**Model Test Papers**

**CLASS−VI**

**Chemistry**

1. A gas used to kill germs during purification of water is :
(a) Hydrogen (b) Oxygen
(c) Nitrogen (d) Chlorine (e) None
2. A gaseous product obtained when a candle burns is :
(a) sulphur dioxide (b) oxygen
(c) Nitrogen (d) Carbon dioxide (e) none
3. Hardness in water is caused due to presence of :
(a) Chlorides of calcium
(b) Sulphates of magnesium
(c) Bicarbonates of Calcium & Magnesium
(d) All the above (e) None
4. Select correct matching :
 **Mixture Separation technique**Cream from milk (i) Distillation
Ammonium Chloride and Sodium chloride (ii) Centrifugation
C- Alcohol and water (iii) Filtration
D- Chalk and water (iv) Sublimation
(a) A-(i), B-(ii), C-(iii), D-(iv) (b) A-(ii), B-(iv), C-(i), D-(iii)
(c) A-(ii), B-(i), C-(iv), D-(iii) (d) A-(i), B-(iv), C-(iii), D-(ii)
(e) none
5. Select incorrect statement
(a) Oxygen supports burning
(b) Oxygen is combustible gas
(c) Oxygen is released during photosynthesis
(d) Oxygen is utilized during respiration (e) None

**Physics**

1. A force applied on a moving body may
(a) bring it to rest (b) increase its speed
(c) decrease the speed (d) all of the above (e) none
2. In a magnet, the magnetic domains (tiny magnets) are aligned :
(a) in all directions
(b) in particular direction
(c) in a continuously changing manner
(d) never aligned (e) none
3. We are able to see objects because :
(a) they absorb light
(b) they reflect light
(c) total internal reflection takes place in them
(d) all the light is refracted through them (e) none
4. Which of the following is different from others ?
(a) Speed (b) Acceleration
(c) Force (d) Time (e) none
5. With the depth of a liquid, exerted pressure \_\_\_\_\_\_\_.
(a) decreases (b) ceases (c) increases (d) no change (e) none

**Maths**

1. For any natural number, n4 + n2 + 1 is always
(a) odd (b) even (c) either odd or even (d) can not say (e) none
2. Of six consecutive number, the sum of first three is 27. What is the sum of next three?
(a) 30 (b) 40 (c) 36 (d) 45 (e) none
3. The area of a square increases by ….., if its side increases by 30%.
(a) 71% (b) 60% (c) 69% (d) 30% (e) none
4. The measure of ∠a in terms of b, c and d is
 
(a) a = b + c − d (b) a = c + d + b
(c) a = b − c − d (d) a = c + d − b (e) none
5. The simplified value of  is
(a)  (b) 
(c)  (d)  (e) none

**Reasoning :**

1. Which one letter-pair will complete the series ?
Series : A Z, C X, E V, ?
(a) G S (b) G T (c) H T (d) H U (e) none
2. The letters of the word RACTOR are in disorder. If they are arranged in proper order, the name of vegetable is formed. What is the last letter of the word so formed ?
(a) T (b) A (c) C (d) O (e) R
3. Ram is the brother of Shyam, and Mahesh is the father of Ram, Jagat is the brother of Priya and Priya is daughter of Shyam, who is the uncle of Jagat ?
(a) Shyam (b) Mahesh
(c) Ram (d) can not say (e) none
4. Madhav ranks seventeenth in a class of thirty-one. What is his rank from the last ?
(a) 13 (b) 14 (c) 15 (d) 16 (e) 17
5. 3, 5, 9, 17, …
(a) 26 (b) 65 (c) 33 (d) 42 (e) 46

