KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 01 FOR HALF YEARLY EXAM (2017-18)

SUBJECT: SCIENCE (086)

<u>BLUE PRINT FOR HALF YEARLY EXAM: CLASS X</u>

Chapter	VSA (1 mark)	SA – I (2 marks)	SA – II (3 marks)	LA (5 marks)	Practical Based Questions	Total
Chemical Reactions and Equations	1(1)	--	3(1)	--	2(1)	**6(3)**
Acids, Bases and Salts	--	--	3(1)	--	2(1)	**5(2)**
Metals and Non-metals	--	--	3(1)	5(1)	--	**8(2)**
Carbon and its compounds		--	3(1)	5(1)	--	**8(2)**
Life Process	--	2(1)	3(1)	5(1)	2(1)	**12(4)**
Control and Coordination	--	--	3(1)	5(1)	--	**8(2)**
How do organisms reproduce?	1(1)	2(1)	3(1)	--	--	**6(3)**
Light - Reflection and Refraction	--	--	3(1)	5(1)	2(1)	**10(3)**
Electricity	--	--	3(1)	5(1)	2(1)	**10(3)**
Magnetic Effects of Electric Current	--	2(1)	3(1)	--	2(1)	**7(3)**
Total	**2(2)**	**6(3)**	**30(10)**	**30(6)**	**12(6)**	**80(27)**

MARKING SCHEME FOR HALF YEARLY EXAM

SECTION	MARKS	NO. OF QUESTIONS	TOTAL
VSA	1	2	02
SA – I	2	3	06
SA – II	3	10	30
LA	5	6	30
Pract Based Quest.	2	6	12
GRAND TOTAL			80

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SUBJECT: SCIENCE	**MAX. MARKS : 80**
CLASS : X	**DURATION : 3 HRS**

General Instructions:
1. All questions are compulsory.
2. The question paper comprises of **two Sections, A** and **B.** You are to attempt both the sections.
3. All questions of **Section-A** and **Section-B** are to be attempted separately.
4. Question number **1 to 2** in **Section-A** are **one mark** question. These are to be answered in **one word** or in **one sentence**.
5. Question numbers **3 to 5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.
6. Question numbers **6 to 15** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each.
7. Question numbers **16 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
8. Question numbers **22 to 27** in **Section-B** are questions based on practical skills and are **two marks** questions.
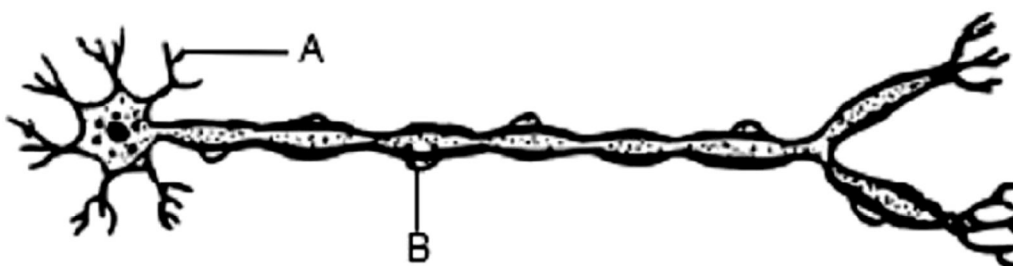
SECTION – A

1. Name the process in which gain of electrons takes place.

2. Name the part of Bryophyllum where the buds are produced for vegetative propagation.

3. Explain the process of nutrition in Amoeba.

4. What is meant by asexual reproduction. List its any two different forms.

5. Explain with a reason whether the field will be stronger at the centre of current carrying loop or near the circumference of the loop.

6. Define the term decomposition reaction. Give one example each of thermal decomposition and electrolytic decomposition.

7. What is baking soda chemically called ? Give reaction involved in its preparation. Write one of its uses.

8. (a)What are amphoteric oxides? Choose the amphoteric oxides from amongst the following oxides: Na_2O, ZnO, Al_2O_3, CO_2, H_2O
   (b) Why is that non-metals do not displace hydrogen from dilute acids?

