**ATOMIC ENERGY CENTRAL SCHOOL – 3, ANUSHAKTINAGAR, MUMBAI-400094**

**PERIODIC TEST - 1, EXAMINATION, 2024-2025**

 **CLASS- IX TIME- 90 Minutes**

 **SUBJECT- SCIENCE Max Marks - 40**

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 **PHYSICS (14M)**

1. 72km/h = \_\_\_\_\_\_\_\_\_ m/s

1. 10 b. 20 c. 30 d. 72x18/5 (1m)

2. For this question two statements are given—one labeled **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. (1m) **(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**.

Assertion (A): A body can have acceleration even if its velocity is zero at a given instant.

Reason (R): A body is momentarily at rest when it reverses its direction of motion.

3. Define: a) Acceleration b) uniform circular motion (2m)

4. A bus decreases its speed from 90km/h to 72km/h in 5s. Find the acceleration of the bus. (3m)

5. A motor boat starting from rest on a lake accelerates in a straight line at a constant (3m)

rate of 3m/s2for 8 seconds. How far does the boat travel during this time?

6. A train starting from rest moves with a uniform acceleration of 0.1m/s2 for 2 minutes. (4m)

Find i) the speed acquired ii) the distance travelled.

 **CHEMISTRY (13M)**

**1. When converting 308 K, 329 K, and 391 K to the Celsius scale, what is the correct sequence of temperatures? (1m)**

(a) 33°C, 56°C and 118°C (b) 35°C, 56°C and 119°C
 (c) 35°C, 56°C and 118°C d) 56°, 119°C and 35° C

2. For this question two statements are given—one labeled **Assertion (A)** and the other labeled Reason **(R).** Select the correct answer to these questions from the **codes (a), (b), (c) and (d)** as given below. (1m)

 **(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**.

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.

3. Which one causes more severe burns? Boiling water or steam? Explain (2m)

4. Why does water kept in an earthen pot become cool? (2m)

5. It is a hot summer day, Priya and Alia are wearing cotton and nylon clothes respectively. Who do?

 you think would be more comfortable and why? (3m)

6. Explain any four factors that affect the rate of evaporation. (4m)

 **BIOLOGY (13M)**

1. .Lipid molecules in the cell are synthesized by (1m)

1. Smooth Endoplasmic Reticulum b) Rough Endoplasmic Reticulum
2. Golgi apparatus d) Plastids

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 **(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**.

**Assertion:**A cell swells up when present in a hypotonic solution.

**Reason:**More water molecules enter the cell than they leave.

3. Write functions of lysosomes? (2 m)

4. Name the two organelles that have their own genetic material and ribosomes. (2m)

5. What are the consequences of following (3m)

a) A cell containing higher water concentration than surrounding.

b) A cell having lower water concentration than surrounding medium.

c) A cell having equal water concentration to its surrounding medium.

6. Plasma membrane or Cell membrane is the outermost covering of the cell that separates the contents of the cell from its external environment. The plasma membrane is flexible and is made up of organic molecules called lipids and proteins. The flexibility of the cell membrane also enables the cell to engulf in food and other material from its external environment. The plasma membrane allows or permits the entry and exit of some materials in and out of the cell. It also prevents movement of some other materials.

i) Why is the plasma membrane called a selectively permeable membrane? (1m)

ii) The lipids and proteins used for making membranes is synthesized in which organelle of cell?

 (1m)

iii) Give an example where the flexibility of plasma membrane enables engulf of food material from external environment. What is the process called? (2m)

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