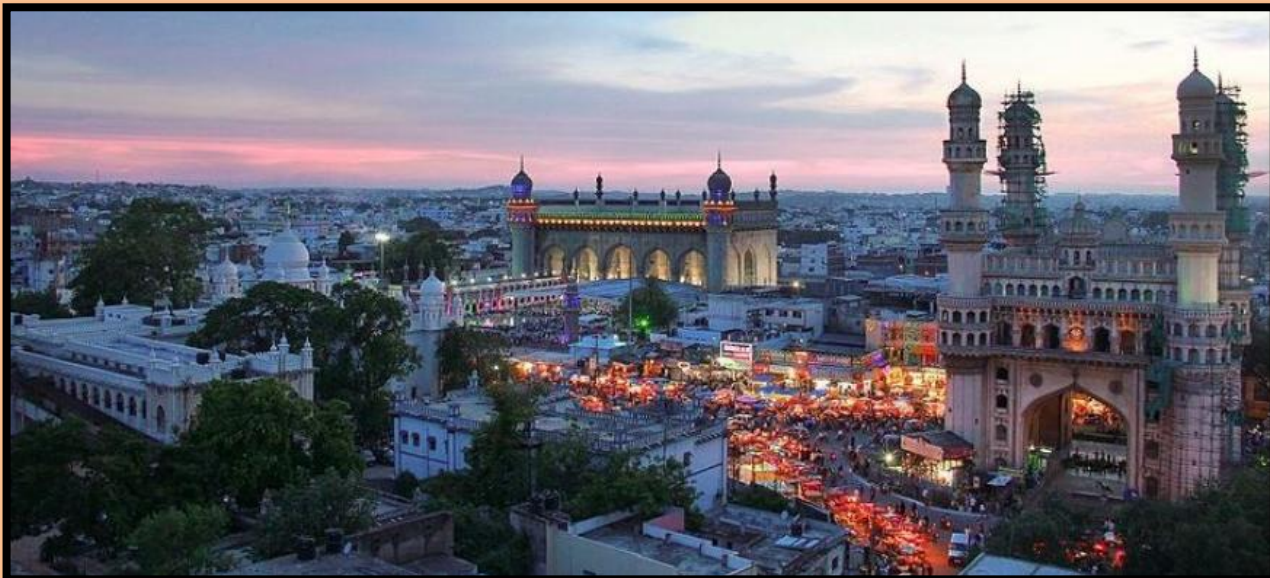
- Summer vacations will commence from 25th May, 2026 till 30th June, 2026, both days inclusive.
- The school will re-open on 1st July, 2026(Wednesday)
- Schedule for the submission of HHW is as follows :

English	:	02/07/2026 (Thursday)
Hindi	:	03/07/2026 (Friday)
Maths	:	06/07/2026 (Monday)
Science	:	07/07/2026 (Tuesday)
S.Sc.	:	08/07/2026 (Wednesday)

- ❖ For AI and SANSKRIT (2nd week of July). Dates will be given in the classes only by the subject teachers.
 - ❖ Summer HHW 5 marks will be added as an Activity marks in Term - I
- Wishing you all a very fruitful and enjoyable vacations.



State: Telangana

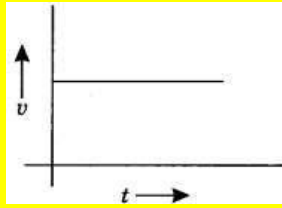


Telangana is a major state in south-central India, officially formed on **June 2, 2014**, as the country's 29th state after separating from Andhra Pradesh. It is a land of profound cultural depth and striking natural beauty, where majestic rivers and ancient granite formations frame a historic landscape. Architectural marvels like the iconic Charminar, Golconda Fort, and the UNESCO-listed Ramappa Temple showcase its rich royal heritage.

<u>SUBJECTS</u>	<u>TOPIC</u>	<u>TYPES OF ACTIVITIES</u>
English	Cultural	<p>1. While visiting Hyderabad, you got an opportunity to explore the famous Charminar during the evening hours. Describe the lively atmosphere, colourful markets, food stalls, sounds, lights and the beauty of the monument at dusk. Use vivid sensory details to make the scene realistic and engaging. (Word Limit: 120–150 words)</p> <p>2. You recently visited Ramoji Film City during your educational tour to Telangana. Write a diary entry describing your exciting experiences of film sets, adventure rides, live shows, gardens and memorable moments spent there. Express your feelings and reactions creatively. (Word Limit: 120–150)</p> <p>Note: Do it in your notebook</p>
Hindi	प्रमुख त्योहार और कलाएँ	तेलंगाना राज्य की सांस्कृतिक एवं ऐतिहासिक पहचान का एक विस्तृत अध्ययन करके तेलंगाना के प्रमुख त्योहार और कलाएँ वहाँ के जन-जीवन के विषय में जानकारी प्राप्त करके सचित्र परियोजना कार्य करें।
Maths	Population and Rainfall	<p>1. Prepare a project on Telangana in scrap book and represent the following points :</p> <p>(i) Make a bar graph of rainfall of last 6 years.</p>

