

SUMMATIVE ASSESSMENT – I, 2014
SCIENCE
Class – X

Time Allowed : 3 hours

Maximum Marks : 90

General Instructions :

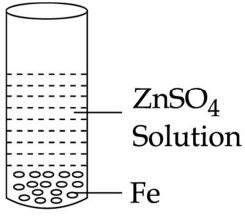
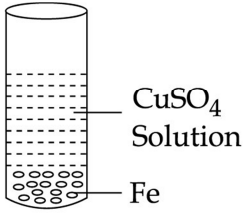
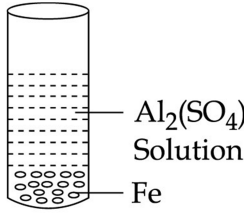
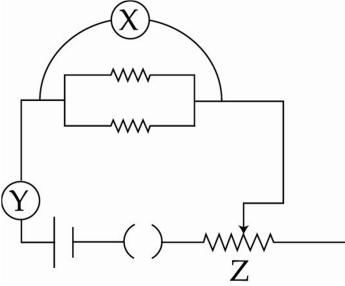
1. The question paper comprises of **two Sections, A and B**. You are to attempt both the sections.
2. **All** questions are **compulsory**
3. **All** questions of **Section-A** and **all** questions of **Section-B** are to be attempted separately.
4. Question numbers **1 to 3** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**
5. Question numbers **4 to 6** in **Sections-A** are **two marks** questions. These are to be answered in about **30 words** each.
6. Question numbers **7 to 18** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each
7. Question numbers **19 to 24** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
8. Question numbers **25 to 33** in **Section-B** are multiple choice questions based on practical skills. Each question is a **one mark** question. You are to select one most appropriate response out of the four provided to you.
9. Question numbers **34 to 36** in **Section-B** are questions based on practical skills are **two marks** questions.

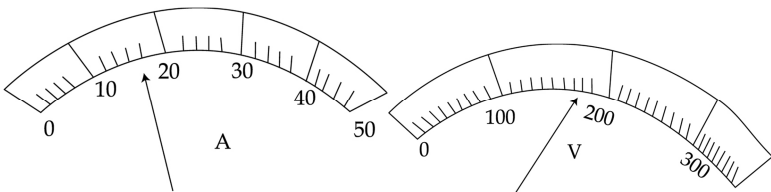
SECTION-A

1	Name the process used by single-celled organisms for taking in food, exchange of gases or removal of wastes.	1
2	Write the SI unit of Resistance.	1
3	What is a solar panel ?	1
4	A student performed the following reactions : (i) $\text{CuSO}_4 + \text{Fe} \rightarrow \text{FeSO}_4 + \text{Cu}$ (ii) $\text{FeSO}_4 + \text{Zn} \rightarrow \text{ZnSO}_4 + \text{Fe}$ (iii) $2\text{AgNO}_3 + \text{Cu} \rightarrow \text{Cu}(\text{NO}_3)_2 + 2\text{Ag}$ State the conclusions drawn from each of the above reaction and hence arrange Cu, Fe, Ag and Zn in the decreasing order of their reactivity.	2
5	Write a chemical equation to describe how baking soda is produced on a large scale. Also write chemical name of the products obtained.	2
6	Write two differences between the response of the plants and response of the animals to stimuli.	2
7	Write chemical equations for the following reactions : (i) a piece of calcium metal is dropped in water. (ii) steam is passed over red hot iron. (iii) Zinc sulphide is heated in air.	3

8	<p>State reason for the following :</p> <p>(i) dry HCl gas does not change the colour of the dry blue litmus paper.</p> <p>(ii) alcohol and glucose also contain hydrogen, but do not conduct electricity.</p> <p>(iii) Conc. of H_3O^+ ion is affected when a solution of an acid is diluted.</p>	3
9	<p>(a) In the following reactions name the reactants which undergo oxidation and which undergo reduction :</p> <p>(i) $\text{CuO}_{(s)} + \text{H}_2_{(g)} \rightarrow \text{Cu}_{(s)} + \text{H}_2\text{O}_{(g)}$</p> <p>(ii) $\text{CuO}_{(s)} + \text{Zn}_{(s)} \rightarrow \text{ZnO}_{(s)} + \text{Cu}$</p> <p>(b) State one industrial application of reduction.</p>	3
10	<p>State reason for the following :</p> <p>(i) Potato chips manufacturers usually flush bags of chips with nitrogen gas.</p> <p>(ii) Iron articles lose their shine gradually.</p> <p>(iii) Food should be kept in air tight containers.</p>	3
11	<p>(a) An old man is advised by his doctor to take less sugar in his diet. Name the disease from which the man is suffering. Mention the hormone due to imbalance of which he is suffering from this disease. Which endocrine gland secretes this hormone ?</p> <p>(b) Name the endocrine gland which secretes growth hormone. What will be its effect on a person of :</p> <p>(i) Deficiency of growth hormone.</p> <p>(ii) Excess secretion of growth hormone.</p>	3
12	Draw a neat diagram of human alimentary canal and label pancreas and liver on it.	3
13	Explain the mechanism of reflex action.	3
14	What is meant by Electromagnetic Induction ? Describe an activity to demonstrate the phenomenon.	3
15	One of the major causes of fire in office buildings is short circuiting. List three factors which may lead to short circuiting.	3
16	A circuit has a line of 5 A. How many lamps of rating 40 W; 220 V can simultaneously run on this line safely?	3
17	<p>There are about fifty teachers in a school and most of them come to school by their own cars. Many of the teachers come from the same place but everyone prefers to come to school by his/her own car.</p> <p>Answer the following questions based on above information :</p> <p>(i) Do you think that their practice of commuting to school is environmental friendly ? Give one suggestion. Justify your answer.</p> <p>(ii) In what other two ways we can become environmental friendly ?</p>	3

