



SUMMATIVE ASSESSMENT-I, 2015-16
CLASS- X, SCIENCE

gg-ro-104

Time allowed: 3 hours

Maximum Marks: 90

General Instructions:-

1. This question paper Comprises of two sections, A and B. You are to attempt both the sections.
2. All question are compulsory.
3. All questions of section-A and all questions of section-B are to be attempted separately.
4. Question number 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 Section-A are two marks questions. These are to be answered in about 30 words each.
6. Question number 7 to 18 in Section-A are three marks questions. These are to be answered in about 50 words each.
7. Question number 19 to 24 in Section-A are five marks questions. These are to be answered in about 70 words each.
8. Question number 25 to 33 in Section-B are MCQ based question on practical skills. Each question is a one mark question.
9. Question number 34 to 36 in Section-B are questions based on practical skills are two marks Questions.

Section A

- Q. 1 Suggest two salts that are used in black and white photography.
- Q. 2 The solar cooker is painted black from inside why?
- Q. 3 Why the walls of ventricles are thicker than the walls of atria?
- Q. 4 A Compound X of sodium is commonly used in kitchen for making crispy pokers. It is also used for curing acidity in the stomach. Identify X what is its chemical formula? State the reaction which takes place when it is heated during cooking.
- Q. 5 Name one plant hormone which inhibits growth. Write it's one more function.
- Q. 6 How many 176Ω resistors (in parallel) are required to carry 5A on a 220 V line?
- Q. 7 Write the balanced chemical equation for the following reaction
 - (A) Zinc + silver nitrate \rightarrow Zinc nitrate + silver
 - (B) Aluminium + Copper Chloride \rightarrow Aluminium Chloride + Copper

(c) Barium Chloride + Potassium Sulphate \rightarrow Barium Sulphate + Potassium Chloride

Q. 8 You have two solutions A and B. The pH of solution A is 6 and pH of solution B is 8

- (a) Which solution is acidic and which is basic?
- (b) Which Solution has more H^+ ion concentration?
- (c) Why is HCl a stronger acid than acetic acid?

Q. 9 Give an example of a metal which

- (a) Is a liquid at room temperature.
- (b) Can be easily cut with a knife
- (c) Is a poor conductor of heat

Q.10 Explain the process of breakdown of glucose in a cell

- (a) In the presence of oxygen
- (b) In the absence of oxygen

Q.11 Describe double circulation in human being. Why is it necessary?

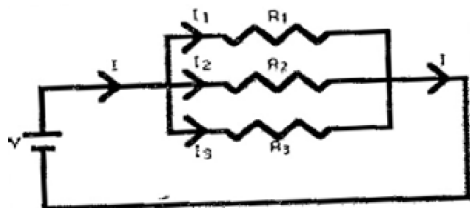
Q.13 Name the stimulus in the following movements

- (a) Phototropism
- (b) Geotropism
- (c) Chemotropism

Q.13 Explain the following

- (a) Why is tungsten used almost exclusively for filament of electric lamps?
- (b) Why is a series arrangement not used for domestic circuits?
- (c) Why are copper and aluminium wire usually employed for electricity transmission?

Q.14 A circuit diagram is given below



$$R_1 = 2\Omega$$

$$R_2 = 5\Omega$$



$$R_3 = 10\Omega$$

$$\text{Battery} = 10\text{V}$$

Calculate :-

- (i) The current through each resistor.
- (ii) The total current in the circuit
- (iii) The total effective resistance of the circuit.

Q.15 List three methods of producing magnetic field?

Q.16 Identify the rules to determine the direction of a

- (i) Magnetic field produced around a straight conductor carrying current
- (ii) Force experienced by a current carrying straight conductor placed in a magnetic field
- (iii) Current induced in a coil due to its rotation in magnetic field.

Q.17 World energy consumption pattern indicates that the energy consumption will be tripled in a period of 50 years so different agencies should be engaged in promoting energy efficiency and conservation of pernicious sources of energy. Their effort needs to be replicated.

Answer the following questions:

- (i) As responsible citizen of India, What steps would you take to conserve energy?
- (ii) What message is conveyed to you by the information given above?
- (iii) Give two examples of different agencies.

