

BHARATIYA VIDYA BHAVAN'S V.M.PUBLIC SCHOOL, VADODARA
SESSION 2017-18
SAMPLE PAPER- 8

Class: X
Subject: Science

Max Marks: 80
Time Allotted: 3hrs

Instructions: All questions are compulsory.

Section- A

Answer the following questions.

- Q1. In what respect, motors are different from the generators? (1)
- Q2. Name the component of white light that deviates the least and the most while passing through a glass prism. (1)
- Q3. A dry pellet of a common base 'B' when kept in open absorbs moisture and becomes sticky. 'B' is also obtained by the electrolysis of NaCl solution. Identify the base and account for the changes which take place. (1)
- Q4. What is dispersion of white light? What is the cause of such dispersion? Draw a diagram to show the dispersion of white light by a glass prism. (2)
- Q5. The human hand, cat paw and the horse foot, when studied in detail show the same structure of bones and point towards a common origin. (2)
- (i) What do you conclude from this?
- (ii) What is the term given to such structures?
- Q6. What are magnetic field lines? Justify the following statements:
- i) Two magnetic field lines never intersect each other.
- ii) Magnetic field lines are closed curves. (3)
- Q7. A certain form of energy is available due to the difference in the temperature of water at the surface of the ocean and its deeper levels. Name the form of energy. Is this energy ultimately derived from sun? What are the limitations of this form of energy? (3)
- Q8. An electric lamp of 100ohm, a toaster of 50 ohm and a water filter of resistance 500 ohm are connected in parallel to a 220V source. Draw the circuit diagram. What is the resistance of an electric iron connected to the same source that takes as much current as all the three appliances? Also, find the value of current passing through it. (3)
- Q9. What do you mean by rancidity? Give two ways to control it.
- Q10. How does atomic size vary a) along a period b) down the group, Explain?
- Q11. Li, Be, O, Ne are the elements of second period.
- a) Write their electronic configuration
- b) What is common among them?
- c) Which of them forms basic oxide?

Q12. What is meant by management & conservation of natural resources? Why must we conserve our forests? (3)

Q13. (a) What is the significance of sexual mode of reproduction? (3)
(b) What is the site of fertilization in human beings?

Q14. Explain salivary digestion in mouth. (3)

Q15. How do the changes in DNA during reproduction help in tracing evolutionary relationships? (3)

Q16.a) Why do we prefer a convex mirror as a rear-view mirror in vehicles?

b) An object 1 meter tall is placed on the principal axis of a convex lens and its 40 cm tall image is formed on the screen placed at a distance of 70 cm from the object. What is the focal length of the lens? Calculate the power of the lens. (5)

Q17. Explain the following:

- Why is tungsten used almost exclusively for filament of electric lamps?
- Why are the conductors of electric heating devices such as bread toasters and electric irons made of alloys rather than pure metals?
- Why is a series arrangement not used for domestic circuits?
- Why copper and aluminium wires are usually employed for electricity transmission? (5)

Q18. Giving one example of each, explain how the following metals are obtained from their compounds:

- Metal 'A' which is low in the activity series.
- Metal 'B' which is in middle of the activity series.
- Metal 'C' which is high in the activity series. (5)

Q19. a) Give IUPAC and common name of CH_3COCH_3 .

b) What are addition reactions? Give an example.

c) What happens when ethanol i) reacts with acidified KMnO_4 ii) reacts with conc. H_2SO_4 . (5)

Q20. Describe the working of artificial kidney in Human? (5)

Q21. (a) How does the embryo get nourishment inside the mother's body? (5)

(b) What are the functions of testes in human males?

(c) Why does menstruation occur?

Section-B

Q22.a) An ammeter has 20 divisions between zero mark and 2A marks on its scale. What is the least count of ammeter?

b) Why is an ammeter connected in series in the circuit? (2)

Q23. a) The magnification produced by a plane mirror is +1. What does this mean?

b) Name the type of mirror used in the following situations:

i) Headlights of a car

ii) Solar furnace (2)

Q24.a) What can you say about pH of a solution which liberates CO_2 from sodium carbonate? (2)

b) What will you observe when red litmus is introduced to a solution of sodium sulphate?

Q25. What happens when you heat lead nitrate? Give the equation for the reaction and mention the type of the reaction. (2)

Q26. What is common between the forelimbs of a frog, wings of a bird, bat's wing, human hand and flippers of a whale? (2)

Q27. What is meant by hypocotyl and epicotyl? What is their significance? (2)