

ENGLISH

1. Write an E-Mail to your friend living in Australia describing your celebration of Diwali in your hometown.
2. Write an article for the school magazine highlighting the different types pollution in your area and the reasons and measures to curtail them.
3. Write a letter to your friend describing the celebration of diwali.
4. Write a letter to the Editor of a daily newspaper to publish your views regarding the increase in the no. of road accidents in your vicinity giving reasons and ways to reduce them.
5. Write a story of your own on any incident of your life or your family that happened in the past.(150 words)
6. Write and learn the Qtn. Answers & Exercises of the chapters taught to you from Lit. Book.
7. Read and solve all the exercises of passages given in the M. C. Book of units 4-6.
8. Solve the Exercises of units 8-10 from your Work Book and practice more examples regarding those chapters.
9. Read and write the exercises of the Novel 'The story of my life' by Helen Keller S.A. 2 portion.

HINDI

१. अनुच्छेद लिखो — ८०से१०० शब्दों में
मेरा भारत महान , त्योहारों का महत्त्व , बढ़ती जनसंख्या , कैशलेस भारत, कंप्यूटर
२. औपचारिक पत्र लिखो —
 - वन विभाग द्वारा लगाए गए पौधों की दुर्दशा पर चिंता व्यक्त करते हुए संपादक को पत्र
 - डैंगू की रोक -थाम हेतु जिलाधिकारी को पत्र।
 - अपने क्षेत्र में पुस्तकालय खोलने की प्रार्थना करते हुए शिक्षा विभाग के सचिव को पत्र
३. संवाद लिखो —
 - अवकाशकालीन योजना को लेकर दो छात्रों के बीच ।
 - बढ़ रहे प्रदूषण को लेकर दो मित्रों के बीच ।
 - धूम्रपान स्वास्थ्य के लिए हानिकारक विषय पर दो दोस्तों के बीच ।
४. विज्ञापन प्रस्तुतीकरण —
 - दीवाली पर विशेष छूट के साथ ए.सी ।
 - एक विशेष कंपनी की चाय की बिक्री के लिए ।
 - खिलौनों की बिक्री के लिए एक आकर्षक विज्ञापन तैयार करो ।
५. सूचना लिखो —
 - विद्यालय के स्वच्छता अभियान में शामिल होने हेतु।
 - हॉकी मैच में सबको आमंत्रित करते हुए ।
 - हिंदी दिवस उद्घाटन समारोह में सबको आमंत्रित करते हुए ।
६. गिरगिट पाठ के प्रश्न-उत्तर लिखो ।
७. सपनों के से दिन कहानी को पढ़ो ।

ODIA

1. Write all Question and answers of lessons :-
 - I. Kaliyugara Samapti. (Story)
 - II. Managobindanka Mohanta (poem)
 - III. Raghabanka Lanka Yatra (poem)
 - IV. Chilikare Sayantana (poem)

- V. Janmabhumi (prose)
- VI. Matrubaahsa O' Lokobhasa (prose)
- VII. Chanda / Alankara (grammar)
- VIII. Rudhi / Lokobani (grammar)
- IX. Bakya / Paragraphs (grammar)
- X. Kriya and Types of Bakya (grammar)

☆ Write all given essays, letters and applications

MATHEMATICS

Sample Paper (2017 - 2018)

SECTION - A

1. If -4 is a zero of the polynomial $x^2 - x - (2k + 2)$ then find the value of k .
2. Express 5005 as a product of its prime factors.
3. Given the linear equation $2x + 3y - 8 = 0$, write another linear equation in two variables such that the geometrical representation of the pair so formed is coincident lines.
4. The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, find the other.

SECTION - B

5. Find the zeroes of $4x^2 + 5x - 2$ and verify the relationship between its zeroes and coefficients.
7. Use Euclid's algorithm to find the HCF of 272 and 1032.
8. Check whether 6^n can end with the digit 0 for any natural number n .

SECTION - C

9. If one zero of the polynomial $f(x) = (k^2 + 4)x^2 + 13x + 4k$ is reciprocal of the other, then find the value of k .
10. On dividing $x^3 - 3x^2 + x + 2$ by a polynomial $g(x)$, the quotient and remainder were $x - 2$ and $-2x + 4$, respectively. Find $g(x)$.
11. Find the values of a and b for which the following pair of linear equations have an infinite number of solutions:
 $2x + 3y = 7$
 $(a - b)x + (a + b)y = 3a + b - 2$.

