POLICE DAV PUBLIC SCHOOL

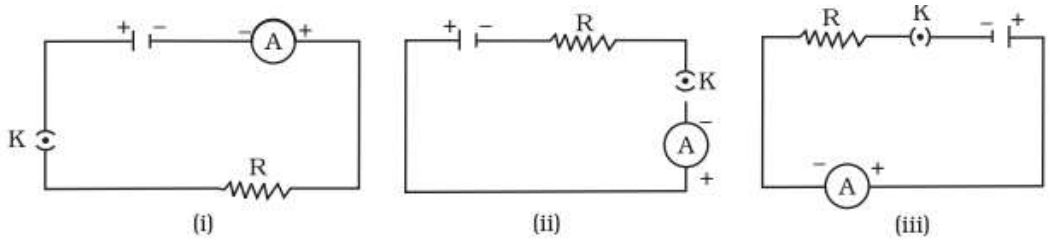
CLASS X SUBJECT SCIENCE

HOLIDAYS HOMEWORK

CHOOSE THE CORRECT ANSWER BY GIVING SUITABLE REASON:

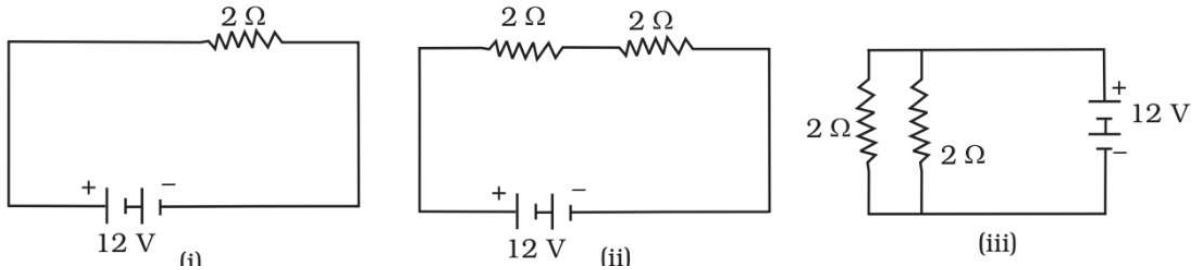
1. **Electrolysis of water is a decomposition reaction. The mole ratio of hydrogen and oxygen gases liberated during electrolysis of water is**
   (a) 1:1 (b) 2:1 (c) 4:1 (d) 1:2
2. **Which of the following is (are) an endothermic process(es)?**
   (i) Dilution of sulphuric acid (ii) Sublimation of dry ice
   (iii) Condensation of water vapours (iv) Evaporation of water
   (a) (i) and (iii) (b) (ii) only (c) (iii) only (d) (ii) and (iv)
3. **Which of the following gases can be used for storage of fresh sample of an oil for a long time?**
   (a) carbon dioxide or oxygen (b) nitrogen and oxygen (c) carbon dioxide or helium
   (d) Helium and nitrogen
4. **In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate if lead iodide is formed. While performing the activity if lead nitrate is not available, which of the following can be used in place of lead nitrate?**
   (a) Lead sulphate (insoluble) (b) Lead acetate
   (c) Ammonium nitrate (d) Potassium sulphate
5. **Which of the following statement(s) is(are) true? Exposure of silver chloride to sunlight for a long duration turns grey due to**
   (i) The formation of silver by decomposition of silver chloride
   (ii) Sublimation of silver chloride
   (iii) Decomposition of chlorine gas from silver chloride
   (iv) Oxidation of silver chloride
   (a) (i) only (b) (i) and (ii) (c) (ii) and (iii) (d) (iv) only
6. **A few drops of iodine solution were added to rice water. The solution turned blue-black in colour. This indicates that rice water contains**
   (a) complex proteins (b) simple proteins (c) fats (d) starch
7. **Single circulation i.e. blood flows through the heart only once during one cycle of passage through the body, is exhibited by**
   (a) Labeo, Chameleon, Salamander (b) Hippocampus, Exocoetus, Anabas
   (c) Hyla, Rana, Draco (d) Whale, Dolphin, Turtle
8. **In which of the following vertebrate group/groups, heart does not pump oxygenated blood to different parts of the body?**
   (a) Pisces and amphibians (b) Amphibians and Reptiles
   (c) Amphibians only (d) Pisces only
9. **During deficiency of oxygen in tissues of human beings, pyruvic acid is converted into lactic acid in the**
   (a) cytoplasm (b) chloroplast (c) mitochondria (d) golgi body
10. **Which of the following structures is involved in gaseous exchange in woody stem of a plant?**
    (a) stomata (b) Lenticel (d) Guard cell (d) epidermis

11. A cell, a resistor, a key and ammeter are arranged as shown inthe circuit diagrams of Figure. The current recorded in theammeter will be



