

Mark questions. You are to select one most appropriate response out of the four provided to you.

Section A

- Q.1. Name the functional units of nervous system. /
- Q.2. Name any two non-Conventional sources of energy. *Coal & p.e.*
- Q.3. Why are the filaments of a bulb made up of tungsten?
- Q.4. Why is sodium chloride soluble in water but not soluble in kerosene?
- Q.5. Why do two magnetic lines not intersect?
- Q.6. How do we detect the smell of an Agarbatti or a scent? / *Therm*
- Q.7. Why can copper wire not be used as a fuse wire?
- Q.8. What is a nuclear fusion reaction? List any two advantage of nuclear fusion reaction.
- Q.9. You has two solutions A and B. The pH of solution A is 6 and pH of Solution B is 8. Which solution has more hydrogen ion concentration? Which one of this is acidic and which one is basic?
- Q.10. Write the difference between them with reaction of each.
- Roasting - *sulphide ore*
 - Calcination - *Carbonate ore*
- Q.11. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is-
- when* pushed into the coil *there is deflection in galvanometer*
 - withdrawn from inside the coil *The needle of galvanometer come to its real position.*
 - held stationary inside the coil *There is no change*

[P.T.O.]

DUSTINAWANZ

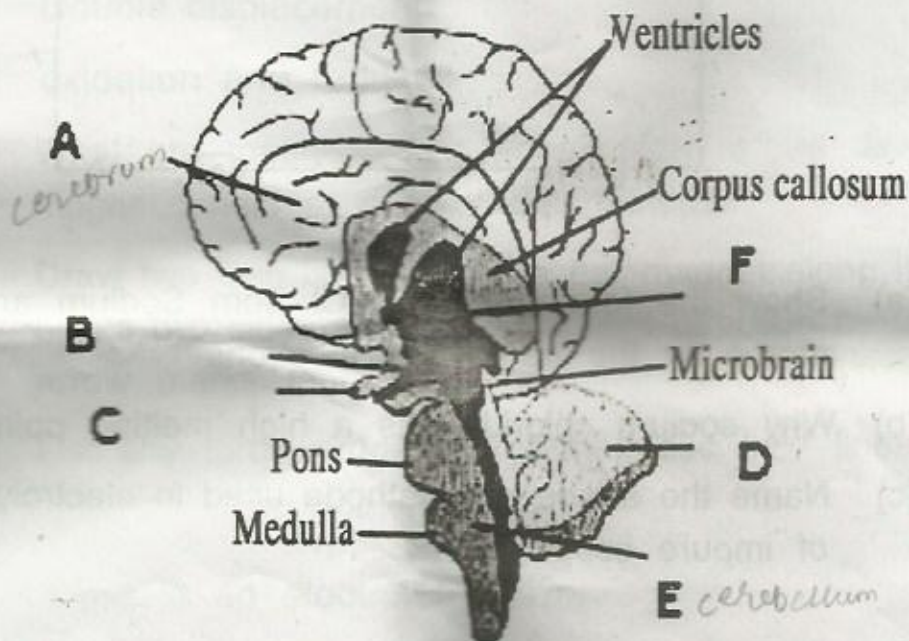
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- Q.12. (a) State the Ohm's law.
- (b) What is the shape of graph obtained by plotting potential difference applied across a conductor against the current following through it? *straight*
- (c) What does the slope of this V-I graph at any point represent? *st. line graph*

Q.13. Which Animal or a Plant hormone is associated with the following :

- (i) Increased Sugar level in Blood *Pancreas*
- (ii) Change at puberty in Boys *testosterone*
- (iii) Inhibits growth of plants *Auxin Abscisic acid*
- (iv) Rapid development of fruit *Auxin*
- (v) Dwarfism *6*
- (vi) Goiter

Q.14. From the given figure of Human Brain, label the Parts A,B,C,D,E and F.



[P.T.O.]

Q.15. Explain the following term:-

- Corrosion
- Rancidity
- Redox reaction.

