

NEW STANDARD ACADEMY

Semri Kothi Super Market, Raebareli
CLASS 11 DPP (Academy) 14-07-2025

PHYSICS

1. Give an example of a body moving with uniform speed but having a variable velocity and an acceleration which remains constant in magnitude but changes in direction
2. What will be the effect on horizontal range of a projectile when its initial velocity is doubled, keeping the angle of projection same?
3. What will be the effect on the maximum height of a projectile when its angle of projection is changed from 30° to 60° , keeping the same initial velocity of projection?
4. What is the angular velocity of the hour hand of a clock?
5. A body is moving on a curved path with a constant speed. What is the nature of its acceleration?
6. State, for each of the following physical quantities, if it is a scalar or a vector: volume, mass, speed, acceleration, density, number of moles, velocity, angular frequency, displacement, angular velocity.
7. Pick out the two scalar quantities in the following list: force, angular momentum, work, current, linear momentum, electric field, average velocity, magnetic moment, relative velocity.
8. What is the angle between two forces of 2N and 3N having resultant as 4N?
9. At what range will a radar set show a fighter plane flying at 3km above its centre and at a distance of 4km from it?
10. Two forces 5kg wt and 10kg wt are acting with an inclination of 120° between them. What is the angle which the resultant makes with 10kg wt?

CHEMISTRY

1. Calculate the volume occupied by 10^{22} molecules of N_2 at $27^\circ C$ and one atmospheric pressure.
2. What mass (in kilogram) of K_2O contains the same number of moles of K atoms as are present in one kg KCl?
3. Calculate the number of molecules present in 12.3 g $MgSO_4 \cdot 7H_2O$. Calculate the mass of Na_2CO_3 which will have molecules equal to those present in 12.3g of $MgSO_4 \cdot 7H_2O$.

4. How many quantum number are obtained from schrodinger wave equation? which quantum number is not obtained from this equation?
5. What is the ratio of wavelengths associated with N_2 and CO moving with the same velocity?
6. The electronic energies in an atom are quantized. Results of which experiment support it?
7. Calculate $\frac{e}{m}$ ratio for electron
8. Decide the position of an element having atomic number 17 in periodic table.
9. Decide the position of an element having atomic number 19
10. Write the electronic configuration of the element $Z=58$ and decide its period, group and block in the periodic table.

BIOLOGY

1. Describe the various types of placentation found in flowering plants.
2. How do the various leaf modification help plants?
3. Describe the arrangement of floral members in relation to their insertion on thalamus.
4. Draw the labell diagram -male reproductive system of frog
5. Draw the labell diagram of female reproductive system of frog
6. What is the difference between monocot and dicot stem
7. Give the difference between racemose and cymose inflorescence
8. What is inflorescence
9. Define hypogynous flower with example
10. Give the difference between simpl and compound leaf

MATHS

1. Find the angle in radian between the hands of a clock at 3.30 a.m.
2. The difference between two acute angles of a right angled triangle is $\frac{\pi}{5}$ in radian measure. Find these angle in degrees.
3. The angles of a triangle are in A.P. and the greatest angle is double the least. Find all the angles in circular measure.
4. If $\tan x = -\frac{4}{3}$, find the value of $9 \sec^2 x - 4 \cot x$.
5. If $\operatorname{cosec} x - \cot x = \frac{3}{2}$, find $\cos x$. In which quadrant does x lie?
6. Find the values of the following:
(i) $\cot\left(-\frac{7\pi}{4}\right)$ (ii) $\sin\left(-\frac{17\pi}{3}\right)$
7. Find the value of : (i) $\cos 495^\circ$ (ii) $\cot(-315^\circ)$

8. Prove that $\sin(690^\circ)\cos(300^\circ) + \cos(-750^\circ)\sin(-240^\circ) = 1$
9. Using t-ratios of 30° *and* 45° , evaluate
(i) $\sin 15^\circ$ (ii) $\tan 15^\circ$ (iii) $\cos 75^\circ$
10. Evaluate $\tan \frac{13\pi}{12}$.