SECTION - D

13. A woman has 60 notes in all of ₹ 10 and ₹ 20 denominations. If the total worth of the notes is ₹ 850, find out how many notes of each kind does she have.
14. If the polynomial $x^4 - 6x^3 + 16x^2 - 25x + 10$ is divided by another polynomial $x^2 - 2x + k$, the remainder comes out to be $x + a$, find k and a .
15. A train covered a certain distance at a uniform speed. If the train would have been 10 km/hr faster, it would have taken 2 hours less than the scheduled time. And, if the train were slower by 10 km/hr; it would have taken 3 hours more than the scheduled time. Find the distance covered by the train.

16. a) Without actual division, show that $625/17$ has a terminating decimal expansion. Also express.

CH. 1, REAL NUMBERS, CH.2. Polynomials

1. Using Euclid's division algorithm, find the HCF of (i) 81 and 231 (ii) 155 and 1385.
2. Show that $n^2 - 1$ is divisible by 8, if n is an odd +ve integer.
3. For positive integers x and y , $x^2 + y^2$ is even but not divisible by 4.
4. Show that the square of any +ve integer of the form $5q+1$ is of the same form.
5. If d is the HCF of 56 and 72, find x and y satisfying $d=56x+72y$.
6. Find HCF and LCM of 145 and 435. Also verify that $HCF(145,435) \times LCM(145, 435) = 145 \times 435$.

7. The HCF of two nos. is 16 and their product is 3072. Find their LCM.
8. Find the smallest no. which leaves the remainders 8 and 12 when divided by 28 and 32 respectively.
9. Find the largest +ve integer that will divide 398, 436 and 542 leaving remainders 7, 11 and 15 respectively.
10. Find the HCF and LCM of (i) 40, 36, 126 (ii) 24, 15, 36.
11. Prove that $\sqrt{5}$ and $\sqrt{7}$ are not rational numbers.
12. Prove that (i) $5 + 2\sqrt{3}$ (ii) $\sqrt{7}$ (iii) $\sqrt{2} + \sqrt{3}$ are irrational numbers.
13. Without actually performing division, check whether the decimal expansion of the following numbers are terminating or non-terminating: (i) $\frac{25}{686}$ (ii) $\frac{17}{15625}$.
14. Find the zeroes of the polynomial $4\sqrt{3}x^2 + 5x - 2\sqrt{3}$ and verify the relationship between the zeroes and coefficients.
15. Find a quadratic polynomial, the sum and the product of whose zeroes are $\sqrt{2}$ and $-\frac{1}{\sqrt{2}}$.
16. If α and β are the zeroes of $p(x) = ax^2 + bx + c$, then evaluate (i) $\alpha^2 + \beta^2$ (ii) $1/\alpha + 1/\beta$ (iii) $\beta/\alpha + \alpha/\beta$.
17. If α and β are the zeroes of $p(x) = 6x^2 + x - 2$, then evaluate (i) $\alpha + \beta$ (ii) $\alpha^2 + \beta^2$ (iii) $1/\alpha + 1/\beta$ (iv) $\beta/\alpha + \alpha/\beta$ (v) $1/\alpha + 1/\beta - 2/\alpha\beta$.
18. If 2 & -3 are the zeroes of a quadratic polynomial, then find the polynomial.
19. For the polynomial $p(x) = 3x^3 - 5x^2 + 2x - 24$ and α, β and γ are the zeroes, then find the value of (i) $\alpha + \beta + \gamma$ (ii) $\alpha\beta\gamma$ (iii) $\alpha\beta + \beta\gamma + \gamma\alpha$.
20. Find a cubic polynomial whose zeroes are 2, -3 and 5.
21. Find all zeroes of $x^4 + x^3 - 34x^2 - 4x + 120$, if its two zeroes are 2 and -2.
22. Ten students of class IX took part in Maths. quiz. The number of girls is 4 more than the number of boys. Represent this situation algebraically and graphically.
23. Solve algebraically and graphically: $x + y = 3$ and $3x - 2y = 4$. Also find the area bounded by these two lines and X-axis.
24. Solve $2x + 3y = 9$ and $3x + 4y = 5$ by using elimination and substitution methods.
25. Solve the system of linear equations $2x - y = 6$ and $x - y = 2$ by cross-multiplication method.
26. Find the value of k, for which the system of equations $2x + 5y = 5$ and $6x + ky = 15$ has a unique solution.
27. Solve: $3x - 1y = -9$, $2x + 3y = 5$ by reducing method.
28. Solve $x + y = 2xy$, $x - y = xy = 6$.
29. Solve: $152x - 378y = -74$, $-378x + 152y = -604$.
30. Solve $a^2x - b^2y = a^2b + ab^2$, $ax - by = 2ab$.

