Name Keshav Kapur Class & Section X - C Roll No. 15

SUMMATIVE ASSESSMENT–I—2016-17

CLASS–X

SUBJECT–SCIENCE

Time : 3 Hours **M.M. : 90**

Please Check the Total Marks

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 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 numbers 7 to 18 in Section A are three marks questions. These are to 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 lchoice 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. Each question is of two marks.*
10. *Attempt the following questions in separate answer sheets :*
    Physics : 2, 3, 14, 15, 16, 18, 22, 23, 24, 30, 31, 35
    Chemistry : 4, 5, 7, 8, 9, 10, 19, 20, 25, 26, 27, 28, 29, 34
    Biology : 1, 6, 11, 12, 13, 17, 21, 32, 33, 36
11. *Tie the answer sheets together in the order of Physics, Chemistry, Biology while submitting.*

Section-A

1. Name any two organisms which breakdown the food material outside their bodies and then absorb it. (1)

2. State the direction of the magnetic field inside the bar magnet. (1)

3. List any two advantages of using wind energy. (1)

4. Write the name and chemical formula of one salt each which contains :

   (i) two molecules of water of crystallisation

   (ii) ten molecules of water of crystallisation (2)

5. A silver spoon is kept immersed in an aqueous solution of copper sulphate. What change would be observed in the spoon as well as in the solution ? Justify your answer. (2)

6. (i) Name the hormones that are released in human males and females when they reach puberty.

   (ii) Name a gland associated with brain. Which problem is caused due to the deficiency of the hormone released by this gland ? (2)

7. Draw a neat and labelled diagram to show the following activity :

   Action of dilute sulphuric acid on zinc granules.

   Name the gas evolved.

   How will you test for the gas ? (3)

8. Balance the following chemical equations and state whether they are exothermic or endothermic :

   (i) $Na + H_2O \rightarrow NaOH + H_2$

   (ii) $FeSO_4 \rightarrow Fe_2O_3 + SO_2 + SO_3$ (3)

9. Name the constituent elements of the following alloys : (3)

   (i) Brass (ii) Bronze (iii) Solder

   Mention one use of each alloy.

10. Identify the type of reactions in each of the following reactions : (3)

(i) $Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$

(ii) $CaO + H_2O \rightarrow Ca(OH)_2$

(iii) $CaCO_3 \xrightarrow{Heat} CaO + CO_2$

11. The brain is contained in a fluid filled balloon like structure. Mention the purpose served by the fluid in this structure. Cranium and vertebral column protect two vital organs of central nervous system. Name these organs. Mention two types of nerves arising from these organs. (3)

12. Define excretion. Write two vital functions of kidney. (3)

13. Write three points of difference between anaerobic respiration and aerobic respiration. (3)

14. Write symbols of the following circuit elements :

(i) Voltmeter (ii) Ammeter (iii) plug key (3)

State the role of these elements in an closed circuit.

15. Give reasons for the following : (3)

(a) It is dangerous to touch the live wire of the main supply rather than neutral wire.

(b) In household circuit parallel combination of resistances is used.

(c) Using fuse in a household electric circuit is important.

16. In an electric field the work done in bringing a 2 coulomb charge from infinity to a point A is 10 joules and in bringing the same charge to some another point B is 20 joules. Find the potential difference between two points A and B. What would be the work done if the same charge is brought directly from A to B ? (3)

17. You have been appointed as the 'eco club incharge' of your school. You have to take care of the maintenance and conservation of the environment.

(i) Suggest any three ways by which you will carry on your duties.

(ii) Write any three qualities that you would like your schoolmates to develop for environment conservation. (3)

18. List any three characteristics of a good source of energy. (3)

19. Define a chemical reaction. State four observations which help us to determine that a chemical reaction has taken place. Write one example of each observation with a balanced chemical equation. (5)

20. (a) Illustrate an activity to investigate whether all compounds containing hydrogen are acidic.

(b) What happens when hydrochloric acid and sodium hydroxide are dissolved in water. Explain giving equation of each. (5)

21. (a) What are phytohormones ? List four types of phytohormones. Where are these hormones synthesised ?

(b) What happens when a growing plant detects light ? Explain in brief. (5)

22. (a) Define electric current.

(b) Draw the symbols of commonly used components in electric circuit diagrams for : (5)

(i) An electric cell

(ii) Open plug key

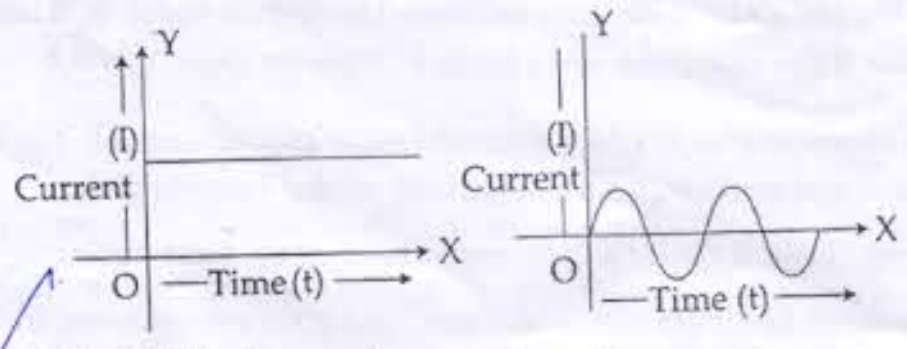
(iii) Wires crossing without connection

(iv) Variable resistor

(v) Battery (vi) Electric bulb

(vii) Resistance (viii) Wire joint

23. In our daily life we use two types of electric current whose current time graphs are given below :



(a) Identify the types of current in each case.

