Nirmala Eng. Hr. Sec. School (CBSE), Risdi, (C.G)
Summer Holiday Home Work 2019-2020
CLASS – X

S.S.T

1. Prepare map on the mineral resources found in India and label them correctly?
2. Give the correct answers for the given Assignment.(History and civics)?
3. Give reasons for the images used by the industries to produce their products?
4. Try to do a comparison between the two pie charts given for the land use and find out why the net sown area and the land area under forest have changed from 1960- 61 to 2008 – 09 very marginally?(Fig 1.4)

BIOLOGY

1. Define Translocations with respect to transport in plants. Why is it essential for plants? Where in the plants is sugar synthesized?
2. How are the alveoli designed to maximize the exchange of gases?
3. Write the reaction that occurs when glucose breaks down anaerobically in yeast?
4. Name the respiratory pigment and write its role in human beings?
5. Draw a sectional View of human heart and label on it :- Aorta, Pulmonary arteries, Venecava, Left Ventricle.
6. Leaves of healthy potted plants were coated with Vaseline to block the stomata. Will this plant remain healthy for long? Give 3 reasons for your answer?
7. Mention 1 point of difference between Pepsin and trypsin?
8. Draw a diagram of human alimentary canal and label on it:-Oesophagus, Gall Bladder, Liver and Pancreas.

HINDI

1) आपने ऐसे चरित्रों के बारे में पढ़ा सुना होगा, जिन्होंने अपने वाकचातुर्ष के आधार पर अपनी एक विशिष्ट पहचान बनाई, जैसे बीरबल,तेनालीराम आदि। किसी एक के कुछ किस्से संकलित कर एक अलबम तैयार करें।
2) अपने घर के आस–पास देखिए और पता लगाइए कि नगरपालिका ने क्या–क्या काम करवाए हैं ? हमारी भूमिका उसमें क्या हो सकती है ?
3) ''बालगोबिन भगत'' पाठ के आधार पर बदलते हुए मौसम को दर्शाते हुए चित्र। फोटो का संग्रह कर एक अलबम तैयार कीजिए।

COMPUTER APPLICATION

1) Explain Evolution of Internet.
2) Define the following:-
   a. WWW   b. Web servers   c. web clients   d. web sites   e. web page   f. Web browsers
3) Write any 5 web browser and 5 search engine and explain it.
4) What is network and explain its types, in detail.   **[Note:** LAN, MAN & WAN**]**
5) Explain all Internet protocols and file transfer protocols, in detail.
6) Explain all web services.   **[Note:** chat, email, video conferencing, e-Learning, e-Banking, e-Shopping, e-Reservation, e-Governance, e-Groups and Social Networking**]**
7) Explain all Mobile Technologies.   **[Note:** SMS, MMS, 3G, 4G**]**
8) What is notepad and explain its usages.
9) How we design a new web page using HTML, explain it.
10) Define HTML tags with suitable example.

MATHS

A.   LEARN AND WRITE

[SURFACE AREA AND VOLUME]

1. $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$
2. $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$
3. C.S.A of cone $= \pi rl$
4. Slant height of cone l $= \sqrt{r^2 + h^2}$
5. T.S.A of cone $= \pi r(r + l)$
6. Volume of cone $= \frac{1}{3}\pi r^2 h$
7. C.S.A of cylinder $= 2\pi rh$
8. T.S.A of cylinder $= 2\pi r (r + h)$
9. Volume of cylinder $= \pi r^2 h$

10. Volume of sphere = $4/3\,\pi r^3$
11. T.S.A of sphere = $4\pi r^2$
12. Volume of Hemisphere = $2/3\,\pi r^3$
13. T.S.A of hemisphere = $3\,\pi r^2$
14. C.S.A of hemisphere = $2\pi r^2$
15. T.S.A of cube = $6a^3$ a = side
16. Volume of cube = a^3 a = side of cube
17. Volume of cuboids = l x b x h
18. T.S.A of cuboids = 2 (lb + bh + hl)
19. $(a-b)^3 = a^3 - b^3$ - 3ab (a − b) or a^3 - b^3 - $3a^2b$ + $3ab^2$
20. $(a+b)^3 = a^3 + b^3$ + 3ab (a + b) or $a^3 + b^3 + 3a^2b + 3ab^2$
21. Area of Δ = ½ x b x h
22. cross section or multiple = $\dfrac{x}{b1c2-b2c1} = \dfrac{y}{c1a2-c2a1} = \dfrac{-1}{a1b2-a2b1}$
23. Sum of Zeroes = -b/a ; product of roots = c/a

COORDINATE GEOMETRY

24. Distance formula = $\sqrt{(y2-y1)^2 + (x2-x1)^2}$
25. Section formula = X = $\dfrac{m1x2+m2x1}{m1+m2}$, Y = $\dfrac{m1y2+m2y1}{m1+m2}$
26. Area of Δ = ½ [x1(y2 − y3) + x2(y3 − y1) + x3(y1 − y2)]
27. Midpoint Formula = X = $\dfrac{x1+x2}{2}$, Y = $\dfrac{y1+y2}{2}$

QUADRATIC EQUATION

1. $=\dfrac{-b\pm\sqrt{b^2-4ac}}{2a}$ (Find Zeroes $\alpha\ and\ \beta$)
2. $b^2-4ac \geq 0$ real zeroes
3. $b^2-4ac = 0$ zeroes is real and repeated
4. $b^2-4ac \leq 0$ not real zeroes

