

**DPP (MCQ) TERM-I CBSE**  
**CLASS X-SCIENCE**

Q1.

The reaction which decomposes after the supply of heat is called \_\_\_\_\_.

- (a) Thermal decomposition
- (b) Combination reaction
- (c) Redox reaction
- (d) Displacement reaction

Q2.

In a double displacement reaction such as the reaction between sodium sulphate solution and barium chloride solution: [CBSE, 2020]

- (i) exchange of atoms takes place.
- (ii) exchange of ions takes place.
- (iii) a precipitate is produced.
- (iv) an insoluble salt is produced.

The correct option is :

- (a) (ii) and (iv)
- (b) (i) and (iii)
- (c) only (ii)
- (d) (ii), (iii) and (iv)

Q3.

Electrolysis of water is a decomposition reaction. The mole ratio of hydrogen and oxygen gases liberated during electrolysis of water is \_\_\_\_\_.

[NCERT Exemplar]

- (a) 1 : 1
- (b) 2 : 1
- (c) 4 : 1
- (d) 1 : 2

Q4.

Which of the following salts do not contain water of crystallisation?

- (a) Blue vitriol.
- (b) Baking soda.
- (c) Washing soda.
- (d) Gypsum.

Q5.

Generally metals react with acids to give salt and hydrogen gas. Which of the following acids does not give hydrogen gas on reacting with metals (except Mn and Mg) ?

- (a)  $H_2SO_4$
- (b) HCl
- (c)  $HNO_3$
- (d) All of these

Q6.

Which one of the following is acidic in nature?

- (a) Gastric juice
- (b) Sodium hydroxide solution
- (c) Lime water
- (d) Blood plasma

Q7.

The chemical formula for plaster of Paris is :

[CBSE, 2020]

- (a)  $CaSO_4 \cdot 2H_2O$
- (b)  $CaSO_4 \cdot H_2O$
- (c)  $CaSO_4 \cdot \frac{1}{2} H_2O$
- (d)  $2CaSO_4 \cdot H_2O$

Q8.

What is the name of the process where fatty foods become rancid?

- (a) Corrosion
- (b) Oxidation
- (c) Reduction
- (d) Hydrogenation

Q9.

The elements or compounds which occur naturally in the earth crust are known as:

- (a) Ores
- (b) Minerals
- (c) Gangue
- (d) None of them

Q10.

Silver articles become black on prolonged exposure to air. This is due to the formation of

[NCERT Exemplar]

- (a)  $Ag_3N$
- (b)  $Ag_2O$
- (c)  $Ag_2S$
- (d)  $Ag_2S$  and  $Ag_3N$

Q11.

Which of the following oxide(s) of iron would be obtained on prolonged reaction of iron with steam ?

[NCERT Exemplar]

- (a) FeO
- (b)  $Fe_2O_3$
- (c)  $Fe_3O_4$
- (d)  $Fe_2O_3$  and  $Fe_3O_4$

Q12. Bile from the liver is received in which part of the alimentary canal?

- (a) Stomach
- (b) Small intestine
- (c) Large intestine
- (d) Oesophagus

**Q13. In which part of alimentary canal food is finally digested ? [NCERT Exemplar]**

- (a) Stomach (b) Mouth cavity  
(c) Large intestine (d) Small intestine

**Q14. Which of the following statement is incorrect ?**

- (a) The bending of a ray of light on passing from different media to one is called reflection.  
(b) The phenomenon of splitting of white light into seven constituent colours is known as the dispersion of light.  
(c) Refractive index of medium depends upon its temperature.  
(d) Refractive index is directly proportional to the density of the medium.

**Q15. A piece of red cloth when suitably illuminated may look black, but a piece of black cloth will never appear red. This phenomenon occurs because**

- (a) Black cloth reflects only black light  
(b) Black absorbs all the colours  
(c) Black cloth reflects all colours  
(d) Red cloth reflects all colours

**Q16.**

**Which of the following phenomena contributes significantly to the reddish appearance of the sun at sunrise or sunset?**

- (a) Dispersion of light  
(b) Scattering of light  
(c) Total Internal Reflection of light  
(d) Reflection of light from Earth

**Q17.**

**A clear sky appears blue, because:**

- (a) blue light gets absorbed in the atmosphere.  
(b) ultraviolet radiations are absorbed in the atmosphere.  
(c) violet and blue lights get scattered more than the lights of all other colours by the atmosphere.  
(d) lights of all other colours is scattered more than the violet and blue colour lights by the atmosphere.

**Q18.**

**The danger signals installed at the top of tall buildings are red in colour. These can be easily seen from a distance because:**

- (a) is scattered the most by smoke or fog.  
(b) is scattered the least by smoke or fog.  
(c) is absorbed the most by smoke or fog.  
(d) moves fastest in the air.

