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X-B
Exam Roll no. 10066
Roll no. 25
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(1)

S8Z9NTE

SUMMATIVE ASSESSMENT – I, 2016-17

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. Each question is of two marks.

SECTION-A

1 Name two enzymes present in pancreatic juice. 1

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

3 Name two elements used in fission chain reaction in a nuclear reactor. 1

4 A white chemical compound becomes hard on mixing proper quantity of water. It is also used to maintain joints in a fixed position. Name the chemical compound and write its chemical formula. Write the chemical equation to show what happens when water is added to this compound in proper quantity. 2

5 Which of the following listed metals can displace zinc from its salt solution ? Give reason of your answer along with chemical equation. 2
Copper, Lead, Magnesium, Silver.

6 Draw a neat and labelled diagram of neuro-muscular junction. 2

7 Describe an activity to show that the effect of a base is nullified by the addition of an acid and vice-versa. What is the name given to this reaction? Define it. 3

8 Define the term decomposition reaction. Give one example each of thermal decomposition and electrolytic decomposition. 3

9 What is cinnabar ? How is a metal extracted from cinnabar ? Explain briefly. 3

10 (a) What will be the action of litmus on :

(i) Dry ammonia gas

(ii) Solution of ammonia gas in water

(b) State the observations made on adding ammonium hydroxide to aqueous solution of :

(i) Ferrous sulphate

(ii) aluminium chloride

11 Write two different types of movements shown by plants. Explain by giving one example for each. 3

12 State the difference between transport of materials in xylem and phloem. 3

13 State the source of secretion and function of the following hormones : 3

(i) Thyroxin (ii) Insulin (iii) Growth hormone

14 State Ohm's law. Draw a circuit diagram to verify this law indicating the positive and negative terminals of the battery and the meters. Also show the direction of current in the circuit. 3

15 With the help of a diagram for the experimental setup describe an activity to show that a current carrying conductor placed in a uniform magnetic field experiences a force. 3

16 A current of 5 amperes is passed through a conductor of 12 ohms for 2 minutes. Calculate the amount of heat produced. 3

17 (i) 'Mridu says that if we start living as our ancestors, this would conserve energy and our ecosystem.' Do you agree with her or not ? Give valid reason for your answer. 3

(ii) Name any two sources of energy which give less danger to our environment while being used.

18 If energy can neither be created nor destroyed, explain with an example as to why we should worry about our energy resources ? 3

19 ((a) Explain two ways by which food industries prevent rancidity. 5

(b) Discuss the importance of decomposition reaction in metal industries with three points.

20 (a) The pH values of six solutions A, B, C, D, E and F are 0, 11, 6, 7, 13 and 8 respectively. Which of these solutions is 5

(i) Weak acid

(ii) Weak base

(iii) Strong acid

(iv) Strong base

(v) Neutral.

Arrange the solutions A, B, C, D, E and F in decreasing order of hydrogen ion concentration.

(b) Two solutions X and Y are tested with universal indicator.

Solution X turns orange whereas solution Y turns red. Which of these solutions is a stronger acid ?

(c) The pH of a cold drink is 5. What will be its action on blue and red litmus solutions ?

21 (a) Explain how does the exchange of gases occur in plants across the surface of stems, roots and leaves. 5

(b) How are water and minerals transported in plants ?

(a) The heating element of an electric heater glows while the cord does not glow. Give reason. 5

(b) Which uses more energy a 200 Watt Television set in 40 minutes or 1000 watt toaster in 20 minutes?

(a) Define a solenoid. Draw magnetic field lines produced by a current carrying solenoid. 5

(b) List three ways in which magnetic field strength of a current carrying solenoid can be increased.

24 In the circuit diagram given below : 5

(a) Find the combined resistance.

(b) Find the potential difference across the combined resistance.

(c) Find the potential difference across the 6 Ω resistance.

(d) Find the current in the 6 Ω resistor.

(e) Find the current in the 12 Ω resistor.

SECTION - B

25 You are given solutions A and B whose pH values are 6 and 8 respectively. What do you infer from this information? 1

(a) Strength of solution B is higher than A

(b) A is an acid while B is a base.

