19/Sept./2017 **Set - B**

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) Carbonated soft drink (b) NaOH solution.	1
2	Name the National award for wild life conservation instituted by government of India.	1
3	Solution A, B, C and D have pH values 3, 4,5 and 6 respectively. Arrange them in increasing order of acidic character giving reasons.	1
4	Consider the chemical reaction below $CuO + H_2 \xrightarrow{heat} Cu + H_2O$ i) Name the substance oxidised, reduced ii) Name the oxidising agent and reducing agent	2
5	What determines the rate at which energy is delivered by a current? An induced current is produced when a magnet is moved in or out of a coil. The magnitude of induced current does not depend on a) The number of turns in the coil b) The speed with which the magnet is moved c) Strength of the magnet d) The resistivity of the material of the coil.	2
6	In the manufacture of sodium hydroxide, a gas X is formed is by product. The gas X react with lime water to give a compound Y, which is used as a bleaching agent in a chemical industry. Identify X and Y giving the chemical equation of the reaction involved.	2
7	Name two metals which reacts violently with cold water. Write any observation you would make when such a metal is dropped into water. How would you identify the gas evolved, if any during the reaction. **OR**	3

	Give reasons: a) Reactivity of the aluminum decreases if it is dipped in Nitric acid. b) Carbon can not reduced the oxides of sodium and magnesium c) Metals like sodium, potassium, calcium and magnesium are never found in the free state in nature.	
8	How are lungs designed in human for maximum exchange of gases?	3
9	(a) What are peristalitic movements? (b) Why do herbivores have longer small intestine as compared to carnivores? **OR** a) Which is the fluid medium of blood? How is it useful? b) Define double circulation. Write two organisms in which it take place.	3
10	Name the gland that secrete the stress hormone. Give its two functions.	3
11	A battery of 9V is connected in series with resistors of $0.2\Omega, 0.3\Omega, 0.4\Omega, 0.5\Omega$ *and* 12Ω How much current would flow through the 12Ω resistor? Draw circuit diagram of above given questions.	3
12	State the principle of electric motor. Draw well labelled diagram for it. Write one use of electric motor.	3
13	a) Draw diagram of magnetic field lines around straight conductor carrying current. b) What you mean by the following terms: i) Short circuiting ii) Overloading	3
14	What kind of mirror-concave, convex or plane-would be best suited for use in a solar cooker? Why? Write two advantages of solar cooker.	3
15	On a rainy day, while going to a park Reema saw that some people were collecting rainwater in tubs and buckets. She spoke to them. They told they will use this water for various domestic purposes like washing of clothes, cleaning etc. She was impressed and decided to follow them. a) What is rain water harvesting? b) Write one method of conservation of water resources. c) What values do you learn from these peple?	3
16	(i) Balance the equations: a) $NaOH + H_2SO_4 \rightarrow Na_2SO_4 + H_2O$ b) $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + NaCl$ c) $FeSO_4 \rightarrow Fe_2O_3 + SO_2 + SO_3$ (ii) Define a) Rancidity (b) Corrosion	5
17	a) Name the ore of mercury and how mercury is obtained form their ore. Write equation used in this process. b) What is thermite reaction? Give its use.	5

18	a) Name the largest part of the brain. Write its function also. b) How is spinal cord protected? c) Which part of the brain controls blood pressure, salivation and vomiting? d) Name the tissue that collects information and send it to the body parts?	5
19	i) Draw a well labelled diagram of human digestive system and label the following: a) Small intestine b) Stomach c) Liver d) oesophagus ii) Name the juice secreted by liver and write its function	5
20	a) Two students perform the experiment on series and parallel combination of two given resistors R_1 & R_2 & plot the following V-I graphs (a) & (b) which of the graphs is correctly labelled in terms of the words series and parallel? Justify your answer. b) Define resistance and find how the resistance changes, when area of wire is doubled the original? c) What is the nature of magnetic field lines inside the bar magnet?	5
21	a) Describe the process of energy derived from rising and falling ocean tides. What are its limitations. b) Compute the heat generated while transforming 96,000 coulombs of charge in one hour through a potential difference of 50V.	5
	SECTION - B	
22	During an experiment Amit observed that blue colour of copper sulphate solution changed to pale green by immersing a metallic rod for some time. a) Which metallic rod was immersed? b) Mention the type of reaction.	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 experiment to show that germinating seeds give out CO_2 during respiration? a) What is the function of KOH taken in small tube? b) What change is seen in the delivery tube placed in beaker?	2

	25	In experiment of leaf peel, what will you observe? Name the part A and B in diagram and state one function of each	2
	26	An ammeter has a range of $0-3$ ampere and there are 30 divisions on its scale. Calculate the least count of the ammeter.	2
	26	In an experiment to find the equivalent resistance of a series combination of two resistors R_1 and R_2, a student uses the circuit shown in figure. Will the circuit give the correct reading for current I and voltage V? Justify your answer.	2
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