Q.18 Increasing demand of fossil fuels has caused harm to our environment. List three ill effects. Suggest three measures to reduce the consumption of fossil fuels.

Q.19 (i) Explain the following terms with one example each

- (a) Corrosion
- (b) Rancidity
- (ii) State one advantage and one disadvantage of corrosion.
- (iii) State the various methods for preventing rancidity of food.

Answers the following

- (i) Name the compound which is obtained from baking soda and is used to remove permanent hardness of water.
- (ii) Write its chemical formula
- (iii) What happens when it is re-crystallized from its aqueous solution?

(iv) Plaster of Paris should be stored in moisture proof container. Explain why?

Q.21 Explain with the help of suitable example, explain how ionic compounds are formed. State any three general properties of ionic compounds.

Q.22 Draw the structure of excretory unit of a human kidney and label the following

(a) Bowman's Capsule

(b) Glomerulus

(c) Collecting duct

(d) Renal Artery

Q.23 (i) State Ohm's law

(ii) Draw the V-I graph for ohmic and non ohmic conductor

(iii) What is resistance and what are the factors on which the resistance of a conductor depends.

(iv) What is Resistivity and on what factor it depends?

Q.24 (i) Write down the difference between direct current and alternating current

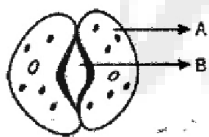
(ii) What is the frequency of AC in India?

(iii) What is the advantage of AC over DC

(iv) Name any two safety device used in domestic circuit.

Section B

Q.25 The parts shown as A and B in the given diagram are



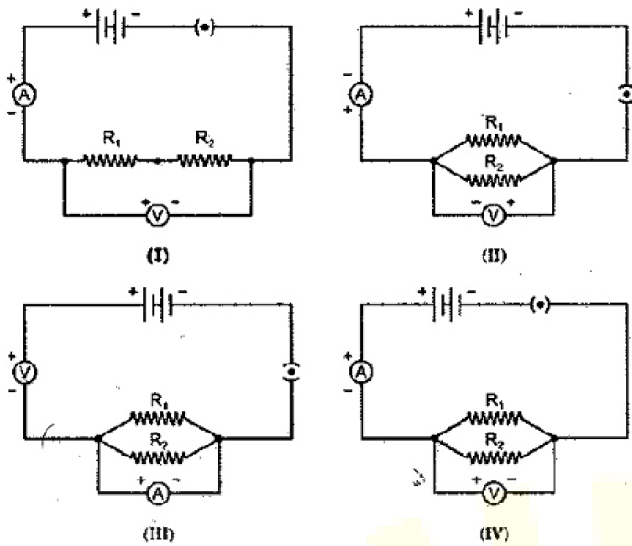
(a) A is epidermal Cell, B is stomatal pore

(b) A is guard cell, B is stomatal pore

(c) A is epidermal cell, B is guard cell

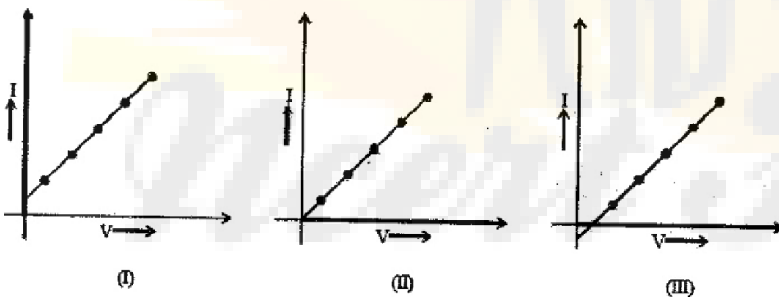
(d) A is guard cells, B is epidermal cell

Q.26 Following Circuits were drawn by four students, to determine the equivalent resistance of two resistor when connected in parallel. The correct circuit is drawn by the student.



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

Q.27 In the experiment on studying the dependence of current (I) on the potential difference (V), three students plotted the following graphs between (V) and (I) as per their respective observations.

