



**ARMY PUBLIC SCHOOL RATNUCHAK**  
**SESSION 2019-20**  
**WORKSHEET**

**CLASS: X**

**SUB: ENGLISH**

**Q1) Fill in the blanks with appropriate articles or determiners.**

1. I am looking forward to being \_\_\_\_\_ grandmother.
2. I used my shoe as \_\_\_\_\_ hammer.
3. Have you fed \_\_\_\_\_ dogs?
4. There are \_\_\_\_\_ children in the garden.
5. Who invented \_\_\_\_\_ radio?

**Q 2) Sequence the following to form meaningful sentences:**

1. (a) pillars/there/human life/man/of/woman/and/are/two  
(b) both/in the making of/share/responsibility/equal/the/society  
(c) both/each other/hence/are/supplementary/to
2. (a) one of the/Saudi Arabia/largest/petroleum/producers/is/world/in/the/of  
(b) Saudi Arabia/lifestyle/discovery/has changed/of/of the people/the/petroleum/in/the  
(c) petroleum/world/all over/in great/is/demand/the
- 3.(a)uppermost/soil/layer/is/earth/the/of/the  
(b)it/plants/which/supports/food/provide/all living things/to/planet/on/this  
(c)soil/thus/foundation/earth/life/on/of/is/the/all
4. (a) people/look at/tend to/you look/the way/yourself/at/you  
(b) brought up/oliver/was/workhouse/orphanage/run by/the/an/in  
(c) from the very beginning/status of women/there/but/question mark/has been/a/big/the/  
an/in our society
5. (a)the/Indian/English/exploited/the/farmers  
(b) pay/the/had to/poor farmers/high times/very  
(c) natural disasters/farmers/share of taxes/even/pay/their/in times of/the/had to
- 6.(a) on/camel/has/hump/its/a/big/back  
(b) storehouse/this/of/hump/fats/is/a  
(c) uses/this/a source of energy/long journey/as/in the desert/during/fat/its/the/camel

**Q3) The following passages have not been edited. There is an error in each line against a numeral is given. Write the incorrect word and the correction in the space provided. Remember to underline the word that you have supplied.**

	Incorrect Word	Correct Word
Traffic in metropolitan cities have almost	eg... have	has
1. reached a saturating point.		
2. The roads are overcrowding	(a) .....	.....
3. with people moving in the hurry. They	(b) .....	.....
4. are not interested to following the	(c) .....	.....
5. rules and regulations. The rash driver jump	(d) .....	.....
red lights, overtake from wrong sides leading		
6. into traffic jams.	(e) .....	.....
7. If people use the transport wise	(f) .....	.....
they can avoid jams.		
8. Traffic rules would be made	(g) .....	.....
9. more strict and punishment should be severely	(h) .....	.....
for, the rule breakers.		

**Q4) Complete the following sentences using appropriate passive voice forms of the verbs given in brackets.**

1. I think your ankle ----- (break – use present tense)
2. His business ----- to be in trouble. (say – use present tense)
3. English ----- in most parts of the world. (speak – use present tense)
4. I ----- in the lesson. (interest – use present tense)
5. I -----, but I went anyway. (use negative form of invite)
6. You ----- when the time comes. (tell – use future tense)

**Q5) Complete the following sentences using appropriate phrasal verbs.**

1. That piano takes ----- too much space. (off / up / after)
2. She takes ----- her mother. (after / off / on)
3. They are determined to stand ----- for their rights. (out / up / over)
4. He always runs ----- his opponents. (down / out / off)
5. The cost of living has run ----- considerably. (up / across / off)2





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**CLASS: X**

**SUB: MATHEMATICS**

Q1. If  $\sqrt{ab}$  is an irrational number, prove that  $\sqrt{a} + \sqrt{b}$  is irrational.

Q2. Find a quadratic polynomial whose zeroes are  $3 + \sqrt{5}$  and  $3 - \sqrt{5}$ .

Q3. Solve for x and y :

$$(a - b)x + (a + b)y = a^2 - 2ab - b^2$$

$$(a + b)(x + y) = a^2 + b^2$$

Q4. Using cross-multiplication, solve the following system of equations:

$$px + qy = p - q$$

$$qx - py = p + q$$

Q5. Two numbers are in the ratio 5:6. If 8 is subtracted from each of the numbers, the ratio becomes 4:5. Find the numbers.

Q6. Show that any numbers of the form  $12^n$ ,  $n \in \mathbb{N}$  can never end with the digit 0.

Q7. If one zero of the polynomial  $(a^2 + 9)x^2 + 13x + 6a$  is reciprocal of the other, find the value of a.

Q8. Prove that  $\sqrt{13}$  is an irrational number.

