

VANI  
X

## M.L. Khanna DAV Public School

Sector- VI, Dwarka, New Delhi 110075

Mid Term (2017-18)

Class- X

Subject- Science

Duration- 3 hours

M.M: 80

### General Instructions:

1. The question paper comprise of two sections A and B.
2. All questions are compulsory.
3. Questions 1 and 2 are one mark questions. These are to be answered in one word or one sentence.
4. Questions 3 to 5 are two marks questions. These are to be answered in about 30 words each.
5. Questions 6 to 15 are three marks questions .These are to be answered in about 50 words each.
6. Questions 16 to 21 are five marks questions. These are to be answered in about 70 words each.
7. Questions 22 to 27 in Section B are questions based on practical skills and are two marks questions.

### Section A

- Q1. Will current flow more easily through a thick wire or thin wire of the same material when connected to the same source? Why? 1
- Q2. Look at the diagram given below and write any one organism at the following trophic levels: 1
- a. Primary Consumers

b. Tertiary Consumers



Q3. What do you mean by the term: "Combination Reaction"? Give one example giving balanced chemical equation for the reaction. 2

Q4. A student while studying the force experienced by a current carrying conductor in a magnetic field records the following observations: 2

- a. The force experienced by the conductor increases as the current is increased.
- b. The force experienced by the conductor decreases as the strength of the magnetic field is increased.

Which one out of the two observations is correct and why?

Q5. Categorize the following actions into- 2

- a. reflex
- b. voluntary
- c. involuntary
- i. Running
- ii. Control of the blood glucose level in body.
- iii. Singing a song.
- iv. Sneezing when an unwanted object struck in the nasal chamber

Q6. What is the chemical name and formula of GYPSUM? Write chemical equation for its preparation. 3

✓ Q7. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is : 3

- a. pushed into the coil.
- b. withdrawn from the coil.
- c. held stationary near the coil.

Draw diagram to represent each situation and explain the deflection in the galvanometer.

✓ Q8. Electrolysis of water is done. 3

- a. Identify the gases evolved at cathode and anode.
- b. Why is the amount of one gas collected in one of the test tubes double the amount in the other? Name this gas.

✓ Q9. A metal M is found in nature as its carbonate. It is used in the galvanization of iron. Identify M and name its ore. How will you convert this ore into free metal? 3

✓ Q10. Draw magnetic field for a bar magnet. " Two magnetic field lines never intersect each other. " Why? 3

✓ Q11. An electric lamp and a conductor of resistance 4 Ohms each are connected in series to a 6V battery. The current drawn by the lamp is 0.25 A. Find the resistance of the electric lamp. 3

Q 12. Write balanced chemical equations for the following: 3

- a. Dilute sulphuric acid reacts with aluminium powder.
- b. Dilute hydrochloric acid reacts with sodium carbonate
- c. Carbon di oxide is passed through lime water.

OR

✓ Give three points of difference between metals and non- metals on the basis of their chemical properties.

Q13. What is biological magnification? How does it take place? 3

Q14. a. List any one problem caused by the accumulation of each- 3  
biodegradable waste and non- biodegradable waste.

b. Give any two methods that help in reducing the problem of waste disposal.

OR

a. Which chamber of human heart receives oxygenated blood from lungs?

b. Why is double circulation of blood necessary in human beings?

Q15. a. What is emulsification of fats? Why is it necessary? 3

b. Why do we get cramps during sudden muscular activity? 4

Q16. a. Define 1 Watt. 5

b. State the commercial unit of electric energy. Express it in terms of SI unit of energy.

c. An electric refrigerator rated as 750 W operates 8 hours per day.

What is the cost of the energy to operate it for the month of June at Rs. 2.50 per kWh?

OR

State Ohm's law. How it can be verified experimentally? Explain with the help of a circuit diagram. Derive its mathematical form also.

Q17. a. Mention three advantages and three disadvantages of producing 5  
hydro electricity by building dams on rivers.

b. Give reason for the following:

1. a solar cooker box is covered with a glass plate.

2. a solar cooker box is painted black from inside.

**Q18.** Five solutions A, B, C, D and E, when tested with universal indicator showed pH as 4, 1, 11, 7 and 9 respectively. Giving reasons find which solution is

- a. neutral?
- b. strongly alkaline?
- c. strongly acidic?
- d. weakly alkaline?
- e. weakly acidic?

Arrange the pH in increasing order of hydrogen ion concentration.

**Q19. a.** Label the following parts in the nephron-

5

- |      |                  |
|------|------------------|
| i.   | Bowman's capsule |
| ii.  | Glomerulus       |
| iii. | Renal artery     |
| iv.  | Collecting duct  |



b. Give one advantage of having a large number of highly coiled structures in our kidneys.

c. Mention any two substances which are selectively reabsorbed as the filtrate flows along the tubular part of this unit.

**Q20. a.** Write one function of each-

5

i. Cerebellum

ii. Thyroxine

iii. Auxins

b. If a plant is kept in a dark room with light coming from only one side. What will be the response of the plant and why?

Q21. a. Show the formation of magnesium chloride and sodium chloride by Transfer of electrons. 5

b. Identify the ions present in these compounds.

c. Why do ionic compounds do not conduct electricity in solid state ?

### Section B

Q22. In the experiment which verifies the Ohm's Law, where should the:  
a. ammeter and b. voltmeter be connected? 2

Q23. In order to study the properties of HCl, a student adds dilute HCl to 2 a test tube containing a compound X. As a result a colourless and odourless gas is evolved, which turns lime water milky. What could be compound X? Name the gas formed. What would happen on passing the gas in excess through lime water.

Q24. Name the material formed when aqueous solutions of sodium 2 sulphate and barium chloride are mixed. Give the balanced chemical equation of the reaction involved.

Q25. A student while verifying Ohm's law calculated the value of 2 resistance of the resistor for each set of observation. However, the values of resistance were slightly different from the actual value. Are his calculations wrong? Justify your answer.

Q26. Although the product of photosynthesis is sugar, why do we test the presence of starch? 2

Q27. a. Which part of the leaf should be used to observe stomata? 2

b. What is the structure of stomata in monocot leaf?