**CLASS**−**VII**

**Chemistry**

1. It is a basic gas :
(a) Ammonia (b) Carbondioxide (c) Chlorine
(d) Nitrogen dioxide (e) none
2. Monobasic acid is
(a) H2SO4 (b) H2CO3 (c) CH3COOH (d) H2SO3 (e) H3PO4
3. Select the correct matching.
 **Reactants Gaseous products**
(A) Sodium + dil. Hydrochloric acid. (i) Hydrogen sulphide
(B) Sodium sulphide + dil hydrochloric acid (ii) Carbondixoide
(C) Sodium sulphite + dil. sulphuric acid (iii) Hydrogen
(D) Sodium carbonate + di. hydrochloric acid (iv) Sulphurdioxide
(a) A→(ii), B→(i), C→ (iii), D→(iv)
(b) A→(iii), B→(i), C→ (iv), D→(ii)
(c) A→(i), B→(iii), C→ (iv), D→(ii)
(d) A→(iii), B→(i), C→ (iv), D→(ii) (e) none
4. Two acids which are used to prepare “aqua regia” are :
(a) dilute hydrochloric & dilute nitric acid
(b) dilute hydrochloric & concentrated Nitric acid
(c) Conc. hydrochloric acid dilute nitric acid
(d) Conc. hydrochloric acid & Conc. nitric acid (e) none
5. Which of following salt is not an acid salt ?
(a) Sodium dihydrogen posphate (b) Sodium bisulphate
(c) Sodium bisulphite (d) Sodium Sulphate (e) none

**Physics**

1. A charged rod attracts another object kept nearby. The other object is then.
(a) either uncharged or having a charge opposite on that on the rod
(b) necessarily having a charge opposite to that on the rod
(c) necessarily uncharged
(d) can not say (e) none
2. Charge flows between two ends of a conductor when :
(a) Same electric potential is present at the two ends.
(b) Equal and same type of charges are at the two ends.
(c) Different electric potentials exist at the two ends of a conductor
(d) The potential difference between the ends is zero (e) none
3. The brightness of a surface lighted by a source of light depend on :
(a) luminous intensity (b) distance of the surface from the source
(c) incandescence (d) a & b both (e) none
4. Woollen clothes are better than cotton clothes in winter because
(a) Wool is a poor conductor
(b) Wool has more tiny air spaces and can trap air better than cotton
(c) Cotton is good conductor of heat and cannot, therefore, act as an insulator
(d) Wool is so fabricated that it can not allow cold to enter in
(e) none
5. Work done in moving a unit positive test charge at a point inside an electric field is called.
(a) Potential difference (b) Field
(c) Field intensity (d) Electric power (e) none

**Maths**

1. If a, a + 2, a + 4 are prime numbers, then the number of possible solutions for *a* is
(a) one (b) two
(c) three (d) more than three (e) none
2. If , then the value of 2x +  is
(a) 3 (b) 4 (c) 5 (d) 6 (e) none
3. A person saves every year 20% of his income. If his income increases every year by 10%, then his savings increase every year by
(a) 10% (b) 5% (c) 2% (d) 1% (e) none
4. Two non-intersecting circles, one lying inside another are of diameters a and b
(a > b). The minimum distance between their circumferences is c. The distance between their centres is
(a) a − b − c (b) a + b − c (c) (a − b − c) (d) (a − b) − c (e) none
5. The ratio between the length and perimeter of a rectangular plot is 1 : 3. What is the ratio between the length and breadth of the plot ?
(a) 1 : 2 (b) 2 : 1 (c) 3 : 2 (d) 1 : 3 (e) none

**Reasoning :**

1. Which number will replace the question mark ?
1, 2, 5, 12, 27, 58, ….. ?
(a) 121 (b) 136 (c) 135 (d) 174 (e) none
2. Which letter should be in place of the question mark in the following series ?
G H J M ? V
(a) T (b) S (c) R (d) U (e) Q
3. If P is the husband of Q and R is the mother of S and Q, what is R to P ?
(a) Mother (b) Sister (c) Aunt (d) Mother-in-law (e) none
4. How many of the following words can be made from the word “Undertaking’, using any letter any number of times?
Racer, Inking, Reduce, Rater, Kanter, Drinker, Reduit, Kingle, Taken, Unaimed
(a) 4 (b) 5 (c) 7 (d) 6 (e) 3
5. How many numbers from 11 to 50 are there which are exactly divisible by 7 but not by 3?
(a) 2 (b) 4 (c) 5 (d) 6 (e) 7