18	Write any three characteristics of a good fuel.	3
19	Give suitable reasons for the following statements : (i) Rain water conducts electricity but distilled water does not. (ii) We feel burning sensation in the stomach when we overeat. (iii) A tarnished copper vessel regains its shine when rubbed with lemon. (iv) During summer season, a milkman usually adds a very small amount of baking soda to fresh milk. (v) An aqueous solution of sodium chloride is neutral but an aqueous solution of sodium carbonate is basic.	5
20	(a) When calcium metal is added to water, the gas evolved does not catch fire but the same gas evolved on adding potassium metal to water catches fire. Explain why ? (b) Name a metal for each case : (i) It displaces hydrogen gas from nitric acid. (ii) It does not react with any physical state of water. (iii) It does not react with cold as well as hot water but reacts with steam.	5
21	(a) State the form in which the following are stored : (i) Unused carbohydrates in plants (ii) The energy derived from food in humans (b) Describe the process of nutrition in amoeba with the help of diagram.	5
22	Describe with the help of a labelled diagram an activity to demonstrate the force acting on a current-carrying conductor due to a magnetic field. Also show the effect of change in direction of magnetic field and change in direction of current. State the rule to find the direction of force based on the conclusion of this activity.	5
23	State the factors on which the resistance of a metallic wire depends. Define the term resistivity and derive its SI unit. A wire of length 1 metre and radius 0.02 cm has a resistance of 5.0 ohms. Calculate the resistivity of the material of the wire.	5
24	(a) What is an electromagnet ? What does it consist of ? (b) With the help of a diagram showing experimental arrangement describe an activity to show how an electromagnet can be made in a school laboratory. (c) Compare the pattern of the field produced in case of a current carrying solenoid with the magnetic field of a bar magnet.	5
SECTION - B		
25	A base can be tested by : (a) blue litmus (b) red litmus (c) blue or red litmus (d) lime water	1

26	<p>Suggest the solution which you would choose for testing pH of given sample :</p> <p>(a) Blue litmus (b) Red litmus (c) Universal indicator solution (d) Lime water</p>	1
27	<p>Hydrated ferrous sulphate is commonly known as :</p> <p>(a) Blue vitriol (b) Green vitriol (c) Yellow vitriol (d) Brown vitriol</p>	1
28	<p>Solutions of $ZnSO_4$, $CuSO_4$ and $Al_2(SO_4)_3$ were separately taken in three different test tubes and iron filings were added to each.</p> <p>After the above sets were allowed to stand for an hour, a coating on iron filings was observed in :</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>(I)</p> </div> <div style="text-align: center;">  <p>(II)</p> </div> <div style="text-align: center;">  <p>(III)</p> </div> </div> <p>(a) II and III (b) III only (c) I and II (d) II only</p>	1
29	<p>Anushri dissolved crystals of copper sulphate in water, the colour of solution will be –</p> <p>(a) Blue (b) Green (c) Yellow (d) Colourless</p>	1
30	<p>In our domestic electric circuit the component which is always connected in series is :</p> <p>(a) Fuse wire (b) Earth wire (c) Live wire (d) Connecting wire</p>	1
31	<p>Teacher give the circuit diagram to find resistance of a parallel combination of two resistance as follows.</p> <div style="text-align: center;">  </div> <p>A student is finding it difficult to identify the devices marked as X, Y, and Z correct identification of X,Y,Z respectively is :</p> <p>(a) ammeter, voltmeter, resistance (b) rheostat, ammeter, voltmeter</p>	1

	(c) voltmeter, ammeter, rheostat (d) ammeter, rheostat, voltmeter	
32	On completion of the experiment to demonstrate that “light is necessary for photosynthesis”, four students reported the inference as follows. Identify the correct inference. (a) Part of the leaf covered with strip can only undergo photosynthesis (b) Uncovered parts of the leaf cannot synthesize starch (c) Photosynthesis takes place only in the presence of sunlight (d) Light is necessary for synthesis of starch in green plants	1
33	In an experimental set – up to demonstrate that CO ₂ is released during respiration, Vaseline is applied to : (a) fix the rubber stopper at the mouth of the flask (b) the mouth of the U-shaped tube (c) the germinating seeds (d) the rubber stopper where the delivery tube enters and the mouth of the flask	1
34	Iron filings were added to an aqueous solution of copper sulphate. After ten minutes, it was observed that the blue colour of the solution has changed and there is a coat on the iron filings. State the change in colour observed in the solution and also colour of the coat formed on the iron filings.	2
35	Calculate the resistance of a resistor on the basis of readings shown. 	2
36	In the experiment to prepare temporary mount of leaf peel, which stain is preferred and how is extra stain on the slide removed ?	2
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