



# AJMANI INTERNATIONAL SCHOOL

## Summer Holiday Home Work 2017-18

### Class : X

#### English

1. **Reading** : Novel - Characters
- (i) Helen Keller                      (ii) Anne Sullivan
- (iii) Dr. Alexander Graham Bell

Questions Answers - Chapter wise Q/Ans from Novel Book. All questions- answers  
(from Chap 1 to 12)

2. **Writing** : Do it in a separate copy

- Meanings of difficult words of Novel.
- Question & Answers.
- Characters Sketches.

3. **Language** : Do it in Language copy

• **Letter Writing**

- (i) Write a letter to the editor of the 'The Tribune' expressing your views about the hazards of rash driving. You are Anish / Anamika of Subhash Nagar, Ludhiana
- (ii) Write a letter to the Editor of a newspaper expressing your views on the need to imbibe patriotic spirit. You are Rohan / Ritika of Kalaji, New Delhi.

- **Story Writing:** Write a short story on the theme 'The Truth comes out sooner or later.

- **Article Writing:** (a) the Craze for going abroad. (b) Say 'No' to plastic.

- ❖ Learn all the questions and answers of fiction and poetry.



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**Hindi**

**निबन्ध-लेखन**

'भ्रष्टाचार' समाल का एक प्रमुख अंग है। इसको दूर करने के उपाय और इसके खिलाफ जारी संघर्ष को कलमबद्ध कीजिए।

पत्र-लेखन- आपका नाम राकेश मिश्रा है। आपके मोहल्ले में लूटपाट की घटनाएँ फैल गई हैं, मोहल्ला कपूरथला लखीमपुर खीरी निवासी की ओर थानाध्यक्ष लखीमपुर-खीरी को पत्र लिखिए।

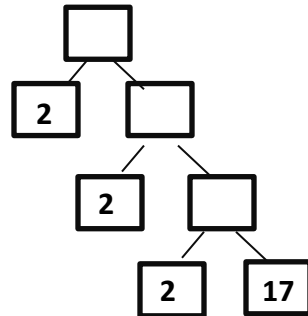
**सार-लेखन-**

नेताजी का चश्मा पाठ का सार लेखन लगभग 70 शब्दों में लिखिए।



**Mathematics**

1. Show that any positive odd integer is of the form  $(6q + 1)$  or  $(6q + 3)$  or  $(6q + 5)$ , where  $q$  is some integer.
2. Show that the square of an odd positive integer can be of the form  $(6q + 1)$  or  $(6q + 3)$  for some integer.
3. Show that  $(n^2 - 1)$  is divisible by 8, if  $n$  is an odd positive integer.
4. Explain why:  $3 \times 5 \times 7 + 7 \times 11$  is a composite number.
5. Prove that  $3 + 2\sqrt{5}$  is irrational.
6. Prove that  $\sqrt{2} + \sqrt{3}$  is irrational.
7. A sweet seller has 240 Kaju Barfis and 130 Barfis. He wants to stack them in such a way that each stack has the same number, and they take up the least area of the tray. What is the number of Barfis that can be placed in each stack for this purpose?
8. Find the missing number in the following prime factorization:-



9. Find a quadratic polynomial, the sum and product of whose zeroes are  $\sqrt{2}$  and  $\frac{-3}{2}$
10. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $x^2 + 4x + 3$  form the polynomial whose zeroes are  $\left(1 + \frac{\alpha}{\beta}\right)$  and  $\left(1 + \frac{\alpha}{\beta}\right)$
11. If  $\alpha$  and  $\beta$  are the zeroes of the polynomial  $f(x) = 3x^2 - 4x + 1$ , find a quadratic polynomial whose zeroes are  $\left(\frac{\alpha^2}{\beta}\right)$  and  $\left(\frac{\beta^2}{\alpha}\right)$
12. What must be added to  $f(x) = 4x^4 + 2x^3 - 2x^2 + x - 1$  so that the resulting polynomial is divisible by  $g(x) = x^2 + 2x - 3$