**Q19.**

**A student has focussed on the screen a distant building using a convex lens. If he has selected a blue coloured building as object, select from the following options the one which gives the correct characteristics of the image formed on the screen.**

- (a) Virtual, erect, diminished and green shade  
(b) Real, inverted, diminished and in violet shade  
(c) Real, inverted, diminished and in blue shade  
(d) Virtual, inverted, diminished and in blue shade

**Q20.**

**A student determines the focal length of a device 'X' by focusing the image of a distant object on a screen placed 20 cm from the device on the same side as the object.**

**The device 'X' is:**

- (a) Concave lens of focal length 10 cm  
(b) Convex lens of focal length 20 cm  
(c) Concave mirror of focal length 10 cm  
(d) Concave mirror of focal length 20 cm

**Q21. Name the most reactive metal and least reactive metal of the activity series of metals.**

**Q22. What is the chemical formula of the rust ?**

**Q23. Suggest two methods to prevent rusting ?**

**Q24. What is the reason behind various metals such as iron get wasted every year in our country ?**

Q25. Name one metal which has a low melting point.

Q26. Name the metal which is the poorest conductor of heat.

Q27. Name two metals which form the amphoteric oxides.

Q28. Why is carbon not used for reducing aluminium from aluminium oxide.

Q29. Why is Hydrogen included in activity series of metals?

Q30. Why gold and silver do not corrode in moist air ?

Q31. Why silver bromide is kept in coloured bottles ?

**Directions:** In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as:

- (a) If both assertion and reason are true and reason is the correct explanation of assertion.
- (b) If both assertion and reason are true, but reason is not the correct explanation of assertion.
- (c) If assertion is true, but reason is false.
- (d) If assertion is false, but reason is true.

Q32.

**Assertion:** Hydrogen peroxide is kept in coloured bottles.

**Reason:** Hydrogen peroxide is a moderately reactive metal that can react with light or heat slowly to produce water.

Q33. Assertion: Silver bromide is kept in the coloured bottles.

Reason: Silver bromide is kept in coloured bottles because it decomposes in presence of light.

Q34. Assertion: Copper is used to make hot water tanks and not steel (an alloy of iron).

Reason: Copper does not react with hot water

Q35. Assertion: Aluminium is used to make utensils for cooking.

Reason: Aluminium is a highly reactive metal.

Q36. Assertion: Hydrogen is not included in the activity series of metals.

Reason: It is because it can lose electrons to form positive ions

Q37. Assertion: Solutions of compounds like alcohol and glucose do not show acidic character.

Reason: They do not show acidic character because they do not dissociate into ion

Q38. Assertion: Curd and sour substances should not be stored in copper vessels.

Reason: Curd and other sour substances should not be kept in brass and copper vessels as they contain acids.

Q39. Assertion: Calcium starts floating when added in water.

Reason: Calcium starts floating because the bubbles of oxygen gas which are formed during the reaction stick to the surface of the metal.

Q40. Assertion : Convex mirrors are used for rear view on vehicles.

Reason : The size of the image formed by a convex mirror will be same.

Q41. Assertion : Light bends from its path when it goes from one medium to another medium.

Reason : Speed of light changes, when it goes from one medium to another medium.

Q42. Assertion : The path of light passing through the colloidal solution becomes not visible.

Reason : The large particle size does not come its way.

Q43. Assertion : When a ray of light travels from air to water, its speed will increase.

Reason : The speed of light is slower in a denser medium than in a rarer medium.

Q44. Assertion: The sequence of rainbow colour is represented as VIBGYOR.

Reason: Formation of VIBGYOR sequence colour is due to the dispersion of white light.

Q45. Assertion: The Sun appears red during sunrise or sunset.

Reason: The scattering of light is inversely proportional to its wavelength.

Q46. Assertion: A beam of white light gives a spectrum on passing through a hollow prism.

Reason: Speed of light outside the prism is different from the speed of light inside the glass prism.

**Q47. Atmospheric refraction is the phenomenon of bending of light on passing through the earth's atmosphere. As we move above the surface of the earth, the density of air goes on decreasing. Local conditions like temperature etc. also affect the optical density of the earth's atmosphere. On account of atmospheric refraction, stars seen appear higher than they actually are. Advanced sunrise, delayed sunset, the oval appearance of the sun at sunrise and sunset, twinkling of stars, all can be explained with atmospheric refraction.**

- (i) Due to atmospheric refraction, the apparent length of the day.
- (a) Increases (b) Decreases  
(c) Remains same (d) None of the above
- (ii) Apparent position of the stars appears raised due to:
- (a) Atmospheric refraction  
(b) Scattering of light  
(c) Dispersion of light  
(d) Reflection of light
- (iii) The sun appears oval-shaped or flattened due to:
- (a) Dispersion  
(b) Scattering  
(c) Atmospheric refraction  
(d) Atmospheric reflection
- (iv) Which of the following given statement is incorrect?
- (a) Atmospheric refraction explains the non-twinkling of planets  
(b) Atmospheric refraction explains the twinkling of stars  
(c) Atmospheric refraction explains floating images around a bonfire  
(d) Atmospheric refraction alone explains the rainbow formation
- (v) In absence of atmosphere, the colour of the sky appears:
- (a) Blue (b) Black  
(c) Red (d) Yellow