CHAPTER 5

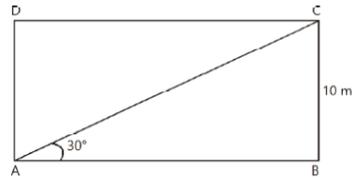
TRIGONOMETRY

VERY SHORT ANSWER TYPE QUESTIONS

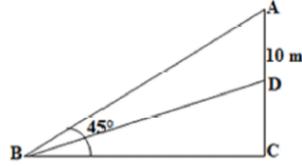
1. If $\sin \theta = \cos \theta$, find the value of θ .
2. If $\tan \theta = \cot (30^\circ + \theta)$, find the value of θ .
3. If $\sin \theta = \cos (\theta - 6^\circ)$, find the value of θ .
4. If $\cos A = \frac{7}{25}$, find the value of $\tan A + \cot A$.
5. If $\tan \theta = \frac{4}{3}$ then find the value of $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta}$.
6. If $3x = \operatorname{cosec} \theta$ and $\frac{3}{x} = \cot \theta$ then find $3\left(x^2 - \frac{1}{x^2}\right)$.
7. If $x = a \sin \theta$ and $y = a \cos \theta$ then find the value of $x^2 + y^2$.
8. Find the value of $\operatorname{cosec} 70^\circ - \sec 20^\circ$.
9. If $5x = \sec \theta$ and $\frac{5}{x} = \tan \theta$ then find the value of $5\left(x^2 - \frac{1}{x^2}\right)$.

32. If $\tan \theta + \sin \theta = m$, $\tan \theta - \sin \theta = n$ then show that $m^2 - n^2 = 4\sqrt{mn}$.
33. If $\sec \theta = x + \frac{1}{4x}$, prove that $\sec \theta + \tan \theta = 2x$ or $\frac{1}{2x}$.
34. If $\sin \theta + \sin^2 \theta = 1$, prove that $\cos^2 \theta + \cos^4 \theta = 1$.
35. Without using trigonometric table, find the value of $\cot \theta \tan (90 - \theta) \sec (90 - \theta) \operatorname{cosec} \theta + \sin^2 65^\circ + \sin^2 25^\circ + \sqrt{3} \tan 5^\circ \tan 85^\circ$.
36. Prove that : $\frac{\cot(90-\theta)}{\tan \theta} + \frac{\operatorname{cosec}(90-\theta)\sin \theta}{\tan(90-\theta)} = \sec^2 \theta$
37. Find the value of : $\frac{\cos 20^\circ + \cos^2 70^\circ}{\sec^2 50^\circ - \cot^2 40^\circ} + 2 \operatorname{cosec}^2 58^\circ - 2 \cot 58^\circ \tan 32^\circ - 4 \tan 13^\circ \tan 37^\circ \tan 77^\circ \tan 45^\circ \tan 53^\circ$
38. If A, B, C are the angle of ΔABC then prove that $\operatorname{cosec}^2\left(\frac{B+C}{2}\right) - \tan^2 \frac{A}{2} = 1$
39. Find the value of $\sec^2 10^\circ - \cot^2 80^\circ + \frac{\sin 15^\circ \cos 75^\circ + \cos 15^\circ \sin 75^\circ}{\cos \theta \sin(90-\theta) + \sin \theta \cos(90-\theta)}$
40. Prove that : $\frac{\tan \theta - \cot \theta}{\sin \theta \cos \theta} = \tan^2 \theta - \cot^2 \theta$
- Prove that : (Q. 41 to Q. 44)**
41. $\frac{\sec \theta + \tan \theta - 1}{\tan \theta - \sec \theta + 1} = \frac{\cos \theta}{1 - \sin \theta}$
42. $\left(1 + \frac{1}{\tan^2 \theta}\right)\left(1 + \frac{1}{\cot^2 \theta}\right) = \frac{1}{\sin^2 \theta - \sin^4 \theta}$
43. $2(\sin^6 \theta + \cos^6 \theta) - 3(\sin^4 \theta + \cos^4 \theta) + 1 = 0$.
44. $(1 + \cot A + \tan A)(\sin A - \cos A) = \sin A \tan A - \cot A \cos A$.
45. If $\sin \theta + \cos \theta = m$ and $\sec \theta + \operatorname{cosec} \theta = n$ then show that $n(m^2 - 1) = 2m$
46. Find the value of :

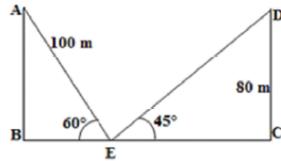
5. In the given figure find the perimeter of rectangle ABCD.



