



PANCHSHEEL PUBLIC SCHOOL

10+2 Senior Secondary School (Affiliated & Recognized by CBSE)

Jaitpur, Badarpur, New Delhi-44

Mid-Term Examination-2022-23

Time: _____ Subject: SCIENCE Class: X M. Marks: 60
Name: _____ Roll No: _____ Section: _____ Date: _____

CHEMISTRY

- 1) The brown gas evolved on heating of copper nitrate is
(a) O_2 (b) NO_2 (c) N_2 (d) H_2 1
- 2) A solution turns red litmus blue, its PH is likely to be
(a) 1 (b) 4 (c) 5 (d) 10 1
- 3) Assertion: Iron is found in the free state in nature.
Reason: Iron is highly reactive element.
(a) Both A and R are true & R is the correct explanation for A.
(b) Both A and R are true & R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true. 1
- 4) What happens when Nitric acid added to an egg shell? 2
- 5) What do you mean by precipitation reaction? Explain with examples. 2
- 6) A metal X is so soft that it can be easily cut with a knife. Its oxide soluble in water, forms compound which turns red litmus solution blue. Identify X. Give your answer with chemical equation. 3
- 7) A white powder is added while baking cakes to make it soft & spongy. Name its main ingredients. Explain the function of each ingredient. Write the chemical reaction taking place when the powder is heated during baking. 3
- 8) (a) Plaster of Paris should be stored in a moisture-proof container. Explain Why? 5
(b) Draw the electron dot structure of Sodium Oxide?
- 9) COMPETENCY BASED QUESTIONS: 4
Ores mined from the earth are usually contaminated with large amounts of impurities such as soil, sand, etc., called gangue. The impurities must be removed from the ore prior to the extraction of the metal. The processes Several steps are involved in the extraction of pure metal from ores. Metals and Non-metals used for removing the gangue from the ore are based on the differences between the physical or chemical properties of the gangue and the ore. Different separation techniques are accordingly employed.
(a) What is meant by Roasting?
(b) Which gas is evolved during Calcination?
(i) SO_2 (ii) CO_2 (iii) NO_2 (d) H_2
(c) In which form does metals of low activity series occur in the earth crust?
(d) Name the ore of Mercury?

PHYSICS

- 1) The power of lens of focal length 25 cm in diameter is:
(a) 0.25 D (b) 2.5 D (c) 4.0 D (d) 0.4 D 1
- 2) The human eye forms the image of an object at its
(a) Cornea (b) Iris (c) Pupil (d) Retina 1
- 3) Assertion: The stars twinkle, while the planets do not.
Reason: The stars are much bigger in size than the planets. 1
(a) Both A and R are true & R is the correct explanation of A.
(b) Both A and R are true & R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
- 4) Define the term Power of accommodation. Write the modification of curvature of the eye lens which enables

- us to see the nearby objects clearly. 2
- 5) A real image, $\frac{4}{5}$ size is formed 18 cm from a lens. Calculate the focal length of the lens. 3
- 6) (a) The refractive index of water with respect to air is $\frac{4}{3}$. What is the refractive index of air with respect to water? 5
- (b) Why concave mirror is used in Solar furnace?

7) COMPETENCY BASED QUESTIONS: 4

As we know that, the ciliary muscles are responsible for change in focal length of the eye lens. And this ability of eye lens to change the focal length is referred as accommodation. The least distance of distinct vision of normal eye is about 25 cm and the far point of normal eye is found to be at infinity. Because of refractive defects of vision in human being 3 defects are possible they are myopia, hypermetropia and presbyopia. In case of myopia, person is able to see nearby objects clearly but cannot able to see distant objects distinctly.

- i) Which reasons are responsible for myopia?
- ii) Hypermetropia is also called as?
- iii) A student who is sitting on the first bench in the class is not able to see what is written on the board. The student is suffering from which defect and which type of lens is suitable for him?
- iv) What is cataract?

BIOLOGY

- 1) The process by which Amoeba obtains its food is called (a) Phagocytosis (b) Assimilation (c) Diffusion (d) Absorption 1
- 2) Posture & balance is controlled by (a) Cerebrum (b) Cerebellum (c) Medulla (d) Pons 1
- 3) Assertion: Insulin regulates blood sugar level. 1
Reason: Insufficient secretion of insulin will cause diabetes.
(a) Both A and R are true & R is the correct explanation of A.
(b) Both A and R are true & R is not the correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.
- 4) Flow of energy in an ecosystem is always (a) Unidirectional (b) Bidirectional (c) Multidirectional (d) No specific direction 1
- 5) What happens to the rate of breathing during vigorous exercise & why? 2
- 6) Why is Pancreas called a dual function 'gland'? Write the names of its hormones. 3
- 7) Difference between Cerebrum & Cerebellum? 3
- 8) Describe the process of urine formation in kidneys? 5
- 9) COMPETANCY BASED QUESTIONS: 4

Waste management is essential in today's society. Due to an increase in population, the generation of waste is getting doubled day by day. Moreover, the increase in waste is affecting the lives of many people. Waste management is the managing of waste by disposal and recycling of it. Moreover, waste management needs proper techniques keeping in mind the environmental situations. For instance, there are various methods and techniques by which the waste is disposed of. You must have come across 5

R's to save the environment: refuse, reduce, reuse, repurpose and recycle.

1) Mr. X is eating Millets. For this food intake in a food chain he should be considered as occupying

- (i) a) First trophic level
- (ii) b) Second trophic level
- (iii) c) Third trophic level
- (iv) d) Fourth trophic level

2) The decomposers are not included in the food chain. The correct reason for the same is because decomposers:

- (i) a) Act at every trophic level of the food chain
- (ii) b) Do not breakdown organic compounds
- (iii) c) Convert organic material to inorganic forms
- (iv) d) Release enzymes outside their body to convert organic material to inorganic forms

3) Define Trophic level?

4) What is Ecosystem?