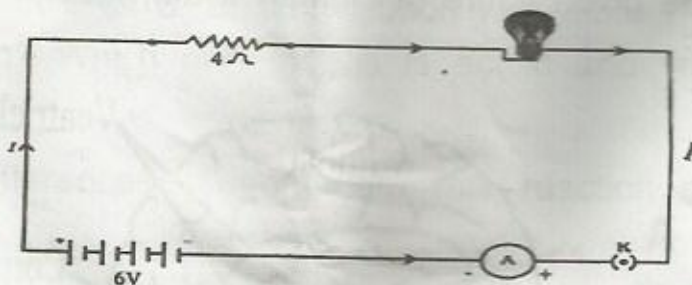
Q.16 (a) Distinguish between renewable and non-renewable sources of energy?

(b) Choose the renewable source of energy from the following list:

Coal, Bio-Gas, Sun, Natural Gas

Q.17 In the given circuit, calculate

- The total resistance of the circuit $R = \frac{V}{I} \quad V = I \times R$
- Current flowing through the circuit $0.66A$
- Potential difference across the resistor of 4Ω and lamp of 20Ω .



Q.18 (a) Show the formation of NaCl from Sodium and chlorine atoms by the transfer of electrons

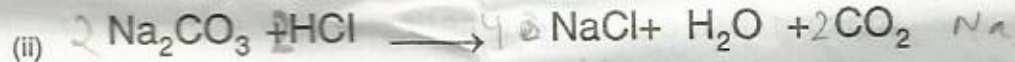
(b) Why sodium chloride has a high melting point?

(c) Name the anode and cathode used in electrolytic refining of impure copper metal.

[P.T.O.]

Q.19 What are Voluntary and Involuntary actions? Give one example of each.

Q.20. Balance the following equation



OR

Q. 20. Explain the following chemical reaction giving one example of each case.

- Combination
- Decomposition
- Displacement
- Double displacement
- oxidation and reduction

Q.21 (a) What are magnetic field lines? How is the direction of magnetic field at a point determined?

(b) Draw two field lines around a bar magnet along its length on its two sides and mark the field direction by using the arrow marks.

(c) List any three properties of magnetic field lines.

OR

(a) What is an electromagnet?

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- (b) List any of its two uses.
- (c) Draw a labelled diagram to show how an electromagnet is made.
- (d) What is the purpose of using the soft iron core in making an electromagnet?
- Q22. a) Draw a sectional view of human heart and label on it – Aorta, Right ventricle and pulmonary veins.
- b) State the function of the following component of transport system
- Blood
 - Lymph

OR

- (a) Draw a diagram of Human Alimentary canal.
- (b) Label Oesophagus, Liver, pancreas and Gall bladder on the diagram drawn.
- (c) What is the function of enzyme 'pepsin' in the digestion process?
- Q.23 Answer the followings
- Why is plaster written as $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$? How is it possible to have half a water molecule attached to CaSO_4 ?
 - Why is sodium hydrogen carbonate an essential ingredient in ant-acids?
 - When electricity is passed through the aqueous solution of sodium chloride, three products are obtained. Why is this process called Chlor-alkali?

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Q.22. a) b) (i) (ii)

OR

 $\frac{30}{2}$ $\frac{60}{2}$ $20 \times 60 \times 60$

2

 $\Rightarrow \frac{20}{60 \times 60}$ $\frac{1}{180}$ W

- a) What is baking soda? How is it known chemically?
- b) What is the nature of this salt?
- c) How baking soda is produced?
- d) Write one application of it.

Q.24 (a)

An electric bulb is rated as 50W, 220V. Calculate the energy consumed by the bulb in 20 minutes.

 $P = I \times V$ $E = P \times t$

Express your answer in commercial units of electric energy. $E = 50 \times 20$

- (b) Distinguish between overloading and short circuiting in a domestic circuit.
- (c) Why is it essential to earth electrical appliances having metallic body?

 $50 \times 60 \times 30 = 90000 \text{ W}$

OR

- (a) List the factors on which the resistance of a conductor depends.
- (b) A 4 KW heater is connected to a 220 V source of power calculate
- (i) The electric current passing through the heater
- (ii) The resistance of the heater
- (iii) The electric energy consumed in 2 hours.

