

Series:

Code No. H1E1S01

Roll No.

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Candidates must write the Code No on the title page of the answer-book

1. Please check that this question paper contains 5 printed pages
2. Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
3. Please check that this question paper contains 28 questions.
4. Please write down the Serial Number of the question before attempting it.
5. 15 minute time has been allotted to read this question paper. During these time students are not allowed to write answers

General Instructions

1. The question paper comprises of two sections A and B. You are to attempt both the section .All questions are compulsory.
2. There is no overall choice. However internal choice has been provided in all the three questions of five marks category. Only one option in such questions is to be attempted.
3. All questions of section A and all question of section B are to be attempted separately Questions 1 and2 in section A are one mark questions. These are to be answered in one word or one sentence
4. Questions 4 to 9 in section A are two marks questions. These are to be answered in about 30 words each.
5. Questions 10 to 21 in section A are three marks questions. These are to be answered in about 50 words each.
7. Questions 23 to 28 in section A are five marks questions. These are to be answered in about 70 words each.
8. Questions 29 to 34 in section B are practical based questions carrying two marks each.

Time Allowed: 3Hrs

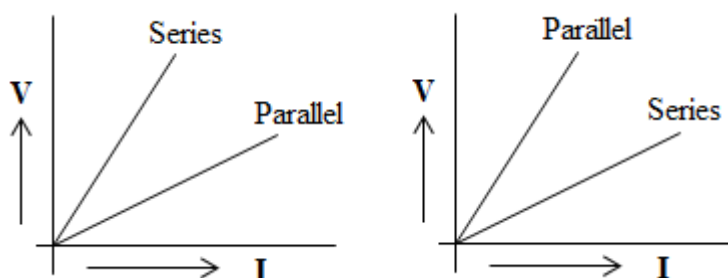
SCIENCE
CLASS X

Maximum Marks: 80

SECTION – A

1. What are biocatalysts? (1)
2. During summer season, a milkman usually adds a very small amount of baking soda to fresh milk. Give one reason. (1)

3. Give two examples each of the following: (2)
- (i) Renewable sources of energy
- (ii) Non-renewable sources of energy
4. A student has been collecting silver coins and copper coins. One day she observed a black coating on silver coins and a green coating on copper coins. Which chemical phenomenon is responsible for these coatings? Write the chemical name of black and green coatings (2)
5. (a) Name the gland which releases thyroxin.
(b) State the function of thyroxin (2)
6. State two differences between artery and vein on the basis of (2)
- (a) Type of blood it carries (b) Valves
7. Differentiate between renewable and non-renewable sources of energy with one example for each. (2)
8. Two students perform the experiments on series and parallel combinations of two given resistors R_1 and R_2 and plot the following V-I graphs. (2)



Which of the graphs is (are) correctly labelled in terms of the words 'series' and parallel'? Justify your answer

9. The following observations were made by a student while studying *the force on a current carrying conductor in a magnetic field*. (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.

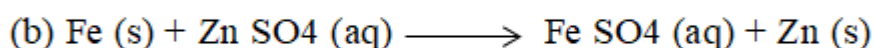
Which of the two observations is correct and why?

10. What is meant by solenoid? How does a current carrying solenoid behave? Give its main use. (3)

11. List (a) any three advantages (3)
(b) any three limitations of using a solar cooker.

12. Write commercial and SI units of energy. Calculate the cost of electric energy consumed by an electric heater rated with 500W for 2 hours daily in the month of April. The cost of one unit of electric energy is ₹ 5. (3)

13. State which of the following chemical reactions will take place or not, giving suitable reason for each. (3)



14. Why should curd not be kept in copper or brass vessels? What is done to protect it? (3)

15. (a) Explain why is Hydrochloric acid a strong acid and acetic acid, a weak acid. How can it be verified? (3)

(b) Explain why aqua solution of an acid conducts electricity?

(c) You have 4 solutions A, B, C and D with pH 5, 10, 13 and 7 respectively

(i) Identify the most acidic acid and most basic solution.

(ii) Arrange the above 4 solution in the increasing order of H^+ ion concentration

16. Giving one example of each explain the method of obtaining the following metals from their compounds: - [3]

Metal A - Low in the activity series

Metal B - Middle in the activity series

Metal C - Top of the activity series.