(c) Both are acid solutions.

(d) Both are base solutions.

26 On adding universal indicator to sample X, Y and Z, it was found that the colour changes were green, red and blue respectively. The decreasing order of pH is : 1

(a) X>Y>Z (b) Z>X>Y

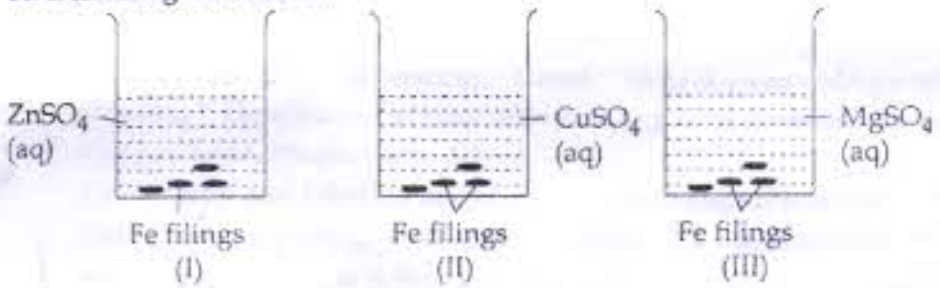
(c) Y>X>Z (d) Z>Y>X

27 The colour of Zinc metal is : 1

(a) Light grey (b) Reddish brown

(c) Black (d) Light yellow

28 Out of the following sets given, Anjali observed after an hour that a coating was deposited on iron filings in the set : 1



(a) (I) and (II) (b) (I) only

(c) (III) only (d) (II) only

29 Rohit added a few Zinc granules to ferrous sulphate solution and recorded his observations. The correct observation will be : 1

(a) Pale green colour of solution turns black.

(b) Pale green colour of solution disappears and it becomes colourless.

(c) Pale green colour of solution becomes blue.

(d) Pale green colour of the solution disappears, black deposits are seen on granules.

30 The following instruments are available in the laboratory : 1

Milliammeter A_1 of range 0-300mA and least count 10mA

Milliammeter A_2 of range 0-200mA and least count 20mA

Voltmeter V_1 of range 0-5V and least count 0.2V

Voltmeter V_2 of range 0-3V and least count 0.3V

Out of the above given instruments,which pair would be the best choice for carrying out the experiment to determine the equivalent resistance of two resistors connected in series :

(a) Milliammeter A_1 and voltmeter V_1

(b) Milliammeter A_2 and voltmeter V_2

(c) Milliammeter A_1 and voltmeter V_2

(d) Milliammeter A_2 and voltmeter V_1

31 When parallel resistors are of three different values, the potential difference across its terminals is:- 1

(a) greatest across smallest resistance

(b) greatest across largest resistance

(c) equal across each resistance.

(d) least across the smallest resistance

32 Before testing the experimental leaf for starch at the end of the experiment, "light is necessary for photosynthesis" it should be boiled in : 1

(a) Water

(b) Alcohol

(c) KOH solution

(d) Hydrochloric acid

33 The purpose of keeping some KOH in the test tube with the germinating seeds in the conical flask in the set up to demonstrate that 'CO_2 is released during respiration' is : 1

(a) to absorb water from the seeds to make them dry

(b) to make the air in the flask warm

(c) to absorb CO_2 and create partial vacuum in the flask.

(d) to provide O_2 to the germinating seeds

34 While studying the double displacement reaction, the solutions of barium chloride and sodium sulphate are mixed together. 2

(i) What do you observe as soon as the two solutions are mixed together ?

(ii) What will happen in the above observation made by you after ten minutes ?

35 In an experiment, to study the dependence of potential difference (V) on the electric current (I) across a conductor (resistor), if the circuit is on for long time, then- (select two correct options) from the following : 2

(i) Zero error of an ammeter will be changed.

(ii) Zero error of a voltmeter will be changed.

(iii) Value of a resistance will be changed.

(iv) Resistor will be heated.

36 Mention any two characteristics of epidermal cells. 2

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