Q9. Draw the graph of the equations:  $3x + y - 11 = 0$  and  $x - y + 1 = 0$ . Determine the vertices of the triangle formed by the lines representing these equations and the y-axis. Shade the triangular region so formed and also find area.

Q10. Ankita travels 14 km to her home, partly by rickshaw and partly by bus. She takes half an hour if she travels 2 km by rickshaw and the rest by bus. On the other hand, if she travels 4 km rickshaw and remaining distance by bus, she takes 9 minutes longer. Find the speed of the rickshaw and of the bus.

Q11. If the squared difference of the zeroes of the quadratic polynomial  $x^2 + px + 45$  is equal to 144, find the value of p.

Q12. Find the largest number which exactly divides 280 and 1245 leaving remainders 4 and 3 respectively.

Q13. Prove that the square of any positive integer is of the form  $4m$  or  $4m + 1$  for some integer m.

Q14. A boat goes 30 km upstream and 44 km downstream in 10 hours. In 13 hrs, it goes 40 km upstream and 55 km downstream. Determine the speed of the stream and that of the boat in still water.

Q15. If  $\alpha, \beta, \gamma$  be zeroes of polynomials  $6x^3 + 3x^2 - 5x + 1$ , then find the value of  $\alpha^{-1} + \beta^{-1} + \gamma^{-1}$

Q16. If the sum of the squares of zeroes of the quadratic polynomial  $f(x) = x^2 - 8x + k$  is 40. Find the value of k.

Q17. If  $(x+1)$  is a factor of  $2x^3 + ax^2 + 2kx + 1$ , then find the value of a and b given that  $2a - 3b = 4$ .

Q18. The angles of a cyclic quadrilateral ABCD are  $\angle A = (6x + 10)^\circ$ ,  $\angle B = (5x)^\circ$ ,  
 $\angle C = (x + y)^\circ$ ,  $\angle D = (3y - 10)^\circ$   
Find  $x$  and  $y$ , and hence the values of the four angles.

Q19. Jamila sold a table and a chair for Rs 1050, thereby making a profit of 10% on the table and 25% on the chair. If she had taken a profit of 25% on the table and 10% on the chair she would have got Rs 1065. Find the cost price of each.

Q20. If the remainder on division of  $x^3 + 2x^2 + kx + 3$  by  $x - 3$  is 21, find the quotient and the value of  $k$ . Hence, find the zeroes of the cubic polynomial  $x^3 + 2x^2 + kx - 18$ .



**ARMY PUBLIC SCHOOL RATNUCHAK**  
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**WORKSHEET**

**CLASS: X**

**SUB: SCIENCE**

**Chemical reactions and equations**

Q1 A metal nitrate A on heating gives a yellowish brown metal oxide along with a brown gas B and a colorless gas C. aqueous solution of A on reaction with potassium iodide forms a yellow precipitate of compound D .identify A,B,C and D

Q2. Ferrous sulphate crystals decomposes with the evolution of a gas with a characteristic smell of burning sulphur. Write the chemical reaction involved and the type of reaction.

Q3.A solution of potassium chloride when mixed with silver nitrate solution ,an insoluble white substance is formed. Write the type of chemical reaction and the corresponding balanced chemical equation.

Q4.In a solution of copper sulphate , a strip of metal M was inserted. After sometime, the colour of copper sulphate solution faded away. Which metal is more reactive and which one is less? Give equation .Also mention the type of reaction.

Q5. Name one metal which can displace zinc from its salt solution and one metal which cannot displace zinc from its salt solution.

Q6.What happens when limestone is heated strongly?What type of reaction is this?

Q7.What happens when an aqueous solution of barium chloride is mixed with an aqueous solution of sodium sulphate?Write the equation also.

Q8.Give an example of a reaction which is both an exothermic and combination reaction.

Q9. Why does milky appearance disappear when carbon dioxide is passed through lime water in excess?

Q10. Suggest any two observations in an activity which may suggest that a chemical reaction has taken place. Give example in support of your answer.

Q11. What is wrong with the following equation-  $N_2 + 3H_2 \rightarrow NH_3$

Q12. Solid calcium oxide was taken in a container and water was added to it slowly.

(i) State any two observations made in the experiment.

(ii) Write the name and chemical formula of the product.

**HOTS**

1. What change will you observe if white silver chloride is placed in sunlight? Write an equation for the reaction and the type of reaction.

