

## SAMPLE QUESTION PAPER 2015

### SUMMATIVE ASSESSMENT – I, 2015 SCIENCE Class – X

Q1: Name the two components of peripheral nervous system? 1

Q2: What are hot spots inside the earth's crust? 1

Q3: A charge of 150 C flows through a wire in one minute. Find the electric current flowing through it. 1

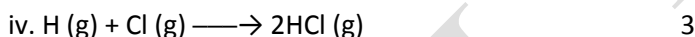
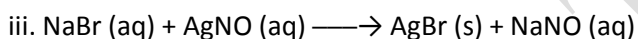
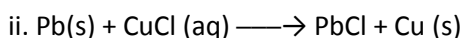
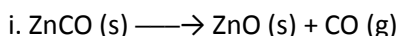
Q4: Explain why an aqueous solution of sodium sulphate is neutral while an aqueous solution of sodium carbonate is basic in nature. 2

Q5: When hydrogen gas is passed over heated copper (II) oxide, copper and steam are formed. Write the balanced chemical equation for this reaction and state:

(i) the substance oxidised. (ii) the substance reduced in the reaction. 2

Q6: Why do herbivores have longer, smaller intestine than carnivores? 2

Q7: Select (i) combination reaction (ii) decomposition reaction and (iii) displacement reaction from the following chemical equations:



Q8: State the reason for the following:

i. Lemon is used for restoring the shine of tarnished copper vessels.

ii. A metal sulphide is converted into its oxide to extract the metal from the sulphide ore.

Q9: State reason for the following:

i. dry HCl gas does not change the colour of the dry blue litmus paper.

ii. alcohol and glucose also contain hydrogen, but do not conduct electricity.

iii. Concentration of  $\text{H}^+$  ion is affected when a solution of an acid is diluted. 3

Q10: The rate of breathing in aquatic organisms is much faster than that seen in terrestrial organisms. Give reason. State the pathway of air from nostrils to lungs in human beings. 3

Q11: State the kind of chemical reactions in the following examples:

i. digestion of food in stomach      ii. combustion of coal in air      iii. Heating of limestone. 3

Q12: (a) State the formation of urine.

(b) What will happen if there is no tubular reabsorption in nephrons of kidney? 3

Q13: Mention three characteristic features of hormonal secretions in human beings. 3

Q14: The resistance of a wire of 0.01 cm radius is 10  $\Omega$ . If the resistivity of the material of the wire is  $50 \times 10^{-8} \Omega\text{-m}$ , find the length of wire. 3

Q15: A circuit has a line of 5A. How many lamps of rating 40W; 220V can simultaneously run on this line safely? 3

Q16: Show four different ways in which four resistors of  $r \Omega$  each may be connected in a circuit. In which case is the equivalent resistance of the combination. (i) maximum (ii) minimum 3

Q17: Amit lives in Delhi. He is much concerned about the increasing electricity bill of his house. He took some steps to save electricity and succeeded in doing so.

(i) Mention any two steps that Amit might have taken to save electricity. (ii) Amit fulfilled his duty towards the environment by saving electricity. How?

(iii) Which alternative source of energy would you suggest Amit to use? 3

Q18: List any three qualities of an ideal source of energy. 3

Q19: Write balanced chemical equation for the following statements:

(i) NaOH solution is heated with zinc granules.

(ii) Excess of carbon dioxide gas is passed through lime water.

(iii) Dilute sulphuric acid reacts with sodium carbonate.

(iv) Egg shells are dropped in hydrochloric acid.

(v) Copper (II) oxide reacts with dilute hydrochloric acid. 5

Q20: (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 serious problem?

(e) How can we prevent corrosion? 5

Q21: (a) Write three main features of the nervous system? (b) In the absence of muscle cells, how do plant cells show movement? 5

Q22: What is meant by resistance of a conductor?

Name and define its SI unit?

List the factors on which the resistance of a conductor depends.

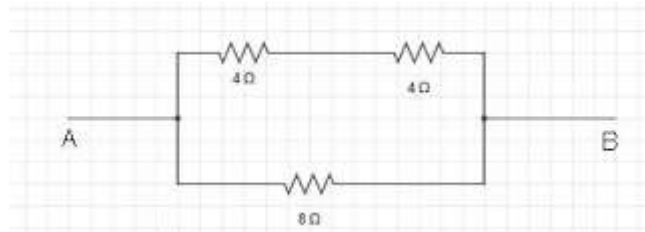
How is the resistance of a wire affected if: (i) its length is doubled, (ii) its radius is doubled? 5

Q23: (a) Draw magnetic field lines of a bar magnet. "Two magnetic field lines

never interact with each other". Why?

(b) An electric oven of 1.5 kW is operated in a domestic circuit (220V) that has a current rating of 5A. What result do you expect in this case? Explain. 5

Q24: (i) Establish a relationship to determine the equivalent resistance  $R$  of combination of three resistors  $R_1$ ,  $R_2$  and  $R_3$  connected in parallel. (ii) Three resistors are connected in an electrical circuit shown as shown. Calculate the resistance between A and B. 5



Q34: An iron nail is dipped in the solution of copper sulphate for about 30 minutes, state the change in colour observed. Give the reason for the change. { 2}

Q35: A student verifying Ohm's law computed the value of resistance of a resistor for each set of observation. However the values of the resistor were slightly different from the actual value. Is his experiment wrong? Justify your answer. [2]

Q36: Draw a labelled diagram of stomatal apparatus with closed stomatal pore. Label its different parts and show the directions of water flowing. {2}