**Q48. The spreading of light by the air molecules is called the scattering of light. The light having the least wavelength scatters more. The sun appears red at sunrise and sunset and the sky appears blue. It is due to the scattering of light. The colour of the scattered light depends on the size of the particles. The amount of scattering of light depends on the wavelength of light. When light from the sun enters the earth's atmosphere, it gets scattered by the dust particles and the air molecules present in the atmosphere. The path of sunlight entering the dark room through a fine hole is seen because of the scattering of the sunlight by dust particles present in its path.**

- (i) To an astronaut in a spaceship, the colour of the earth appears:
- (a) Red (b) Blue  
(c) White (d) Black
- (ii) At the time of sunrise and sunset, the light from the sun has to travel:
- (a) Longest distance through the atmosphere  
(b) Shortest distance through the atmosphere  
(c) Double distance of what it travels during the daytime  
(d) Half the distance of what it travels during the daytime
- (iii) The colour of the sky appears blue due to:
- (a) Refraction of light through the atmosphere  
(b) Dispersion of light through the air molecules  
(c) Scattering of light by air molecules.  
(d) All of the above
- (iv) At the time of sunset:
- (a) Blue colour is scattered and red colour reaches our eye  
(b) Red colour is scattered and blue colour reaches our eye  
(c) Green and blue scattered and orange reaches our eye  
(d) Yellow colour is scattered and violet reaches our eye
- (v) Danger signals are always painted in red. Choose the incorrect statement.
- (a) Red light can be seen from the farthest distance  
(b) The wavelength of red light is maximum  
(c) Scattering of red light is least  
(d) Red is the colour of courage and fear

**Q49.** Read the passage carefully and answer any four questions from Q 49 (i) to 49 (v): Common edible salt, NaCl (Sodium Chloride) obtained from seawater or from lakes contains many impurities such as sulphates of sodium and magnesium along with chlorides of calcium and magnesium. The chlorides of these metals are particularly undesirable being deliquescent in nature. A saturated solution of salt in a minimum quantity of water is prepared and insoluble impurities are filtered off. HCl gas is then passed through the saturated solution and the crystals of pure NaCl separate out. The soluble impurities remain in the solution. Pure crystals of NaCl are filtered washed and dried.

- (i) Choose the correct statement:
- (a) Pure NaCl is hygroscopic in nature by itself  
(b) Pure NaCl is soluble in alcohol  
(c) NaCl shows hygroscopic properties only due to impurities  
(d) NaCl is a brown crystalline solid
- (ii) Nature of the aqueous solution of common salt is:
- (a) Acidic (b) Alkaline  
(c) Basic (d) Neutral
- (iii) Which of the following compounds is alkaline in an aqueous medium?
- (a)  $\text{Na}_2\text{CO}_3$  (b) NaCl  
(c)  $\text{H}_2\text{CO}_3$  (d)  $\text{CuSO}_4$
- (iv) Adding common salt to water will result in:
- (a) Increase in pH of the water  
(b) Decrease in pH of the water  
(c) No change in pH of the water  
(d) Flames in water
- (v) Examining few statements regarding NaCl.
- I- It is prepared by Chlor-alkali process  
II- It is a white crystalline substance  
III- It also exists in the form of rocks called rock salt  
IV- It is a neutral salt with a pH value = 7
- (a) II and III only (b) III and IV only  
(c) I and IV only (d) II, III and IV only

**Q50.** Rear view mirror is a device that allows the driver to see rearward. It usually finds its place at the top of windscreen in side the cabin. This device is one of the most basic but essential safety devices in the vehicle. It provides assistance to the driver during overtaking, parking in reverse gear etc. Generally, vehicles also have a pair of mirrors attached to the body from outside. They are popular as 'side mirrors' or Outer Rear View Mirrors (ORVM) which serve the same purpose. Almost all modern cars mount their side mirrors on the doors-normally at A-pillar rather than the wings (the portion of the body above the wheel well).



- (i) For a real object, which of the following can produce a real image?  
(a) Plane mirror (b) Concave mirror  
(c) Convex mirror (d) None of these
- (ii) An object at a distance of +15 cm is slowly moved towards the pole of a convex mirror. The image will get...  
(a) shortened and real  
(b) enlarged and real  
(c) enlarge and virtual  
(d) diminished and virtual
- (iii) A convex mirror is used:  
(a) by a dentist  
(b) for shaving  
(c) as a rear view mirror in vehicles  
(d) as a light reflector for obtaining a parallel beam of light
- (iv) The word 'AMBULANCE' is written on the vehicle as:  
(a) CNALUBMA (b) ECNALUBMA  
(c) AMBUJANCE (d) None of these
- (v) Mark the correct statement:  
(a) Convex mirror conform images of objects spread over a large area.  
(b) Convex mirrors are used by dentist.  
(c) In convex mirror image is formed larger in size, erect and real.  
(d) Convex mirror forms real image.