

SUMMATIVE ASSESSMENT – I, 2016-17

869DM8P

SCIENCE

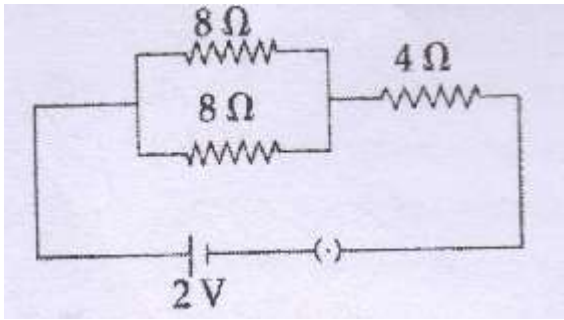
Class – X

Time Allowed : 3 hours

Maximum Marks : 90

## SECTION-A

1. State the function of alveoli in the lungs.
2. Define magnetic field of a bar magnet.
3. Write the special technique used for mounting solar cell panels and mention its advantage.
4. Write a chemical equation to describe how baking soda is produced on a large scale. Also write chemical names of the products obtained in this reaction.
5. Mention the names of the metals for the following: (i) Two metals which are alloyed with iron to make stainless steel. (ii) Two metals which are used for making jewellery.
6. Write two differences between the response of the plants and response of the animals to stimuli.
7. When we overeat we feel burning sensation in the stomach. State reason. Which substance can be used to nullify its effect? Give one example, state the property due to which we feel relief.
8. 2g ferrous sulphate crystals are heated in a dry boiling tube. (i) List any two observations. (ii) Name the type of chemical reaction taking place. (iii) Write the chemical equation of the reaction.
9. Write one example of each of the following:
  - (a) A metal and a non-metal which are liquids at room temperature.
  - (b) A metal which is very soft and a non-metal which is very hard.
  - (c) A metal which has very low melting point and a non-metal which has very high melting point.
10. What is meant by 'refining of metals'? Draw neat and labelled diagram of electrolytic refining of copper.
11. A motorcycle rider without helmet met an accident and suffered a spinal cord injury. In this case which signals will get disrupted and why?
12. State the role of the following in human digestive system : (i) Digestive enzymes (ii) Hydrochloric acid (iii) Villi
13. Describe double circulation in human beings. Why is it necessary?
14. Study the following electric circuit and calculate: (i) the current flowing through the  $4\ \Omega$  resistor and (ii) potential difference across the combination of two resistors of  $8\ \Omega$  each



15. How will the strength of magnetic field at a point around a current carrying conductor change, when the

(i) current in the conductor is increased? (ii) Direction of current is reversed?

(iii) Distance of the point is increased?

16. Find the effective resistance between the points A and B in the network shown in the figure.



17. Hemant visited his neighbouring village where a biogas plant has been installed recently. He was very surprised to see the working of the biogas plant. He told his village elders about the advantages of setting up a biogas plant in their village. Now answer the following questions:

(i) Write two advantages of a biogas plant.

(ii) Why is a biogas plant commonly called as 'gobar gas' plant?

(iii) Why were the villagers very much impressed with Hemant?

18. Write two points of difference between renewable and non-renewable sources of energy. Give one example of each.

19. (a) Define corrosion.

(b) What is corrosion of iron called?

(c) How will you recognise the corrosion of silver ?

(d) Why corrosion of iron is a serious problem ?

(e) How can we prevent corrosion of iron ?

20.(a) Illustrate an activity to investigate whether all compounds containing hydrogen are acidic.

(b) What happens when hydrochloric acid and sodium hydroxide are dissolved in water. Explain giving equation of each.

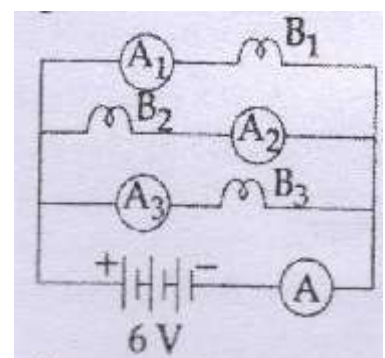
21. Name the hormone which is secreted by the adrenal gland. How does this hormone help to deal with scary situations?

22. (a) Express electrical power in term of current and potential difference. Define its S.I. unit.

(b) Three identical bulbs B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> are connected as shown in figure. When all the bulbs glow, a current of 4 A is recorded by ammeter

(i) Calculate the power dissipated in the circuit when all bulbs glow.

(ii) What happens to two bulbs when bulb B<sub>i</sub> get fused?



23. A current carrying conductor is placed in a magnetic field now answer the following:

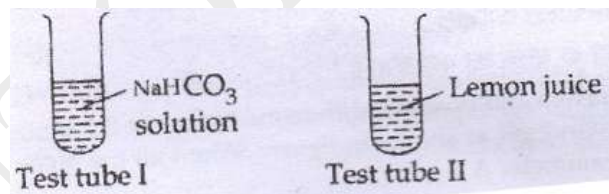
- List the factors on which the magnitude of force experience by conductor depends.
- When is the magnitude of this force maximum?
- State the rule which helps in finding the direction of motion of conductor.
- If initially this force was acting from right is left, how will the direction of force change if :
  - Direction of magnetic field is reversed?
  - direction of current is reversed ?

