

Pre-Mid Term Tests

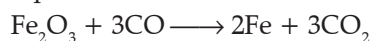
Chemistry-1,2, Physics-10,11, Biology-6,7

SOLUTIONS

Test 1

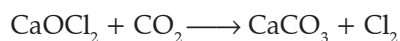
M.M. – 10

1. The reducing agent in the given equation :



is carbon monoxide [CO].

- The extensively coiled structure of alimentary canal is small intestine.
- Acid present in tomato is Citric acid ($\text{C}_6\text{H}_8\text{O}_7$)
Acid present in Vinegar is Acetic Acid. (CH_3COOH)
- Gustatory Receptor in Tongue
Olfactory Receptor in Nose.
- Pulmonary artery transport deoxygenated blood from heart to lungs.
Pulmonary vein transport oxygenated blood from lungs to heart.
- Plants have starch as the storage carbohydrates which act as internal energy reserve but animals have glycogen as internal energy reserve.
- The field of view of convex mirror is wider in comparison to plane mirror. The convex mirror is preferred as a rear view mirror as it enables the driver to view much larger area than with a plane mirror.
- The person is suffering from hypermetropia.
- 25 cm to infinity.
- (a) When bleaching powder is kept open in air, it reacts with CO_2 to give pungent smelling chlorine gas.



- (b) When Chlorine is passed through dry slaked lime; bleaching powder is obtained

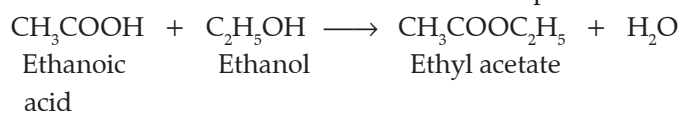


Test 2

M.M. – 10

- Both, chemical change and physical change.
- Exothermic reaction.
- Concave mirror.
- pH = 2
- Gastric glands are present in the wall of stomach which releases hydrochloric acid, mucus and protein digesting enzyme pepsin.
- Small intestine in alimentary canal.
- Aerobic respiration occurs in mitochondria of the cell.

8. Cerebellum (Hind brain)
9. The minimum distance between the object and the eye so that a clear image is formed on the retina is called the least distance of distinct vision. The distance is 25 cm for human eye.
10. To prevent the corrosion of Iron.
11. No, it will not remain healthy for long as no exchange of gases takes place due to the coating of Vaseline. It will not get oxygen for respiration and carbon dioxide for photosynthesis. Upward movement of water and minerals would be hampered due to lack of transpiration.
12. When Ethanol is warmed with ethanoic acid in the presence of conc H_2SO_4 ester is formed.



Mid Term Tests

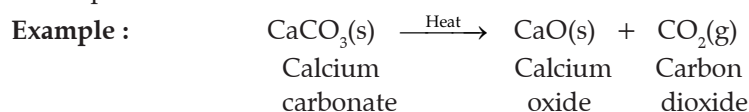
Chemistry-1,2,3,4 Physics-10,11,12,13 Biology-6,7,8 & 9

SOLUTIONS

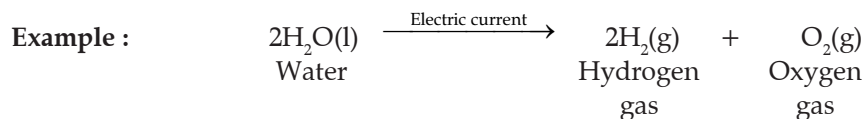
Test 1

M.M. – 10

1. The excretory unit of kidney is nephron.
2. DNA is found in the nucleus of a cell.
3. **Thermal decomposition** : When a decomposition reaction is carried out by heating, it is called thermal decomposition.



Electrolytic decomposition : When decomposition is carried out with the help of passing electric current.



4. In the electrolytic refining of metal M.
Cathode — Pure metal
Anode — Impure metal
5. $\text{CH}_3\text{CH}_2\text{OH} + 2[\text{O}] \xrightarrow{\text{KMnO}_4[\text{O}]} \text{CH}_3\text{COOH} + \text{H}_2\text{O}$
Ethanol Nascent Oxygen Ethanoic acid Water
6. Testis and Ovaries both produces gametes and sex hormones. So, these are called primary sex organs.
7. In dihybrid cross between round yellow seeds (RRYY) and wrinkled green seeds (rryy) of pea plant, the ratio of plants obtained in F₂ generation is 9 : 3 : 3 : 1.
8. Real, inverted and same-sized.
9. **Right Hand Thumb Rule** : Imagine holding the current carrying straight conductor in your right hand such that the thumb points towards the direction of current. Then the fingers of right hand wrap around the conductor in the direction of field lines of the magnetic field.
10. Four characteristics of the image formed by convex mirrors :
 - (i) It is always formed behind the mirror, between the pole and its focus.
 - (ii) The image is always virtual and erect.
 - (iii) The size of image is always smaller than the object.
 - (iv) Magnification is always positive.

