

KENDRIYA VIDYALAYA GACHIBOWLI , GPRA CAMPUS, HYD-32
SAMPLE PAPER 06 (2018-19)

SUBJECT: SCIENCE (086)

BLUE PRINT : CLASS X

UNIT	Chapter	VSA (1 mark)	SA – I (2 marks)	SA – II (3 marks)	LA (5 marks)	Practical Based Questions	Total	Unit Total
Chemical Substances - Nature and Behaviour	Chemical Reactions and Equations	--	--	3(1)	--	--	3(1)	25(8)
	Acids, Bases and Salts	--	--	3(1)*	--	2(1)*	5(2)	
	Metals and Non-metals	--	--	--	5(1)	--	5(1)	
	Carbon and its compounds	--	--	--	5(1)*	2(1)	7(2)	
	Periodic Classification of Elements	--	2(1)	3(1)	--	--	5(2)	
World of Living	Life Process	1(1)	--	3(1)*	--	2(1)*	6(3)	23(9)
	Control and Coordination	--	--	--	5(1)	--	5(1)	
	How do organisms reproduce?	1(1)	--	3(1)	--	2(1)	6(3)	
	Heredity and Evolution	--	--	6(2)	--	--	6(2)	
Natural Phenomena ^a	Light - Reflection and Refraction	--	2(1)*	3(1)	--	2(1)	7(3)	12(4)
	The Human Eye and the colourful world	--	--	--	5(1)	--	5(1)	
Effects of Current	Electricity	--	--	3(1)	--	2(1)*	5(2)	13(4)
	Magnetic Effects of Electric Current	--	--	3(1)*	5(1)*	--	8(2)	
Natural Resources	Sources of energy	--	2(1)	--	--	--	2(1)	7(2)
	Our Environment	--	--	--	5(1) [#]	--	5(1)	
	Management of Natural Resources	--	--	--		--		
Total		2(2)	6(3)	30(10)	30(6)	12(6)	80(27)	80(27)

Note: * - Internal Choice Questions of same chapter.

- Internal Choice Questions of two chapters

KENDRIYA VIDYALAYA GACHIBOWLI , GPRA CAMPUS, HYD-32
SAMPLE PAPER 06 (2018-19)

SUBJECT: SCIENCE
CLASS : X

MAX. MARKS : 80
DURATION : 3 HRS

General Instructions:

1. The question paper comprises of five sections – A, B, C, D and E. You are to attempt all the sections.
2. All questions are compulsory.
3. Internal choice is given in sections B, C, D and E.
4. Question numbers 1 and 2 in **Section-A** are one mark questions. They are to be answered in one word or in one sentence.
5. Question numbers 3 to 5 in **Section- B** are two marks questions. These are to be answered in about 30 words each.
6. Question numbers 6 to 15 in **Section-C** are three marks questions. These are to be answered in about 50 words each.
7. Question numbers 16 to 21 in **Section-D** are 5 marks questions. These are to be answered in about 70 words each.
8. Question numbers 22 to 27 in **Section- E** are based on practical skills. Each question is a two marks question. These are to be answered in brief.

SECTION – A

1. Name the floral parts of a plant that develop into (i) Fruit (ii) Seeds
2. Why is the rate of breathing in aquatic organisms much faster than in terrestrial organisms?

SECTION – B

3. Choose from the following: ${}_6\text{C}$, ${}_8\text{O}$, ${}_{10}\text{Ne}$, ${}_{11}\text{Na}$, ${}_{14}\text{Si}$
 - a) Elements that should be in the same period.
 - b) Elements that should be in the same group.State reason for your selection in each case.
4. An object is placed at a distance of 30 cm in front of a convex mirror of focal length 15 cm. Write four characteristics of the image formed by the mirror.

OR

An object is placed at a distance of 30 cm from a convex mirror, the magnification produced is $1/2$. Where should the object be placed to get the magnification of $1/3$?