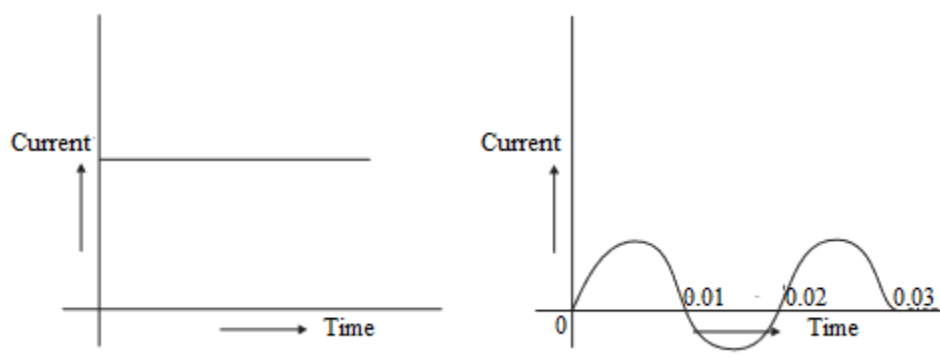
17. a) What happens when dilute Hydrochloric acid is added to, (3)
i) Bleaching Powder ii) Zinc Granules

Write the balanced chemical reaction.

- b) Why the crystals of washing soda change to white powder on exposure to air?
18. Mention the two main components of the transport system in plants. State one specific function of each one of the components (3)
19. The inner lining of small intestine has numerous fingers like projections. What are they called? List their functions (3)
20. Describe hetero tropic type of nutrition .Give example. Name the three types of this nutrition. (3)
21. a. What is the role of motor areas in brain? (3)
- b) A nerve input signal travelled only up to the spinal cord and gave output signal for a response. What type of action will the body show, voluntary or involuntary?
- c) Draw a nerve pathway for the above action.
22. In a household electric circuit different appliances are connected in parallel to one another. Give two reasons. (5)

An electrician puts a fuse of rating 5A in that part of domestic electrical circuit in which an electrical heater of rating 1.5kW, 220V is operating. What is likely to happen in this case and why? What change, if any, needs to be made?

23. You are given following current-time graphs from two different sources: (5)



- (i) Name the type of current in two cases.
- (ii) Identify any one source for each type of these currents.
- (iii) What is the frequency of current in case II in India?
- (iv) Use above graphs to write two differences between the current in two cases.

24. 'No two magnetic field lines cross each other'. Give reason (5)

Draw the magnetic field lines (including field directions) of the magnetic field due to a long straight solenoid. What important property of this field is indicated by this field line pattern? Name any two factors on which the magnitude of the magnetic field due to this solenoid depends.

25. (a) Write the electron dot structure for calcium and oxygen. The atomic numbers of calcium and oxygen are 20 and 8 respectively. (5)

(b) Show the formation of calcium oxide by the transfer of electrons.

(c) Ionic compounds are high melting solids. Give reason.

26. (a) Why does medium become acidic in mouth? (5)

(b) What is the ill effect of acidic medium?

(c) How can this be prevented?

27. (a) Draw a labelled diagram of excretory system in human beings and label the following: (i) Left kidney (ii) Renal artery (iii) Urinary bladder (iv) urethra (5)

(b) Name the functional unit of kidney.

(c) Name two nitrogenous wastes released from kidney.

28. (a) State the functions of mid brain and hind brain respectively. (5)

(b) How is the brain and spinal cord protected?

(c) Why do tendrils coil around a support?

SECTION – B

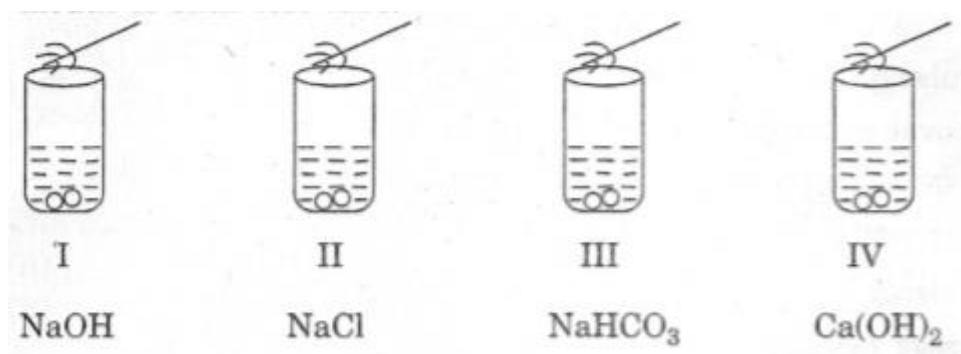
29. Name the instruments used to measure potential difference and current respectively in a circuit. How are they connected in circuit? (1)

30. How can an aqueous solution of sodium sulphate and barium chloride be prepared? (1)

31. Why do cakes and bread rise up when baking powder is added to it? (1)

32. Out of two solar cookers, one was covered by a plane glass slab and the other was left open. Which of the two solar cookers will be more efficient and why? (1)

33. A student added acetic acid to test tubes I, II, III and IV containing the labelled substances and then brought a burning splinter near the mouth of each test tube. (1)



In which case the splinter will get exhausted? Give reason

34. When you mix the solution of lead (II) nitrate and potassium iodide: (1)

(i) What is the colour of the precipitate formed? Name the compound precipitated?

(ii) Write a balanced chemical equation for this reaction.