

DEWAN PUBLIC SCHOOL INTERNATIONAL, MEERUT

KANWAR HOLIDAY ASSIGNMENT 2018-19

CLASS-X

ENGLISH

Letter-(Assignment-17) page-76 (BBC)

(Assignment-12) page-83 (BBC)

Story-(Assignment-20) page-148 (BBC)

HINDI

(1) स्वच्छ भारत अभिमान को प्रोत्साहन प्रदान करने वाला 25 से 50 शब्दों में एक विज्ञापन तैयार कीजिए।

(2) निम्नलिखित में से किसी एक विषय पर सारगर्भित निबन्ध लिखिए (250 से 300 शब्द)

(क) वह हृदय नहीं है पत्थर है जिसमें स्वदेश का प्रेम नहीं।

(ख) मातृ भाषा के प्रति हमारा दायित्व।

(ग) मेरे जीवन का लक्ष्य

आलोक-समस्त कार्य व्याकरण पुस्तिका में किया जाएगा।

SANSKRIT

प्र01 परीक्षासाफल्यात् मित्राय वर्धापनपत्रम् लिखत।

प्र02 'मम प्रियः आचार्यः' इति विषयम् आधृत्य मञ्जूषातः शब्दान् चित्वा अनुच्छेदं लिखत।

मञ्जूषा-अध्यक्षः, मृदुभाषी, वक्ता, संस्कृतभाषायाः, त्यागशीलः, विलम्बेन, आदर्शवान्, शतप्रतिशतम्, पाठयति।

MATHS

1. In the AP: 10, 5, 0, -5, the common difference d is equal to 5. Justify whether the above statement is true or false.
2. If $n-2$, $4n-1$ and $5n+2$ are in AP, Find the value of n .
3. Find the value of the middle most term(s) of the AP:- -11, -7, -3,,49.
4. The eight term of an AP is half its second term and the eleventh term exceeds one third of its fourth term by 1. Find the 15th term.
5. The students of a school decided to beautify the school on the Annual day by fixing colorful flags on the straight passage of the school. They have 27 flags to be-fixed at intervals of every 2m. The flags are stored at the position of the middle most flag. Ruchi was given the responsibility of placing the flags. Ruchi kept her books where the flags were stored. She could carry only one flag at a time. How much distance did she cover in completing this job and returning back to collect her books? What is the maximum distance she travelled carrying a flag?
6. Prove that: if a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
7. Prove that : The internal bisector of an angle of a triangle divides the opposite side internally in the ratio of the sides containing the angle.
8. Prove that the ratios of the areas of two similar triangles is equal to the ratio of the squares of their corresponding sides.
9. If $5\sin\alpha = 4$, Show that $\frac{5\sin\alpha - 3\cos\alpha}{5\sin\alpha + 2\cos\alpha} = \frac{1}{6}$
10. Prove that: $\frac{1+\cos A}{\sin A} + \frac{\sin A}{1+\cos A} = 2\operatorname{cosec}A$
11. Prove that: $(\sin A + \operatorname{cosec}A)^2 + (\cos A + \sec A)^2 = 7 + \tan^2 A + \cot^2 A$.
12. If $\cos A + \cos^2 A = 1$, prove that $\sin^2 A + \sin^4 A = 1$.
13. If $\cos 9\alpha = \sin\alpha$ and $9\alpha < 90^\circ$, then the value of $\tan 5\alpha$ is?
14. Express $\sin 67^\circ + \cos 75^\circ$ in terms of trigonometric ratios of angles between 0° and 45° .
15. $2 \left(\frac{\cos 58^\circ}{\sin 32^\circ} \right) - \sqrt{3} \left(\frac{\cos 38^\circ \operatorname{cosec} 52^\circ}{\tan 15^\circ \tan 60^\circ \tan 75^\circ} \right)$

16. The ratio of the 11th term to the 18th term of an AP is 2:3. Find the ratio of the 5th term to the 21st term, and also the ratio of the sum of the first five terms to the sum of the first 21 terms.
17. The houses of a row are numbered consecutively from 1 to 49. Show that there is a value of x such that the sum of the numbers of the houses preceding the house numbered x is equal to the sum of the numbers of the houses following it. Find this value of x.
18. The angles of elevation of the top of a tower from two points at distances a and b from its base and in the same straight line with it are complementary. Prove that height of the tower is \sqrt{ab} .
19. The angle of elevation of a cloud from a point h metres above the surface of a lake is θ and the angle of depression of its reflection in the lake is Φ . Prove that the height of the cloud is $h\left(\frac{\tan\Phi + \tan\theta}{\tan\Phi - \tan\theta}\right)$.
20. Two pillars of equal heights are on the other side of a road, which is 100m wide. The angles of elevation of the top of the pillars are 60° and 30° at a point on the road between the pillars. Find the position of the point between the pillars and the height of each pillar.
21. How many terms of the AP: 24, 21, 18, Must be taken so that their sum is 78? Explain the double answer.
22. In an AP, if $S_n = 3n^2 + 5n$ and $a_k = 164$, find the value of k.
23. How many terms are there in AP whose first term is -14, common difference is 4 and sum of terms is 40?
24. The first term and last terms of an AP are 4 and 81 respectively. If the common difference is 7, how many terms are there in the AP and what is their sum?
25. In an AP of 50 terms, the sum of the first 10 terms is 210 and the sum of its last 15 terms is 2565. Find the AP.