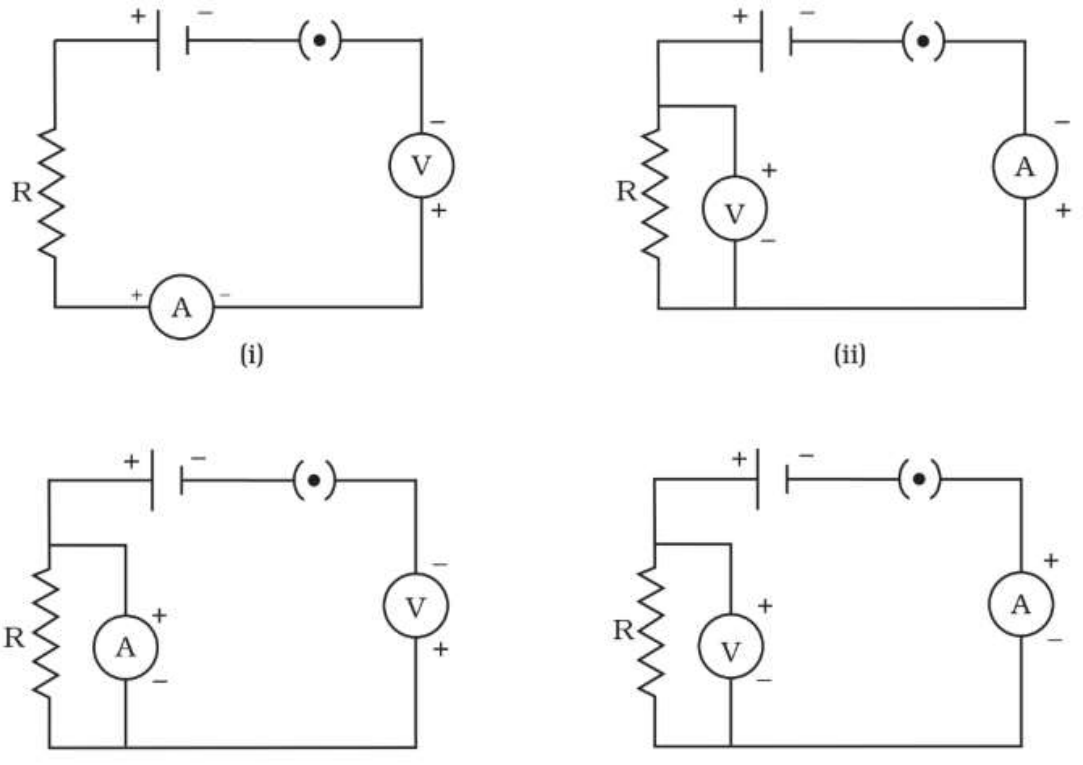
(a) maximum in (i)
(b) maximum in (ii)
(c) maximum in (iii)
(d) the same in all the cases

12. In the following circuits, heat produced in the resistoror combination of resistors connected to a 12 V battery will be



(a) same in all the cases
(b) minimum in case (i)
(c) maximum in case (ii)
(d) maximum in case (iii)

13. Identify the circuit in which the electrical componentshave been properly connected.



(a) (i)
(b) (ii)
(c) (iii)
(d) (iv)

14. A cylindrical conductor of length l and uniform area of cross-section A has resistance R. Another conductor of length 2l andresistance R of the same material has area of cross section
    (a) A/2
    (b) 3A/2
    (c) 2A
    (d) 3A
15. In an electrical circuit two resistors of 2 Ω and 4 Ω respectivelyare connected in series to a 6 V battery. The heat dissipated bythe 4 Ω resistor in 5 s will be
    (a) 5 J
    (b) 10 J
    (c) 20 J
    (d) 30 J

VERY SHORT ANSWER TYPE QUESTIONS:

1. Hydrogen being highly inflammable gas and oxygen being a supporter of combustion, yet water which is a compound made up of Hydrogen and oxygen is used to extinguish fire. Why?
2. Which kind of chemical reaction takes place when electric current is passed through fused lead bromide?
3. Why do not a wall immediately acquire a white colour when a coating of slaked lime is applied on it?
4. Name the reddish-brown gas evolved when crystals of lead nitrate are heated strongly.
5. 'Copper sulphate on treating with potassium iodide precipitates cuprous iodide, liberates iodine gas and also forms potassium sulphate.' Write the balanced chemical equation for the above reaction.
6. Why is caecum poorly developed in man?
7. What gives urine its colour?
8. Where and what happens to glucose that comes out of blood into nephric filtrate?
9. How does transport of water occur at night in the absence of transpiration?
10. What will happen if a human being starts inhaling air with mouth instead of nose?
11. Calculate number of electron constituting one coulomb of charge.
12. Calculate the potential difference between two terminals of a battery if 100 J of work is required to transfer 20 C from one terminal of the battery to the other.
13. How much work is done in moving a charge of 3 C from a point at 38 V to a point at 48 V.
14. Give Difference between Voltmeter and ammeter.
15. Calculate the current in a circuit if 500 C of charge pass on through it in 10 minutes.