 $\frac{50}{2}$ $\frac{4 \text{ KW}}{220 \text{ V}}$ $\frac{18}{20}$ Section-B

Q.25. Which of the following turn pH Paper (Litmus Paper) to red?

- a) Milk of magnesia
- b) Baking soda

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- c) Oxalic acid solution
d) NaCl Solution

Q.26. Four students were asked to test the PH of four sample as shown under. Whose result is reported correctly?

Students	Water	Ethanoic acid	HCl	NaOH
(a)	7	1	1	1
(b)	7	3	1	1
(c)	7	1	1	13
(d)	7	3	1	13

Q. 27. When excess carbon-dioxide gas is passed through lime water, it becomes

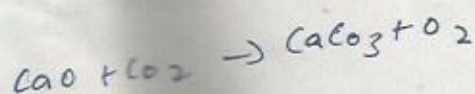
- a) Milky due to the formation of CaCO_3
b) Milky due to the formation of CaHCO_3
c) Colourless due to formation of CaCO_3
d) Colourless due to formation of CaHCO_3

Q. 28. A Student added dilute HCL to a test tube containing Zinc granules and made following observations.

- I - The surface of Zinc become black
II - A Gas evolved which burnt with a pop sound
III - The solution remains colorless.

The correct observations are:

- a) I and II



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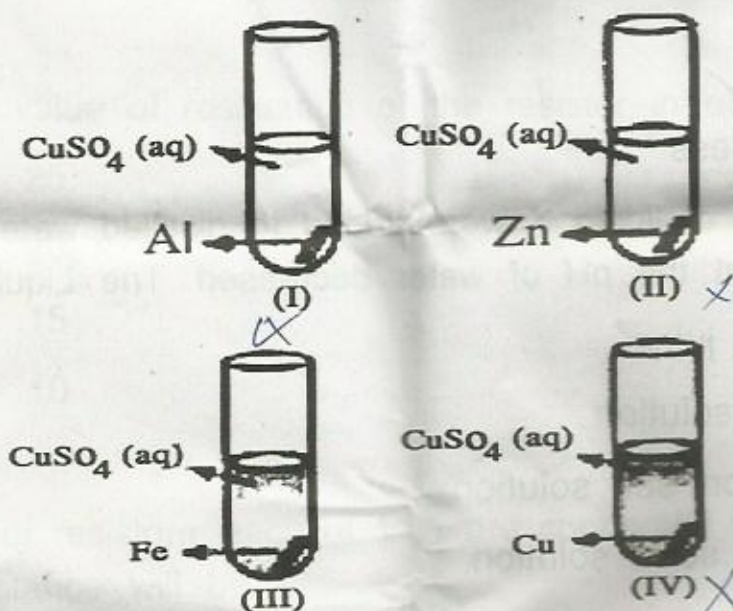
QUESTION BANK

- b) I and III
 c) II and III
 d) I, II and III

Q. 29. The compound also known as blue ~~vitreol~~ ^{vitreol} is-

- a) $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$
 b) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
 c) $\text{CuSO}_4 \cdot 2\text{H}_2\text{O}$
 d) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$

Q.30. A student performed the following four experiments



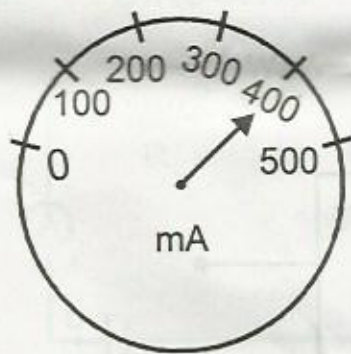
He would find the formation of a solid deposition in experiments

- a) II, III
 b) I, III
 c) I, II, III
 d) II, III, IV

[P.T.O.]