Test 2

M.M. – 10

1. Rancidity



2. H-C-C-C-H Ten covalent bonds.



3. CaOCl_2 — Bleaching powder.

4. Electric current.

5. Before heating, it is pale green after heating, it is brown or reddish brown.

6. Silver articles get tarnished by reacting with atmospheric air to form silver sulphide.

7. Solution Y is a stronger acid.

8. Carbon is a versatile element because it forms covalent bonds with large number of elements and has catenation capacity to form compounds by chain of bonds with itself.

9. Two major functions of forebrain are :

(a) Storing information

(b) Movement of voluntary muscles.

(c) Sensation of feeling hunger or satiety (any two).

10. Four mechanisms which can lead to speciation in sexually reproducing organisms are :

Natural selection, Genetic drift, variations and geographical isolation.

11. **Ohm's Law** : It states that "If Physical conditions remains same, the current flowing through a conductor is directly proportional to the potential difference across its two ends. *i.e.*

$$\begin{array}{ll} I \propto V & \text{But } G = 1/R \\ I = GV & \text{So, } V = IR \end{array}$$

Where the constant of proportionality R is called the electrical resistance or resistance of the conductor.

12. A closely bound cylindrical coil of insulated metallic wire. A current carrying solenoid behaves as an electromagnet. The uniform magnetic field inside it may magnetise a steel rod permanently.



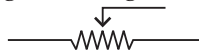

Post-Mid Term Tests

Chemistry-1,2,3,4,5 Physics-10,11,12,13 and 14
Biology-6,7,8, 9,15 and 16

SOLUTIONS

Test 1

M.M. – 10

- X is a metal because basic oxide turns red litmus blue.
- Carbon.
- Plaster of paris — $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
Gypsum — $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- The outer layers of the ovule become impervious and hard and function as a seed coat. An ovule with an embryo inside is called a seed.
The ovary enlarges and ripens to become a fruit.
Other floral parts such as sepals, petals, stamens, styles and stigma may fall off. However, in some cases, they remain persistent in the fruit.
- Radius of curvature $R = 32$ cm.
Radius of curvature = $2 \times$ Focal length (f)
 $R = 2f$
 $f = \frac{R}{2} = \frac{32}{2} = 16$ cm.
Hence, the focal length of the given convex mirror is 16 cm.
- Symbol of Rheostat 
Symbol of Electric bulb 
- (i) Increasing the amount of electric current through it.
(ii) Increasing the number of turns of the coil.
- Food chain
Plankton \longrightarrow Crab \longrightarrow Fish \longrightarrow Shark
- By connecting resistors in parallel, resistance 1Ω is obtained.
 $R_{\text{eq}} = \frac{R}{n} = \frac{5\Omega}{5} = 1\Omega$
- We need to manage natural resources because :
(i) Human population is increasing at a tremendous rate.
(ii) A majority of natural resources is limited and utilization of natural resources is increasing at an exponential rate.

Test 2

M.M. – 10

1. Acid is hydrochloric acid (HCl)
Base is sodium hydroxide (NaOH)
2. Nephron is called filtering unit of kidney because it filters the blood and remove the poisonous nitrogenous waste like urea and uric acid, excess of water from it. These harmful products get filtered and useful products are reabsorbed by tubular part of nephron. By this way, harmful waste is excreted out as urine from the body.
3. Concave mirror.
4. White light bends towards the base of the prism after passing through it and splits into seven colours.
5. (a) Rusting of Iron — oxidation reaction
(b) Dilute HCl is added to NaOH — neutralisation reaction.
6. Metals are placed on the left side while non-metals are placed on the right side of the periodic table.
7. Lymph is colourless and contains less protein than plasma.
8. DNA copying is necessary during reproduction because it leads to the transmission of characters from parents to off springs and variations.
9. $\frac{V^2}{R} \times t = 400$
 $\frac{V^2}{4} \times 4 = 400$
 $V^2 = 400$
 $V = 20 \text{ volt}$
10. This indicates that the magnetic field in that region is strong.
11. **LPG considered to be a good fuel because :**
 - (a) It release large amount of energy on burning.
 - (b) It is easy to store, transport and does not produce smoke.
12. **Two effects of ozone depletion on our health :**
 - (i) Skin cancer
 - (ii) Damage to eyes
 - (iii) Effect on immunity
 - (iv) Can change the structure of DNA. (Any two)

