

P M SHRI KENDRIYA VIDYALYA TIKAMGARH, BHOPAL REGION Class X MATHEMATICS Holiday Homework for Summer Vacation 2026-27		
General Instructions: 1. This Question Paper has 5 Sections A, B, C, D and E. 2. Section A has 10 MCQs carrying 1 mark each 3. Section B has 4 questions carrying 02 marks each. 4. Section C has 3 questions carrying 03 marks each. 5. Section D has 1 questions carrying 05 marks each. 6. Section E has 2 case based integrated units of assessment (04 marks each) with sub-parts of the values of 1, 1 and 2 marks each respectively.		
QNO	Section A consists of 10 questions of 1 mark each.	MARKS
1	The value of k for which the system of equation $2x + 3y = 5$ and $4x + ky = 10$ has infinite number of solutions, is a) 1 b) 3 c) 6 d) 0	1
2	The LCM of smallest two-digit composite number and smallest composite number is: a) 12 b) 4 c) 20 d) 44	1
3	If one root of the equation $2x^2 + kx + 4 = 0$ is 2, then the other root is a) 6 b) -6 c) -1 d) 1	1
4	The number of polynomials having zeroes as -2 and 5 is (A) 1 (B) 2 (C) 3 (D) more than 3	1
5	The discriminant of the quadratic equation $x^2 - 2x + 2 = 0$ is a) -2 b) 2 c) 4 d) 0	1
6	If $ax^2 + bx + c = 0$ has equal roots, then $c =$ a) $\frac{-b}{2a}$ b) $\frac{b}{2a}$ c) $\frac{-b^2}{4a}$ d) $\frac{b^2}{4a}$	1
7	The pair of equations $x + 2y + 5 = 0$ and $-3x - 6y + 1 = 0$ have (A) a unique solution (B) two solutions (C) infinitely many solutions (D) no solution	1
8	The pair of equations $x = a$ and $y = b$ graphically represents lines which are (A) parallel (B) intersecting at (b, a) (C) coincident (D) intersecting at (a, b)	1
9	Values of k for which the quadratic equation $2x^2 - kx + k = 0$ has equal roots is (A) 0 only (B) 4 (C) 8 only (D) 0, 8	1

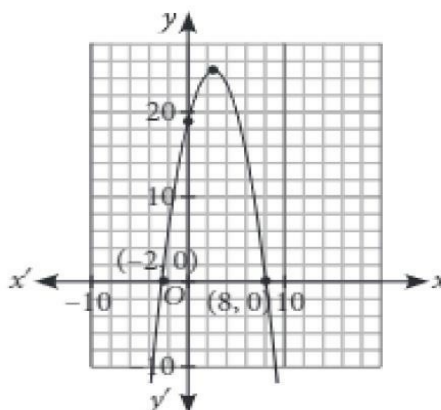
10	<p>DIRECTION: In the question a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct option</p> <p>Statement A (Assertion): If product of two numbers is 5780 and their HCF is 17, then their LCM is 340</p> <p>Statement R(Reason): HCF is always a factor of LCM</p> <p>(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)</p> <p>(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A)</p> <p>(c) Assertion (A) is true but reason (R) is false.</p> <p>(d) Assertion (A) is false but reason (R) is true.</p>	1
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	Section B consists of 4 questions of 2 marks each	
11	Explain why $(17 \times 11 \times 2 + 17 \times 11 \times 5)$ is a composite number?	2
12	Find two numbers whose sum is 27 and product is 182.	2
13	Given that $\text{HCF}(306, 657) = 9$, find $\text{LCM}(306, 657)$.	2
14	If the roots of the equation $(a-b)x^2 + (b-c)x + (c-a) = 0$ are equal, prove that $2a = b+c$.	1
	Section C consists of 3 questions of 3 marks each	
15	Prove that $\sqrt{3}$ is irrational.	3
16	Find the zeroes of the polynomial $x^2 + 5x + 6$, and verify the relation between the coefficients and the zeroes of the polynomial.	3
17	Meena went to a bank to withdraw Rs. 2000. She asked the cashier to give her Rs.50 and Rs.100 notes only. Meena got 25 notes in all. Find how many notes of Rs. 50 and Rs.100 she received.	3
	Section D consists of 1 question of 5 marks each	

