

Sample Paper – 2008
Class – X
Subject - Science

Roll.No:

Code: **086/4**

- Please check that this question paper contains 5 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 candidates.
- Please check that this question paper contains 27 questions.
- Please write down the serial number of the question before attempting it.

SCIENCE (THEORY)

Time : 2½ Hours

Max. Marks : 60

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. There is no overall choice However, internal choice has been provided in all the three questions of five marks category. Only one option in such questions is to be attempted.
4. All questions of section A and all questions of section B are to be attempted separately.
5. Questions 1 to 6 in section A and 19 to 21 in section B are short question. These carry one mark each.
6. Questions 7 to 12 in section A and 22 to 24 in section B are short answer type questions and carry two marks each.
7. Questions 13 to 16 in section A and 25 to 26 in section B are also short answer type questions and carry three marks each.
8. Questions 17 and 18 in section A and question 27 in section B are long answer type questions and carry five marks each.

SECTION A

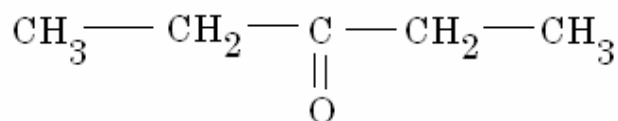
1. Give an example of thermal decomposition reaction 1
2. Danger signal light are red in colour. Give reason. 1
3. The following data represents the temperature of the solution formed by the reaction of metals with dilute HCl solution.

Metal	Temperature of solution (^o C)
A	40.5
B	37.0
C	45.2
D	43.1

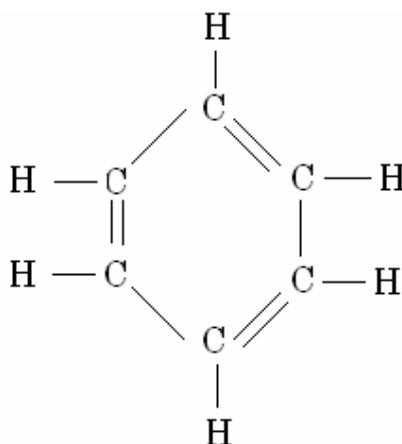
Identify the most reactive metal among these?

1

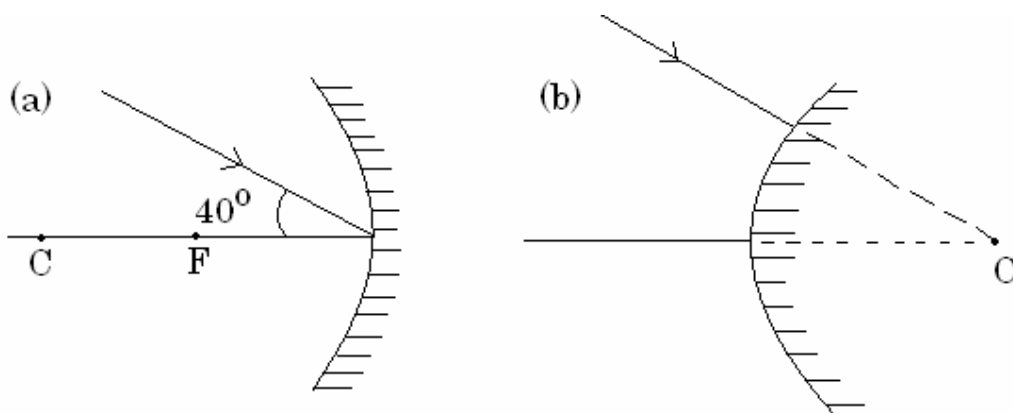
4. Name the type of energy obtained from sea due to the temperature difference existing between different layers of water? 1
5. Why cannot two magnetic field lines intersect at a point? 1
6. Write any one defect of Mendeleev's periodic table. 1
7. Write the names of the following organic compounds. 2



(b)



8. a. Represent Ohm's law graphically. 1
b. Mention any 2 factors on which the resistance of conductor depends? 1
9. Draw the reflected ray in the following figures : 2



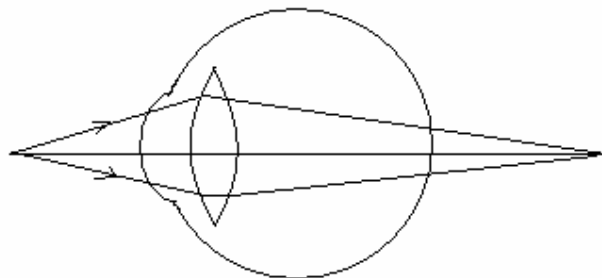
10. Give any 2 uses of :
(a) baking soda (b) bleaching powder 2