2. A,B and C are three elements which undergo chemical reactions according to the following equations



**Answer the following questions with reasons**

- a) Which element is the most reactive?  
b) Which element is the least reactive?  
c) What is the type of reactions listed above?
3. What is a redox reaction? Identify the substance oxidized and substance reduced in the following reactions
- i)  $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$   
ii)  $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$
4. Write a balanced chemical equation to represent the following reaction  
Carbon Monoxide reacts with hydrogen gas at 340 atm. To form methyl alcohol.
5. Write the observation with reaction for the following  
Granulated zinc reacts with dilute sulphuric acid.
6. Name two salts that are used for black and white photography. Give reactions when they are exposed to sunlight.
7. What happens when an iron nail is put inside copper sulphate solution? Write reaction with observation.
8. (a) What do you see when a magnesium ribbon is burnt? Is magnesium oxidized or reduced in the reaction?  
(b) Define corrosion.
9. A solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. Write the chemical reactions involved and also mention the type of reaction.
10. A substance X, which is an oxide of a metal, is used extensively in the cement industry. This element is present in bones also. On treatment with water, it forms a mixture which turns red litmus blue. Identify X and also write the chemical reaction involved.
11. Why do we store silver chloride in dark colored bottles?
12. Oxidation and reduction processes occur simultaneously. Justify the statement.

**BIOLOGY**

- Q1: Mention the raw materials required for photosynthesis.
- Q2: Name the green dot like structures in some cells observed by a student when a leaf peel was viewed under a microscope. What is this green color due to?
- Q3: What is saliva? State its role in digestion of food.
- Q4: What are the final products after digestion of carbohydrates and proteins?
- Q5: Why do herbivores have longer, small intestine than carnivores?
- Q6: State the role of the following in human digestive system  
a) Digestive enzymes b) hydrochloric acid c) villi
- Q7: i) Draw a diagram to show open stomatal pore and label on it: a) guard cells b) chloroplast  
ii) State two functions of stomata.

iii) How do guard cells regulate the opening and closing of stomatal pore?

Q8: i) Leaves of a healthy potted plant were coated with Vaseline to block the stomata. Will this plant remain healthy for long time? State three reasons for your answer.

ii) State any two differences between autotrophic and heterotrophic nutrition.

Q9: State the three events that occur during the process of photosynthesis. Explain the role of stomata in the process.

ii) Describe an experiment to show that "sunlight is essential for photosynthesis".

Q10: i) Draw a diagram depicting human alimentary canal and label on it: gall bladder, liver and pancreas.

ii) State the role of liver and pancreas

iii) Name the organ which performs the following function in humans:

- absorption of digested food

- absorption of water

Q11: Explain the process of digestion in mouth, stomach and small intestine in human body.

Q12: Draw a diagram to show nutrition in Amoeba and label the parts used for this purpose. Mention any other purpose served by this part other than nutrition.

Q13: a) Name the glands associated with digestion of starch in human digestive system and mention its role.

b) How is pH maintained in stomach and small intestine?

Q14: a) Name the enzyme present in saliva?

b) What is emulsification?

### PHYSICS

Q14. Draw ray diagram showing image formation by concave mirror when object is placed at:  
Between pole and focus, Between F and C, At C, At infinity.

Q15. Write laws of refraction. Explain refraction through glass slab.

Q16. The size of image of an object by a mirror of focal length of 20cm is observed to be reduced by  $\frac{1}{3}$  of its size. At what distance the object is placed from the mirror. What is the nature of the image for concave mirror.

Q17. Calculate the above mentioned numerical for convex mirror.

Q18. Define Power of lens. What is its unit. One student uses a lens of focal length 50cm and other of -50cm. What is the nature and power of mirror used by each of them.

Q19. Draw ray diagram for convex lens when object is placed :

At infinity and At  $2F_1$

Q20. Show by drawing the ray diagram the image formed by convex lens when object is placed  
Between  $2F_1$  and  $F_1$  and Between  $F_1$  and optical center O.





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**SUB: SSC**

- Q1. Which factors were responsible for the economic depression of 1929?
- Q2. How did withdrawal of US loans affect different countries of the world?
- Q3. Workers at ford factory could not cope with the stress of working on assembly line. How did Henry ford recover the workers?
- Q4. Distinguish between Khadar and Bangar.
- Q5. Suggest any four methods of soil conservation.
- Q6. What are the causes behind land degradation? Explain
- Q7. Distinguish between primitive subsistence and intensive subsistence farming.
- Q8. Describe the three cropping seasons of India.
- Q9. What factors led to a civil war in Sri lanka?
- Q10. Explain two main reasons behind power sharing.
- Q11. How did India emerge as a federal state?
- Q12. Explain the constitutional amendments of 1992 that compare local governments in India.
- Q13. Why is the issue of sustainability important for development?
- Q14. Explain the meaning of HDI. Mention three components of measuring HDI.
- Q15. what do you understand by disguised unemployment? Explain with an example each from the urban and rural areas.