**CLASS**−**VIII**

**Chemistry**

1. When iron fillings are heated in a stream of dry hydrogen chloride, the compound formed is FeClx, where x is
(a) 1 (b) 2 (c) 4 (d) 5 (e) none
2. The colour of coating formed on the surface of copper when it is exposed to moist air for long is
(a) green (b) brown (c) black (d) pink (e) none
3. Ethanol on oxidation gives
(a) ethane (b) methane
(c) formalin (d) ethanoic acid (e) none
4. Metals generally do not displace hydrogen gas from :
(a) hydrochloric acid (b) nitric acid
(c) sulphuric acid (d) all (e) none
5. In the process of \_\_\_\_\_, higher hydrocarbon molecules are broken down into lower hydrocarbon molecules
(a) polymerization (b) condensation
(c) cracking (d) destructive distillation
(e) halogenation

**Physics**

1. The filament of an electric bulb is made of tungsten because :
(a) its resistance is negligible (b) it is cheaper
(c) Its melting point is high (d) its filament is easily made (e) none
2. When the temperature of a metallic conductor is increased its resistance :
(a) always decrease (b) always increase
(c) may increase or decrease (d) remain the same (e) none
3. What is the angle of deviation ?
(a) Angle between the reflected ray and incident ray
(b) Angle between the reflected ray and refracted ray
(c) Angle between the incident ray and refracted ray
(d) Angle between the incident ray and emergent ray (e) none
4. A convex lens forms a real image of a point object placed on its principal axis. If the upper half of the lens is painted black :
(a) the image will be shifted backward
(b) the image will not be shifted
(c) the intensity of the image will decrease
(d) both (b) and (c) (e) none
5. When the ends of metal wire are not connected to a battery.
(a) electrons move from positive electrode to negative electrode
(b) electrons move from negative electrode to positive electrode
(c) electrons move in random directions
(d) protons move in random direction in such a way that their net movement in a unit volume is zero.

**Maths**

1.  is equal to
(a)  (b)  (c)  (d)  (e) none
2. In a right angled triangle, area is numerically equal to the perimeter. The lengths of all the sides are even integers. Find its area :
(a) 12 sq. units (b) 24 sq. units
(c) 36 sq. units (d) 48 sq. units (e) none
3. If  & a + b + c = 1 then
(a) x = y = z = 1 (b) x = y = z = 2 (c) xy + yz + zx = 0
(d) x2 + y2 + z2 = 3 (e) none
4. If , then
(a) m = n + 1 (b) 
(c)  (d)  (e) none
5. Solve for x, 
(a)  (b) 
(c)  (d)  (e) none

**Reasoning :**

1. Which one number will complete the series ?
Series : 96, 90, 78, ?, 36, 6
(a) 60 (b) 54 (c) 72 (d) 48 (e) none
2. What will come in place of questions mark (?).
AZ, BY, CX, ?
(a) EF (b) GH (c) DE (d) DW (e) none
3. Pointing at a photo, Dinesh said, “His father is the only son of my mother.” The photo belongs to-
(a) Dinesh (b) Dinesh’s brother
(c) Dinesh’s fater (d) Dinesh’s son (e) none
4. If we substitute numbers 1 to 12 indicating hours on the dial of a clock by the letters of the alphabet in their order starting with C, which letter will represent 9 ?
(a) J (b) L (c) K (d) I (e) None
5. An elevator has the capacity of 12 adults or 20 children. How many adults can board the elevator with 15 children ?
(a) 4 (b) 5 (c) 3 (d) 6 (e) none