5. What is windmill? State the energy conversion taking place in the working of a windmill.

SECTION – C

6. Rohit focused the image of a candle flame on a white screen using a convex lens. He noted down the position of the candle , screen and lens as under :
Position of candle = 26.0 cm
Position of convex lens = 50.0 cm
Position of screen = 74.0 cm
 - i) What is the focal length of the convex lens?
 - ii) Where will the image be formed if he shifts the candle towards the lens at a position of 38 cm?
 - iii) Draw a ray diagram to show the formation of the image in case (ii) as said above?
7. Differentiate between the arrangement of elements in Mendeleev's periodic table and Modern periodic table.

8. In the electrolysis of water,
a) Name the gas collected at anode and cathode
b) Why is the volume of gas collected at one electrode double than the other?
c) What would happen if dil H_2SO_4 is not added to water?
9. Explain the ways in which glucose is broken down in absence of oxygen.

OR

List three differences between arteries and veins.

10. Why are fossils considered important in the study of evolution? Explain two ways by which age of fossils can be estimated.
11. Our government launches campaigns to provide information about AIDS prevention, testing and treatment by putting posters, conducting radio shows and using other agencies of advertisements.
a) To which category of diseases AIDS belong? Name its causative organism.
b) Which kind of value is government trying to develop in the citizens by conducting the above kind of programs.
12. How do Mendel's experiments show that traits may be dominant or recessive?
13. "pH has a great importance in our daily life" explain by giving three examples.

OR

A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound and write its chemical formula. Write the chemical equation for its preparation. Mention any one use of the compound.

14. Name the electric device that converts mechanical energy into electrical energy. Draw the labelled diagram and explain the principle involved in this device.

OR

- i) What is the function of earth wire in electrical instruments?
ii) Explain what is short circuiting an electric supply.
iii) What is the usual current rating of the fuse wire in the line to feed (a) Lights and fans? (b) Appliances of 2kW or more power?

15. Draw a circuit diagram of an electric circuit containing a cell, a key, an ammeter, a resistor of 4Ω in series with a combination of two resistors (8Ω each) in parallel and a voltmeter across parallel combination. Each of them dissipate maximum energy and can withstand a maximum power of 16W without melting. Find the maximum current that can flow through the three resistors.

SECTION – D

16. a) What is a reflex arc? Draw a neat labelled diagram of the components in a reflex arc.
b) Why do impulses flow only in one direction in a reflex arc?
17. a) Explain the following terms used in relation to defects in vision and correction provided by them: (i) Myopia (ii) Bifocal lenses (iii) Far-sightedness.
b) Why is the normal eye unable to focus on an object placed within 10 cm from the eye?
18. Give reasons for the following:
a) Silver and copper lose their shine when they are exposed to air. Name the substance formed on their surface in each case.
b) Tarnished copper vessels are cleaned with tamarind juice.

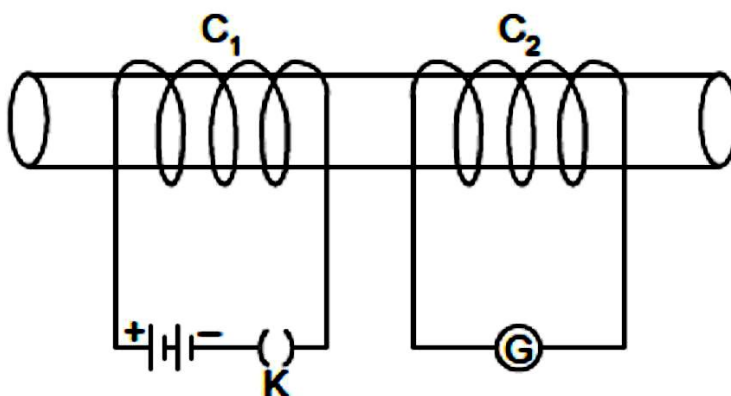
c) Aluminium is more reactive than iron yet there is less corrosion of aluminium as compared to iron when both are exposed to air.

19. A student fixes a sheet of white paper on a drawing board. He place a bar magnet at the centre of it. He sprinkles some iron filings uniformly around the bar magnet. Then he taps the board gently and observes that the iron filings arrange themselves in a particular pattern.

- Why do the iron filings arrange in a pattern?
- What is indicated by the crowding of iron filings at the end of the magnet?
- What do the lines along which the iron filings align represent?
- Draw a neat diagram to show the magnetic field lines around a bar magnet.
- Write any two properties of magnetic field lines.