- Q.31. Iron filling were added to aqueous solution of Copper Sulphate. After some time, on observation, it was found that the colour of the solution has changed from
- a) Blue to pale green
 - b) Blue to dark green
 - c) Blue to colourless
 - d) Blue to reddish brown
- Q.32. The colour of the $Al_2(SO_4)_3$ solution
- a) Blue
 - b) Green
 - c) Yellow
 - d) Colourless
- Q.33. A few drops of liquid X were added to distilled water. It was observed that the pH of water decreased. The Liquid X is.
- a) Lemon juice
 - b) Sugar solution
 - c) Common salt solution
 - d) Baking soda solution
- Q.34. The unit of electric current is
- a) Volt
 - b) Ampere
 - c) Ohm
 - d) Joule

- Q.35. The current flowing through resistor connected in an electrical circuit and the potential difference developed across its ends are shown in the given diagram.



$$10^{-3} \times 400$$

$$\Rightarrow \frac{400}{1000} = 0.4 \text{ A}$$

$$V = 8 \text{ V}$$

$$R = \frac{V}{I}$$

$$= \frac{8 \times 10^{-1}}{0.4} = \frac{8 \times 10}{4} = 20 \Omega$$

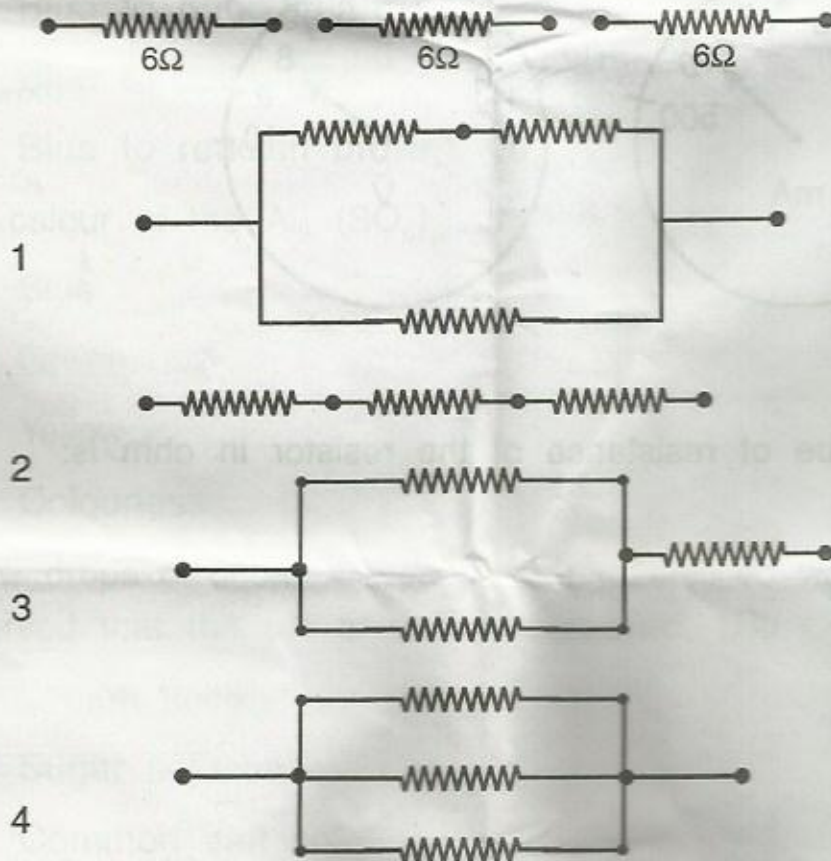
The value of resistance of the resistor in ohm is:

- a) 25
 b) 20
 c) 15
 d) 10
- Q. 36 If four resistors, each of 1Ω are connected in series effective resistance will be

- a) 1Ω
 b) 2Ω
 c) 0.5Ω
 d) 4Ω

[P.T.O.]

Q. 37. To determine the equivalent resistance of three resistors, when connected in a parallel arrangement four student connected the resistor as follows

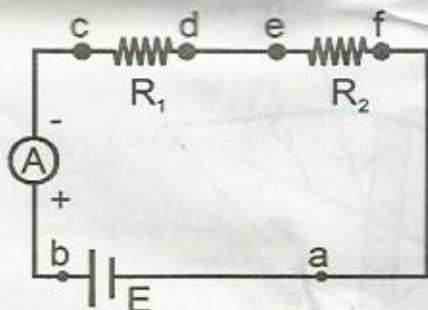


The correct set up is that of student

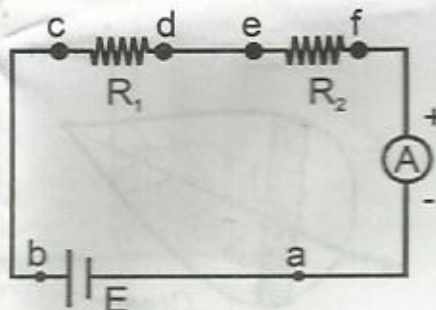
- a) Student 1
- b) Student 2
- c) Student 3
- d) Student 4