TRIGNOMETRY

1. $\sin\theta = \dfrac{P}{H}$
2. $\cos\theta = \dfrac{B}{H}$
3. $\tan\theta = \dfrac{P}{B}$
4. $\sec\theta = \dfrac{H}{B}$
5. $\cot\theta = \dfrac{B}{P}$
6. $\csc\theta = \dfrac{H}{P}$
7. $\sin(90-\theta) = \cos\theta$
8. $\cos(90-\theta) = \sin\theta$
9. $\csc(90-\theta) = \sec\theta$
9. $\sec(90-\theta) = \csc\theta$
10. $\cot(90-\theta) = \tan\theta$
11. $\tan(90-\theta) = \cot\theta$
12. $\sin^2\theta + \cos^2\theta = 1$
13. $\sin^2\theta = 1 - \cos^2\theta$
14. $\sec^2\theta = 1 + \tan^2\theta$
15. $\sec^2\theta - \tan^2\theta = 1$
16. $\tan^2\theta = \sec^2\theta - 1$

PHYSICS

1) Which device is used to measure the electric current and potential difference?
2) Which of the two is connected in parallel ; ammeter or voltmeter ?
3) Which of the two is connected in series : ammeter or voltmeter ?
4) Name a device which is used to maintain potential difference or across a bulb?
5) Draw the circuit symbols of the follows (i) Rheostat (ii) High tension battery (iii) Open plug key (iv) Galvanometer
6) Name SI unit of resistance and specific resistance
7) Name the metal which is best conductor of electricity?
8) On increasing the temperature of a conductor what would be the effect on its resistance?
9) Which has high resistance, a thick wire or a thin wire?
10) Why electric toasters made of an alloy rather than a pure metal?
11) On what factor does the resistance of conductor and resistivity depends
12) Calculate the potential difference between two terminals of battery if 100 joule work is required to transfer 20 C of charge from one terminal of battery to the other   **ans V= 50 Volt**
13) An electric bulb draws a current of .50 A for 10 minutes .Calculate the amount of electric charge flows through the circuit **(ans q= 300C)**
14) What is the potential difference between the terminals of battery if 250 J work is required to transfer 25C charge from one terminal of battery to the other (ans V=10V)

15) Calculate the current in a circuit if 5 sec of charge pass on through it in a 6 V

16) An electric bulb draws a current of when the voltage is 220 V .Calculate the amount of electric charge flowing through it in one hour

17) The potential difference between two ends of a wire is 150 mV .The wire has a resistance of 50Ω, Find the current flowing through the wire

18) Calculate the resistance of a conductor if the current flowing through in 1 s 0.2 A when the applied potential difference is .8 V

19) We have a copper wire of resistance R the wire is pulled so that its length is doubled (temperature remains constant) Find the new resistance of the wire in terms of the original resistance

20) A heater of resistance 50Ω is connected to 220 V line .How much current will this heater draw?

CHEMISTRY

1) Write balanced chemical equations for each of the following reactions :
   (a) Methane gas burns in Oxygen.
   (b) Carbon dioxide gas passed through Lime water.
   (c) Sodium metal reacts with water.
   (d) Calcium carbonate (marble) dissolves in Hydrochloric acid.
2) Name the three oxides of Iron and also write their formulae.
3) What do you understand by balancing of a chemical equation.
4) What is Corrosion ? Explain the methods of prevention of rusting of iron.
5) Identify the chemical reactions :-
   (a) $2\ KClO_3 \longrightarrow 2\ KCl +\ 3\ O_2$.
   (b) $Cl_2 + 2\ NaBr \longrightarrow 2\ NaCl + Br_2$.
   (c) $MgO + C \longrightarrow Mg + CO$.
   (d) $Ni(NO_3)_2 + 2\ NaOH \longrightarrow 2\ NaNO_3 + Ni(OH)_2$.
   (e) $Zn + 2\ AgNO_3 \longrightarrow 2\ Ag + Zn(NO_3)_2$.
6) What is the difference between a displacement reaction and a double displacement reaction ? explain wiyh examples.
7) What is Rancidity ? How can it be prevented ?
8) Write two differences between Exothermic and Endothermic Reactions. Write two equations of each.
9) Why does the blue colour of copper sulphate change when an iron nail is dipped in it ? Write the chemical equation also.
10) When you mix the solutions of Lead nitrate $Pb(NO_3)_2$ and Potassium iodide KI,
   (a) What is the colour of the precipitate formed ? Name the compound precipitated.
   (b) Write the balanced chemical equation for the reaction.
   (c) Identify the chemical reaction.
11) Why are Decomposition reactions called opposite of Combination reactions ? Write chemical equations for these reactions.
12) Write three differences between Oxidation and Reduction reactions.
13) What do you mean by Precipitation reaction ? Write three equations.
14) Balance the following chemical equations :-
   (a) $C_2H_5OH + O_2 \longrightarrow CO_2 + H_2O$.
   (b) $Fe_2O_3 + Al \longrightarrow Fe + Al_2O_3$.
   (c) $Pb_3O_4 + HCl \longrightarrow PbCl_2 + Cl_2 + H_2O$.
   (d) $Fe + H_2O \longrightarrow Fe_3O_4 + H_2$.
15) A magnesium ribbon is burnt in oxygen to give white compound " X " accompanied by emission of light. If the burning ribbon is now placed in an atmosphere of nitrogen, it continues to burn and forms a new compound " Y ".
   (a) Write the chemical formulae of compounds " X " and " Y ".
   (b) Write a balanced chemical equation, when " X " is dissolved in water.
16) Write the characteristic tests for carbon dioxide gas.
17) What do you understand by Oxidizing substances and Reducing substances ? Explain giving examples.
18) Define Neutralization reaction. Write three chemical equations.

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