9. Draw the electron-dot structure for ethyne. A mixture of ethyne and oxygen is burnt for welding. In your opinion, why cannot we use a mixture of ethyne and air for this purpose?

10. (a) What is the role of HCl in our stomach?
    (b) What is emulsification of fats?
    (c) Which protein digesting enzyme is present in pancreatic juice?

11. What is a reflex action? Describe the steps involved in a reflex action.

12. Explain the process of regeneration in Planaria. How is this process different from reproduction?

13. Draw a ray diagram to show the path of the reflected ray in each of the following cases. A ray of light incident on a convex mirror
(a) strikes at its pole making an angle from the principal axis.
(b) is directed towards its principal focus.
(c) is parallel to its principal axis.

14. A circuit is shown in the diagram given below.
(a) Find the value of R.
(b) Find the reading of the ammeter.
(c) Find the potential difference across the terminals of the battery.
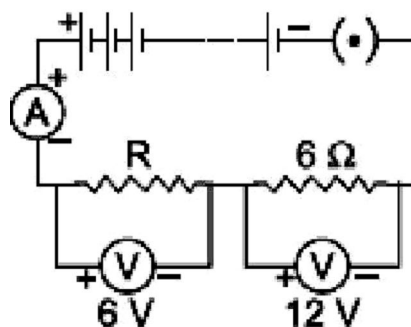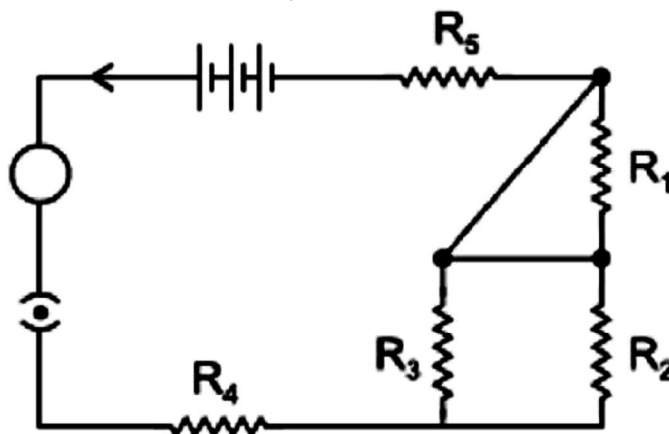

15. What is meant by solenoid? How does a current carrying solenoid behave? Give its main use.

16. How is the method of extraction of metals high up in the reactivity series different from that for metals in the middle ? Why the same process cannot be applied for them? Explain giving equations, the extraction of sodium.

17. Give reasons for the following:
(i) Element carbon forms compounds mainly by covalent bonding.
(ii) Diamond has a high melting point.
(iii) Graphite is a good conductor of electricity.
(iv) Acetylene burns with a sooty flame.
(v) Kerosene does not decolourise bromine water while cooking oils do.

18. (a) Draw a labelled diagram of the respiratory system of human beings with diaphragm at the end of expiration.
(b) List four conditions required for efficient gas exchange in an organism.

19. (a) (i) Name the parts labelled A and B in the neuron drawn above.
(ii) Which part acquires the information in the neuron?
(iii) Through which part does the information travel?
(iv) In what form does this information travel?
(v) Where is the impulse converted into a chemical signal for onward transmission?

(b) Name the hormone secreted by thyroid. What is its function? Why is the use of iodised salt advisable.

20. (a) Draw a ray diagram to show the formation of image by a convex lens when an object is placed in front of the lens between its optical centre and principal focus.
(b) In the above ray diagram mark the object-distance (u) and the image-distance (v) with their proper signs (+ve or –ve as per the new Cartesian sign convention) and state how these distances are related to the focal length (f) of the convex lens in this case.
(c) Find power of a convex lens which forms a real, and inverted image of magnification –1 of an object placed at a distance of 20 cm from its optical centre.

