NEW STANDARD ACADEMY

Semri Kothi Super Market, Raebareli
CLASS 9 (Academy) 05-05-2025

PHYSICS

1. Is absolute rest possible ?
2. Are distance and displacement equal in magnitude ?
3. Is distance a vector quantity ?
4. Define scalar quantity and give two examples.
5. Define rest and motion and give two examples of each.

CHEMISTRY

1. Why a gas cylinder cannot be half filled ?
2. What is the effect of the following on the rate of diffusion ?
   (a) Temperature   (b) Density of liquid
3. Justify that melting of wax is a physical change.
4. Cotton is a solid but it floats on water .Why?
5. Which characteristic of a gas is used in supplying oxygen cylinders to hospitals?

BIOLOGY

1. Draw the labelled diagram of endoplasmic reticulum
2. Give the function of endoplasmic reticulum
3. What is Golgi body give its function
4. Draw the labelled diagram of Golgi body
5. What is the lysosome

MATH

1. Factorise the following
   (i) $(x^2 - 3x)^2 - 8(x^2 - 3x) - 20$
   (ii) $12(x^2+7)^2 - 8(x^2+7)(2x-1) - 15(2x-1)^2$.
2. Factorise the following
   (i) $125a^3 - 27b^3 + 75a^2b - 45ab^2$
   (ii) $x^4 + 2x^3y - 2xy^3 - y^4$.
3. Factorise the following
   (i) $8x^3 - (2x-y)^3$ (ii) $x^6 - y^6$
4. If a = 1, b= -2 and c = -3, Find the value of
   $$\frac{a^3+b^3+c^3-3abc}{ab+bc+ca-(a^2+b^2+c^2)}.$$
5. If $a + b + c = 9$ and $ab + bc + ca = 26$, then find $a^2 + b^2 + c^2$