		<p>(ii) Make a pie chart of district population and different languages of Telangana.</p> <p>2. Make the spiral of square root.</p> <p>3. Do 10 questions of the concept "Distance formula".</p> <p>4. Do 10 questions of the concept "Mid point formula".</p> <p>5. Prove that $\sqrt{2}, \sqrt{3}, \sqrt{5},$ and $\sqrt{7}$ is irrational number.</p> <p>6. Revise the syllabus done in the class till now.</p>																
<p>Science</p>	<p>Biodiversity of Telangana ---From Forests to Farms</p>	<p><i>Prepare a scrap book by including the following parameters:</i></p> <ol style="list-style-type: none"> Cover page includes - project title, student details, school and academic year. List of content with page number Certificate Acknowledgement Project Overview Content pages (8 to 10 pages with relevant photographs) Conclusion Bibliography <p><i>Do the given worksheet in fair notebook.</i></p> <p style="text-align: center;"><u>PHYSICS</u></p> <p>Chapter 4: Describing Motion Around Us</p> <ol style="list-style-type: none"> A particle is moving in a circular path of radius r. The displacement after half a circle would be: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">(a) Zero</td> <td style="width: 50%;">(b) πr</td> </tr> <tr> <td>(c) $2r$</td> <td>(d) $2\pi r$</td> </tr> </table> Which of the following is not a scalar quantity? <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">(a) Length</td> <td style="width: 50%;">(b) Speed</td> </tr> <tr> <td>(c) Displacement</td> <td>(d) Distance</td> </tr> </table> The numerical ratio of displacement to distance for a moving object is <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">(a) Always less than 1</td> <td style="width: 50%;">(b) Always equal to 1</td> </tr> <tr> <td>(c) Always more than 1</td> <td>(d) Equal or less than 1</td> </tr> </table> If the displacement of an object is proportional to square of time, then the object moves with <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">(a) Uniform velocity</td> <td style="width: 50%;">(b) Uniform acceleration</td> </tr> <tr> <td>(c) Increasing acceleration</td> <td>(d) Decreasing acceleration</td> </tr> </table> 	(a) Zero	(b) πr	(c) $2r$	(d) $2\pi r$	(a) Length	(b) Speed	(c) Displacement	(d) Distance	(a) Always less than 1	(b) Always equal to 1	(c) Always more than 1	(d) Equal or less than 1	(a) Uniform velocity	(b) Uniform acceleration	(c) Increasing acceleration	(d) Decreasing acceleration
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5. From the given $v - t$ graph, it can be inferred that the object is



- (a) in a uniform motion (b) at rest
 (c) in non-uniform motion (d) moving with uniform acceleration

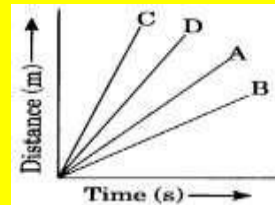
6. Suppose a boy is enjoying a ride on a merry-go-round which is moving with a constant speed of 10 ms^{-1} . It implies that the boy is

- (a) at rest (b) moving with no acceleration
 (c) moving with accelerated motion (d) moving with uniform velocity

7. Area under a V-T graph represents a physical quantity which has the unit:

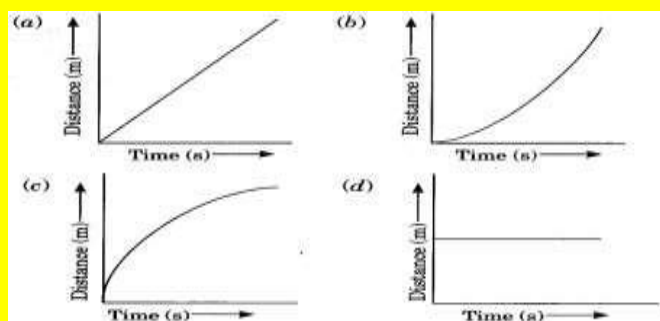
- (a) m^2 (b) m (c) m^3 (d) ms^{-1}

8. Four cars A, B, C and D are moving on a levelled road. Their distance versus time graphs are shown in the figure. Choose the correct statement.



