



ANGEL'S PUBLIC SCHOOL

SAMPLE PAPER

CLASS – IX HALF YEARLY EXAM SESSION 2024 – 25

TIME : 3 HRS

SUBJECT : SCIENCE CODE – 086

M.M:80

General Instructions:

- This question paper consists of 39 questions in 5 sections.
- All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
- Section A consists of 20 objective type questions carrying 1 mark each.
- Section B consists of 6 Very Short questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 words.
- Section C consists of 7 Short Answer type questions carrying 03 marks each. Answers to these questions should be in the range of 50 to 80 words.
- Section D consists of 3 Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
- Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

SECTION – A

1. The distance–time graphs of two objects 'P' and 'Q' are shown in the given figure. What can be deduced about the motion of the objects 'P' and 'Q'?



- Object 'P' is having uniform acceleration and Object 'Q' is in non –uniform motion
 - Object 'P' is at rest and Object 'Q' is in uniform motion
 - Object 'P' is in non –uniform motion and Object 'Q' is in uniform motion
 - Object 'P' is in uniform motion and Object 'Q' is in non– uniform motion
2. The phenomenon by which protoplast of a cell shrinks from the wall is _____.
- osmosis
 - plasmolysis
 - diffusion
 - glycolysis
3. Under what conditions does a liquid convert into gases?
- Lowering temperature
 - Increasing pressure
 - Decreasing pressure
 - Decreasing pressure and increasing temperature.
4. The flexibility of plant is due to a tissue called _____.
- chlorenchyma
 - parenchyma
 - sclerenchyma
 - collenchyma.
5. Which one of the following is a connective tissue.
- tissue Tendon
 - Ligament
 - Blood
 - all of the above.
6. The barrier between the protoplasm and the outer environment in an animal cell is–
- cell wall
 - plasma membrane
 - nuclear membrane
 - cytoplasm
7. Which of the following applications illustrate that evaporation leads to cooling?

- (a) Perspiration in human body (b) Transpiration in leaves (c) Water in earthen pots
 (i) only I and II (ii) only II and III (iii) only I and III (iv) I, II and III

8. _____ is not found in Xylem tissues.

- (a) sieve tubes (b) Xylem Parenchyma (c) Tracheids (d) Vessels

9. The area under graph between two quantities is given in the unit m/s. the quantities are:

- (a) Speed and time (b) Distance and time (c) Acceleration and time (d) Velocity and time

10. Which of the following statements are true for the pure substances?

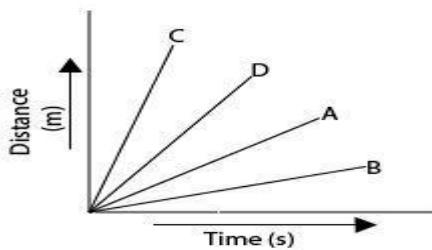
- (a) Pure substances contain only one kind of particles.
 (b) Pure substances may be compound or mixtures.
 (c) Pure substance have the same composition throughout
 (d) Pure substances can be exemplified by all elements except nickel.

- (a) A and B (b) A and C (c) C and D (d) B and C

11. According to the third law of motion action and reaction

- (a) always act on the same body
 (b) always act on different bodies in opposite direction
 (c) have same magnitude and direction
 (d) acts on either body at normal to each other

12. For cars A,B,C and D are moving on a level road their distance versus time graph are shown



Choose the correct statement

- (a) Which Car is faster than car D (b) Car B is slowest (c) Car D is faster than car (d) C is the slowest

13. Blood and sea water

- (a) both are mixtures (b) both are compounds
 (c) blood is a mixture where sea water is a compound
 (d) blood is a compound and sea water is a mixture.

14. The connective tissue that connects muscle to bone is called_____.

- (a) ligament (b) tendon (c) nervoustissue (d) all of the above

15. Latent heat is evolved during the transformation of liquids into solids. How will you explain this Statement?

- (a) The heat is released and temperature decreases
 (b) Heat is absorbed and temperature increases (c) Heat does not get absorb nor released.
 (c) None of these

16. **Assertion (A):** Differentiation is the process in which it gives permanent shape and size to organisms

Reason (R): Differentiation process always done by meristematic tissue.

- (a) Assertion and reason are correct, and reason is the correct explanation for assertion.
 (b) Both assertion and reason are correct, and reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Both assertion and reason are false.

17. Match the followings:

1.	Mitochondria	a.	Helps in synthesis of food
2.	Choloroplast	b.	Controls all the activities of the cell
3.	Nucleus	c.	Gives shape to the cell
4.	Cell wall	D	Provides energy

- (a) 1-d,2-a,3-c,4-b (b) 1-d,2-c,3-a,4-b (c) 1-d,2-a,3-b,4-c (d) 1-d,2-c,3b,4-a

18. **Assertion** : A gas can easily be compressed by applying pressure.

Reason : Since the inter-particle spaces between gases are very large, they can decrease by applying pressure.

- (a) Both A and R are true and R is the correct explanation of A.
 (b) Both A and R are true but R is not the correct explanation of A.
 (c) A is true but R is false.
 (d) A is false but R is true.

