

1. You decide to write an article in the school magazine on how it is important to save the planet, earth. Write an article in about 180 words.
2. India a country of temples, lakes and monuments which exhibits fine architecture. India is regarded as favourite tourist attraction. But as a country, we need to promote tourism, make people aware of its importance and make it a safe destination for the tourists. Write an article in about 150 words.

3. Read the following passage carefully:-

The work of the heart can never be interrupted. The heart's job is to keep oxygen rich blood flowing through the body. All the body's cells need a constant supply of Oxygen, especially those in the brain. The brain cells like only four to five minutes after their oxygen is cut off, and death comes to the entire body.

The heart is a specialized muscle that serves as a pump. This pump is divided into four chambers connected by tiny doors called valves. The chambers work to keep the blood flowing round the body in a circle.

At the end of each circuit, veins carry the blood to the right atrium, the first of the four chambers. $\frac{2}{5}$ oxygen by then is used up and it is on its way back to the lung to pick up a fresh supply and to give up the carbon dioxide it has accumulated. From the right atrium the blood flows through the tricuspid valve into the second chamber, the right ventricle. The right ventricle contracts when it is filled, pushing the blood through the pulmonary artery, which leads to the lungs – in the lungs the blood gives up its carbon dioxide and picks up fresh oxygen. Then it travels to the third chamber the left atrium. When this chamber is filled it forces the blood through the valve to the left ventricle. From here it is pushed into a big blood vessel called aorta and sent round the body by way of arteries.

Heart disease can result from any damage to the heart muscle, the valves or the pacemaker. If the muscle is damaged, the heart is unable to pump properly. If the valves are damaged blood cannot flow normally and easily from one chamber to another, and if the pacemaker is defective, the contractions of the chambers will become un-coordinated.

Until the twentieth century, few doctors dared to touch the heart. In 1953 all this changed after twenty years of work, Dr. John Gibbon in the USA had developed a machine that could take over temporarily from the heart and lungs. Blood could be routed through the machine bypassing the heart so that surgeons could work inside it and see what they were doing. The era of open heart surgery had begun.

In the operating theatre, it gives surgeons the chance to repair or replace a defective heart. Many parties have had plastic valves inserted in their hearts when their own was faulty. Many people are being kept alive with tiny battery operated pacemakers; none of these repairs could have been made without the heart – lung machine. But valuable as it is to the surgeons, the heart lung machine has certain limitations. It can be used only for a few hours at a time because its pumping gradually damages the blood cells.

On the basis of your reading of the above passage make notes on it, using headings & Sub headings. Use recognizable abbreviations wherever necessary (minimum 4). Use a format you consider suitable. Supply an appropriate title to it.

Math

1. Write the set $\left\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, \frac{6}{7}\right\}$ in set builder form.
2. Define an empty set with an example.
3. Let $A = \{1, 2, 3, 4, 5, 6\}$, $B = \{2, 4, 6, 8\}$. Find $A - B$ and $B - A$
4. If $A = \{-1, 1\}$, Find $A \times A \times A$
5. If $f(x) = x^2$, find $\frac{f(1.1) - f(1)}{1.1 - 1}$
6. $\sec x = \frac{13}{5}$, x lies in fourth quadrant. Find other five trigonometric functions
7. Prove That $\frac{\sin x - \sin y}{\cos x + \cos y} = \tan \frac{x - y}{2}$
8. Express $(-\sqrt{3} + \sqrt{-2})(2\sqrt{3} - i)$ in the form of $a + ib$
9. Find the value of $i^9 + i^{19}$
10. Define a Sub set with an example

