NEW ERA PUBLIC SCHOOL, PATNA

(Affiliated to CBSE, Delhi, Upto 10+2 Level)

Summer Vacation Homework (2024-25)

CLASS - X

Subject	HOMEWORKS
English	1. Project (First Flight) Write about the life of Nelson Mandela as well as his struggle and sacrifices for the freedom of South Africa, in 300 words, including his pictures. 2. Project (Footprint without Feet) Write about the life, career and scientific journey of Richard H. Ebright, in 200 words, including his pictures. 3. English Practice Book Assignment Section A: Reading Skills, Assignment no. 1 to 6 (Page no. 1 to 26) of English Practice Book (Laxmi Publications, New Edition)
Social Science	1. Prepare a project report on Nationalism in Europe. (Note: The report should include: Comparative studuy of politics and methods used by Bismark in the unification of Germans. 2. Write an article for the newspaper on how civil war has caused a set back to the social, cultural and economic life of Srilanka. 3. (a) Prepare a project Report on Indicators of Development. (b) Keeping in mind the Development Report, prepare a data for your family members. Based on their education level health status, per capital income Body mass Index. (Make Chart) 4. Collect information about different soil available in your area and make report. Also give figures of each soil type.
Hindi	• संत कबीर की जीवनी लिखें। • कबीर की साखियों की भाषागत विशेषता को लिखें। • ईश्वर प्रेम संबंधी दोहों का संकलन तैयार करें। • छात्रावास में रह रही अपनी छोटी बहन के नाम पत्र लिखें जिसमें उसकी पढाई - लिखाई का वर्णन हो। • 'शिक्षा रटंत विद्या नहीं हैं' - इस विषय पर 100 शब्दों में अनुच्छेद लिखें। • समाज में रिश्तों की क्या अहमियत है? पठित पाठ के आधार पर स्पष्ट करें। • हरिहर काका पाठ का सारांश लिखें। • पदबंध एवं समास के विभिन्न प्रकरों को सोदाहरण लिखें।
Maths	➢ Do Complete Ch-2 (Polynomial) including MCQ and Case Based Questions from M.L Agrawal and NCERT Books.
A.I	➢ Complete the Work of Unit -2 & 4 (Part-B), in School Fair Copy.

Std-10
Physics

A. Very Short Answer Type Questions

Q.1 A ray of light is incident on a plane mirror, i being the angle of incidence. What is the deviation suffered by the ray of light?

Q.2 A plane mirror reflects a pencil of light to form a real image. What is the nature of the pencil of light incident on the mirror?

Q.3 Define principal axis of a spherical mirror.

Q.4 What is the focal length of a plane mirror?

Q.5 Two perpendicular plane mirror forms ..... number of images of a point source of light.

Q.6 What is the magnification produced by a plane mirror?

Q.7 Which mirror would you use for shaving?

Q.8 Suppose x and y are distances of object and image respectively from a mirror. What shall be the shape of the graph between $\frac{1}{x}$ and $\frac{1}{y}$ for a concave mirror ?

B. Short Answer Type Questions

Q.9 An object is placed between two plane parallel mirrors. Why do the distant images get fainter and fainter?

Q.10 Why mirrors used in search light are parabolic and not concave spherical?

Q.11 You read a newspaper because of the light that it reflects. Then why do you not see even a faint image of yourself in the newspaper?

Q.12 If you were driving a car, what type of mirror would you prefer to use for observing traffic at your back and why?

Q.13 We known that plane and convex mirrors produce virtual images of objects. Can they produce real images under some circumstances ? Explain

Q.14 The wall of a room is covered with perfect plane mirror. Two movie films are made, one recording the movement of a man and the other of his mirror image. From viewing the films later, can an outsider tell which is which?

Q.15 A concave mirror is held in water. What would be the change in the focal length of the mirror?

Q.16 What is the difference between the virtual images produced by (i) plane mirror, (ii) concave mirror, (iii) convex mirror?

Q.17 Show that if a ray of light is reflected successively from two mirrors inclined at an angle θ, the deviation of the ray does not depend upon the angle of incidence.

Q.18 Use the mirror equation to deduce that an object placed between f and 2f of a concave mirror produces a real image beyond 2f.

Q.19 Show that a convex mirror always produces a virtual image independent of the location of the object.

Q.20 Prove that the virtual image produced by a convex mirror is always diminished in size and is located between the focus and the pole.

Q.21 Show analytically that an object placed between the pole and focus of a concave mirror produces a virtual and enlarged image.

Q.22 We know that a virtual image cannot be obtained on a screen. But when we see a virtual image, we are obviously bringing it on the retina (may be regarded as a screen) of the eye. Point out the contradiction, if any.