24. State Joules law of heating. Establish the relationship between 1 kWh and 1 joule. A torch bulb is rated 6 V and 750 mA. Calculate the energy consumed by the bulb in 4 hours.

## SECTION - B

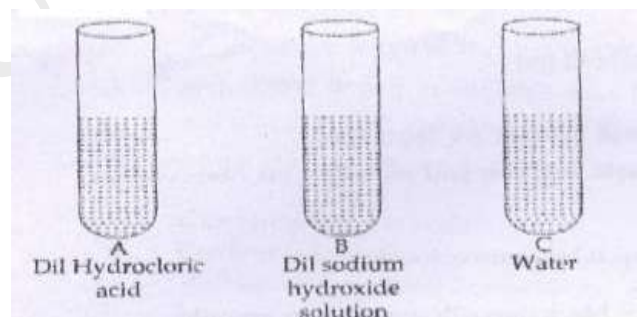
25. On introducing pH paper strip to both the test tubes pH paper turns :

- red in I, blue in II
- blue in both
- blue in I, red in II
- red in I, pink in II



26. Observe the following below:

- pH of A, B and C are equal
- pH of A is greater than pH of B and C
- pH of C is greater than pH of A and B
- pH of B is greater than pH of A and C



27. Ashu dipped red litmus paper first in dil NaOH solution and then in dil H. He observed that the colour of the litmus paper :

- Changed first to blue and then colourless
- Changed from red to colourless
- Changed first to blue and then red
- Remained red in both the solutions

28. Nandita carried out a displacement reaction using an aqueous solution of ferrous sulphate and aluminium metal. The correct observations for her experiment would be :

- Formation of colourless solution and black deposits on Al
- Formation of pale green solution and black deposits on Al
- Formation of blue solution and reddish brown deposits on Al
- Formation of colourless solution and yellow deposits on Al

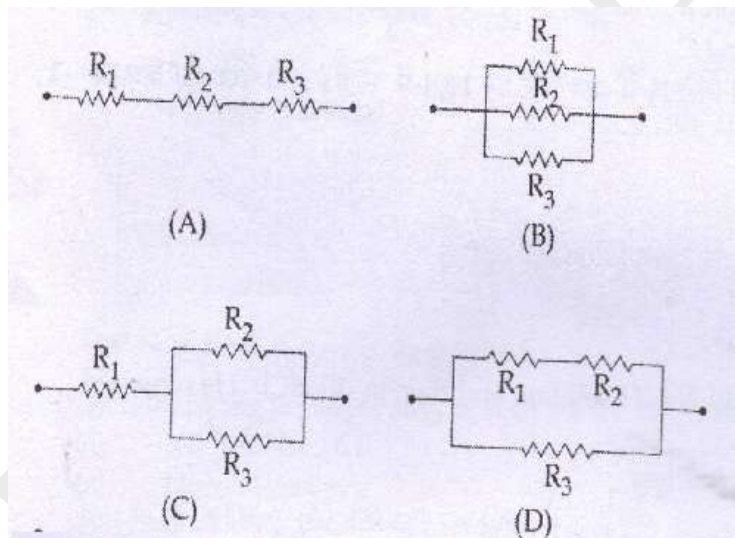
29. Rohit added a few Zinc granules to ferrous sulphate solution and recorded his observations. The correct observation will be :

- (a) Pale green colour of solution turns black.
- (b) Pale green colour of solution disappears and it becomes colourless.
- (c) Pale green colour of solution becomes blue.
- (d) Pale green colour of the solution disappears, black deposits are seen on granules.

30. In an experiment to determine equivalent resistance of three resistors, when connected in series, four students connected the resistors as follows:

The correct set up is that of student :

- (a) (A)      (b) (B)      (c) (C)      (d) (D)



31. Two unequal resistances are connected in parallel by a student. Which of the following is true?

- (a) Current is same in both
- (b) Current is larger in higher resistance
- (c) Voltage-drop is same across both
- (d) Voltage drop is lower in lower resistance.

32. The factor which is not essential for the process of photosynthesis is :

- (a) Sunlight      (b) Carbon dioxide      (c) Water      (d) Oxygen

33. Which of the following precautions should a student take to demonstrate that CO<sub>2</sub> is released during respiration?

- (A) Seeds in the conical flask should be dry
- (B) The end of the delivery tube should be above the water level      (C) Cork should be airtight
- (D) A small tube with freshly prepared KOH solution should be placed in the flask.

The required precautions are :

- (a) A, B and C      (b) A, C and D      (c) C and D      (d) A, B and D

34. You want to perform an experiment to study a double displacement reaction in your school laboratory. Name two aqueous solutions required for this experiment. State the colour change you are likely to observe on mixing the two solutions.

35 To maintain a steady current in a circuit, select two necessary conditions from the following :

- (i) Continuous circuit      (ii) development of potential difference      (iii) Neither (i) nor (ii)      (iv) only option (i)

36. What are stomata? State its two functions.