11. "Construction of big dams have certain problems associated with it." Enumerate 2 reasons to justify this statement 2
12. When a solution of sodium sulphate was added to Barium chloride solution in a test-tube, a white precipitate was found floating on the surface of the solution.
- Identify the precipitate formed? 1
 - Write balanced chemical reaction for the above 1
13. a. Compare the electrical conductivity of NaCl in its solid and molten states 1
- b. Why is roasting done for sulphide ores? 1
- c. Name the gas released when magnesium reacts with (a) dil.HNO₃
(b) conc. HNO₃ 1

14. Study the following table

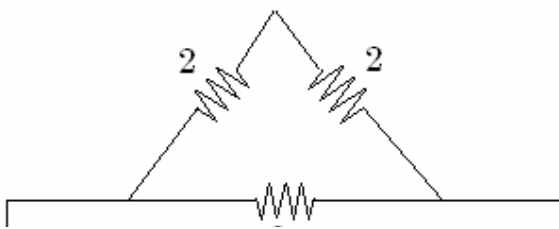
Group 16	Group 17
--	A
B	C
--	--

- Write the valencies of A and B 1
 - Which is larger in size, B or C? 1/2
 - Which among A and C is more reactive? 1/2
 - Is C a metal or non-metal? 1/2
 - Among A and B, which has a greater tendency to gain electrons? 1/2
15. Which defect of vision is depicted in the below figure?



How does this defect arise? Draw a ray diagram to show how this defect can be corrected. 3

16. Calculate the voltage and power across the 1Ω resistor in the following figure. 3



Ω Ω

Ω

Ω

17. With the help of a neat labeled diagram, explain the principle of operation and working of an electric generator. 5

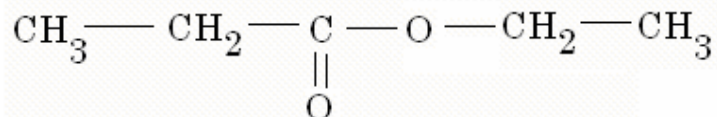
Or

A needle placed 45cm from a lens forms an image on a screen placed 90cm on the other side of the lens.

- a. Identify the type of lens. 1/2
b. Determine the focal length and power of the lens. 1 1/2
c. What is the size of the image if the size of the needle is 5cm? 1
d. Draw a suitable ray diagram. 2
18. a. What do 'p' and 'H' in pH stand for? 1
b. A solution 'A' has a pH value of 6 while another solution 'B' has a value 12. Which of these solutions have a higher concentration of OH⁻ ions? 1
c. Sodium carbonate is treated with HCl solution and the gas evolved is passed through lime water. What changes do you observe? Support your answer with proper chemical equations. 3

Or

- a. Write the structural formula of ethanol. 1
b. Which property of ethanol makes it suitable for use in medicines like tincture of iodine, cough syrups etc.? 1
c. When ethanol was made to react with an acid in presence of conc. H₂SO₄, the following compound was obtained



What is the above reaction known as? Name the acid which was used for this reaction.

- d. Give one physical and chemical property of the compound obtained. 2

SECTION B

19. What advantage does vegetative propagation offer to horticulturists? [1]

20. Name the digestive organ which is the site of complete digestion of proteins, fats and carbohydrates. [1]
21. Consider the following food chain :
Grass → grasshopper → frog → snake
Which of these organisms will be affected most by biological magnification? [1]
22. Compare and contrast the nervous and hormonal mechanisms for control and coordination in animals? [2]
23. Write the four main stakeholders of forests and wildlife? [2]
24. Differentiate between homologous and analogous organs. [2]
25. Why is the damage to ozone layer a cause of concern? What steps are being taken to limit this damage? [3]
26. a. Name the plant hormone which inhibits growth. [1]
b. What are the different methods of contraception? [2]

Or

- a. Name two sexually transmitted bacterial infections [1]
b. How do auxins promote growth of tendril around a support? [2]
27. The genotype of round and green seeds is RRyy and wrinkled and yellow seeds is rrYY. When these two are crossed
- What are the expected gametes from the parents?
 - What kind of progeny do you expect in F₁?
 - What are the recessive traits in F₁?
 - Give the genotype of F₁ progeny?
 - What is the expected ratio of wrinkled green in F₂? [1 x 5 = 5]