18		5
	<p>BACKGROUND</p> <p>Small scale industries (SSI): Small scale industries (SSI) are those industries in which manufacturing, providing services, productions are done on a small scale or micro scale. For example, Agarbatti making, Chalk making, Biodiesel production, Sugar candy manufacturing, Wood making, Rice mill, Potato chips making, Toy making, Microbrewery, Liquid soap making, Honey processing etc. Small scale industries play an important role in social and economic development of India. A small-scale industry produces a certain packet of Agarbatti in a day. Number of Agarbatti packets prepared by each worker on a particular day was 3 more than twice the number of workers working in the industry. The number of Agarbatti packets produced in a particular day was 90.</p>	
	<p>FIGURE</p> 	
	<p>QUESTION-I</p> <p>If the number of workers working in the industry is x, what was the number of Agarbatti packets produced by each worker on that particular day?</p> <p>a) $2(x + 3)$ b) $2x + 3$ c) $3(x + 2)$ d) <i>None of these</i></p>	
	<p>QUESTION-II</p> <p>The quadratic equation representing the above situation is:</p> <p>a) $2x^2 + 3x + 90 = 0$ b) $2x^2 + 3x - 90 = 0$ c) $3x^2 + 2x - 90 = 0$ d) $3x^2 + 2x + 90 = 0$</p>	
	<p>QUESTION-III</p> <p>The nature of roots of the above Quadratic equation are</p> <p>a) Real and distinct roots b) Real and equal roots c) No real roots d) Can't be determined</p>	
	<p>QUESTION-IV</p> <p>Number of workers working in the industry is</p> <p>a) 10 b) 8 c) 6 d) None of these</p>	
		1
		1
		1
		2

SECTION E

- 19 Priya and her husband Aman who is an architect by profession, visited France. They went to see Mont Blanc Tunnel which is a highway tunnel between France and Italy, under the Mont Blanc Mountain in the Alps, and has a parabolic cross-section. The mathematical representation of the tunnel is shown in the graph.



I) Find the zeroes of the polynomial whose graph is given, are

II) What will be the expression of the polynomial given in diagram?

III) What is the value of the polynomial, represented by the graph, when $x = 4$?

1
2
1

20. To enhance the reading skills of grade X students, the school nominates you and two of your friends to set up a class library. There are two sections – section A and section B of grade X. There are 32 students in section A and 36 students in section B.

Based on the above information answer the following:

- What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of section A or section B?
- Express 36 as a product of its primes.
- Find HCF(32, 36)

2

1

1

SUMMER HOLIDAY HOMEWORK
CLASS-10th (Bio)

1. Write down the all practical of biology (Science) in practical notebook.
2. Write down the all notes in biology notebook of chapter Life process.
3. Solve the question paper of monthly test April in biology notebook.
4. Solve the previous year's board questions of chapter Life Process.
5. Draw all Labeled diagram of chapter life process.

Subject Teacher- G.D. Rai (PGT BIO)

PM SHRI KENDRIYA VIDYALAYA TIKAMGARH
CLASS – 10 A / B (2026 – 27)
 SUMMER VACATION HOLIDAY HOMEWORK
 SUBJECT – SCIENCE (PHYSICS)

1	<p>ACTIVITY – CHART MAKING</p> <p>Prepare the chart and explain the given topic with proper diagram and illustrations.</p> <p>Roll no 1 to 10 --- Describe the reflection phenomenon and Laws of reflection.</p> <p>Roll no 11 to 20 --- Describe the image formation by spherical mirrors.</p> <p>Roll no 21 to 30 --- Describe the refraction phenomenon and Laws of refraction.</p> <p>Roll no 31 to 40 --- Describe the refractive index (absolute and relative) and various expressions.</p>	
2	<p>Activity</p> <p>Take a large shining spoon. Try to view your face in its curved surface. Do you get the image? Is it smaller or larger?</p> <p>Move the spoon slowly away from your face. Observe the image. How does it change? Reverse the spoon and repeat the Activity. How does the image look like now?</p> <p>Compare the characteristics of the image on the two surfaces.</p>	
3	<p>Activity</p> <p>CAUTION: Do not look at the Sun directly or even into a mirror reflecting sunlight. It may damage your eyes.</p> <p>Hold a concave mirror in your hand and direct its reflecting surface towards the Sun. Direct the light reflected by the mirror on to a sheet of paper held close to the mirror. Move the sheet of paper back and forth gradually until you find on the paper sheet a bright, sharp spot of light. Hold the mirror and the paper in the same position for a few minutes.</p> <p>What do you observe? Why?</p>	
4	<p>a) Find the focal length of a convex mirror whose radius of curvature is 32 cm.</p> <p>b) A concave mirror produces three times magnified (enlarged) real image of an object placed at 10 cm in front of it. Where is the image located?</p>	
5	<p>a) A convex mirror used for rear-view on an automobile has a radius of curvature of 3.00 m. If a bus is located at 5.00 m from this mirror, find the position, nature and size of the image.</p> <p>b) An object, 4.0 cm in size, is placed at 25.0 cm in front of a concave mirror of focal length 15.0 cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? Find the nature and the size of the image.</p>	