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Holiday Homework

Chemical Reactions & Equations

A. Very Short Answer Type Questions

Q.1 Why is that when a metal reacts with a non-metal, the reaction is always a redox reaction ?

Q.2 What are the two methods which can prevent the rancidity fatty foods ?

Q.3 Find the oxidising and reducing agent in the following reaction :

$PbS(s) + 4H_2O_2(aq) \longrightarrow PbSO_4(s) + 4H_2O(l)$

Q.4 It is said that "decomposition of calcium carbonate to calcium oxide and carbon dioxide on heating is an important decomposition reaction used in various industries". Explain how ?

Q.5 What happen when green coloured crystals of ferrous sulphate are heated ? Which term is used to represent such type of reaction ?

Q.6 Write a balanced chemical equation for the following reactions ? Use symbols to make equations more informative.

(i) Barium chloride reacts with zinc sulphate forming zinc chloride and precipitates of barium sulphate.

(ii) Aluminium metal displaces manganese in liquid form when heated with manganese dioxide.

Q.7 Consider the following reaction :

$SO_2(g) + 2H_2S(g) \longrightarrow 3S(s) + 2H_2O(l)$

(i) Name the substance oxidized

(ii) Name the oxidising agent.

(iii) Name the substance reduced.

(iv) Name the reducing agent.

Q.8 Gives suitable reason for the following -

(i) Can a displacement reaction be a redox reaction ?

(ii) Gold and platinum do not get affected even if there is presence of moist air or acidic gases. Why

(iii) Corrosion of aluminium is considered to be advantageous ?

Q.9 Classify each of the following reaction as : thermal decomposition, displacement, double displacement, electrical decomposition, combination or photo decomposition reaction.

(i) $CaCO_3(s) \longrightarrow CaO(s) + CO_2(g)$

(ii) $2AgBr(s) \longrightarrow 2Ag(s) + Br_2(g)$

(iii) $2H_2O(l) \longrightarrow 2H_2(g) + O_2(g)$

(iv) $Zn(s) + CuSO_4(aq) \longrightarrow ZnSO_4(aq) + Cu(s)$

(v) $Na_2SO_4(aq) + BaCl_2(aq) \longrightarrow BaSO_4(s) + 2NaCl(aq)$

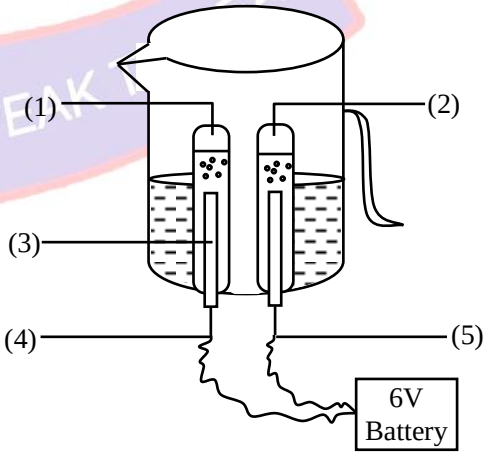
(vi) $CaO(s) + H_2O(l) \longrightarrow Ca(OH)_2(aq)$

Q.10 [A] What interpretations can be made from the following reaction :

(i) $CH_4(g) + 2O_2(g) \longrightarrow CO_2(g) + 2H_2O(g) +$ Energy

(ii) $2AgBr(s) \xrightarrow{\text{Suntight}} 2Ag(s) + Br_2(g)$

[B] Observe the figure carefully and answer the following question :



(i) Label the parts 1 to 5

(ii) Why is the amount of gas collected in one of the test-tube is double of the amount collected in the other ?

(iii) How you will test the presence of gases in both the test tubes ?

Q.11 What is a chemical equation ?

Q.12 What is a skeletal equation ?

Q.13 Name the term used for the solution of a substance in water

Q.14 In electrolysis of water. Why is the volume of gas collected over one electrode double that of gas collected over the other electrode

Q.15 Give reason for keeping hydrogen peroxide in coloured bottles ?

Q.16 Balance the following chemical equation :

$NaOH + H_2SO_4 \longrightarrow Na_2SO_4 + H_2O$

Q.17 On the basis of the following reactions, indicate which is most reactive and which is least reactive metal out of zinc, copper and iron.

$CuSO_4(aq) + Fe(s) \longrightarrow FeSO_4(aq) + Cu(s)$

$FeSO_4(aq) + Zn(g) \longrightarrow ZnSO_4(aq) + Fe(s)$

Q.18 Ina chemical equation, what do the notations (s), (l) and (g) stand for ?

