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Class - X

Science

Sample Paper - 2011-2012

Time: 180min

M.M: 80marks

Summative Assessment - I

Section - A

(Questions number 1 to 4 carry one mark each)

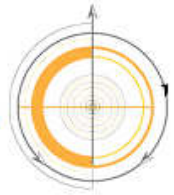
1. In the reeving of silver, the recovery of silver from silver nitrate solution involved displacement by copper metal. Write the reaction involved.
2. The electrolysis of an aqueous solution of sodium chloride gives us three products. Name them.
3. What name given to the heat energy obtained from hot rocks inside the earth?
4. What happens to the resistance as the conductor is made thinner?

(Questions number 5 to 13 carry two marks each)

5. How is the sodium metal extracted? Explain with the help of equation of the reaction involved.
6. How does baking powder differ from baking soda?
7. A colorless lead salt, when heated produce a yellow residue and brown fumes. Identify the yellow residue and brown fumes.
8. Why does color of copper sulphate solution change when iron nails kept immersed in it?
9. "Structure of small intestine is suited to its function". Justify.
10. What is the difference between a thermal power plant and a hydropower plant?
11. An electric heater draws a current of 10A from a 220V supply. What is cost of using the heater for 5hours everyday for 30 days if the cost of one unit is Rs. 5.20?
12. Explain why, a copper wire cannot be used as a fuse wire?
13. (a)State and explain Joule's law of heating.
(b)Explain why argon and nitrogen is filled in an electric bulb?

(Questions number 14 to 22 carry three marks each)

14. When a green salt is heated strongly, it color finally change to black and odour of burning sulphur is given out,
(a) Name the iron salt.
(b) Name the type of reaction that takes place during the heating of iron salt.
(c) Write a chemical reaction for the reaction involved.
15. Explain the pH change as the tooth decay. How can tooth decay caused by pH change be prevented?
16. (a) Why does an aqueous solution of acid conduct electricity?
(b) What happens during nettle leaves sting? What is its remedy?
17. (a) What is the role of the brain in reflex action?
(b)What is Nastic movement?
(c) What is synapse?



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18. (a) How do auxins promote the growth of tendrils around a support?
(b) Name the plant hormone that inhibits the growth of plants.
19. (a) What is meant by ocean thermal energy?
(b) Why is bio-gas considered an ideal fuel for domestic use?
20. How can three resistors of 2 ohm, 3 ohm, and 5 ohm respectively be arranged so as to obtain a resultant resistance of 2.5 ohm? Draw the diagram to show the arrangement.
(b) Define potential difference.
21. A copper wire has a diameter of 0.5mm and resistivity of 1.6×10^{-8} ohm meter.
(a) What will be the length of this wire to make its resistance 10 ohm?
(b) How much does the resistance change if the diameter is doubled?
22. (a) Why are copper and aluminium wires usually used for electricity transmission?
(b) Define resistivity. Write its S.I. unit.

(Questions number 23 to 25 carry five marks each)

23. (a) Give reason; platinum, gold and silver are used to make jewelry.
(b) What are the amphoteric oxides? Give two examples.
(c) In the electrolytic refining of a metal "M", what would you take as the anode, the cathode and the electrolyte?

OR

Explain how the following metals are obtained from their compounds by the reduction process :

- (a) Metal "M" which is high up in the reactivity series.
 - (b) Metal "X" which is in the middle of the reactivity series. Give one example of each.
24. (a) How are the alveoli designed to maximize the exchange of gases?
(b) Why do herbivores have longer intestine?
(c) What are the end products of digestion?
(d) What is the main function of bile?
(e) On which molecule does life on earth depend?

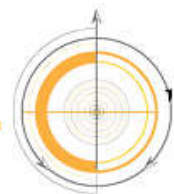
OR

- (a) Give a schematic representation of transport and exchange of oxygen and carbon-dioxide in human beings.
(b) How is it beneficial to have a large number of highly coiled nephrons in our kidneys?
25. (a) What is an electromagnet? Draw a circuit diagram to show a soft iron piece can be transformed into an electromagnet?
(b) What is the purpose of a soft iron core used in making an electromagnet?

OR

- (a) Describe the pattern of magnetic field of a straight current carrying conductor.
(b) How will you determine the direction of a magnetic field around a straight current carrying conductor?

Section – B



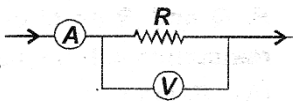
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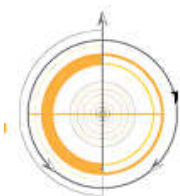
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(Questions number 26 to 41 carry one mark each)

