NEW STANDARD ACADEMY

Semri Kothi Super Market, Raebareli
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PHYSICS

1. A projectile fired with initial velocity u at some angle θ has a range R. If the initial velocity be doubled at the same angle of projection, then the range will be:
2. A ball is thrown with an initial velocity of 100m/s at an angle of 300 above the horizontal. How far from the throwing point will the ball attain its original level? ($g = 10\ m/s^2$)
3. The greatest height to which a man can throw a stone is h. The greatest distance to which he can throw it, will be?
4. The range of a projectile for a given initial velocity is maximum when the angle of projection is 450 . The range will be minimum, if the angle of projection is:
5. A stone is projected from the ground with velocity 25 m/s. Two seconds later, it just clears a wall 5 m high. The angle of projection of the stone is: ($g = 10\ m/s^2$)
6. Galileo writes that for angles of projection of a projectile at angles ($45^0 + \theta$) and ($45^0 - \theta$), the horizontal ranges described by the projectile are in the ratio of: ($\theta < 45^0$)
7. The equation of trajectory of a projectile is $y = 10x - (5/9)\,x^2$ If we assume g = 10 m/s^2 , the range of projectile (in meters) is
8. A projectile can have the same range R for, two angles of projection at a given speed. If T_1 and T_2 be the times of flight in two cases, then find out relation between T_1,T_2 and R
9. A body is projected with initial velocity of $(8\hat{\imath} + 6\hat{\jmath})\ m/s$. The horizontal range is? ($g = 9.8\ m/s^2$)
10. If time of flight of a projectile is 10 seconds. Range is 500 m. The maximum height attained by it will be:

CHEMISTRY

1. Decide the position of an element having atomic number 17 in periodic table.
2. Decide the position of an element having atomic number 19
3. Write the electronic configuration of the element Z=58 and decide its period, group and block in the periodic table.
4. The element of Z=117 is known but the element Z = 120 has not yet been discovered. In what family or group would you place these elements? Give the electronic configuration of these elements.
5. How do you justify the presence of 18 elements in 5th period of periodic table?
6. Arrange the ions Ca^{2+} ,Cl^- and S^{2-} in the decreaing order of their ionic radius.
7. Name the species that will be isoelectronic with (a) N^{3-} (b) Sr^{2+}
8. Which one of the following pairs would have large size?
   (a) Br or Br^- (b) O^{2-} or F^- (c) N^{3-} and F^-
9. Arrange the following in the order of increasing radii
   (a) O^{2-}, F^-,S^{2-} and N^{3-} (b) C,N,P,Si
10. Arrange the following species in inceasing order of their atomic radii
    (a) C,N,O,F (b) C, Si,N,P

BIOLOGY

1. What is the difference between Monera and protesta
2. What are dinoflagulatetes give the example?
3. What is a slime mould?
4. What is a virus give the structure?
5. What is prion? Which type of disease caused by the prion
6. What is viroid
7. What are diatoms give the example and economic importance?
8. Give the characteristic feature of five kingdom classification.
9. What is the difference between natural and phylogenetic classification
10. Who is give artificial classification explain.

MATH

1. If $0< \theta < \pi$,then minimum value of $3\sin\theta + cosce^3\,\theta$ is.
2. Minimum value of y =256 $\sin^2$x+324 cosec^2x$\forall\ x \in R\ is$.
3. If y =(sin x + cosec x)^2+(cos x+sec x)^2, then the minimum value of y, $\forall\ x \in R, is$
4. (a+2) sin $\alpha + (2a-1)cos\alpha$= (2a+1) if tan $\alpha\ is$
5. The value of $f(\alpha) = \sqrt{cosec^2\alpha - cot\alpha} + \sqrt{cosec^2\alpha + cot\alpha}$ can be.
6. In ΔABC if cot A + cot B + cotC = 0 then find the value of cosA cos B cos C.
7. If in triangle ABC ,$\angle C = 45°$ then find the range of the value of the values of $\sin^2$A + $\sin^2$B
8. Find the range of the expression $27^{\cos 2x}81^{\sin 2x}$.
9. If $\Delta ABC\ , if\ \sqrt{3}$ sin C = 2 sec A – tan A then prove that triangle is right angled.
10. Find the range of function f(x) = $\sin\left(x + \frac{\pi}{6}\right) + cos\left(x - \frac{\pi}{6}\right)$.