ASSERTION – REASON

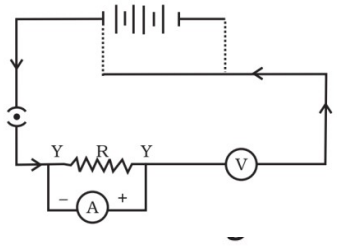
In each of the following questions, a statement of Assertion is given by the corresponding statement of Reason. Of the statements, mark the correct answer as.

(a) If both assertion and reason are true and reason is the correct explanation of assertion
(b) If both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
(c) If Assertion is true, but Reason is false.
(d) If Assertion is false, but Reason is true.
(e) Both assertion and Reason are false.

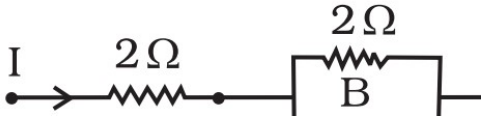
16. ASSERTION – Photosynthesis is considered as an endothermic reaction.
    REASON- Energy gets released in the process of photosynthesis.

17. **ASSERTION- Quicklime reacts vigorously with water releasing a large amount of heat.**
    REASON- The above chemical reaction is an exothermic reaction.
18. **ASSERTION- In the following chemical equation,**
    $CuO(s) + Zn(s) \_\_\_\_\_ ZnO(s) + Cu(s)$
    Zinc is getting oxidised and copper oxide is getting reduced.
    REASON- The process in which oxygen is added to a substance is called oxidation whereas the process in which oxygen is removed from a substance is called reduction.
19. **ASSERTION- $Fe_2O_3 + 2Al \_\_\_\_\_ Al_2O_3 + 2Fe$**
    The above chemical equation is an example of displacement reaction.
    REASON- Aluminium being more reactive than iron, displaces Fe from its oxide.
20. **ASSERTION- Reaction between barium chloride and sodium sulphate is an example of double displacement reaction.**
    REASON- Exchange of ions takes place two salt solutions.
21. **ASSERTION- Raw materials needed for photosynthesis are carbon dioxide, water and minerals.**
    REASON- Nutrients provide energy to an organism.
22. **ASSERTION- Autotrophic nutrition occurs in green plants.**
    REASON- Green plants self-manufacture their food.
23. **ASSERTION- Liver is known as the smallest gland of the body.**
    REASON- It secretes salivary amylase.
24. **ASSERTION-Walls of the intestine has numerous villi.**
    REASON- These villi increase the surface area of digestion.
25. **ASSERTION- Nutrition in Amoeba takes place with the help of pseudopodia.**
    REASON- Different stages of nutrition in Amoeba are ingestion, digestion, absorption and egestion.

Short Answer Type Questions(Physics)



26. **A child has drawn the electric circuit to study Ohm's law as shown in Figure. His teacher told that the circuitdiagram needs correction. Study the circuit diagram andredraw it after making all corrections.**
27. **Three 2 Ω resistors, A, B and C, are connected as shownin Figure 12.7. Each of them dissipates energy and canwithstand a maximum power of 18W without melting.Find the maximum current that can flow through thethree resistors?**



28. **Should the resistance of an ammeter be low or high? Givereasor..**
29. **How does use of a fuse wire protect electrical appliances?**
30. **What is electrical resistivity? In a series electrical circuitcomprising a resistor made up of a metallic wire, the ammeterreads 5 A. The reading of the ammeter decreases to half when thelength of the wire is doubled. Why?**

PRACTICAL WORK:

CHEMISTRY

1. **Performing and observing the reactions and classify them into combination reaction, decomposition reaction, displacement reaction and double displacement reaction.**
2. **To find the pH of the following samples by using pH paper/ universal indicator.**
3. **To study the properties of acids and bases on the basis of their reaction with (i) Litmus solution (ii) Zinc metal (iii) Solid sodium carbonate**

BIOLOGY

1. **To prepare a temporary mount of a leaf peel to show stomata.**
2. **To experimentally show that carbon dioxide is given out during respiration.**
3. **To study (a) binary fission in Amoeba and (b) budding in yeast and Hydra with the help of prepared slides.**
4. **To identify the different parts of an embryo of a dicot seed.**

PHYSICS

1. **Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.**
2. **Determination of the equivalent resistance of two resistors when connected in series and parallel.**

INSTRUCTIONS FOR WRITING PRACTICALS:

1. All work on blank page is to be done with pencil and on ruled page headings with black pen and blue gel pen for explanation.

2.

BLANK SHEET	RULED SHEET
Aim, material required	Aim , Material required
Diagram	Theory
Observation table	Procedure
Result	Result, Precautions