

Set A

Betsy
St. Anthony
64CDQND

SUMMATIVE ASSESSMENT – I, 2015-16

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 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 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 How is spinal cord protected in the human body? *like Pg 144* 1
- 2 Mention two reasons why tungsten is used for making filament of electric lamp. *Pg 210* 1
- 3 Name the major constituent of natural gas. 1
- 4 Write the chemical name of baking soda. Write balanced chemical equation for its preparation. Mention its one use. *TP COPY* 2
- 5 Reverse of the following chemical reaction is not possible : 2

$$\text{Zn(s)} + \text{CuSO}_4(\text{aq}) \rightarrow \text{ZnSO}_4(\text{aq}) + \text{Cu(s)}$$
- 6 Justify this statement with reason. 2
 (i) Name two waste products which are stored in old xylem in plants.
 (ii) Name the process by which plants get rid of excess water. Name the pores through which this process takes place.
- 7 Rama wanted her house to be whitewashed. She bought some quicklime from the market and dissolved it in water in a big tub. She noticed that the container became hot without any heating. Give reason for her observation with equation and name the product formed. What happens when it is applied on the walls? *Pg 2 L 102* 3
- 8 Indicate with the help of a diagram the variation of pH with change in concentration of $\text{H}^+(\text{aq})$ and $\text{OH}^-(\text{aq})$ ion showing : 3
 (i) Increase of acidic and basic nature
 (ii) Increase and decrease of H^+ ion concentration
- 9 (a) What is an alloy and how is it prepared give two examples of alloys. *TP COPY* 3

- (b) Iron is not used in its pure state. Give reason. 3
- 10 (a) Write any two properties of ionic compounds. 3
 (b) Show the formation of aluminium chloride by the transfer of electrons between the atoms. (Atomic number of aluminium and chlorine are 13 and 17 respectively.)
- 11 Write three points of difference between anaerobic respiration and aerobic respiration. *ULICA Pg 115* 3
- 12 (a) How does chemical coordination take place in animals? 3
 (b) It is advised to use iodised salt, Give reason.
- 13 Define the terms phototropism and geotropism. State any four roles of plant hormones. 3
- 14 Write symbols of the following circuit elements : *NCERT Pg 203* 3
 (i) Battery (ii) Ammeter (iii) Voltmeter
 State the role of these elements in an electric circuit.
- 15 What is meant by Electromagnetic Induction? Describe an activity to demonstrate this phenomenon. *Like Pg A-17* 3
- 16 With the help of a diagram for experimental set up describe an activity to demonstrate that the magnetic field around a straight current carrying conductor decreases with increase in distance from the conductor. 3
- 17 Vineet is a brilliant student of his class. One day he had an opportunity to go to a science exhibition organized at national level. There he saw a working model of wind mill. He was very much inspired by the explanation given by those students who were with the model. 3
 (i) Write the principle of working of a wind mill.
 (ii) Is it renewable or non-renewable source of energy? Write one advantage of using it as a source of energy.
 (iii) Why was Vineet impressed by the explanation given by the students?
- 18 Write the function of each of the following in a solar cooker: 3
 (a) blackened surfaces.
 (b) mirror.
 (c) glass sheet
- 19 (a) What happens when an acid reacts with a base? Name the reaction and give equation of the reaction involved. 5
 (b) Name a natural source of each of the following acids :
 (i) Citric acid - *Lemon*
 (ii) Oxalic acid - *Tomato*
 (iii) Lactic acid - *curd*
 (iv) Tartaric acid - *Tamarind*
 (v) Acetic acid - *vinegar*
- 20 (a) What is thermite reaction? Giving chemical equations, explain how it is used to join railway tracks or cracked machine parts? 5
 (b) Differentiate between roasting and calcination by giving suitable examples.
- 21 Mention the organ and site of photosynthesis in green plants. What are the raw materials essential for this process? How are they obtained? Write complete balanced chemical equation for the process. Name the byproducts. 5
- 22 (a) Write two points of difference between electric energy and electric power. 5
 (b) Out of 60 W and 40 W lamps, which one has a higher electrical resistance when in use.

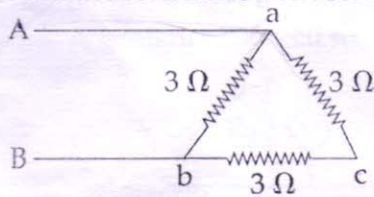
- 23 (c) What is commercial unit of electric energy? Convert it into Joules.
- (a) A positively charged particle (alpha) projected towards west is deflected towards north by a magnetic field. State the direction of magnetic field. State the rule used by you to find the direction.
- (b) Mention the factors on which the strength of forces experienced by a current carrying conductor placed in a magnetic field depend.
- (c) Under what condition is the force experienced by a current carrying conductor placed in a magnetic field maximum?