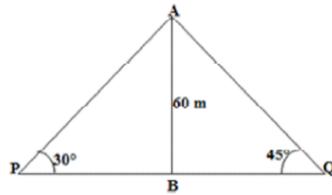
6. The length of the shadow of a pillar is $\sqrt{3}$ times its height. Find the angle of elevation of the source of light.
 7. In the figure, find the value of DC.



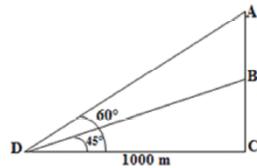
8. In the figure, find the value of BC.



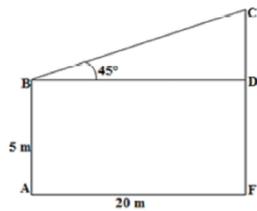
9. In the figure, two persons are standing at the opposite direction P & Q of the tower. If the height of the tower is 60 m then find the distance between the two persons.



10. In the figure, find the value of AB.



11. In the figure, find the value of CF.



12. If the horizontal distance of the boat from the bridge is 25 m and the height of the bridge is 25 m, then find the angle of depression of the boat from the bridge.

SHORT ANSWER TYPE QUESTIONS

13. From the top of a hill, the angles of depression of two consecutive kilometre stones due east are found to be 30° and 45° . Find the height of the hill.
 14. The string of a kite is 150 m long and it makes an angle 60° with the horizontal. Find the height of the kite above the ground. (Assume string to be tight)
 15. The shadow of a vertical tower on level ground increases by 10 m when the altitude of the sun changes from 45° to 30° . Find the height of the tower.
 16. An aeroplane at an altitude of 200 m observes angles of depression of

PHYSICS

Answer the following questions.

1. Calculate the number of electrons constituting one coulomb charge.
2. On what factors does the resistance of a conductor depend?
3. Why are coils of electric toasters and electric irons made of an alloy rather than a pure metal?
4. How can three resistors of resistances 2ohm, 3 ohm and 6ohm be connected to give a total resistance of (a) 4ohm and (b) 1ohm?
5. Define Fleming's left hand rule.
6. Explain different ways to induce current in a coil.
7. A wire of length L and resistance R is stretched so that its length is doubled and the area of cross-section is halved. How will its (a) resistance, (b) resistivity change
8. What are fossil fuels? Name any three fossil fuels.
9. Two conducting wires of same material and of equal length and equal diameters are
10. First connected in series and then in parallel in a circuit across the same potential difference. Find the ratio of heat produced in series and parallel combination.
11. Describe the principle and working of an electric generator with the help of a diagram.
12. Answer the PT2 PHYSICS questions.

CHEMISTRY

1. Read the following passage and answer the given questions.

Compound of Carbon and Hydrogen are called hydro carbons.

Saturated Hydro carbons: (Between carbon atoms only single bonds are present)

Saturated hydrocarbons are known as Alkane. Their common formula are $C_n H_{2n+2}$

CH_4	-Methane	C_6H_{14}	-Hexane
C_2H_6	- Ethane	C_7H_{16}	-Heptane
C_3H_8	-Propane	C_8H_{18}	-Octane
C_4H_{10}	-Butane	C_9H_{20}	-Nonane
C_5H_{12}	-Pentane	$C_{10}H_{22}$	-Decane

Unsaturated Hydrocarbons are known as Alkene or Alkyne.