- Q. 38. In an experiment on finding the equivalent resistance of two resistors connected in series, the ammeter is correctly connected in

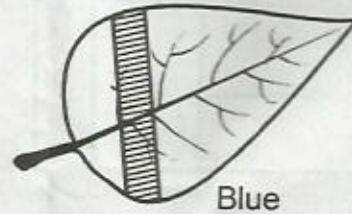
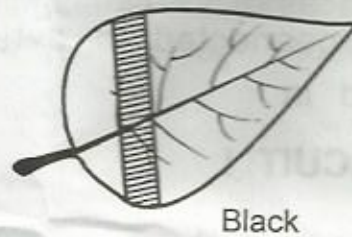
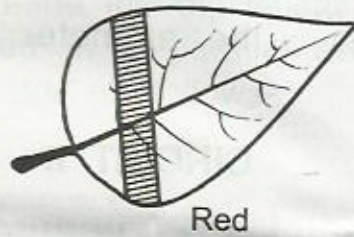
CIRCUIT I



CIRCUIT II



- (a) Circuit I only
 (b) Circuit II only
 (c) Both circuits I and II
 (d) Neither of the two circuits
- Q.39. To prepare a temporary mount of a leaf peel for observing stomata, the chemicals used for staining and mounting respectively are.
- a) Safranin and Iodine
 b) Safranin and Glycerine
 c) Iodine and Safranin
 d) Glycerine and Iodine
- Q.40. A potted plant was kept in dark room for 3 day and then 4 leaves were half covered with different coloured paper as shown below.



The leaves were tested for starch, the leaf which showed no starch in it is:

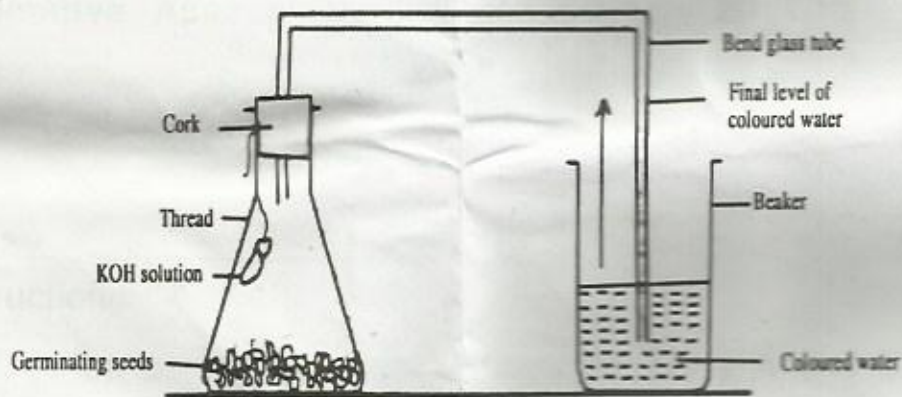
- (a) The leaves covered with red, green and blue strips.
- (b) The leaves covered with green and black strips.
- (c) The leaves covered with green strip.
- (d) The leaves covered with any of the above strip.

Q.41. When leaf is boiled with ethanol and treated with iodine solution, its colour changes into:-

- a) Pink ✓
- b) Blue
- c) Blue-black
- d) Black

Q.41

Q.42. What is the use of KOH solution in this experiment?



- (a) Absorb CO_2 released by germinating seeds.
- (b) Absorb O_2 released by germinating seeds.
- (c) Absorb moisture released by the seeds.
- (d) None of these.

overloading :- ① Accidental like in supply of Volt.
② Running 2 many appliance at same socket.

Short -> when live & neutral wire come in contact