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**SINDHI HIGH SCHOOL, HEBBAL**

**PERIODIC TEST - I (2023-24)**

**SUBJECT – Science**

**Marks: 30**

**Class: IX Timings: 1 Hours 10 mins**

**Date: 03/7/2023 Reading Time: 8:05 to 8:15 am Number of printed sides: 3 Writing Time: 8:15 to 9:15 am**

**General Instructions:**

The question paper consists of 14 questions in 5 sections.

All questions are compulsory.

**Section A** consists of 6 objective type questions carrying 1 mark each.

**Section B** consists of 3 Very Short questions carrying 02 marks each.

**Section C** consists of 3 Short Answer questions carrying 03 marks each.

**Section D** consists of 1 Long Answer question carrying 05 marks each.

**Section E** consists of 1 Case Based Type question carrying 04 marks with sub parts.

**Section A**

1. What would be the displacement of a particle moving in a circular path of radius r after a completion of half a circle? **(1)**

a) 2πr b) 2r

c) Zero d) πr

2. The boiling points of diethyl ether and n-butyl alcohol are 35°C and118°C respectively. Which one of the following correctly represents their boiling points in the Kelvin scale? **(1)**

a) 308.15K and 391.15K b) 329.15 K and 391.15K

c) 318.15 K and 390.15 K d) 308.15K and 390.15 K (**1)**

3. Sand and water take the shape of the vessel in which they are placed, yet sand is called a solid and water a liquid. This is because

a) Particles of sand are not rigid. b) Particles of water have the property to flow.

c) Particles of sand have the property to flow. d) Particles of water are rigid. (**1)**

**Assertion - Reason Based Questions**

In the following questions **4 to 6**, a statement of Assertion **(A)** and Reason **(R)**. Choose the correct answer out from the following options.

a. A and R are correct and R is the correct explanation of A

b. A and R are correct and R is not the correct explanation of A

c. A is false R is correct

d. A is correct R is false.

4. **Assertion (A):** A body having non-zero acceleration can have a constant velocity.

**Reason (R):** Acceleration is the rate of change of velocity. **(1)**

**5. Assertion :** Mitochondria are considered as the power house of the cell

**Reason:** They have deeply folded inner membrane to increase surface area that assists in

release of energy in the form of ATP molecules. (**1)**

6. **Assertion:** Steam at 373K is more effective for heating purposes than water at the same temperature.

**Reason:** Steam at 373K has more energy than water at 373K (**1)**

**Section B**

7. What happens when – (**2)**

a) Dry raisins are left for sometime in pure water and later transferred to sugar solution.

b) Golgi apparatus is removed from the cell.

8. The solids A, B,and C melts at –780C,2620C and -1000C respectively. The solid D sublimes.

(i)Arrange them in the increasing order of interparticle force .How is interparticle space related to

interparticle force?

(ii)Name any two solids like “D” **(1+1)**

9. We feel cool on standing under of fan while sweating. The water kept in an earthen pot (matka) become cool during summer. State the cause of cooling due to evaporation. Cite two more examples of the phenomenon from everyday life. (**2)**

**Section C**

10. a) Name any two cell organelle present in plant cells but absent in animal cells. (**3)**

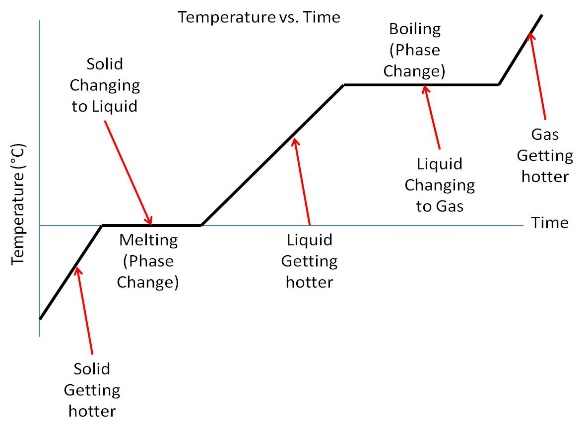
b) Draw a neat labelled diagram of the plant cell and label the following –

(i) Nucleus (ii) Cell wall (iii) Plastids (iv) Vacoule

11. a) Can displacement be zero even if distance is not zero ? Give one example to explain your answer.

b) Starting from a stationary position,Rahul paddles his bicycle to attain a velocity of 6 ms-1 in 30s. Then he applies brakes such that the velocity of the bicycle comes down to 4 ms-1 in the next 5 s. Calculate the acceleration of the bicycle in both cases. **(3)**

**12.** Observe the graph Temperature vs time graph of phase transformation. Answer the questions that follows.

(i)What are the straight lines (AB and CD)  known as?

D

C

(ii)Why is the temperature remaining

constant at these zones?

(iii) Decreasing the temperature is not

sufficient to compress the gases .Justify.

A

B

**Section D**

13.Distance travelled by train and the time taken by it is shown in the following table?

i. Plot distance-time graph.

ii. What is the average speed of the train?

iii. When is the train travelling at the highest speed?

iv. At what distance does the train slow down?

v. Calculate the speed of the train between 10:40 AM to 11:00 AM. (**5)**

|  |  |
| --- | --- |
| Time | Distance (in km) |
| 10 : 00 AM | 0 |
| 10 : 30 AM | 25 |
| 10 : 40 AM | 28 |
| 11 : 00 AM | 40 |
| 11 : 15 AM | 42 |
| 11 : 30 AM | 50 |

**Section E**

**14. Read the given passage and answer the following questions:- (4)**

The nucleus has a double-layered covering called nuclear membrane. The nuclear membrane has pores which allow the transfer of material from inside the nucleus to its outside, i.e., to the cytoplasm. The nucleus contains chromosomes, which are visible as rod-shaped structures only when the cell is about to divide. Chromosomes contain information for inheritance of features from parents to next generation in form of DNA [Deoxyribo Nucleic Acid] molecules. Chromosomes are composed of DNA and protein. Functional segments of DNA are called genes. The nucleus plays a central role in cellular reproduction.

1) What are the different types of cell divisons? Differentiate between them.  **(2)**

2) How nuclear region of a bacterial cell and nuclear region of an animal cell

is different from each other? **(1)**  
3) Nucleus shares certain features with which of the Organelle? How? **(1)**

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