13. What must be subtracted from  $8x^4 + 14x^3 - 2x^2 + 7x - 8$  so that the resulting polynomial is exactly divisible by  $4x^2 + 3x - 2$
14. Obtain all the zeroes of  $3x^4 + 6x^3 - 2x^2 - 10x - 5$ , if two of the zeroes are  $\sqrt{\frac{5}{3}}$  and  $-\sqrt{\frac{5}{3}}$
15. If two zeroes of polynomial  $x^4 - 6x^3 - 26x^2 + 138x - 35$  are  $2 \pm \sqrt{3}$ , find other zeroes.
16. If one of the zeroes of polynomial  $(k-1)x^2 + kx + 1$  is  $(-3)$ . Find the value of  $k$ .
17. If zeroes of polynomial  $x^3 - 3x^2 + x + 1$  are  $(a-b)$ ,  $a$ ,  $(a+b)$ , then find the value of  $a$ .
18. Solve the following equations graphically:

$$x + 2y = 1, \quad x - 2y = -7$$

Also read the points from the graph, where the lines meet the axis of  $x$ .

19. Draw the graphs of the pair of linear equations  $x - y + 2 = 0$  and  $4x - y - 4 = 0$ . Calculate the area of the triangle formed by the lines so drawn and the  $X$ -axis.
20. Solve for  $x$  and  $y$  :-

(a)  $152x - 378y = -74$

$$-378x + 152y = -604$$

(c)  $ax + by = 1$

$$bx + ay = \frac{(a+b)^2}{a^2 + b^2} - 1$$

(b)  $\frac{x}{a} - \frac{y}{b} = 0$

$$ax + by = a^2 + b^2$$

(d)  $\frac{a}{x} - \frac{b}{y} = 0$

$$\frac{ab^2}{x} + \frac{a^2b}{y} = a^2 + b^2$$

21. Show that the following system has infinitely many solutions:

$$2y = 4x - 6$$

$$2x = y + 3$$

22. For what value of  $k$  the following system of equations has a unique solutions:

$$x - ky = 2$$

$$3x + 2y = -5$$

23. Solve for  $x$  and  $y$  :-

(a)  $\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}$

$$\frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$$

(b)  $3(2u+v) = 7uv$

$$3(u+3v) = 11uv$$

24. The age of the father is 3 years more than 3 times the son's age. 3 years hence, the age of the father will be 10 year more than twice the age of the son. Find their present ages.
25. A boat goes 16 Km upstream and 24 Km downstream in 6 hours. It can go 12 Km upstream and 36 Km downstream in the same time. Find the speed of the boat in still water and the speed of the stream.

26. Solve the following:-

$$\frac{1}{a+x+b} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x} \quad x \neq 0, x \neq -(a+b)$$

27. Solve :  $5^{x+1} + 5^{2-x} = 5^3 + 1$

28. Solve :  $3\left(\frac{7x+1}{5x-3}\right) - 4\left(\frac{5x-3}{7x+1}\right) = 11$

29. Solve the  $10x - \frac{1}{x} = 3$  by all method.

30. Find the value of k, if  $(k+4)x^2 + (k+1)x + 1 = 0$  has equal roots.

31. If the roots of the equation  $(b-c)x^2 + (c-a)x + (a-b) = 0$  are equal. Prove that-

$$2b = a + c$$

32. Prove that both roots of the equation  $(x-a)(x-b) + (x-b)(x-c) + (x-c)(x-a) = 0$  are real but they are equal only when  $a = b = c$

33. If the roots of  $(a^2 + b^2)x^2 - 2(ac + bd)x + (c^2 + d^2) = 0$  are equal. Prove that  $\frac{a}{b} = \frac{c}{d}$

34. `6500 were divided equally among a certain number of persons. Had there been 15 more persons each would have got `30 less. Find the original number of persons.

35. Divide 57 into two parts whose product is 680.



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**S.St.**

**Very Short answer type questions:-**

1. Classify the resources on the basis of ownership.
2. What is gully erosion?
3. What is infant mortality rate?
4. What is national income?
5. What is civil war?
6. Who is Gomastha?

