

CBSE Class 9 Science Sample Paper Set 5 Solution

MARKING SCHEME

1. potential energy (1 mark)
2. Stratosphere (1 mark)
3. Valency-1 , name of element- Lithium (½ mark each)
4. Mass of 1 mole nitrogen gas = 28g (½ mark)
 1mole= 6.022×10^{23} molecules of nitrogen gas (½ mark)
 Mass of 6.022×10^{23} molecules of nitrogen gas = 28 g (½ mark)
 Mass of 1 molecule of nitrogen gas = $28/6.022 \times 10^{23}$ g = 4.6×10^{23} g (½ mark)
5. a = reptilia, b = water, c = aves d = mammary gland (½ each)
6. Causes- a) use of CFC's ½
 b) increase in the level of methane or carbon dioxide. ½
 Effects- a) U.V rays will reach the earth and may cause skin burns. ½
 b) increased chances of cancer. ½
7. Relative density of silver-10.8 2
 Relative density of silver- $\frac{\text{density of silver}}{\text{Density of water}}$
 Density of silver-relative density of silver X density of water
 - $10.8 \times 10^3 \text{ kg/m}^3$
8. A. Thallophyta 1
 B. Any two differences . 2
9. A) Development of immunity to small pox, memory cells are formed, memory cells attack more vigorously and quickly if microbe enters the body second time. 2
 B) Tuberculosis 1
10. Formula: $2d = v \times t$ 1

$$d = v \times t/2 = 340 \times 10/2 = 1700 \text{ m}$$

1
1

11. Refer to NCERT book pg 165 and 171. (2 for diagram + ½ each for application)
 12. A) any one reason 1
 B) Any two points 2

13 A)

ACUTE DISEASES	CHRONIC DISEASES
These diseases are short term	These diseases have long duration
The patient recovers completely	The patient never recovers completely

- B) ACUTE- common cold, tuberculosis CHRONIC- diabetes, elephantiasis (any one) ½ each
 C) A) porifera- any two characteristic (½ + 1)
 B) Platyhelminthes- any two characteristic (½ + 1)
 D) A) Because each shell has its own fixed energy. (1 marks)
 B) K,L,M,N (1)
 C) 18 Electrons (1)
- E) A) Molar mass of $\text{CH}_3\text{COOH} = 12u + 3u \times 1 + 12u + 16u + 16u + 1u = 60 \text{ u}$ 1
 B) $\text{AlCl}_3, \text{NH}_4 \text{NO}_3$ ½ each
- F) A) refer to NCERT book 1
 B) Height of each step = 25 cm
 No. of steps = 20
 Total height = $25 \times 20 = 500 \text{ cm} = 5 \text{ m}$ ½
 Work done = $mgh = 45 \times 10 \times 5 = 2250 \text{ J}$ ½
 Power = $\text{workdone}/\text{time} = 2250/20 = 112.5 \text{ watt}$ 1
- G) Hydroelectric power- water to electricity, explosion of cracker- chemical to heat, light and sound energy, oscillating pendulum- kinetic energy to potential energy 1+1+1
- H) Mass of sodium sulphate = x g
 Mass of sodium sulphate + Mass of barium chloride = Mass of sodium chloride + Mass of barium sulphate
 $X \text{ g} + 5.22 \text{ g} = 6.10 \text{ g} + 2.80 \text{ g}$ 1
 $X \text{ g} = 8.90 - 5.22 = 3.68 \text{ g}$. law of conservation of mass is used. 1+1
- I) Refer to ncert (2 marks for diagram + 1 for labeling+ 2 for Explanation)
 Or
 Refer to ncert book pg. 172 (2 marks for diagram + 1 for labeling+ 2 for working)
- J) A) Cyclic flow of nutrients between living and non living components are called biogeochemical cycles. 1
 B) Refer to NCERT book pg 198. (2 for diagram + 2 for labeling)
 Or
 A) Refer to ncert 1
 B) Refer to ncert book pg 199 (2 for diagram + 2 for labeling)

- K) A) Archimedes principle 1
 B) In water the apparent weight of the bucket is less. 1
 C) $a = \text{weight of the object}$, $b = \text{upthrust}$ (1+1)
 Object will sink. (1 mark)
- Or
- A) Any two points 2
 B) Refer to ncert 2
 C) buoyancy is the upward force on an object produced by the surrounding liquid or gas in which it is fully or partially immersed 1
- L) A) refer to NCERT book. 2
 B) Kinetic energy and elastic potential energy. $\frac{1}{2} + \frac{1}{2}$
 C) $S = ut + \frac{1}{2} at^2$ $\frac{1}{2}$
 $40 = 0 + \frac{1}{2} a \times 36$
 $a = 40/18 = 2.22 \text{ m/s}^2$ $\frac{1}{2}$
 Work done = $F \times S = m \times a \times s = 2000 \times 2.22 \times 40 = 177600 \text{ J}$ 1
 Or
- A) Refer to ncert text book pg no. 153 2
 B) Work is said to be done if force is applied on an object and it shows some displacement 1
 C) mass of object, $m = 15 \text{ kg}$ Displacement- 1.5 m
 Work done- $F \times S = mg \times s$
 $1.5 \times 10 \times 1.5 = 225 \text{ J}$ 2
- M)
- 4 electrons.
 - C because it has completely filled shell.
 - B because it has 7 valence electrons.
 - D
 - D
- OR
- A) The law of conservation of mass is based on following postulate of Dalton's atomic theory.
 "Atom can neither be created and nor be destroyed during a physical change or chemical reaction". 1
 B) Because they are far too small to be seen even with a microscope. They have a diameter of between $32-225 \text{ pm}$ ($\text{pm} = 1 \times 10^{-12} \text{ metres}$). 2
 C) Na, Zn, Pb, Cl ($\frac{1}{2}$ marks for each)

MCQ

Q.NO	ANSWER	Q.NO	ANSWER
25	a	33	b
26	a	34	b
27	c	35	c
28	d	36	b
29	c	37	d

30	b	38	c
31	b	39	a
32	D	40	a
		41	d
		42	d