**CLASS**−**IX**

**Chemistry**

1. A certain negative ion X2− has in its nucleus 18 neutrons and 18 electrons in its extra nuclear structure. What is the mass number of the most abundant isotope of ‘X’.
(a) 35.46 (b) 32 (c) 36 (d) 39 (e) none
2. Pick up the false statement :
(a) Iodine is a solid halogen (b) In ice, H2O molecules are hydrogen bonded
(c) Sulphur molecule is octatomic (d) Chlorine is brown coloured gas
(e) none
3. Two elements X and Y have following electronic configuration.
X : 1s2, 2s2, 2p2, 3r2, 3p6, 4s2 Y : 1s2, 2s2, 2p6, 3s2, 3p5
The expected compound formed by combination of X and Y will be expressed as :
(a) XY2 (b) X5Y2 (c) X2Y5 (d) XY5 (e) none
4. What is the valency of manganese in KMnO4
(a) 2 (b) 4 (c) 6 (d) 7 (e) none
5. Which of the following arrangements of electrons is most likely to be stable ?
(a)  (b) 
(c)  (d)  (e) none

**Physics**

1. The engine of a train passes an electric pole with a velocity u and the last compartment of the train crosses the same pole with a velocity v. Then the velocity with which the mid-point of the train passes the pole is
(a) u (b) v (c)  (d)  (e) none
2. A lift is moving down with an acceleration a. A man in the lift drops a ball inside the lift. The acceleration of the ball as observed by the man in the lift, and a man standing stationary on the ground are respectively
(a) g, g (b) a, a (c) (g − a); g (d) a, g (e) none
3. If both the mass and the radius of the earth decreases by 1% :
(a) the air will escape (b) the acceleration due to gravity would increase
(c) the lighter particles of air will escape (d) the acceleration due to gravity would decrease (e) none
4. If in a gramophone, a music record is made to turn faster, the
(a) Intensity increases (b) Pitch increases
(c) Timber changes (d) Pitch decreases (e) none
5. Ultrasonics are used in SONAR with greater advantage because ultrasonics
(a) have low frequency (b) have short wavelength
(c) are electromagnetic waves (d) can be easily produced (e) none

**Maths**

1. Solve for x : :
(a) a + b + c (b)  (c) ab + bc + ca (d)  (e) none
2. ABCD is a face of a cube X, Y, are the midpoints of AD, BC respectively. The perimeter of AXYB is cm. Find the total surface of the cube.
(a) 27 cm2 (b) 36cm2 (c) 48 cm2 (d) 60 cm2 (e) none
3. If y + z + yz = a, x + z + x z = b & x + y + xy = c then the value of x is:
(a)  (b )  (c) +1 (d)  (e) none
4. In a ΔABC, the incircle touches the sides BC, CA and AB respectively at D, E and F. If the radius of the incircle is 4 units and BD, CE and AF are consecutive integers then the longest side of the triangle is :
(a) 12 (b ) 13 (c) 14 (d) 15 (e) none
5. Given that , find the value of 
(a) x + y + z (b)  (c)  (d)  (e) none

**Reasoning :**

1. Which one of the letter given below will come in blank spaced ?
B, F, K, Q, …
(a) X (b) R (c) T (d) Y (e) none
2. If all the letters of the word RATIONALISATION are written according to alphabetical order, which letter will be farthest from the first letter ?
(a) L (b) T (c) R (d) N (e) None
3. If 15 apples and 20 oranges cost as much as 20 apples and 15 oranges. How do you compare the costs of two ?
(a) Apples are as costly as oranges (b) Oranges are costly than apples
(c) Apples are costly than oranges (d) Nothing can be found from the given data
(e) None
4. A is the mother of B and C. If D is the husband of C, what is A to D?
(a) Mother (b) Sister (c) Mother-in-law (d) Aunt (e) none
5. 1, 0, 3, 2, 5, 6, …
(a) 9 (b) 8 (c) 7 (d) 10 (e) 12

