JSUNIL TUTORIAL
Chase Excellence

X1IUM3B

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 the process of transport of soluble products of photosynthesis. Mention the tissue which transports it. 1

2 Why are magnetic field lines more crowded towards the pole of a magnet? 1

3 Name any two devices used to harness solar energy. 1

4 Metal compound 'A' reacts with dilute sulphuric acid to produce a gas which extinguishes a burning candle. Identify the compound 'A' and the gas produced. Write a balanced chemical equation for the reaction if one of the compounds formed in the reaction is sodium sulphate. 2

5 Rahul has been collecting copper coins and silver coins. One day he observed a green coating on copper coins and a black coating on silver coins. State the chemical phenomenon responsible for these coatings and also write chemical names of each coating. 2

6 Name the hormones which are responsible for the following functions : 2

(i) regulating the blood sugar level
(ii) regulating the carbohydrates, protein and fat metabolism in the body
(iii) changes at puberty in human females
(iv) regulating the growth and development of the body

7 State the meaning of strong acids and weak acid. Classify the following into strong acid and weak acids : 3
HCl, CH_3COOH, H_2SO_4, H_2CO_3

8 Consider the following reaction 3

$$Pb(NO_3)_{2(s)} \xrightarrow{Heat} PbO_{(s)} + NO_{2(g)} + O_{2(g)}$$

(i) Write the name and the colour of the NO_2 gas formed.
(ii) Balance the above chemical equation.
(iii) Name the type of chemical reaction.

9 What is meant by 'refining of metals? Draw neat and labelled diagram of electrolytic refining of copper. 3

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10 Answer the following questions
(a) Name two metals which melt when kept on Palm
(b) Name two metals which do not react with oxygen even on heating. What is the likely position of such metals in the reactivity series?
(c) What happens when steam is passed over hot iron. Write its chemical equation.

11 Draw the structure of neuron and label the following parts on it
(i) Nucleus (ii) Dendrite (iii) Cell body (iv) Axon

12 Explain the structure of bronchi with the help of a neat diagram and label on it
(i) trachea (ii) bronchiole

13 Explain the process by which the energy requirements of the autotrophic organisms are fulfilled. In which form the unused carbohydrates get stored? 3

14 (a) Define the unit of resistance. 3
(b) What happens to the resistance as the conductor is made thicker?
(c) Keeping the potential difference constant, the resistance of a circuit is doubled, how will the current change?

15 What are magnetic field lines? List two characteristic properties of these lines. 3

16 An electric bulb is marked 10 W; 220 V. It is used for 10 hours daily for 30 days. Calculate the energy consumed by the bulb in joules and kWh. 3

17 Arpit went to his village in Maharashtra when he was told about the setting up of a nuclear power plant near his village. He immediately met the village head and asked him to protest with the authorities to change the venue of the set up. 3

(i) What could be the reason behind such protest?
(ii) Which other alternative source of energy can be used to improve the energy problem in his area?
(iii) Arpit was appreciated in the village by everyone for his actions. Which qualities of Arpit got him appreciation by the villagers?

18 Make a list of three features due to which L.P.G is considered to be a good fuel? 3

19 (a) Can a displacement reaction be a redox reaction? Explain with the help of an example. 5
(b) Write the type of chemical reaction in the following :
(i) Reaction between an acid and a base
(ii) Rusting of iron

20 (a) Write the chemical names and formulae of three hydrated salts. 5
(b) Describe an activity to show that the hydrated salts contain water of crystallization.

21 (a) What are phytohormones? List four types of phytohormones. Where are these hormones synthesised? 5
(b) What happens when a growing plant detects light? Explain in brief.

22 When an electric current flows through a conductor it becomes hot. Why? List the factors on which the heat produced in a conductor depends. State Joule's law of heating. How will the heat produced in an electric circuit be affected, if the resistance in the circuit is doubled for the same current? 5

23 (a) Draw magnetic field lines a current carrying circular loop. Identify the region where field is strongest and why? 5

(b) List two properties of magnetic field lines.

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31 A teacher divided a wire of resistance 1Ω into two halves and asked her students to find the equivalent resistance of a combination when both halves are connected in parallel. The resistance measured should be : 1

(a) 1Ω
(b) 2Ω
(c) 0.5Ω
(d) 0.25Ω

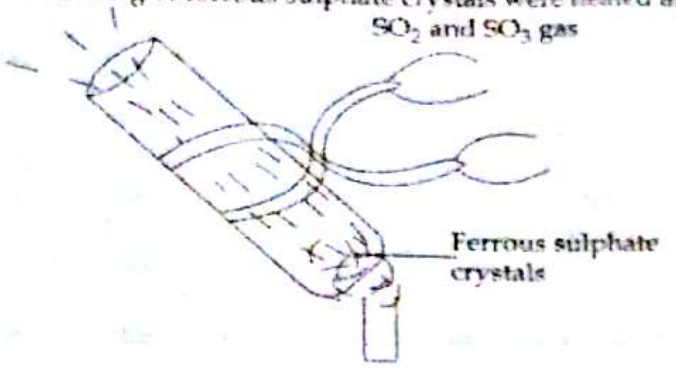
32 In order to de-starch the leaves for an experiment to show that sunlight is necessary for photosynthesis, the 1

(a) Leaves are kept in alcohol and boiled in water bath
(b) Leaves are soaked in iodine for two hours
(c) Plant with the leaves is kept in a dark room for 24 hours
(d) Plant with the leaves is exposed to light of a lamp, a night before the experiment

33 If the KOH solution is removed from the conical flask containing germinating seeds in the experiment to show that CO_2 is released during respiration, the possible observation will be : 1

(a) The water level will rise more
(b) CO_2 will not be released by the seeds as O_2 will not be absorbed
(c) There will be no rise of water level
(d) Water level will fall

34 About 2.5g of ferrous sulphate crystals were heated as shown in the figure given below : 2



After heating for one minute, (i) what change in colour of ferrous sulphate crystals would you observe (ii) on smelling the gases carefully, what would you feel?

35 How will you calculate the least count of an ammeter? 2

36 Rearrange the steps in the preparation of a temporary mount of a stained leaf peel. 2

(i) Cover the material with the cover slip.
(ii) Transfer the stained peel to the clean glass slide and add a drop of glycerin.
(iii) Remove the peel from the lower surface of the leaf.
(iv) Drop it in the water in a Petridish and add a drop of Safranin stain.

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