- (a) Car A is faster than car D. (b) Car B is the slowest.
 (c) Car D is faster than car C. (d) Car C is the slowest.

9. Which of the following figures correctly represents uniform motion of a moving object?



10. Slope of a velocity-time graph gives

- (a) the distance (b) the displacement
 (c) the acceleration (d) the speed

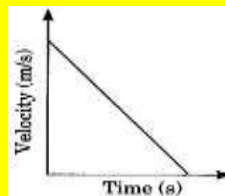
11. In which of the following cases of motions, the distance

- moved and the magnitude of displacement are equal?
- (a) If the car is moving on a straight road
 - (b) If the car is moving in Circular path
 - (c) The pendulum is moving to and fro
 - (d) The earth is revolving around the sun.

12. A boy goes from A to B with a velocity of 20 m/min and comes back from B to A with a velocity of 30 m/min. The average speed of the boy during the whole journey is

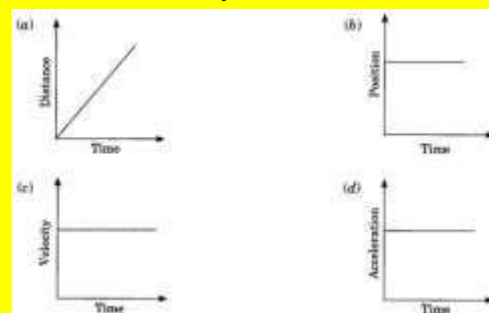
- (a) 24 m/min
- (b) 24 m/s
- (c) Zero
- (d) 20 m/min

13. Velocity-time graph of an object is given below. The object has



- a. Uniform velocity
- (b) Uniform speed
- (c) Uniform retardation
- (d) Variable acceleration

14. Which one of the following graphs shows the object to be stationary?

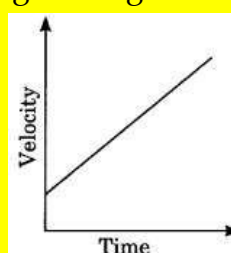


15. A body is projected vertically upward from the ground.

Taking vertical upward direction as positive and point of projection as origin, the sign of displacement of the body from the origin when it is at height 'h' during upward and downward journey will be

- a. Positive, positive
- (b) Positive, negative
- (c) Negative, negative
- (d) Negative, positive

16. According to the given velocity-time graph, the object



- (a) Is moving with uniform velocity

- (b) Has some initial velocity
- (c) Is moving uniformly with some initial velocity
- (d) Is at rest

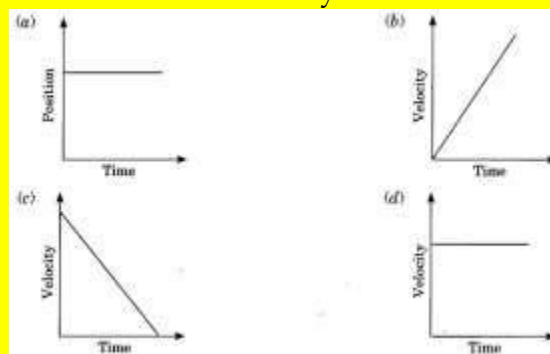
17. The ratio of speed to the magnitude of velocity when the body is moving in one direction is

- (a) Less than one
- (b) Greater than one
- (c) Equal to one
- (d) Greater than or equal to one

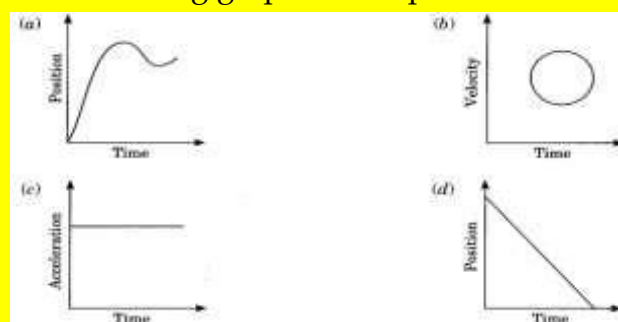
18. Which of the following situations is possible?

- a. An object can have acceleration, but constant velocity.
- b. The velocity of an object may be zero but acceleration is not zero.
- c. Distance and the magnitude of displacement are equal in circular motion.
- d. Average speed and the magnitude of average velocity are always equal in circular motion.