**CLASS**−**X**

**Chemistry**

1. When a chemical bond is formed, there is decrease in
(a) kinetic energy (b) potential energy
(c) repulsive force (d) attractive force (e) none
2. Select the correct statement :
(a) Ionic hydrides are better reducing agents
(b) Covalent nature of hydrides increases across a period and decreases down the group
(c) LiAlH4 can reduce carbonyl compounds to alcohols.
(d) All are correct statements (e) none
3. AgCl + Na2CO3 → Ag2CO3 X, X is
(a) Ag2O and CO2 (b) Ag2, O2 and CO2
(c) Ag2O2 and CO2 (d) Ag + O2 (e) none
4. Consider following hydrolysis reaction of ester which is practically favourable in the forward side
   Products are :
(a)  (b) 
(c)  (d)  (e) none
5. Which of the following compound has both ionic and covalent bonding ?
(a) NaBr (b) Ba(CN)2
(c) PCl5 (d) CH3CH2O (e) none

**Physics**

1. Two circular, identical coaxial loop carry same current *i* in the same direction. If the loops are brought close to each other, then :
(a) current will increase in each loop (b) current will decrease in each loop
(c) current will remain same in each loop
(d) current will increase in one and will decrease in the other (e) none
2. A diver from inside water (n = 4/3) looks at an object in air whose natural colour is green. He sees the objects as :
(a) green (b) blue (c) yellow (d) red (e) none
3. A ray of white light is incident at the interface of glass and air, as shown. The angle of incidence is such that green light just suffers total internal reflection. The ray of light emerging from glass to air contains :
 
(a) yellow, orange, red (b) violet, indigo and blue
(c) all colours (d) all colours except green. (e) none
4. A concave and a convex lens have the same focal-length of 20 cm and are put in mutual contact to form a lens-combination. The combination is used to see an object 5 cm high kept at 20 cm from the lens-combination. A compared to the object, the image will be :
(a) magnified and inverted (b) smaller and erect
(c) of the same size as the object and erect (d) of the same as the object but inverted. (e) none
5. A hollow double concave lens is made of very thin transparent material. It can be filled with air or either of the two liquids L1 and L2 having refractive indices n1 and n2 respectively (n1 > n2 > 1). The lens will diverge a parallel beam of light if it is filled with:
(a) air and placed in air (b) air and immersed in L1
(c) L1 and immersed in L2 (d) L2 and immersed in L1 (e) none

**Maths**

1. The sides of a triangle are 3 cm, 4 cm and 6cm. A second triangle is similar to the first and also has only one of its sides same as one of the sides of the first triangle. All the three sides of the second triangle are integers. Find the area of the second triangle :
(a)  (b)  (c)  (d)  (e) none
2. If s is the semi-perimeter and r is the inradius of a triangle, then area of triangle is:
(a) 2rs (b) rs (c) r2s (d)  (e) none
3. A(8, 5), B(4, 1) and C(0, k) are three points in the co-ordinate plane. Find the value of k for which AC + CB will be a miniumum :
(a)  (b)  (c)  (d)  (e) none
4. ABCD is a cyclic quadrilateral. AC ⊥ BD and AC meets BD at E. If radius of the circle is R then EA2 + EB2 + EC2 + ED2 is equal to :
(a) 2R2 (b) 3R2 (c) 4R2 (d) 6R2 (e) none
5. If x − y = a,  &  then  is equal to :
(a) 0 (b) ± 1 (c) 2 (d) ± 3 (e) none

**Reasoning :**

1. Which one of the letter given below will come in blank spaced ?
X, U, R, O, L, …
(a) M (b) J (c) K (d) I (e) none
2. Which number can be placed at the sign (?) of interrogation ?
 12 (47) 21, 10 (52) 4, 64 (?) 24.
(a) 62 (b) 83 (c) 16 (d) 40 (e) none
3. Introducing a lady, a man said, “Her mother in the only daughter of may mother-in-law.” What is the man to the lady ?
(a) Son (b) Brother (c) Uncle (d) Husband (e) Father
4. If by arranging the letters of the word ‘NESTIN’ the name of a game is formed, what is the first and last letters of the word so formed ?
(a) E, S (b) T, N (c) T, S (d) E, N (e) I, E
5. 1, 2, 2, 5, 3, 10, …
(a) 12 (b) 8 (c) 7 (d) 4 (e) 6