19. Which is the largest cell organelle present in the plant cell?

- (a) Nucleus (b) Chloroplast (c) Endoplasmic reticulum (d) Mitochondria

20. **Assertion** : The graph between two physical quantities P and Q is straight line, when P/Q is constant.

Reason:The straight line graph means that P is proportional to Q or P is equal to constant multiplied by

- (a) Both A and R are true and R is the correct explanation of A.
 (b) Both A and R are true but R is not the correct explanation of A.
 (c) A is true but R is false.
 (d) A is false but R is true.

SECTION – B

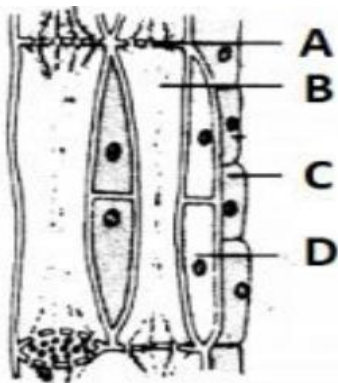
21. Define Force.

22. Why a desert cooler cools better on a hot dry day?

23. The displacement of a moving object in a given interval of time is zero. Would the distance travelled by the object also be zero? Give reason for your answer.

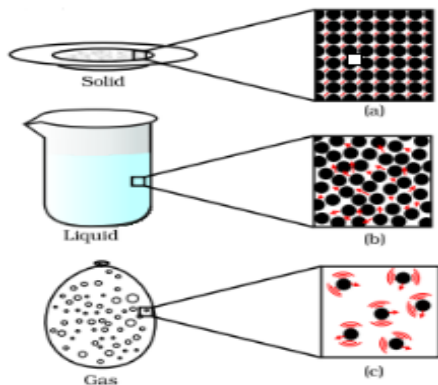
24. How can you change a saturated solution to an unsaturated solution without adding any more solvent to it?

25. Observe the diagram and label its parts.



26. How are simple tissues different from complex tissues.

38. Gases are highly compressible as compared to solids and liquids. The liquefied petroleum gas (LPG) cylinder that we get in our home for cooking or the oxygen supplied to hospitals in cylinders is compressed gas. Compressed natural gas (CNG) is used as fuel these days in vehicles. The liquid takes up the shape of the container in which they are kept. Liquids flow and change shape, so they are not rigid but can be called fluid. Solids and liquids can diffuse into liquids. The aquatic animals can breathe underwater. The rate of diffusion of liquids is greater than solid.



(a) Why Compressed natural gas (CNG) is used as fuel these days in vehicles?

- (i) Due to its high compressibility
- (ii) Large volumes of a gas can be compressed into a small cylinder
- (iii) Transported easily
- (iv) All of these

(b) liquids have no fixed _____ but have a fixed _____ .

- (i) shape, volume (ii) volume, shape (iii) shape, size (iv) size, shape

(c) The aquatic animals can breathe underwater due to

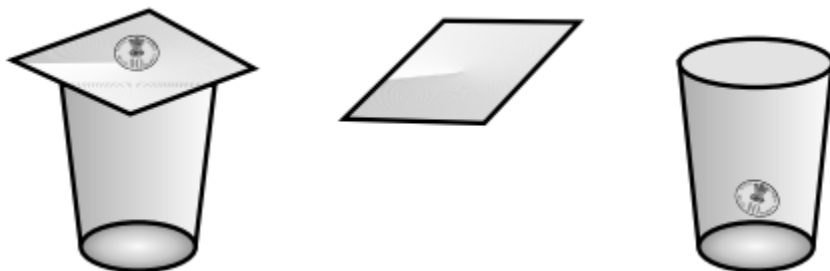
- (i) the presence of dissolved carbon dioxide in water
- (ii) the presence of dissolved oxygen in the water
- (iii) the presence of dissolved Nitrogen in the water
- (iv) all of these

(d) The rate of diffusion of liquids is greater than solid due to

- (i) liquid particles move freely
- (ii) liquid have greater space between each other
- (iii) both (a) and (b)
- (iv) none of these

39. Read the following and answer any four questions from (i) to (v) given below :

In the figure below the card is flicked with a push. It was observed that the card moves ahead while coin falls in glass.



(a) Give reason for the above observation.

(i) The coin possesses inertia of rest, it resists the change and hence falls in the glass.

(ii) The coin possesses inertia of motion; it resists the change and hence falls in the glass.

(b) The coin possesses inertia of rest, it accepts the change and hence falls in the glass.

(c) The coin possesses inertia of rest, it accepts the change and hence falls in the glass.

(d) Name the law involved in this case.

(i) Newton's second law of motion.

(ii) Newton's first law of motion.

(iii) Newton's third law of motion.

(iv) Law of conservation of energy

(e) Name the law which provides the definition of force.

(i) Law of conservation of mass

(ii) Newton's third law.

(iii) Newton's first law

(iv) Newton's second law.

(f) State Newton's first law of motion.

(i) Energy can neither be created nor be destroyed, it can be converted from one form to another, total amount of energy always remains constant.

(ii) A body at rest remains at rest or, if in motion, remains in motion at constant velocity unless it is acted upon by an external unbalanced force.

(iii) For every action in nature there is an equal and opposite reaction.

(iv) The acceleration in an object is directly related to the net force and inversely related to its mass.