(b) Identify any one source of each type of current.

(c) What is frequency of current used in domestic supply in India ?

(d) On the basis of graphs write difference between the two currents.

(e) Out of two which one is used in transmitting electric power over long distances and why ?

24. 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)

Section-B

25. Identify the beaker in which the solution is basic. The colour obtained on the pH paper is within brackets. (1)

within brackets.

(a) (ii) (b) (iii)

(c) (i) (d) (iv)

26. A student was asked to collect apparatus from laboratory store, for doing experiment of pH of given sample. Identify the article which he is not supposed to pick. (1)

(a) pH paper

(b) dropper

(c) litmus paper

(d) petridish

27. Zinc metal is added to dilute hydrochloric acid. The gas evolved is : (1)

(a) Oxygen

(b) Hydrogen

(c) Chlorine

(d) Hydrogen chloride gas

28. Out of the following pair of compounds, the set in which both the compounds form coloured solutions would be : (1)

(a) $FeSO_4$, $CuSO_4$

(b) $ZnSO_4$, $CuSO_4$

(c) $Al_2(SO_4)_3$, $FeSO_4$

(d) $ZnSO_4$, $Al_2(SO_4)_3$

29. A student placed Zn rod in $FeSO_4$ solution. After 10 hours when rod was taken out and it was observed that :

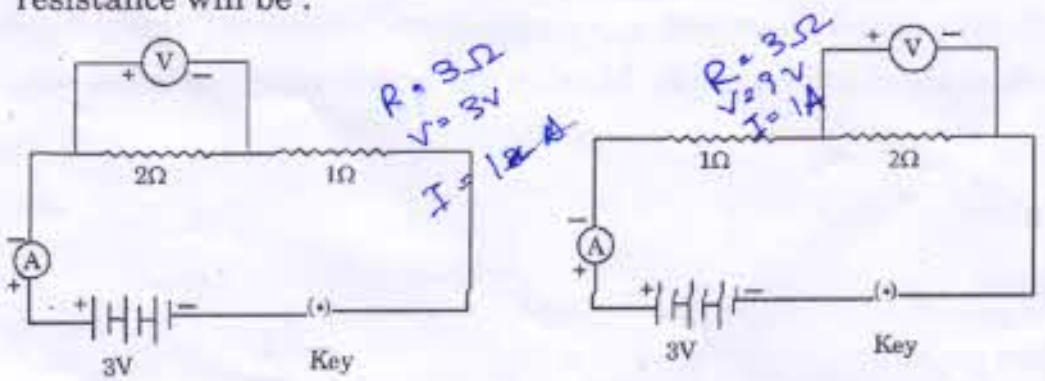
(a) Zn rod became thinner

(b) Zn rod became thicker due to Iron deposition

(c) Zn rod remains as it was

(d) Zn rod has holes (1)

30. In two circuit diagrams I and II given below the voltmeter readings across 2 Ω resistance will be : (1)



(I) (II)

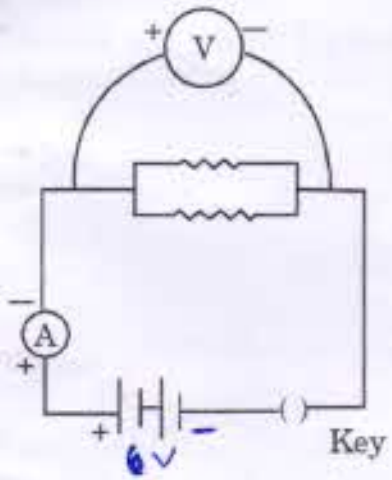
(a) In both circuit diagrams 2.0 V

(b) In diagram I 2.0 volt and in diagram II 0.0 volt

(c) In both circuit diagrams 0.0 volt

(d) In diagram I 0.0 volt and in II 2.0 volt

31. A student was performing experiment to find the equivalent resistance of a parallel combination of two resistors with the help of a battery of 6 V as per the circuit given below. He should choose a voltmeter to measure potential difference across the combination of range : (1)



(a) 0 – 2 V (b) 0 – 6 V

(c) 0 – 3 V (d) 0 – 1 V

32. Rehana put a potted plant in a dark room 24 hours before the experiment to show the light is necessary for photosynthesis. The effect on the leaves of the plant will be that : (1)

(a) leaves will be de-starched (b) leaves will turn black

(c) leaves will lose chlorophyll (d) leaves will turn blue-black

33. The experiment to show that 'CO_2 is given out during respiration', the absorption of CO_2 by KOH involves the given reaction : (1)

(a) $KOH + CO_2 \rightarrow KCO_2 + H_2O$ (b) $2KOH + CO_2 \rightarrow K_2CO_3 + H_2O$

(c) $2KOH + CO_2 \rightarrow K_2CO_3 + O_2 + H_2O$

(d) $KOH + CO_2 \rightarrow KO_2 + H_2$

34. While demonstrating a reaction in laboratory, a teacher added small amount of sodium sulphate solution to barium chloride solution in a test tube.

(i) Name the products obtained. Are the products soluble in each other ?

(ii) Write the the type of chemical reactions in this case. (2)

35. In an experiment on studying the dependence of current (I) flowing through a given resistor on the potential difference (V) applied across it, list two ways how a student would change the values of current in the circuit ? (2)

36. Where do you observe more stomata ? Name the tissue in which stomata are found. (2)

$V = IR$