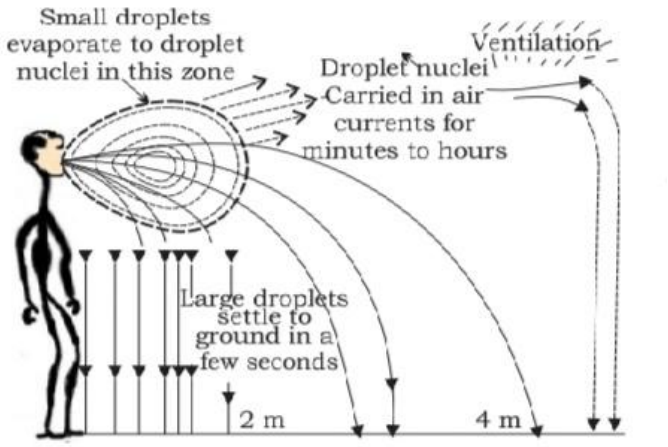
DELHI PUBLIC SCHOOL, JAMMU
ASSIGNMENT (2019-2020)
CYCLE TEST -II

CLASS: IX **SUBJECT: SCIENCE**

Q1. AIR-BORNE DISEASES:



Air transmitted diseases can spread from infected person to healthy person through air . The infected person throws out little droplets on sneezing, coughing and spitting. Someone standing closely can breathe in these droplets and thus, microbes get a chance to start a new infection in this person. Air- borne diseases spread rapidly in crowded living condition. However, in closed areas, the droplet nuclei recirculate and pose a risk to everybody. Thus, overcrowded and poorly ventilated housing is a major factor in the spread of air-borne diseases.

(a) How air-transmitted diseases infect another person?

(b) Why closed areas are maximum prone to transmitted diseases?

(c) What is the major factor responsible for air- borne diseases?

Q2. Archimedes was the greek scientist. He discovered the principle, subsequently named after him , after noticing that the water in a bath tub overflowed when he s tepped into it. He ran through the streets shouting "Eureka", which means "I have got it". This knowledge helped him to determine the purity of the gold in the crown made for the king. His work in the field of Geometry and mechanics made him famous. His understanding of levers, pulleys, wheels and axle help the greek army in its war with roman army. This principle has many applications, it is used in designing ships and submarines, lactometers which are used to determine the purity of a sample of milk and hydrometers used for determining density of liquids, are based on this principle.

(a) What did Archimedes discover?
(b) What made Archimedes famous?
(c) State some applications of Archimedes Principle.
(d) What do you mean by Lactometers?

For Q3. two statements are given- one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below:

(i) If both the assertion and reason are true and reason is the correct explanation of assertion
(ii) If both assertion and reason are true, but reason is not the correct explanation of assertion.
(iii) If assertion is true but reason is false.
(iv) If assertion is false but reason is true.

Q3. **Assertion**:When 10 g of $CaCO_3$ is decomposed, 5.6 g of residue is left and 4.4 g of CO_2 escapes.
Reason:Law of conservation of mass is followed.

Q4. Striated muscle is also called __

1. Cardiac muscles
2. Smooth muscles
3. Skeletal muscles
4. Involuntary muscles

Q5.Draw well labelled diagram of nervous tissue. Also give its two main functions.

Q6.How are chromatin,chromatid and chromosomes related to each other?

Q7.Give reason for the following:
a) Bacteria are prokaryotic cells.
b) Mitochondria are also called semiautonomous organelles.

Q8. State and derive the equation for potential energy.

Q9. Find the recoil velocity of a gun if it fires a bullet of mass 50g with velocity 150m/s. (consider mass of gun equal to 2kg)

Q10. How much momentum will a dumb-bell of mass 10kg transfer to the floor it falls from a height of 80cm? (use g=10ms^{-2})

Q11. What is the role of the following in water purification system?

a) Sedimentation tank
b) Loading tank
c) Filteration tank

Q12. Account for the following.

a) A gas exerts pressure on the walls of the container.
b) We can easily move our hands in air but to do the same through a solid block of wood, we need a karate expert
c) Temperature remains constant during the change of state.

Q13.Draw a flow diagram of the processes involved in obtaining gases like Nitrogen, Oxygen,and Argon from air.

Q14. i) Write the chemical formulae of the following:

a) Calcium oxide
b) Aluminium Sulphate

ii) 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?

Q15. Explain universal law of gravitation along with neat and clean diagram.

Q16.a) Highlight the ways through which infectious diseases generally spread in human communities?

b) Write an account about acute and chronic diseases.