26. An element common to all acids is
- A. Chlorine
B. Nitrogen
C. Oxygen
D. Hydrogen
27. When aqueous solutions of an acid and base are mixed
- A. no reaction occurs
B. a new acid and a new base are formed
C. a salt and water is formed
D. an acid and a salt is formed
28. Identify the chemical equation which represents a complete balanced equation for the reaction of barium chloride with sodium sulphate to produce barium sulphate and sodium chloride.
- A. $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{aq}) \longrightarrow \text{BaSO}_4(\text{s}) + 2\text{NaCl}(\text{aq})$
B. $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{aq}) \longrightarrow 2\text{BaSO}_4(\text{s}) + 2\text{NaCl}(\text{aq})$
C. $2\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{aq}) \longrightarrow 2\text{BaSO}_4(\text{s}) + \text{NaCl}(\text{aq})$
D. $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{aq}) \longrightarrow \text{BaSO}_4(\text{s}) + \text{NaCl}(\text{aq})$
29. A solution turns red litmus to blue. Its pH is likely to be:
- A. 2
B. 5
C. 7
D. 10
30. The reaction:
- $$\text{Fe}_2\text{O}_3(\text{s}) + 2\text{Al}(\text{s}) \longrightarrow \text{Al}_2\text{O}_3(\text{s}) + 2\text{Fe}(\text{s})$$
- Ferric oxide Aluminium Aluminium oxide Iron
- is an example of a—
- A. combination reaction
B. double displacement reaction
C. decomposition reaction
D. displacement reaction
31. In the circuit shown here, the ammeter A reads 5A and the voltmeter V reads 20V. The correct value of resistance:
- A. Exactly 4Ω
B. slightly greater than 4Ω
C. Slightly less than 4Ω
D. zero
- 



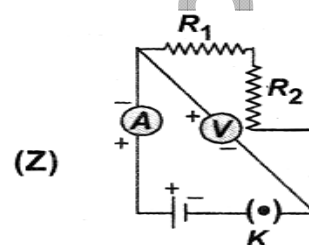
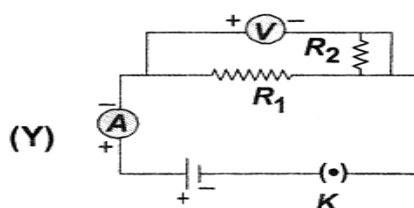
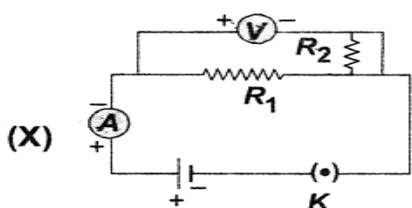
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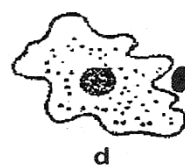
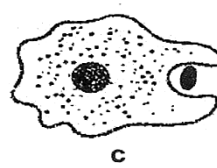
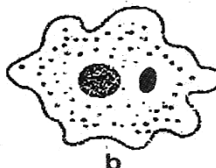
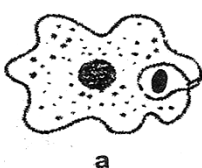
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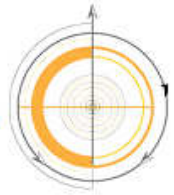
33. While doing experiment, for finding the equivalent resistance of two resistors connected in series, three students X, Y and Z set up their circuits as shown below:



The correct setup is that of:

- A. Student X and Y
B. Student Y and Z
C. Student Z and X
D. All the three students
34. Two resistances are connected in parallel and a current is sent through the combination. The current divides itself:
- A. In the inverse ratio of resistance
B. In the direct ratio of resistance
C. Equally in both the resistance
D. None of these
35. Two electric bulbs, one of 200volt 40watt and the other 200volt 100watt are connected in a house wiring circuit:
- A. They have equal current flowing through them.
B. The resistance of the filaments in both the bulbs is same.
C. The resistance of the filament in 40watt bulb is more than the resistance in 100watt bulb.
D. The resistance of the filament in 100watt bulb is more than the resistance in 40watt bulb.
36. This is the hormone which is produced by pancreas and helps in regulating blood sugar levels. If it is not secreted in proper amounts, the sugar level in the blood rises. This is:
- A. Testosterone
B. Corticosteroids
C. Estrogens
D. Prostaglandins
37. The given figures show holozoic nutrition in Amoeba. Arrange the figures in correct sequence so as to give complete steps of nutrition:
- A. b, c, a & d
B. a, b, d & c
C. d, c, a & b
D. a, a, c & b





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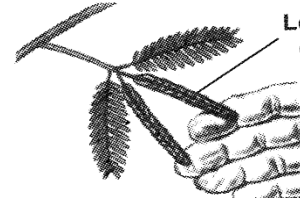
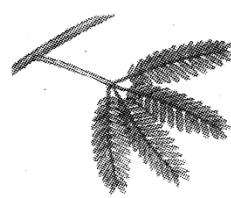
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38. The sensitive plant *Mimosa pudica* (as in figure) shows thigmonastic movement as a result of which the whole leaf droops down. The drooping is due to:

- A. Loss of turgidity of the basal part of the leaf.
- B. Swelling of the basal part of the leaf.
- C. Change in direction of leaf growth.
- D. None of the above.



Leaves fold up on touching with fingers

39. Which of the following region of brain controls reflex movements of the head, neck and trunk in response to visual and auditory stimuli?

- A. Fore-brain
- B. Mid-brain
- C. Hind-brain
- D. None of these

40. The given figure is a demonstration of an experiment to show that carbon dioxide is essential for photosynthesis. What is the substance 'X', kept in watch glass,

- A. Potassium hydroxide
- B. Sodium bicarbonate
- C. Sodium carbonate
- D. Potassium sulphate

41. Which of the following statement is false about anaerobic respiration:

- A. It takes place in the micro-organisms like yeast.
- B. It produces a considerable large amount of energy.
- C. It favors partial breakdown of food.
- D. In animal muscles, lactic acid is the end product.