Q.19 Balance the following chemical equation :

$FeCl_2 + H_2S \longrightarrow HCl + FeS$

Q.20 Write two condition for rusting of an iron article.

B. Short Answer Type Questions

Q.21 How do we come to know that a chemical reaction has taken place ?

Q.22 What is an oxidation reaction ? Identify in the following reaction :

(i) The substance oxidised,

(ii) The substance reduced :

$ZnO + C \longrightarrow Zn + CO$

Q.23 Why cannot we stir silver nitrate solution with copper spoon ?

Q.24 Among the following displacement reactions which one will take place and which one will not occur and why ?

(i) $MgSO_4(aq) + Zn(s) \longrightarrow ZnSO4(aq) + Mg(s)$

(ii) $CuSO4(aq) + Fe(s) \longrightarrow FeSO_4(aq) + Cu(s)$

Q.25 What is an oxidation reaction ? Give an example of oxidation reaction. Is oxidation an exothermic or an endothermic reaction.

Q.26 On the basis of the following chemical equations, find out which is the least reactive metal amongst iron, copper and zinc ?

(i) $FeSO_4(aq) + Zn(s) \longrightarrow ZnSO_4(aq) + Fe(s)$

(ii) $CuSO_4(aq) + Fe(s) \longrightarrow FeSO_4(aq) + Fe(s)$

Q.27 What happens when iron nails are put in copper sulphate solution ?

(i) Write the equation for the reaction that takes place

(ii) Name the type of reaction involved

Q.28 What type of chemical equation are the following equations :

(i) $A + BC \longrightarrow AC + B$

(ii) $A + B \longrightarrow AB$

(iii) $AB \longrightarrow A + B$

(iv) $AB + CD \longrightarrow AD + CB$

Q.29 Why does stale food give a bad taste and bad smell ?

Q.30 Why do silver, gold and platinum not corrode in moist air ?

Std--10
BIOLOGY

LIFE PROCESSES

1. How is small intestine designed to absorb digested food ?
2. What are stomata ? Draw a labeled diagram of stomata.
3. Write the equation for the process of breakdown of glucose in a cell :
i) in the presence of oxygen. ii) in the absence of oxygen.
4. Write the differences between inhalation and exhalation.
5. List the three events which occur during photosynthesis.
6. How does transpiration help in upward transport of substances.
7. Write the functions of the components of blood.
8. Why is small intestine longer in herbivores than in carnivores ?
9. Explain the cause of cramps after excessive physical exercise.
10. Why is the rate of breathing in aquatic organisms much faster than that seen in terrestrial organisms.

LIFE PROCESSES Long answer type questions

1. i)Explain how does the exchange of gases occur in plants across the surface of stems, roots and leaves.
ii) How are water and minerals transported in plants ?
2. (a) Draw a diagram to show open stomatal pore and label on it:
i) guard cells b. chloroplast
ii) State two functions of stomata.
iii) How do guard cells regulate the opening and closing of stomatal pore?
3. i)Draw a schematic representation of transport and exchange of oxygen and carbon dioxide during transportation of blood in human beings and label on it: Lung capillaries, Pulmonary artery to lungs, Aorta to body, Pulmonary veins from lungs.
ii) What is the advantage of separate channels in mammals and birds for oxygenated and deoxygenated blood?
4. Draw a sectional view of the human heart and label on it – Aorta, Right ventricle and Pulmonary veins.
5. State the functions of the following components of transport system:
i) Blood ii) Lymph
6. i) List the three events that occur during the process of photosynthesis. Explain the role of stomata in this process.
ii) Describe an experiment to show that "sunlight is essential for photosynthesis."
7. State the role of the following in human digestive system:
i) Digestive enzymes ii) Hydrochloric acid iii) Villi
8. Draw the diagram of alimentary canal of man and label the following parts. Mouth, Oesophagus, Stomach, Intestine
9. How do carbohydrates, proteins and fats get digested in human beings?
10. Explain the three pathways of breakdown of glucose in living organisms.

:-- Prepare a art integrated project/Chart/Model on any one topic :

1. Human Digestive System
2. Human Respiratory System
3. Human Circulatory System
4. Human Excretory System
5. Stomata and Events of photosynthesis.

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HOLIDAY HOME-WORK NOTICE
SESSION - (2024-25)

1. Do all the homework in Homework copy.
2. Write in cursive handwriting only.
3. Holiday Homework contains 5 Marks for each subject.
4. Summer Vacation will be between 20/05/2024(Monday) to 17/06/2024(Monday). School will re-open on 18/06/2024(Tuesday).
5. You can also get Holiday Homework fromSchool App. and Website:- www.newerapublicschool.org