OR

Two coils C1 and C2 are wrapped around a non conducting cylinder. Coil C1 is connected to a battery and key and C2 with galvanometer G. On pressing the key (K), current starts flowing in the coil C1. State your observation in the galvanometer:



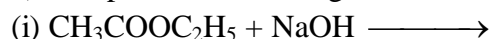
- When key K is pressed on.
 - When current in the coil C1 is switched off.
- When the current is passed continuously through coil C1.
- Name and state the phenomenon responsible for the above observation.
- Write the name of the rule that is used to determine the direction of current produced in the phenomena.

20. Soaps and detergents are both types of salts. State the difference between the two. Write the mechanism of the cleansing action of soaps. Why do soaps not form lather (foam) with hard water? Mention any two problems that arise due to the use of detergents instead of soaps.

OR

a) Two carbon compounds X and Y have the molecular formula C_4H_8 and C_5H_{12} respectively. Which one of these is most likely to show addition reaction? Justify your answer. Also give the chemical equation to explain the process of addition in this case.

b) Complete the following chemical equations:



21. a) What is sustainable management? Why is reuse considered better in comparison to recycle?
- b) Management of forest and wild life resources is a very challenging task. Why? Give any two reasons.
- c) Write the harmful effects of using plastic bags on the environment. Suggest alternatives to plastic bags.

OR

You have been selected to talk on 'ozone layer and its protection" in the school assembly on 'Environment Day.'

- a) Define Ozone hole.
- b) Why should ozone layer be protected to save the environment?
- c) List any two ways that you would stress in your talk to bring in awareness amongst your fellow friends that would also help in protection of ozone layer as well as the environment.

SECTION – E

22. The values of current I flowing in a given resistor for the corresponding values of potential difference V across the resistor are given below:

I(ampere)	0.5	1.0	2.0	3.0	4.0
V(volt)	1.6	3.4	6.7	10.2	13.2

Plot a graph between V and I and calculate the resistance of the resistor.

OR

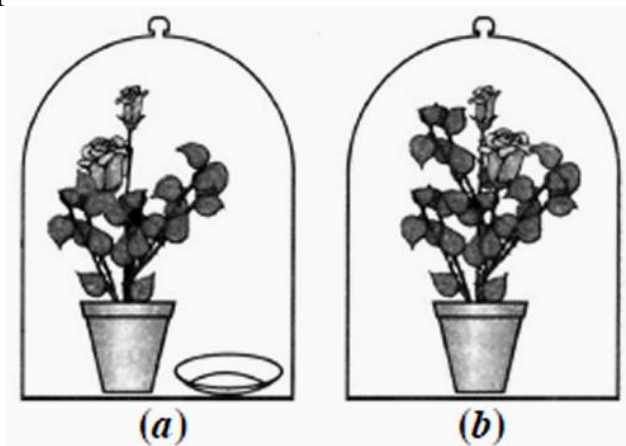
In a given ammeter, a student sees that needle indicates 17 divisions in ammeter while performing an experiment to verify Ohm's law. If ammeter has 10 divisions between 0 and 0.5A, then what is the value corresponding to 17 divisions?

23. Draw a path of light ray passing through a prism. Label angle of incidence and angle of deviation in the ray diagram.
24. A student detected the pH four unknown solutions A, B, C and D as follows: 11, 5, 7 and 2. Predict the nature of the solution.
25. A student observed a permanent slide showing asexual reproduction in yeast. Draw diagrams of the observations he must have made from the slide. Name the process also.

OR

What is litmus solution? What is its colour in (a) neutral (b) acidic and (c) basic solutions?

26. 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?

OR

When a student observes a temporary mount of leaf peel under a microscope, he observes two different types of cells in leaf peel. Name these two different types of cells. On what basis can a student differentiate between these two cells.

27. Riya performs two set of experiments to study the length of the foam formed which are as follows:

Set I: she takes 10 ml of distilled water in test tube “A” and adds 5-6 drops of liquid soap in it and shakes the test tube vigorously.

Set II: she takes 10 ml of distilled water in a test tube “A” and adds 5-6 drops of liquid soap with half spoonful of CaSO_4 in it and shakes the test tube.

Write your observation and reason.

.....