CHEMISTRY

1. 50 kg of N_2 and 10 kg of H_2 are mixed to produce NH_3 . Calculate the NH_3 formed. Identify the limiting reagent in the production of NH_3 in this solution.
2. What mass of Silver nitrate will react with 5.85g of sodium chloride to produce 14.35g of silver chloride and 8.5g of sodium nitrate, if the law of conservation of mass is true?
3. Which of the following will have largest number of atoms?
(a) 1g Au (b) 1g Na (c) 1g Li (d) 1g Cl_2
4. Calculate the amount of water produced by the combustion of 16g of methane.
5. Vitamin C contains 1.29×10^{24} hydrogen atoms. Calculate the number of moles of hydrogen atoms.
6. Calculate the mass percentage of different elements present in sodium sulphate.
7. What is the wavelength of light emitted when an electron in a hydrogen atom undergoes transition from an energy level with $n = 4$ to an energy level with $n = 2$.
8. An electron is moving with a kinetic energy of 2.275×10^{-25} J. calculate its de-Broglie wavelength. (Mass of electron = 9.1×10^{-31} Kg, $h = 6.6 \times 10^{-34}$ Js)
9. The longest wavelength doublet absorption transition is observed at 589 and 589.6 nm. Calculate the frequency of each transition and energy difference between two excited states.
10. Write in detail about the favourable factors for the formation of Ionic bond.

Physics

1. Derive an expression for time period (T) of a simple pendulum, which depends on: mass of bob (m), length of pendulum (l) and acceleration due to gravity (g).
2. Find the dimensions of a/b in the relation $P = ax+bt^2$, where P is pressure, x is distance and t is time.
3. A body travels s_1 distance with velocity v_1 and s_2 distance with velocity v_2 in the same direction. Calculate the average velocity of the body.
4. An object is dropped from rest at a height of 150m and simultaneously, another object is dropped from rest from a point 100m above the ground. What is the difference between heights after they have fallen for (i) 3s, (ii) 5s. Acceleration due to gravity is 10m/s^2 .
5. A cricket ball is thrown at a speed of 28 m/s in a direction 30° above the horizontal. Calculate (a) the maximum height, (b) the time taken by the ball to return to the same level, and (c) the distance from the thrower to the point where the ball returns to the same level.
6. Two forces of magnitudes 23N and 24N are acting at a point inclined at an angle of 60° with each other. Find the resultant force acting at the point and angle made by the resultant with the force of 24N.
7. Derive an expression for conservation of linear momentum using Newton's third law.
8. What is banking of roads? Derive an expression for maximum velocity of a vehicle on a banked road.
9. State and prove conservation of mechanical energy in case of a freely falling object.
10. What is meant by elastic collision? Derive an expression for final velocities of colliding objects in case of an elastic collision.
11. A bullet of mass 0.012kg and a horizontal speed of 70m/s strikes a block of wood of mass 0.4kg and get stuck into the block. The bullet and the block combine and move in the same direction. What is their final velocity after collision?
12. Calculate the work done in moving an object of mass 42kg in lifting it to a height of 37m from the ground against gravity. Take acceleration due to gravity as 9.8m/s^2 .

II

- I. Complete the assignments of 1 to 5 lessons.

Economics Project Work

- 1) What do you understand about consumer awareness?
- 2) Prepare a spread sheet and conduct a survey on the products by 50 people used in their daily life?
- 3) Do you analysis based on the questionnaire given below:
 - I) Do you examine the expiry date of the product, when you buy them?
 - ii) Have you ever cross checked the weights of the products mentioned on the products?
 - Iii) Do you check the prices of goods you buy in the shops?
 - iv) Have you ever come across adulteration in products?
 - v) If yes, did you complain to shopkeeper, main supplier or elsewhere?
 - vi) Did the complaint to the supplier/ shopkeeper was as per your satisfaction?
 - vii) Are you aware of consumer courts, for redressal of grievances of consumers?
- 4) Write the three rules of dutiful consumer?
- 5) Give the summarized presentation about total project?

NOTE: Please check the link for the project given below

<https://www.slideshare.net/GauravRastogiGS/economic-project-report>

B.S.T AND ACCOUNTANCY PROJECT WORK

- 1) What do you understand B.S.T and Accounts?
- 2) What are the types of business organizations?
- 3) Observe any three different types of business organizations and give the information regarding
that organization?
- 4) Explain the assets, goods, regarding above business organizations?
- 5) Write the meaning and definition of bank?
- 6) Different types of banks/ banking?
- 7) Explain the different forms used by customers for getting relationship/evidence using for
deposits, withdrawals and other services?
- 8) Explain any three online services provided by e-banking?

Note:

- **Submit the work on the reopening day in a folder with child's name, class & section**
- **Write on an A4 size paper.**