SCIENCE

PHYSICS

1. How is the strength of magnetic field near a straight current conductor (a) related to the strength of current in the conductor? (b) is affected by changing the direction of flow of current in the conductor?
2. Why and when does a current carrying conductor kept in a magnetic field experience force? List the factors on which direction of this force depends?
3. List in tabular form four major differences between an electric motor and a generator
4. What are magnetic field lines? Justify the following statements (a) two magnetic field lines never intersect each other. (b) Magnetic field lines are closed curves.
5. How will the magnetic field produced at a point due to a current carrying circular coil change if we:
 - (a) Increase the current flowing through the coil?
 - (b) Reverse direction of current through the coil?
 - (c) Increase the number of turns in the coil?
6. State one main difference between AC and DC. Why AC is preferred over DC for long range transmission of electric power? Name one source each of DC and AC.
7. One of major cause of fire in office building is short circuiting. List three factors which may lead to the short circuit.
8. Explain why there are two separate circuits one for high power rating appliances and other for low power rating appliances.
9. A domestic circuit has 5A fuse. How many bulbs of rating 100W, 220V can be safely used in this circuit? Justify your answer.
10. A magnetic compass shows a deflection when placed near a current carrying wire. How will the deflection of the compass get affected if the current in the wire is increased? Support your answer with a reason.
11. What does the divergence of magnetic field lines near the ends of a current carrying straight solenoid indicate?

12. What is the role of the two conducting stationary brushes in a simple electric motor?
13. What is the role of fuse, used in series with any electrical appliance? Why should a fuse with defined rating not be replaced by one with a larger rating?
14. Draw a labeled circuit diagram of a simple electric motor and explain its working. In what way these simple electric motors are different from commercial motors?
15. Draw an appropriate schematic diagram showing common domestic circuits and discuss the importance of fuse. Why is it that a burnt out fuse should be replaced by another fuse of identical rating?

CHEMISTRY

1. What is chlor-alkali process? Mention the chemical reaction taking place. Name the gases given off at anode and cathode respectively. Write one uses of each of the products formed in this process.
2. What happens when:
 - (a) an excess of CO_2 is passed through lime water?
 - (b) gypsum is heated at 373 K .
 - (c) sodium hydrogen carbonate is heated?
 - (d) electricity is passed through an aqueous solution of sodium chloride?
 - (e) dry chlorine is passed over slaked lime/
3. Salt A commonly used in bakery products on heating gets converted into another salt B which itself is used for removal of hardness of water and a gas C is evolved. The gas C when passed through lime water turns it milky. Identify A, B and C.
4. What is water of crystallization? How many molecules of water of crystallization are present in one formula unit of green vitriol?
5. Which gas is released when a metal carbonate reacts with a dilute acid?
6. What is the chemical formula and name of baking soda?

7. A student prepared solutions of (a) an acid, and (b) a base in two separate beakers. She forgot to label the solutions and litmus paper is not available in the laboratory. Since both the solutions are colourless, how will she distinguish between the two?

8. When zinc metal is treated with a dilute solution of a strong acid, a gas is evolved, which is utilised in the hydrogenation of oil. Name the gas evolved. Write the chemical equation of the reaction involved and also write a test to detect the gas formed.

9. What will be the action by dry HCL gas, moist ammonia gas, lemon juice, curd, carbonated soft drink and soap solution on litmus paper?

10. What is pH of rainwater collected in industrial towns? Will this water conduct electricity? If yes, why?

11. What is water of crystallization? How many molecules of water of crystallization are present in one formula unit of green vitriol?

12. Why does a stain of curry on a white cloth become reddish- brown when a soap is scrubbed on it and turn yellow again when the cloth is washed with an excess amount of water?

13. What happens when carbonates and hydrogencarbonates react with acids? Illustrate your answer with chemical equations.

14. (a) Why does an aqueous solution of an acid conduct electricity?

(b) Which has a higher pH value, a conc. or dil. Solution of hydrochloric acid?

(c) How does the concentration of hydrogen ions $[H^+]$ change when the solution of an acid is diluted with water?

(d) What is observed when dil. Hydrochloric. Acid is added to:

(i) sodium bicarbonate placed in a test tube, and

(ii) zinc metal in a test tube?

BIOLOGY

1. Describe the experiment to show that 'sunlight is necessary for photosynthesis'.
2. Draw a schematic representation oxygen and carbondioxide in the human body.
3. List in tabular form three differences nervous control and chemical control.
4. Write the main function of the following:
 - (a) Sensory nevson
 - (b) Cranium
 - (c) Vertebral Column
 - (d) Motor neuron
5. (i) Draw a well labeled diagram of neuromuscular function.
(ii) Describe the feedback mechanism.
6. (i) Name the two main constituents of the CNS in human beings.
(ii) What is the need of a system of control and coordination human beigns?

SOCIAL SCIENCE

HISTORY & POLITICAL SCIENCE

1. Define the term power sharing.
2. Describe the Relations between Gomasthas and the Indian weavers.
3. Describe the features of Federalism.
4. How is caste used in Indian Politics. Give examples
5. What do you mean by politics in Caste.
6. Describe features of industrialization.
7. What were features of proto industrialization? Give three features.

GEOGRAPHY

On an outline map of India, locate the following points:

- a. Potential resources area.
- b. 30% fresh water
- c. 70% fresh water
- d. Coal mining centres

ECONOMICS

1. Explain the following terms:

- a. GDP
- b. Per capita Income
- c. National Income
- d. IMR

2. Why do we use average?

Are there any limitations in their uses? Illustrate with your own example.

3. Why is the issue of sustainability important for development.

4. Do you think the classification of economic activities into primary secondary and tertiary is useful? Explain How.

5. Distinguish between open unemployment and disguised unemployment ?