

SHIKSHA BHARATI PUBLIC SCHOOL

Maliaka  
T. Lakshmi

MID TERM EXAMINATION 2017-18

SCIENCE CLASS - X

TIME ALLOWED: 3 HOURS

M.M: 80

General instructions:

- (i) The question paper comprises of two sections, A and B. You are to attempt both the sections separately.
- (ii) All the questions are compulsory.
- (iii) Q.No. 1 to 2 are **one mark** questions. These are to be answered in one word or in one sentence.
- (iv) Q.No. 3 to 5 are **two marks** questions. These are to be answered in about 30 words each.
- (v) Q.No. 6 to 15 are **three marks** questions including a value based question. These are to be answered in about 50 words each.
- (vi) Q.No. 16 to 21 are **five marks** questions. These are to be answered in about 70 words each.
- (vii) Q.No. 22 to 27 are practical based questions and each question carries **two marks** each.

SECTION - A (1)

1. Choose the amphoteric oxides amongst the following:  $\text{Na}_2\text{O}$ ,  $\text{ZnO}$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{CO}_2$ ,  $\text{H}_2\text{O}$ .
2. Write a criticism about large dams.
3. A compound is prepared from gypsum has a property of hardening when mixed with proper quantity of water. Identify the compound and write its chemical formula. (2)
4. Explain how the properties of an alloy are different from those of the constituent elements. (2)
5. (i) What is the direction of magnetic field lines inside a bar magnet and outside a bar magnet? (2)  
(ii) What does the degree of closeness of the field lines represent?
6. What happens when dilute hydrochloric acid is added to the following: (2)
  - (i) Bleaching powder
  - (ii) Zinc granules
  - (iii) Baking soda
7. What are the main events occurring during photosynthesis?
8. Define the following: (i) Corrosion (ii) Acidity (iii) Double displacement reaction.
9. Draw a well labelled diagram of human excretory system.
10. How does adrenalin prepare our body to face in emergency conditions?
11. A torch bulb is rated 5V and 500mA. Calculate (i) its power (ii) its resistance (iii) the energy consumed if this bulb is lighted for 4 hours.
12. (i) List two factors on which resistance of a conductor depends.  
(ii) Why is series arrangement not found satisfactory for domestic lights?  
(iii) What happens to the resistance of a conductor when its temperature is increased?
13. (i) What is a solenoid? Draw magnetic lines due to a current carrying solenoid.  
(ii) Write three important features of the magnetic field obtained.
14. (i) Describe the steps involved in obtaining biogas and explain what is meant by anaerobic decomposition? (ii) Which isotope of Uranium can undergo fission readily?
15. For last few days Rakesh has started cycling long distances. But on his way back he feels cramps in his calf muscles.

ALA

$\text{ZnO} + \text{NaOH}$   
 $\text{Na}_2\text{ZnO}_2 + \text{H}_2\text{O}$

Answer the following questions:

- (i) What can be the possible cause of it?  
(ii) Name the process involved and its equation.  
(iii) How can Rakesh have quick relief from muscle cramp? (5)
16. (i) What is concentration of an ore? How can mercury be extracted from its ore? (5)  
(ii) Name the metal used in thermite reaction.  
(iii) After the completion of the reaction a metal is obtained in the molten state. Identify the metal.
17. (i) Dry HCl gas does not turn blue litmus to red, whereas hydrochloric acid does. Why? (5)  
(ii) On passing excess carbon dioxide through lime water, it turns milky and then becomes colourless. Explain why? Write the chemical reaction.  
(iii) Write two important uses of baking soda.
18. How are the nerve impulses transmitted at the synapse? OR (5)  
Write the name of plant hormones and mention their functions.
19. (i) Bile does not have any enzyme for digestion. Why? (5)  
(ii) Mention the enzymes found in pancreatic juice along with their functions. *Amal*
20. (i) What is an electromagnet? (5)  
(ii) List any of its two uses.  
(iii) Draw a labelled diagram to show how an electromagnet is made.  
(iv) What is the purpose of soft iron core used in making an electromagnet?
21. Two conductors A and B of resistances  $5 \Omega$  and  $10 \Omega$  respectively are first joined in parallel and (5) then in series. In each case the voltage applied is 20V.  
(i) Draw a circuit diagram to show the combination of these conductors in each case.  
(ii) In which combination will the voltage across the conductors A and B be same?  
(iii) In which arrangement will the current through A and B be the same?  
(iv) Calculate the equivalent resistance for each arrangement.

SECTION-B (2).

22. Write the reaction when a solution of barium chloride is added to the solution of sodium sulphate. What type of reaction is it called? Is the solution clear after the reaction?
23. A zinc wire discharges the green colour of ferrous sulphate and iron wire discharges the blue colour of copper sulphate. Arrange the metals in the decreasing order of reactivity. Give the chemical equations for the reactions involved.
24. What is stomata? Mention the shape of guard cells in dicot plants.
25. Name the two steps involved in cellular respiration. Which cell organelle is associated with the process of respiration?
26. How do you connect an ammeter and a voltmeter in an electrical circuit?
27. In a Voltmeter there are 20 divisions between the 0 mark and 0.5 V mark. Calculate the least count of the voltmeter.

$$\frac{0.5}{20} = \frac{5}{200} = \frac{5}{2 \times 100}$$
$$\frac{5}{200}$$
$$\frac{5 \times 10^{-2}}{2}$$
$$2.5 \times 10^{-2}$$
$$\frac{5}{200} = 0.025$$
$$\frac{5 \times 10^{-2}}{20}$$

0.