Alkene – Common formula is $C_n H_{2n}$

C_2H_4	- Ethene	C_7H_{14}	-Heptene
C_3H_6	-Propene	C_8H_{16}	-Octene
C_4H_8	-Butene	C_9H_{18}	-Nonene
C_5H_{10}	-Pentene		
C_6H_{12}	-Hexene		

Alkyne - Common formula is $C_n H_{2n-2}$

C_2H_2	- Ethyne	C_7H_{12}	-Heptyne
C_3H_4	-Propyne	C_8H_{14}	-Octyne
C_4H_6	-Butyne	C_9H_{16}	-Nonyne
C_5H_8	-Pentyne		
C_6H_{10}	-Hexyne		

Now answer the following questions.

1. What are hydrocarbons?
2. Write the chemical formula of Butene.
3. Classify the following hydrocarbons as Alkane, Alkene or Alkyne.
 $C_{12}H_{24}$, $C_{15}H_{32}$, $C_{11}H_{20}$, $C_{25}H_{52}$, $C_{17}H_{32}$, $C_{13}H_{26}$
4. Write chemical formula for the following
 - a) Hexene
 - b) Ethane
 - c) Propyne
5. What is the common name of saturated hydrocarbons?
6. Write common names of unsaturated hydrocarbons.

Read the following passage and answer the given questions.

A group of elements having specific structure when attached to hydrocarbons gives a special properties to the compound. Such group of elements is called functional group.

Now answer the following questions.

Alcohol	-OH
Aldehyde	-CHO
Carboxylic acid	-COOH
Ester	-COO-
Ketone	-CO-

7. Name the functional group present in the following compounds.
 1. CH_3COOH
 2. C_2H_5OH
 3. $HCHO$
 4. $CH_3COOC_2H_5$
 5. CH_3COCH_3
 6. $HCOOH$
 7. CH_3CHO
 8. C_4H_9COOH
 9. $C_2H_5COOC_3H_7$
 10. $C_2H_5COCH_3$
 11. $C_7H_{15}OH$

Read the following chapters from your text book thoroughly and answer the text book exercise questions along with intext questions.

Chapter -1,2 and 3

BIOLOGY

1. Why biochemical reactions in human Cells are not reliable?
2. Draw the labeled diagram of Pollen tube germination from the text book.
3. Differentiate between Unisexual and bisexual flower.
4. Define cross pollination.
5. Draw the labeled diagram of structure of seed from textbook.
6. Name the germ cells present in human body.
7. How fragmentation occurs in Spirogyra?
8. State the meaning of Sporulation.
9. Name the method of Asexual reproduction in

- a). Leishmania
- b). Malarial Parasite
- c). Planaria
- d). Yeast

10. Mention the importance of Placenta in female body.

HISTORY & CIVICS

PROJECT TOPIC: NOVEL, SOCIETY AND HISTORY:

Q. Write notes on each:

- I) Types of Novels (page -178)
- II) Causes of Popularity of novels (page- 179)
- III) Works of Leo Tolstoy (page- 180)
- IV) Works of Charles Dickens (page-180)
- V) Works of Thomas Hardy (page-182)
- VI) Women Novelists of India and Europe (Page-182 & 184)
- VII) Novels for the Young (Page- 185)
- VIII) Novels and Colonialism (page- 186)
- IX) The Novels Come to Indian, South India (Page-187)
- X)(a)The Novel in Hindi (page-188)
 - ❖ Bharatendu Harishchandra
 - ❖ Srinivas das
 - ❖ Devaki Nandan Khatri
 - ❖ Premchand
 - ❖ Bankim Chandra Chattopadhyay
- (b) The Novel in Bengali (page- 189)
 - XI) Odiya Novel "FAKIR MOHAN SENAPATI "
 - XII) Novel in the colonial world.
 - XIII) Women and the Novel (Page-194-195)
 - XIV) Novel: The Nation and its history (Page-197)
 - XV) The Novel and Nation making
 - Premchand and his novel
 - His Novel on castism, Social evils.
 - Novel on Suffering of women etc.

** PROJECT WORK / CIVICS

(CHAPTER –V) : Popular Struggles and Movements

GEOGRAPHY

1. Classify the minerals and their characteristics.
2. What are different modes of occurrences of minerals?
3. Mention the hazards of mining.
4. Write down the methods of conservation of minerals.
5. Differentiate conventional and non conventional sources of energy.
6. on an outline map of India show the following:-
 - a) Nuclear power plants.
 - b) Coal mines-Singrauli, Bokara, Kobra, Talcher.
 - c) Woollen Textile- Amritsar, Ludhiana, Sahajahanpur, Mirzapur.
7. Collect forms for deposits and withdrawal of money and also draft making form from the nearby bank.