

Sample Paper – 2008
Class – Science
Class – X

2:30 Hours

Max. Marks: 60

General Instructions

SECTION A

1. Which effect of electric current is used in coating nickel on an iron screw?
1
2. Give one limitation of Dobereiner's triads. 1
3. Three solutions A, B and C have pH 2, 4 and 6 respectively. Which of these has maximum acid strength? 1
4. Why should a chemical equation be balanced? 1
5. You are given two fuse wires A and B with current ratings 2A and 5A respectively. Which of the two wires would you select for use with a 1000 W, 200 V room heaters? Justify 1
6. Why does the atomic size increase as we go down a group? 1
7. How is bleaching powder produced? Write the equation for the chemical reaction that takes place? 2
8. Besides baking soda, what other ingredient does baking powder contain? What is the role of baking powder in the making of bread and cakes? 2
9. Why is it essential to locate wind energy farms at specific locations? List two limitations in harnessing wind energy. 2
10. Describe with a neat diagram an activity to show that a straight conductor carrying direct current produces a magnetic field around it. 2
11. What is bleaching powder? Write the chemical equation for the reaction involved in preparing bleaching powder. 2
12. What is the difference between AC and DC current? Mention one advantage of using AC current. 2
13. A person is unable to see objects beyond 2 m clearly. Name the defect of vision he is suffering from. List two causes due to which this defect may arise. Draw ray diagrams to show this defect and its correction using appropriate lens. 3
14. What happens when:
(a) Calcium reacts with water (b) Iron reacts with steam
(c) Magnesium reacts with water (d) sodium reacts with water
Arrange the above metals in the order of decreasing reactivity.
15. Give reasons:
(a) The color of copper sulphate solution changes when an iron nail is

dipped in it

(b) Chips manufacturers usually flush bags of chips with nitrogen gas.

(c) Silver utensils develop a blackish coating when exposed to air. 3

16. What is an alloy? Write the constituents of duralumin and bronze. Give one use of each specifying the property on which it is based 3

17. a) State the law which governs the strength of the current passing through a Metallic conductor when a potential difference is applied across its ends Illustrate this law graphically, (b) Three resistors, each of resistance 10 ohm, are connected, in turn, to obtain i) Minimum resistance ii) maximum resistance , Compute

a) The effective resistance in each case

B) The ratio of the minimum to the maximum resistance so obtained.

or

(a) State the law which governs the amount of heat in a metallic conductor when electric current is passed through it for a given time. Express this law mathematically.

(b) Two resistors of resistances 2 ohms and 4 ohms are connected in turn:

i) In series, ii) in parallel to a battery for the same time interval.

Compute the ratio of the total quantity of heat produced in the combination in the two cases. 5

18. (a) Why does carbon show covalent bonding?

(b) Describe how ethyl ethanoate can be prepared in the lab.

(c) Write an equation for the reaction.

or

(a) Explain the bond formation in $MgCl_2$.

(b) Give two differences between ionic and covalent compounds.

(c) What are alloys? How are they made? 5

SECTION B

19. Name the acid present in the human stomach. 1

20. Choose the non-biodegradable pollutant from domestic waste, plastics, radioactive waste, and paper. 1

21. Mention two causes of depletion of ozone layer. 1

22. State two vital functions of human kidney. 2

23. Differentiate between aerobic and anaerobic respiration. 2

24. Explain the terms reflex action and reflex arc. Give two suitable examples of reflex action.

25. Describe how double circulation takes place in the human body. 3

26. How many X chromosomes are present in the body cells of a male and a female human being? Describe the role of sex chromosomes in deciding the sex of the child. 3

27. Mention the contribution of Mendel in explaining the pattern of inheritance.

Or

Draw the diagram of reproductive system of human female. Label fallopian tube, uterus, cervix and vagina. What is ovulation and when does it take place during the menstrual cycle? Where does fertilization take place? 5