SFS

Series.	K I	R II	M III	GIV

Roll No.			

Code No.-1/1/1

Candidate must write the Code No. on the title page of the answer book.

- Please check that this question paper contains **3** printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains **27** questions.
- Please write down the Serial Number of the question before attempting it.

FIRST TERM EXAMINATION 2017-2018

CLASS X

SUBJECT - SCIENCE

Time allowed: **3 Hours** Maximum Marks: **80**

General Instructions:

(i) All questions are compulsory.

(ii) Q. Nos **3 to 5** are two marks questions. These are to be answered in about 30 words each.

(iii) Q. Nos **6 to 15** are three marks questions. These are to be answered in about 50 words each.

(iv) Q. Nos **16 to 21** are five marks questions. These are to be answered in about 70 words each.

(v) Q. Nos **22 to 27** are based on practical skills. Each question is a two marks question.

Physics – 4, 9, 10, 11, 18, 19, 24, 25

Chemistry – 3, 6, 7, 8, 16, 17, 22, 23

Biology – 1, 2, 5, 12, 13, 14, 15, 20, 21, 26, 27

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1. Differentiate between gustatory receptors and olfactory receptors. (1)
2. What is Narmada Bachao Andolan? (1)
3. On heating copper powder in air the surface of copper powder becomes coated with black CuO. How can this black coating be converted into brown copper ? Write chemical equation for the reaction that occurs during the colour change. (2)
4. (a)Name any two devices which use permanent magnet.
   (b)Why is a fuse wire made of tin – lead alloy and not of alloys like Nichrome ? (2)
5. List any four practices which will help in the conservation of environment. (2)
6. Identify the type of chemical reaction in the following statements and define each of them:
   (a)Digestion of food in our body
   (b)Rusting of iron
   (c)Heating of manganese dioxide with aluminium powder. (3)

7.(a)A white powdery substance having strong smell of chlorine gas is used for disinfecting drinking water to make it free from germs. Identify the substance and write its chemical formula. Also write chemical equation for its preparation.
(b)Name the acid and base from which Potassium acetate is formed. Also mention whether the salt is acidic or basic in nature. (3)

OR

Explain the following giving chemical equation in each case :
(a)Baking soda is heated.
(b)Washing soda is heated.
(c)Gypsum is heated at 373K

8. Study the reactions given below.State which of the following chemical reactions will take place or not, giving suitable reason for each : (3)

(a) $Zn_{(s)} + CuSO_{4\,(aq)} \rightarrow ZnSO_{4\,(aq)} + Cu_{(s)}$

(b) $Fe_{(s)} + ZnSO_{4\,(aq)} \rightarrow FeSO_{4\,(aq)} + Zn_{(s)}$

(c) $Zn_{(s)} + FeSO_{4\,(aq)} \rightarrow ZnSO_{4\,(aq)} + Fe_{(s)}$

9.(a)Define SI unit of electric current.
(b) A current of 1 A flows through series circuit consisting of an electric lamp of resistance R and a conductor of resistance 5 Ω when connected to a 10 V battery. Calculate the resistance R of the electric lamp. (3)

10.State the rule to determine the direction of force experienced by a current carrying conductor in a magnetic field.How will this force get effected on :
(a) doubling the magnitude of current?
(b) reversing the direction of current? (3)

11. Mr. Sharma visited the newly built bungalow of his friend Mr.Swamy.There he observed a big solar water heater was installed on the roof.Mr.Sharma told his friend that he was unable to appreciate why he was miser in spending money on installation of electric water heater in each bathroom.Mr.Swamy not only explained him the reason rather convinced Mr.Sharma too to install one in his house.
(a) What values are exhibited by Mr. Swamy?
(b)List the advantages of solar water heater that convinced Mr. Sharma to adopt it. (3)

12.Write in sequence the names of main organs of human digestive system involved in the process of digestion of food. Name the organ in which complete digestion of carbohydrates, proteins and fats is carried out. (3)

13. Describe the various events that occur during photosynthesis. (3)

14. (a) An old man is advised by his doctor to take less sugar in his diet. Name the disease from which the man is suffering. Mention the hormone due to imbalance of which he is suffering from this disease. Which endocrine gland secretes this hormone ?
(b)Name the endocrine gland which secretes growth hormone. What will be the effect of the following on a person :
(i)Deficiency of growth hormone.
(ii)Excess secretion of growth hormone. (3)

OR

14.(a)Draw labelled diagram of neuron muscular junction.
(b)Identify the parts of a neuron :
(i)Where information is acquired.
(ii)Through which information travels.
(iii)Where the impulse must be converted into a chemical signal.

15.What is watershed management ? Give two advantages of the same. (3)

16(a)A student dropped a few pieces of marble in dilute hydrochloric acid contained in a test tube.The evolved gas was passed through lime water. What change would be observed in lime water ? Write balanced chemical equations for both the changes observed.

(b)State the chemical property in each case on which the following uses of baking soda are based :

(i)as an antacid

(ii)as a constituent of baking powder. (5)

17(a)What is thermite reaction ? Giving chemical equations, explain how it is used to join railway tracks or cracked machine parts ?

(b)Give one difference between roasting and calcination by giving suitable examples.

(c)Describe how sodium and chlorine form sodium chloride? Name the type of bonding shown in the structure. (Atomic number : Na=11, Cl=17) (5)

18.State Joule's law of heating. Find an expression for amount of heat produced. A torch bulb is rated 6V and 750mA.Calculate the energy consumed by the bulb in 4 hours. (5)

OR

Distinguish between resistance and resistivity of a conductor.The resistors are generally made of thin wires of manganin or constantan while the connecting wires are thicker and made up of copper and aluminium.Give reason.What would happen to the resistance of a wire if it is stretched to double its length?

19. What is a solenoid? Compare it with a bar magnet(any one point). Draw diagram to show magnetic field lines around current carrying solenoid .How can we convert a solenoid into an electromagnet ? (5)

20. (a) Draw sectional view of the human heart and label the following parts on it :
Pulmonary artery, right atrium, left ventricle, septum.

(b)What do the following transport-

(i)Xylem (ii)Phloem

(iii)Pulmonary vein (iv)Vena cava (5)

21(a)Name the plant hormone which is synthesised at the shoot tip. Explain briefly why does a plant shoot bend towards light during its growth

(b) Name the plant hormone responsible for the following :

(i) Elongation of cell

(ii) Growth of stem

(iii) Promotion of cell division

(iv)Wilting and falling of leaves (5)

22. One student was assigned the experiment of interaction of iron nail with a solution of copper sulphate. What observations he/she would have recorded as per given below :

(a)Initial colour of the solution.

(b)Final colour of the solution.

(c)Change in the colour of iron nail. Mention the type of this reaction. (2)

23.There are two solutions A and B whose pH values are 1and 10 respectively.Write the observations in tabular form ,when Baking soda and Zinc metal are added to the solutions A and B. (2)

24. Four resistances of 10 Ω,20Ω,20Ω and 5Ω are given. How will you arrange them to obtain (a) maximum and(b) minimum value of equivalent resistance? What will be the respective values? (2)

25.In the Ohm's law experiment it is advised to take out the key from the plug when observations are not being taken.Why? (2)

26.Which type of seeds should be used for respiration experiment and why ? (2)

27.To prepare a clear temporary mount of a leaf peel showing stomata, from which part of the leaf the students should get the peel and why ? (2)