19. A car is moving along a straight road with uniform velocity. It is shown in the graph.



20. Which of the following graphs is not possible?



SOLVE THE FOLLOWING NUMERICALS IN PHYSICS NOTEBOOK

1. A car starts from rest and its velocity reaches 24 m s^{-1} in 6 s. Find the average acceleration and the distance travelled in these 6 s.
2. On entering a state highway, a car continues to move with a constant velocity of 6 m s^{-1} for 2 minutes and then accelerates with a constant acceleration 1 m s^{-2} for 6 seconds. Find the

displacement of the car on the state highway in the 2 min 6 s time interval by drawing a velocity-time graph for its motion.

3. Two cars A and B start moving with a constant acceleration from rest in a straight line. Car A attains a velocity of 5 m s^{-1} in 5 s. Car B attains a velocity of 3 m s^{-1} in 10 s. Plot the velocity-time graphs for both the cars in the same graph. Using the graph, calculate the displacement mentioned in the two time intervals (Hint: Calculate the acceleration in both cases. Then calculate their velocities at five instants of time to plot the graph).
4. A bus is travelling at 36 km h^{-1} when the driver sees an obstacle 30 m ahead. The driver takes 0.5 seconds to react before pressing the brake. Once the brake is applied, the velocity of the bus reduces with constant acceleration of 2.5 m s^{-2} . Will the bus be able to stop before reaching the obstacle?
5. A truck driver driving at the speed of 54 km h^{-1} notices a road sign with a speed limit of 40 km h^{-1} for trucks. He slows down to 36 km h^{-1} in 36 s. What was the distance travelled by him during this time? Assume the acceleration to be constant while slowing down.

CHEMISTRY

Unit: Exploring Mixtures and Their Separation Techniques

Section A - Multiple Choice Questions

Q1. Which of the following is a true solution?

- A. Milk in water
- B. Salt in water
- C. Smoke in air
- D. Chalk powder in water

Q2. The particles of a suspension:

- A. Are invisible to the naked eye
- B. Do not settle down
- C. Scatter light and settle on standing
- D. Pass through filter paper easily

Q3. Which property makes the path of light visible in colloids?

- A. Diffusion
- B. Sublimation
- C. Tyndall effect
- D. Crystallisation

Q4. Which of the following substances can sublime on heating?

- A. Sand
- B. Sugar
- C. Ammonium chloride
- D. Salt

Q5. Crystallisation is mainly used to:

- A. Separate magnetic materials

- B. Obtain pure solid crystals
- C. Separate immiscible liquids
- D. Remove insoluble impurities only

Section B - Assertion & Reason

Q6. Assertion (A): Milk is considered a colloid.

Reason (R): The particles in milk do not settle down on standing.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

Q7. Assertion (A): Suspensions are unstable mixtures.

Reason (R): The particles in suspensions settle down after some time.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

Q8. Assertion (A): Sublimation can separate ammonium chloride from sand.

Reason (R): Ammonium chloride changes directly from solid to vapour on heating.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

Q9. Assertion (A): True solutions do not show the Tyndall effect.

Reason (R): The particles in a true solution are extremely small.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

Q10. Assertion (A): Crystallisation gives purer solids than evaporation.

Reason (R): Impurities remain dissolved in the solution during crystallisation.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

Section C - Case Study Based Questions

Case Study - 1

A student prepared three mixtures:

* Salt in water

* Chalk powder in water

* Milk in water

He passed a beam of light through each mixture and observed whether the particles settled down after some time.

Q11. Answer the following questions:

- Which mixture is a true solution?
- Which mixture is a suspension?
- Which mixture will show the Tyndall effect most clearly?
- Which mixture is a colloid?

Case Study - 2

Mehak heated a mixture of sand and ammonium chloride in a china dish covered with an inverted funnel. After heating, white vapours were formed and later solid deposits appeared near the funnel.

Q12. Answer the following questions:

- Name the process used in this activity.
- Which substance changed directly into vapour?
- Which substance remained behind in the china dish?
- State one characteristic of substances that sublime.

Section D - General Reasoning Questions

Q13. Why are suspensions considered heterogeneous mixtures?

Q14. Why does a true solution appear transparent while a suspension appears cloudy?

Q15. Why is crystallisation preferred over simple evaporation for obtaining pure solids?

Q16. A student says that smoke is not a true solution. Give reasons to support the statement.

Q17. A mixture contains common salt, sand, and ammonium chloride. Explain how ammonium chloride can be separated from the mixture and why this method works.