Holiday Homework – Class 10 Science

Section B: Chemistry

1. Chemical Reactions & Equations

- Write and balance any 5 chemical equations from daily life.
- Identify their type.

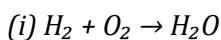
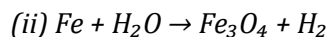
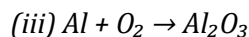
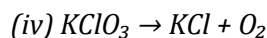
2. What is a chemical reaction?

3 Define oxidation.

4. What is a combination reaction? Give example.

5. Explain displacement reaction with example.

6. Balance the following equations:



6. Why is respiration considered an exothermic reaction?

7. Difference between exothermic and endothermic reactions with examples.

8. When magnesium ribbon is burnt, it forms white ash. Answer:

(a) Name the product formed.

(b) Write the balanced equation.

(c) Type of reaction?

9. write any two activities related with decomposition reaction.

10. What is a redox reaction? Explain with example.

PM SHRI KENDRIYA VIDHYALAYA TIKAMGARH

Summer break - Holiday Homework

Artificial Intelligence (417)

Class -10

1. Complete both the Units in your notebook.
2. Solve the question paper of monthly test (April) in your notebook.
3. Draw Communication cycle (boys) & AI project cycle (girls) in A4 size paper.
4. Vocabulary Building:
Define — Machines learning, Deep learning, NLP, Computer vision, types of feedback.
5. Write a letter to your future self about how AI will change your life.

पी० एम० श्री केन्द्रीय विद्यालय, टीकमगढ़

कक्षा - 10

ग्रीष्मकालीन अवकाश गृहकार्यम्

विषय - संस्कृत

- 1) 10-10 पत्रलेखनस्य अभ्यासं कुरुत ।
- 2) प्रत्ययः सन्धिः च अभ्यासं कृत्वा 15-15 उदाहरणानि लिखत ।
- 3) परोपकारेण विधया सम्बन्धित 5-5 श्लोकं लिखित्वा कठोरार्थं कुरुत ।
- 4) अव्ययपदानि लिखित्वा तेषां प्रयोगं कृत्वा 10-10 उदाहरणानि लिखत ।
- 5) अन्वयस्य अभ्यासं कुरुत ।

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PM SHRI KENDRIYA VIDYALAYA, TIKAMGARH

Holiday Homework- summer Break

2025-26

CLASS X

Subject- English

Summer break is for the students to relax and rejuvenate themselves. It is hoped that you find the following assignment an interesting learning exercise.

1. Design the first page of your assignment as your portfolio which should have the following details:
 - a) Name, class & section
 - b) Passport sized latest photograph
 - c) Self-introduction in 50 words
2. Reading Challenge:
Read the lessons of the supplementary reader- Footprints without Feet and attempt the MCQs- link will be shared in the class group. Also write the descriptive answers in the fair notebook.
3. Watch the following two movies (in English). **You will have to fill in a questionnaire when you come back to school after the break.**
 - a) Mr. Popper's Penguins (released in 2011, Director- Mark Waters)
 - b) Matilda (released in 1996, Director-Danny Devito)
4. After reading lessons from your supplementary reader, which character did you like the most? Describe this character in about 100 words.

Points to Remember:

- a) Holiday homework should be done in the grammar notebook.
- b) Do your work neatly and creatively.
- c) Make your assignment attractive with illustrations.
- d) This assignment carries 10 marks. These marks will be added in the final Internal assessment scores.