**Short answer type questions:-**

1. Mention four features of Proto- industrial system.
2. Why did the industrial production in India increase?
3. Distinguish between Banegr and Khadar.
4. What are the biotic and abiotic resources? Give some examples.
5. What is the importance of Human Development Index?
6. Describe three demands of Sri Lankan Tamils. How did they struggle for their Independence?
7. How did the Sri Lankan and Belgium Govt try to solve the ethnic problem?
8. Mention four characteristics of development.

**Long answer type questions:-**

1. Why do different people have different development goals?
2. What is the criterion used by UNDP for classifying countries?
3. What do you mean by horizontal distribution of power?
4. What was ethnic composition of Belgium?
5. Why did the British Government scrap the "Corn Laws". What was its effect on Britain?

**Find words from the word puzzle with the help of the clues:**

1. An exhaustible resource which causes pollution on burning.
2. A small but deep channel formed by alluvial erosion.
3. The total area drained by a river and its tributaries.
4. The clearing of forests by cutting or burning trees.
5. Highly bached soils in regions of heavy rainfall.
6. Soils, which have developed on crystalline igneous rocks.
7. A type of exhaustible and non - renewal resources.
8. The delta regions have this type of soils.
9. All the useful elements of our environment.
10. The resources which can be utilized, but not needed for the time being.
11. The author of the book-small is beautiful.
12. The first Earth summit was held in this country.
13. The process of soil formation.
14. The lime modules in the Banger alluvium.
15. The region where Black soil is mainly found.

A	N	P	J	Q	V	T	D	L	R	S	V	D	A	Y
O	R	I	V	E	R	B	A	S	I	N	P	E	K	K
B	E	V	G	S	X	R	Y	S	T	N	Z	F	A	M
D	D	C	U	E	M	S	F	V	U	P	L	O	N	J
E	S	Q	L	C	I	Z	N	D	R	S	J	R	K	L
C	O	A	L	M	N	I	I	P	N	Q	R	E	A	A
C	I	B	Y	Y	R	L	D	V	M	O	Q	S	R	R
A	L	A	T	E	R	I	T	E	A	B	D	T	C	E
N	O	V	R	J	S	S	L	L	U	V	I	A	L	S
T	T	L	M	C	L	B	Q	Y	T	N	H	T	P	O
R	H	Y	C	Z	S	D	P	R	M	O	N	I	T	U
A	S	C	H	U	M	A	C	H	E	R	K	O	J	R
P	E	D	O	G	E	N	E	S	I	S	U	N	T	C
I	A	B	C	D	E	Z	A	P	L	K	O	N	T	E
U	V	X	W	A	D	P	R	E	S	E	R	V	E	S



**Chemistry**

**Chapter 1 - Chemical Reaction & Equations**

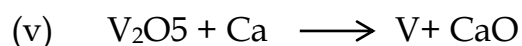
**Short Answer type questions :**

1. Why burning of bundle wax is considered as chemical change?
2. Why does white coloured silver chloride turn grey when kept in sunlight?
3. Why the chips manufactures usually flesh bags of chips with N<sub>2</sub> gas.
4. Consider the following reaction

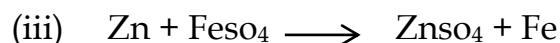


- (i) Name the gases produce in the above reaction.
  - (ii) Balance the above chemical equation.
  - (iii) Name the type of chemical reaction.
5. When a soledion of potassium iodide is added to solution of lead vibrate taken in a test tube
    - (i) What is observed in the above reaction.
    - (ii) Write a balance chemical eg<sup>n</sup>.
    - (iii) What type of reaction is this?
  6. On adding a drop of barium chloride solu<sup>n</sup> to an aqurous solu<sup>n</sup>. of sodium sulphate, a white ppt. is obtained.
    - (i) Write balanced chemical equation.
    - (ii) What another name can be given to this precipitation reaction.
    - (iii) On adding dil. Hcl to the reaction mixture, white ppt disappears why.
  7. Identify the oxidizing & reducing agent from the following reactions.
    - (i)  $\text{NH}_3 + \text{O}_2 \longrightarrow \text{No} + \text{H}_2\text{O}$
    - (ii)  $\text{H}_2\text{O} + \text{F}_2 \longrightarrow \text{HF} + \text{HOF}$
    - (iii)  $\text{Fe}_2\text{O}_3 + \text{Co} \longrightarrow \text{Fe} + \text{CO}_2$