BIOLOGY

CHAPTER-2 CELL:THE BUILDING BLOCK OF LIFE

Q1 A person takes concentrated solution of salt, after sometime, he starts vomiting. What is the phenomenon responsible for such situation? Explain.

Q2 If you are provided with some vegetables to cook, you generally add salt to the vegetables during the cooking process. After adding salt, vegetables release water. What mechanism is responsible for this?

Q3 Name any cell organelle which is non-membranous.

Q4 Name the organelles which show the analogy written as under

- Transporting channels of the cell-----
- Power house of the cell-----
- Packaging and dispatching unit of the cell – -----
- Digestive bag of the cell-----

		<p>(e) Storage sacs of the cell----- (f) Kitchen of the cell----- (g) Control room of the cell-----</p> <p>Q5 . How does amoeba obtain its food? Q6 Why are lysosomes also known as “scavengers of the cells”? Q7 Which kind of plastid is more common in (a) roots of the plant (b) leaves of the plant (c) flowers and fruits</p> <p>Q8 How are chromatin, chromatid and chromosomes related to each other? Q9 Differentiate between rough and smooth endoplasmic reticulum. How is endoplasmic reticulum important for membrane biogenesis? Q10 . In brief state what happens when (a) dry apricots are left for sometime in pure water and later transferred to sugar solution? (b) a Red Blood Cell is kept in concentrated saline solution? (c) the Plasma membrane of a cell breaks down? (d) rheo leaves are boiled in water first and then a drop of sugar syrup is put on it? (e) golgi apparatus is removed from the cell?</p> <p>Q11 What is the similarity between plastid and mitochondria? Q12 Which type of cell division is required for the growth and repair of the body? Q13 Define Meiosis and its significance. Q14 Why is meiosis called a reduction division? Q15 What are the key differences between Mitosis and Meiosis? Q16 Which disease is caused by an uncontrolled growth of cells?</p>
<p>Social Science</p>	<p>Natural Resources & Climate</p>	<p>Project: Natural Resources & Climate (Comparison of Climate of Haryana vs Telangana)Pages(6-8)</p> <p>a. Major crops grown b. Write a short note on: c. Water conservation methods in both states d. Make a diagram/chart showing differences. e. Locate both states on the political map of India. f. Prepare a comparative table on:</p> <ul style="list-style-type: none"> • Capital • Language • Rivers • Festivals <p>g. Write a short note on: One historical monument from each state.</p>

AI	Ancient manuscripts and Historical Artifacts	<p>1. Cyber Security: "Heritage Guard"</p> <p>Create a Digital Presentation (10 slides) on how modern IT tools and Blockchain could be used to digitise and protect Telangana's ancient manuscripts and historical artifacts.</p> <p>2. "Telangana 2030: The AI Heritage Poster"</p> <p>Create a digital poster that shows a "Fusion" of Telangana's tradition and future technology.</p> <ul style="list-style-type: none"> Take printouts of your work and paste it in your Computer NB
SANSKRIT	संस्कृत तथा ऐतिहासिक इमारते	<p>1. पाठ्यपुस्तक पठन और शब्दार्थ 'शारदा' पाठ्यपुस्तक के प्रथम 2 और 3 अध्यायों को पढ़ें। उनके शब्द अर्थ याद करें।</p> <p>2. श्लोक गायन / लेखन गीता या किसी अन्य नीतिग्रंथ से 5 अच्छे श्लोक लिखें। उनके हिंदी अर्थ लिखें और याद करें। इसे A-4 शीट में तैयार कीजिए।</p> <p>3. संस्कृत में डायरी (Diary Entry) ग्रीष्मकालीन अवकाश के किन्हीं 2 दिनों की दिनचर्या को संस्कृत के छोटे वाक्यों में लिखें। जैसे - अहं विद्यालयं गच्छामि। इसे A-4 शीट में तैयार कीजिए।</p> <p>4. धातु रूप पाँचों लकारों में पठ्, गम्, वद्, भू, क्रीड्, नी, दृश्, शक्, ज्ञा, अस्, कृ, दा, क्री, श्रु, पा याद करें।</p> <p>5. शब्द रूपाणि बालकवत्, कविवत्, अस्मद्, युष्मद् उत्तर पुस्तिका में लिखें और याद करें।</p>
ART & CRAFT	Cheriyal scroll painting	<p>*Need to make a Cheriyal scroll painting in the file by using painting colours ,Brush pens & black gel pen which depicts an art form of Telangana .For Reference :</p> 