

19/Sept./2017

Set - A

First Term Examination

SCIENCE

Class - X

Time Allowed : 3 hours

Maximum Marks : 80

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. Question numbers **22 to 27** in **Section-B** are questions based on practical skills. Each question is of **two marks**.
4. **Draw well labelled diagram wherever necessary.**

SECTION-A

1	What will be the action of following substances on litmus paper? a) Moist NH <sub>3</sub> gas (b) Lemon juice	1
2	Name the award given in the memory of Amrita Devi Bishnoi.	1
3	Solution X,Y and Z have pH values 8, 9 and 10 respectively. Arrange them in increasing order of basic character giving reasons.	1
4	Consider the chemical reaction below $PbS + 4H_2O_2 \longrightarrow PbSO_4 + 4H_2O$ i) Name the substance oxidised, reduced ii) Name the oxidising agent and reducing agent	2
5	i) Why are copper and aluminum wires usually employed for electricity transmission ii) A magnet is moved towards coil (a) quickly (b) slowly. The induced emf a) Is larger in case (i) b) Is smaller in case (i) c) Is equal in both the cases d) Cannot be predicted	2
6	Salt A commonly used in bakery products on heating gets converted into another salt B which itself is used for the removal of hardness of water and gas C is evolved. The gas C when passed through lime water, turns its milky. Identify A, B & C and write balanced chemical equation involved.	2
7	Give reasons: a) Platinum, gold and silver are used to make jewellery. b) Sodium, potassium and lithium are stored under oil. c) Copper wires are used in electrical connection	3

OR

	<p>a) Why is aluminum oxide considered an amphoteric oxide  b) Metals like Na, K, Ca &amp; Mg are never found in their free state in nature.</p>	
8	<p>i) What is fermentation?  ii) How are alveoli designed to maximize the exchange of gases?</p>	3
9	<p>What substances are contained in the gastric juice? What are their functions?</p> <p style="text-align: center;"><b>OR</b></p> <p>(a) Why it is necessary to separate oxygenated and deoxygenated blood in mammals and birds.  (b) Why do veins have thin wall as compared to arteries.</p>	3
10	<p>Which hormone is secreted by thyroid gland? What is its importance? Which disease is caused by its deficiency? Write its symptoms also.</p>	3
11	<p>Draw a diagram of an electric circuit consisting of a wire of resistance <math>10\Omega</math> connected in series with an ammeter &amp; a battery of potential 3V. Find the current flowing through the circuit.</p>	3
12	<p>State the principle of an a.c. generator? Draw well labelled diagram for it. Write one difference between a.c. and d.c.</p>	3
13	<p>a) Draw magnetic field lines around a current carrying circular coil. Why don't two magnetic field lines intersect each other.  b) What you mean by the following terms:  i) earthing  ii) Fuse</p>	3
14	<p>a) What is biomars?  b) How has the traditional uses of wind and water energy been modified for our convenience? Why?  c) Why is Bio gas called as boon to farmers?</p>	3
15	<p>Neha and Reena are friends. Neha belongs to a rich family and she believes in throwing and discarding the things after use while Reema does not like wastage and she reuses the things. On the basis of above information answer the following questions:</p> <p>a) How does reusing the things avoid wastage?  b) List any two examples where you can reuse the things.  c) What values are shown by Reema.</p>	3
16	<p>(i) Balance the equations:  a) Barium chloride+Aluminum sulphate <math>\rightarrow</math> Barium sulphate+Aluminum chloride  b) Potassium metal reacts with water to given potassium hydroxide and hydrogen gas</p> <p>ii) A solution of a substance 'X' is used for white washing.  a) Name the substance 'X' and write its formula.  b) Write the reaction of the substance 'X' named in (i) above with water</p>	5

17	<ul style="list-style-type: none"> <li>a) Distinguish between 'roasting' and calcinations.</li> <li>b) Write a chemical equation to illustrate the use of aluminum for joining cracked railway lines.</li> <li>c) Explain the electrolytic refining of copper</li> </ul>	5
18	<ul style="list-style-type: none"> <li>a) Alcohol drunken person is not able to maintain posture of the body. Name the part of the brain that is affected.</li> <li>b) How is brain protected?</li> <li>c) Which types of nerve compose peripheral nervous system? What is the function of peripheral nervous system?</li> </ul>	5
19	<ul style="list-style-type: none"> <li>i) Draw the structure of nephron and label the following parts on it: <ul style="list-style-type: none"> <li>a) Renal artery</li> <li>b) Bowman's capsule</li> <li>c) Glomerulus</li> <li>d) Collecting duct</li> </ul> </li> <li>ii) State the function of glomerulus</li> </ul>	5
20	<ul style="list-style-type: none"> <li>a) Two students perform the experiment on series and parallel combination of two given resistors <math>R_1</math> &amp; <math>R_2</math> &amp; plot the following V-I graphs (a) &amp; (b) which of the graphs is correctly labelled in terms of the words series and parallel? Justify your answer.</li> <li>b) Define resistance and find how the resistance changes, when length of wire is doubled the original?</li> <li>c) What is the nature of magnetic field lines inside the solenoid?</li> </ul>	5
21	<ul style="list-style-type: none"> <li>a) Describe the process of harnessing the thermal energy of the sea. What are its limitations?</li> <li>b) An electric heater of resistance <math>8\Omega</math> draws 15 A from the service mains 2 hours. Calculate the rate at which heat is developed in the heater.</li> </ul>	5
<b>SECTION - B</b>		
22	While performing an experiment, a student observes that when he heats some green crystals in a boiling tube, the colour of crystal changes to brown & a gas evolves which smell like burning sulphur. Interpret the observation and results.	2

23	A student dips pH papers in solution A and B and observes that pH paper turns blue and orange respectively in them. What does he infer?	2
24	In solvent leaf is boiled before removing the chlorophyll? Why?	2
25	A student sets up the apparatus for the experiment to show that carbon dioxide is released doing respiration. After 2 hours, what would he observe?	2
26	In a voltmeter there are 20 divisions between the 0 mark and 0.5 V mark. Calculate the least count of the voltmeter.	2
27	The given circuit diagram shows the experimental arrangement of different circuit components for determining the equivalent resistance of two resistors connected in series. Identify the components X & Z.	2
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