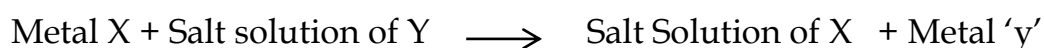




8. State which of the following chemical reactions will take place or not giving suitable reason for each-



9. When a metal 'x' is added to salt solution of metal 'y' following chemical reaction take place



Mention the influence you draw regarding the reactivity of metal 'x' & 'y' and also about the type of reaction. State the reason of your conclusion.

10. A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light. If burning ribbon is placed in atmosphere of  $\text{N}_2$ , it continues to burn & form compound Y.

(i) Write the chemical formula of X & Y.

(ii) Write the balanced chemical equations.

11. An aqueous solution of metal nitrate 'A' reacts with sodium bromide solution to form precipitate of compound 'B' which is used in black & white photography. 'B' on exposure to sunlight undergoes decomposition reaction to form metal present in 'A' along with a reddish brown gas. Identify A & B. Write balanced chemical eq<sup>n</sup> for the chemical reaction. List two categories in which reaction can be classified.

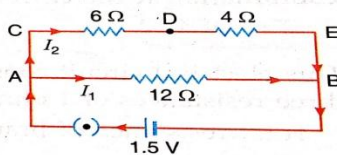
12. List three methods that prevent rancidity.

### Biology

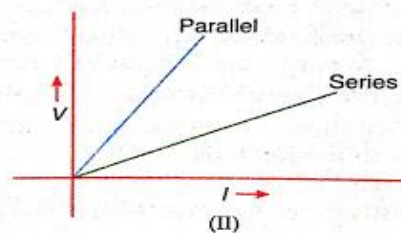
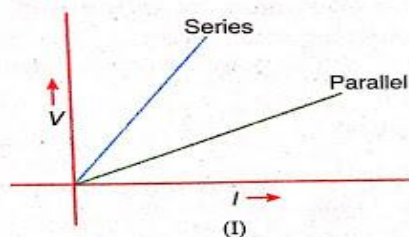
1. Learn NCERT questions answers
2. Do practical activities
3. Solve exercises at back of reference book.

## Physics

- Two bulbs rated as 60W- 220V and 100W – 220V are first connected in series and then in Parallel. In which combination 60W – 220V rated bulb will glow brighter and why?
- An immersed heating rod of 2 KW and 220v rating is used to heat a bucket containing 15 litres of water. If the initial temperature of water was 20 C, what would the temperature be, after heating it for 15 min? The specific heat of water is 4200 J/kg C.
- A 40 watt lamp requires 0.182 A of current at 220 volts, while a 60 watt lamp requires 0.272 A of current at 220 volts. If a 40 watt lamp and a 60 watt lamp are connected in series with a 220 volt line, how many amperes of current will flow through each lamp?
- A current of 4 A flows through a 12 V car headlight bulb for 10 min. How much energy transfer occurs during this time?
- Write the derivation of the law of combination of resistance in series and parallel combination?
- What are the factors on which the resistance of a conductor depends and explain it?
- Explain why voltmeter is connected in series and ammeter in parallel?
- What do you mean by 1 volt and 1 ampere.
- What do you mean by superconductors?
- In the circuit shown in the figure given alongside, calculate



- The current flowing through the arms AB, AC and CDE
  - The potential difference across AB, CD and DE
- Two students performed experiments on series and parallel combination of the two given resistors R1 and R2 and plotted the following V-I graphs:  
Which of the two graphs is correctly labelled in terms of the words 'series' and 'parallel' . Justify your answer.





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**Foundation of Information Technology**

- Complete all questions- answers & exercises of Chapter 3 and Learn Chapters from 1 to 3.

**Arts**

- Craft - Any one thing from waste material