24 For the parallel combination of resistors establish the relation :

$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

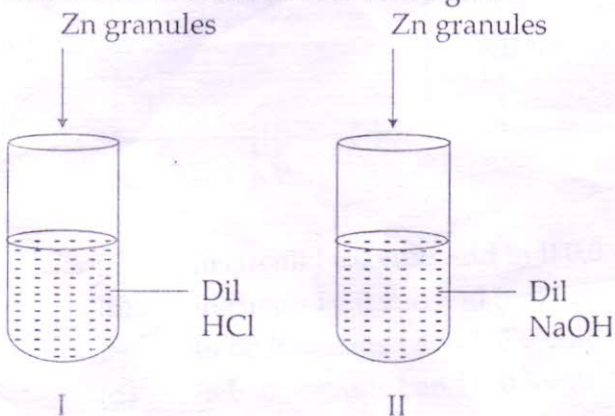
where the symbols have their usual meanings.

Find the resistance between A and B in the following network.



SECTION - B

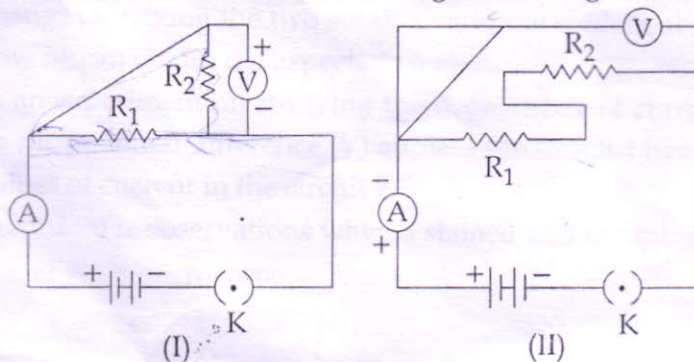
- 25 A student tested pH value of distilled water and found that the colour of pH paper changed to green. He checked the pH again after dissolving a pinch of solid sodium bicarbonate in it. Colour of pH paper changed to :
- (a) yellow (b) red (c) green (d) blue
- 26 Water, hydrochloric acid, sodium hydroxide solution and ethanoic acid were provided to a student in the test tubes A, B, C and D respectively. On determining the pH of each solution by using pH paper, the colour changed to green, red, blue and orange respectively. The correct order of solutions in terms of increasing value of pH would be :
- (a) $B < A < C < D$ (b) $C < D < B < A$
- (c) $A < B < C < D$ (d) $B < D < A < C$
- 27 10 ml each of hydrochloric acid and sodium hydroxide solutions were taken in two separate beakers I and II as shown in the figure :



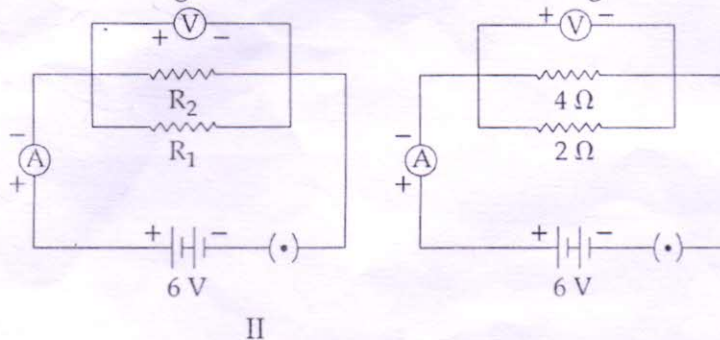
On adding zinc granules to both, it is observed that at room temperature :

- (a) Gas is evolved vigorously in beaker I but not so in beaker II
- (b) Gas is evolved vigorously in both the beakers

- (c) Gas is evolved in beaker II but not in beaker I
 (d) No gas is evolved in either of the two beakers.
- 28 Sapna added a small strip of aluminium to ferrous sulphate crystals. Her observation should be : 1
 (a) No reaction takes place
 (b) Formation of crystals of aluminium sulphate.
 (c) Ferrous sulphate crystals turn colourless
 (d) Aluminium turns light green.
- 29 Rohit observed the formation of a coating when he added the solution of copper sulphate to the iron nails. This deposition is of : 1
 (a) Iron (b) Copper
 (c) Iron sulphide (d) Sulphur
- 30 A student observed the following circuit diagrams and concluded that : 1



- (a) In both circuit diagrams R_1 and R_2 are connect in series.
 (b) In both circuit diagrams R_1 and R_2 are connected in parallel.
 (c) R_1 and R_2 are connected in series in circuit diagram (I) and in parallel in (II)
 (d) R_1 and R_2 are connected in parallel in circuit diagram (I) and in series in (II)
- 31 In circuit diagrams I and II Voltmeter reading will be : 1



- (a) In circuit I 6.0 volts and in II 0.0 volt
 (b) In circuit I 0.0 volt and in II 6.0 volt
 (c) In both circuits I and II 6.0 volt
 (d) In both circuits I and II 0.0 volt

- 32 A portion of each of four de-starched leaves of plant was covered with paper strips of various colors. The plant was exposed to sunlight for 5 hours. Thereafter the strips were removed and

the leaves tested for starch in the covered portion. Which one out of the four leaves gave the positive starch test in the covered portion?

- (a) That covered with black paper strip
- (b) That covered with green paper strip
- (c) That covered with white paper strip
- (d) That covered with a transparent paper strip

33 In an experimental set - up to demonstrate that 'CO₂ 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

34 A student mixes solid sodium sulphate powder in solid barium chloride powder. What change on mixing the two solids would the student observe ? Justify your answer and explain how he can obtain the expected change. 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 Record your observations when a stained and mounted leaf peel is viewed by you under high power (453) microscope. 2

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