

# I- PERIODIC TEST : 2021-22

CLASS - IX (CBSE)

SCIENCE

Time : 2 hrs.

M.M.: 50

## General Instructions:

- i) This question paper comprises of four Sections- A, B, C and D. You are to attempt all the sections.
- ii) All questions are compulsory.
- iii) Section -A consists of 1 mark questions, Section-B 2 marks questions, Section-C 3 marks questions and Section -D 5 marks questions.

### SECTION-A

- Q.1. Area under a v-t graph represents which physical quantity ? 1
- Q.2. Bus X travels a distance of 30 km in 1 hour whereas bus Y travels a distance of 10 m in 1 sec. Which bus travels faster ? 1
- Q.3. Name the structure found on the lower surface of leaves and helps in the exchange of gases. 1
- Q.4. What is "membrane biogenesis " 1
- Q.5. Name two semi-autonomous cell organelles. 1
- Q.6. When 50 grams of sugar is dissolved in 100 ml of water there is no increase in volume. What characteristic of matter is illustrated by this observation ? 1
- Q.7. Which of the following diffuses faster ? Water vapour, wax or ethyl alcohol ? 1
- Q.8. What is "tincture of iodine" ? 1

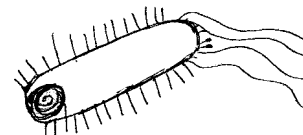
**For questions number 9 to 10, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below :**

- (a) Both A and R are true, and R is correct explanation of the assertion.
- (b) Both A and R are true, but R is not the correct explanation of the assertion.
- (c) A is true, but R is false.
- (d) A is false, but R is true.
- Q.9. **Assertion :** An alloy is considered as a mixture. 1  
**Reason :** It shows the properties of its constituents.
- Q.10. **Assertion :** The growth of plants occurs only in certain specific regions. 1  
**Reason :** Meristematic tissue is located only at certain points in a plant.
- Q.11. **Assertion :** The inner mitochondrial membrane is highly folded. 1  
**Reason :** To increase the surface area for ATP synthesis.
- Q.12. **Assertion :** The numerical ratio of displacement to distance is equal to one or less than one. 1  
**Reason :** Displacement of an object is independent of the path travelled by it.

**Answer Q. No. 13-15 contain two sub-parts each. You are expected to answer all these questions.**

- Q.13. Have you ever noticed that ironing slightly damp clothes works best to get the wrinkles out ? This is due to the evaporation of the water in the clothing. It creates a steaming effect making you damp clothes dry and wrinkle free. 2
- (i) Which of the following does not affect the rate of evaporation :  
(a) Wind speed (b) Temperature  
(c) Humidity (d) Insoluble impurities
- (ii) During summer water kept in an earthen pot becomes cool because of :  
(a) Diffusion (b) Transpiration (c) Osmosis (d) Evaporation
- Q.14. Mohan had a biology practical exam. The biology laboratory in his school had lots of microscopes of different precision. When he reached the laboratory, he found that many microscopes were already mounted with a slide. Just for fun, he went and looked at a slide through the microscope and found the given image. He wasn't able to identify the organism or type of cell, so he called his friend Shyam to look at the slide. Shyam found out immediately what kind of cell. this was . 2

- (i) Identify the types of the cell :
- (a) Prokaryotic cell (b) Eukaryotic cell  
 (c) Animal cell (d) Plant cell
- (ii) Cell organelle found in the above cell :
- (a) Plastids (b) Mitochondria  
 (c) Ribosomes (d) None of the above



Q.15. Ram hired a three wheeler from bus stand to his house. The driver A' of three wheeler followed the shortest path and reached the destination in half an hour. He charged Rs. 50 from Ram. On the same day, Ram's sister also hired a three wheeler. The driver 'B' of the three wheeler took an hour from another route (slightly more than double of shortcut) to reach her house and charged Rs. 150 from her. 2

- (i) Is the displacement of both the three wheelers A from bus stand to Ram's house same or different ?
- (a) Displacement of A is more (b) Displacement of B is more  
 (c) Displacement of both is same (d) None of these
- (ii) Slope of speed versus time graph for three wheeler A as compared to three wheeler B is :
- (a) less inclined (b) more inclined (c) same (d) none of these

#### SECTION -B

Q.16. A car travels 100 km at a speed of 60 km/h and returns with a speed of 40 km/h. Calculate the average speed for the whole journey. 2

Q.17. Plot the following graphs : 2

- (a) Body at rest  
 (b) Velocity-time graph for a car moving with non-uniform accelerations.

Q.18. 1.5 grams of salt is dissolved in 24 grams of water. Calculate the percentage amount of the salt in the solution. 2

Q.19. Name the **scientists** associated to the following : 2

- (a) All cells arise from pre-existing cells.  
 (b) coined the term "**Protoplasm**".  
 (c) Discovered the **free living cells** in pond water for the first time.  
 (d) Discovered **Golgi bodies** .

#### SECTION -C

Q.20. Give three differences between distance and displacement. 3

Q.21. (a) Write the constituents of **Xylem**. 3

- (b) Write any one function of the following:
- (i) Apical meristem (ii) Chlorenchyma

Q.22. Describe any three properties of solution. 3

#### SECTION-D

Q.23. Define acceleration. Write the formula for acceleration. A train starting from railway station attains a speed of 45 m/s in 2 minute. Find its acceleration. 5

Q.24. Give reasons : 5

- (a) Steam at 100 degree celsius is better for heating purposes than water at 100 degree celsius.  
 (b) Evaporation causes cooling.  
 (c) Rate of evaporation of an aqueous solution decreases with increase in humidity  
 (d) Sponge though compressible is a solid  
 (e) Sugar crystals dissolve faster in hot water than cold water.

Q.25. (a) Identify the following : 5

- (i) Cell organelle bound by a single membrane  
 (ii) Waste disposal system of the cell.  
 (iii) Provides turgidity and rigidity to the cell.
- (b) Draw a well labelled diagram of a plant cell and label the following parts :
- (i) Cell wall (ii) Vacuole (iii) Chloroplast (iv) Nucleus