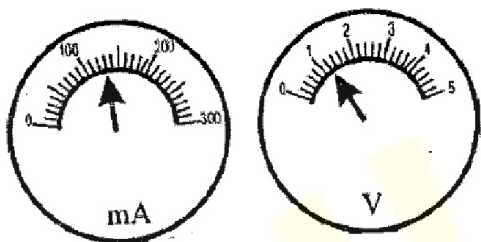


The observations, likely to be correct, are those of

- (a) Student I only.
- (b) Student II only.
- (c) Student III only.
- (d) all the three students.

Q.28 The figures give below show the readings of a millimeter and a voltmeter connected in an electrical circuit. Assuming that the instruments do not have any zero error, the correct readings of the millimeter and voltmeter are

	Sample Taken	pH paper colour turned to
I	Water	Blue
II	Dilute HCl	Red
III	Dilute NaOH	Blue
IV	Dilute Ethanoic Acid	Orange



- (a) 160 mA and 1.1V
- (b) 130 mA and 1.2V
- (c) 103 mA and 1.1V
- (d) 130 mA and 1.5V

Q.29 In an experiment to test the pH of a given sample using pH paper, four students recorded the following observations:

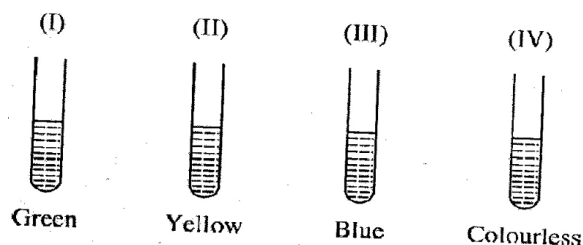
Which one of the above observations is incorrect?

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

Q.30 When a student added Zinc granules to dilute HCl, a colorless and odorless gas was evolved, which was tested with a burning match stick, it was observed that:

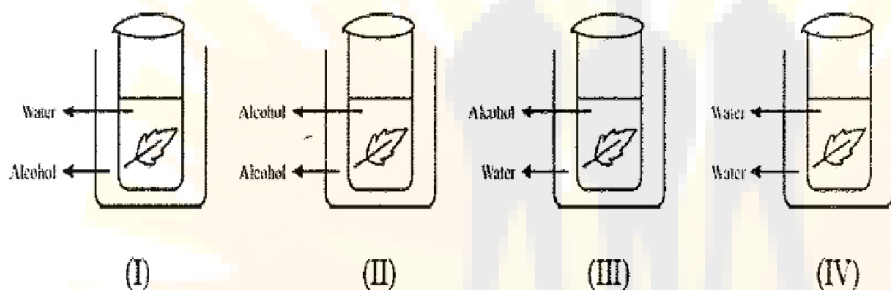
- (a) The match stick continued to burn brilliantly.
- (b) The match stick burnt slowly with a blue flame.
- (c) The match stick extinguished and the gas burnt with pop sound.
- (d) The match stick burnt with an orange flame.

Q.31 Four test tubes containing solutions (I), (II), (III) and (IV) are shown below along with their colours. Zinc sulphate is contained in



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

Q.32 The figures given below illustrate boiling of leaf to remove chlorophyll. This is one of the steps in the experiments to show that light is necessary for photosynthesis



The correct method is

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

Q.33 In order to prepare a temporary mount of a leaf peel of observing stomata, the chemicals used for staining and mounting respectively are

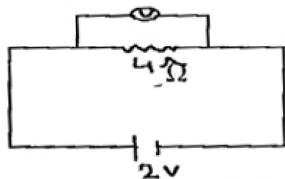
- (a) Saffranin and glycerin
- (b) Iodine and glycerin
- (c) Iodine and saffranin
- (d) glycerin and saffranin

Q.34 Write the type of reaction and observation that can be made when:

(a) Barium chloride solution is added to sodium sulphate solution

(b) Iron filings are added to copper sulphate solution

Q.35 Calculate the current I in the following circuit?



Q.36 A student while setting up the experiment to show that CO_2 is evolved during respiration committed some errors shown in the figure. Mention the errors