21. Deduce the expression for the equivalent resistance of the parallel combination of three resistors R1, R2 and R3. Consider the following electric circuit :
(a) Which two resistors are connected in series?
(b) Which two resistors are connected in parallel?
(c) If every resistor of the circuit is of 2 Ω, what current will flow in the circuit?


<u>**SECTION – B**</u>

22. A zinc plate was put into a solution of copper sulphate kept in a glass container. It was found that blue colour of the solution gets fader and fader with the passage of time. After a few days when zinc plate was taken out of the solution, a number of holes were observed on it.
(a) State the reason for changes observed on the zinc plate.
(b) Write the chemical equation for the reaction involved.

23. Given below is the experimental set-up to establish that one of the atmospheric gases is essential for photosynthesis in plants.
(a) Name the atmospheric gas which is essential for photosynthesis.
(b) What is kept in watch-glass in figure 'a' and why?

(a)   *(b)*
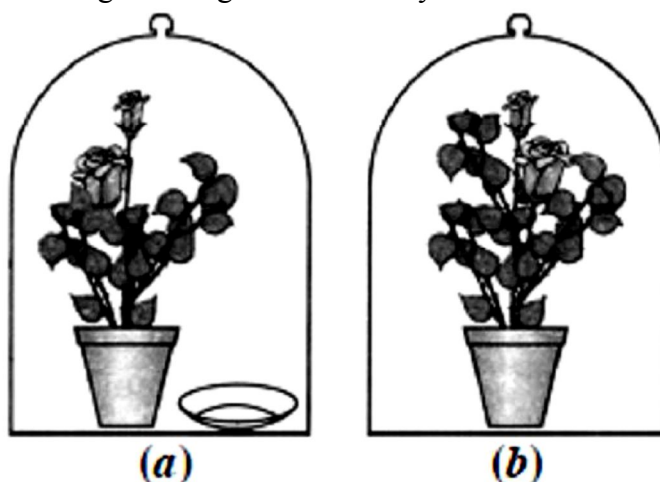
24. Classify the following salts into acidic, basic and neutral : Potassium sulphate, ammonium chloride, sodium carbonate, sodium chloride.

25. A ray of light is refracted as per the following diagram. Which media A or B is optically denser than other?
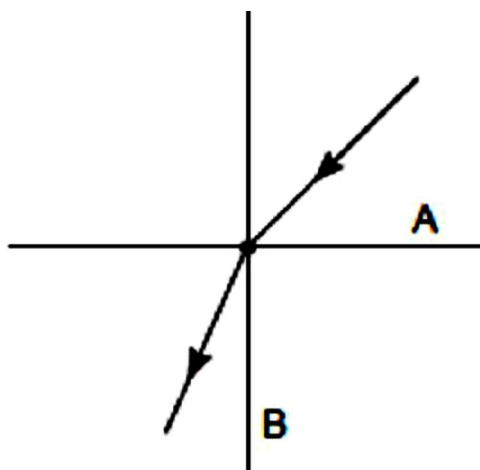
26. The voltage – current (V – I) graph for a conductor at two different temperature T1 and T2 (V–I) is shown. At which of the two temperatures the resistance of the conductor is higher? Justify your answer.
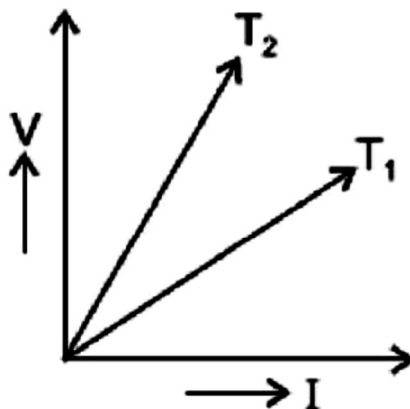
27. The given magnet is divided into three parts A, B and C.
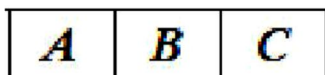
Name the parts where the strength of the magnetic field is : (i) maximum, and (ii) minimum. How will density of magnetic field lines differ at these parts?

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