Roll Number		

SET NO. 1

INDIAN SCHOOL MUSCAT
MID TERM EXAMINATION I
SCIENCE

CLASS: X | Sub. Code: 086 | Time Allotted: 3 Hrs

01.05.2018 | Max. 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. **All** questions of **Section-A** and **all** questions of **Section-B** are to be attempted separately.
4. Question numbers **1** to **2** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**
5. Question numbers **3** to **5** in **Sections-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. Each question is of two **marks**.

SECTION A

1. Magnification of a mirror is -1.5. What does this statement signify 1

2. What is the color of 1
   a) Phenolphthalein in basic solution
   b) Methyl orange in acidic solution.

3. a) Define redox reaction. 2
   b) Identify the substance oxidized and substance reduced in the following reaction $ZnO + C \rightarrow Zn + CO$

4. Differentiate the function of Villi in large & small intestines. 2

5. State the functions of Blood Plasma & blood cells in transportation system. 2

6. Draw the ray diagram for the image formation by a convex mirror when the object is placed between infinity and pole of the mirror. Also mention the position, nature and size of the image formed. 3

OR

Draw the ray diagram for the image formation by a concave mirror when the object is placed between F and P. Also mention the position, nature and size of the image formed.

7. Two mediums A and B with refractive index 1.33 and 1.50 are given. In which case 3
   a) Bending of light is more.
   b) Speed of light is greater.
   Justify your answer in both cases.
8. List two possible ways in which a concave mirror can produce a magnified image of an object placed in front of it. Also specify the nature of the image in both the cases. 3
9. What are the factors on which refractive index depend. 3
   Light enters from air to diamond having refractive index 2.42. Find the speed of light in the diamond. The speed of light in vacuum is 3×10^8 m/s.
10. Zinc granules are added to sodium hydroxide solution and the mixture is warmed. 3
    a) Name the gas evolved.
    b) How will you test for this gas?
    c) Write a balanced chemical equation for the above reaction.

    OR

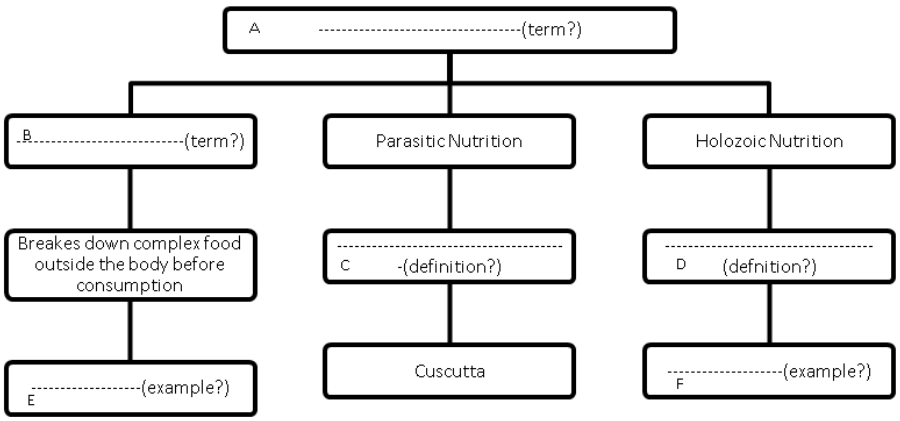
    a) Define neutralization reaction. Give an example.
    b) For diluting an acid, should water be added to acid or acid to water? Why?
    c)
11. a) What do you understand by the term rancidity? Mention any two ways to prevent rancidity. 3
    b) Silver articles turn black when left open in air for a long time. Why?

12. Solid sodium chloride is treated with concentrated sulphuric acid in a dry test tube. The gas evolved was tested successively with 3
    a) Dry blue litmus paper
    b) Moistened blue litmus paper
    What will you observe in each of the above cases? Give reason for each of your observations.

13. Why it is not advisable to have conversations or laughing while swallowing foods? Define trachea and what is the function of the cartilaginous rings in respiratory system? 3

    OR

    Differentiate Windpipe and Food pipe with respect to their organ system, structure & function.
14. Mention the specific locations & explain the functions of mucus layer in respiratory as well as in digestive tracts. 3
    Name the common passage for respiratory and digestive tract.
15. Fill with appropriate terms, definitions & examples 3



16. (a) State Snell's law. 5
(b) Show the refraction of light through a glass slab using ray diagram.
(c) What do you mean by lateral displacement?

17. A rear view mirror used in a bus has a radius of curvature 3.5 m. If the driver of the bus locates a car at 10.0m behind the bus, find the position, nature and size of the image of the car. Also draw the corresponding ray diagram. 5

18. Decomposition reactions require energy either in the form of heat or light or electricity for breaking down the reactants. Write one equation each for the decomposition reaction where energy is supplied in the form of heat, light and electricity. 5

19. a) Compounds like glucose and alcohols contain hydrogen but do not conduct electricity like in the case of acids. Describe an activity to prove this. 5
b) Complete the following equations:
i) $Ca(OH)_2 + CO_2 \rightarrow$
ii) $Na_2CO_3 + HCl \rightarrow$
iii) $CuO + HCl \rightarrow$

OR

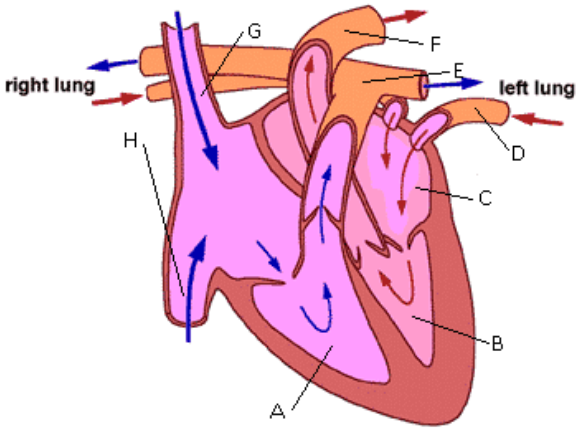
a) What do you understand by the terms i) alkali ii) olfactory indicators?
b) What happens when excess carbon dioxide is passed through lime water? Why?
c) A student was given distilled water, hydrochloric acid and sodium hydroxide in three different test tubes. If only red litmus paper is given, how will the student identify the contents in each test tube?

20. With the help of a labeled diagram, explain the functioning of human respiratory system. 5

21. What is blood pressure and how it's being measured? If an individual having a blood pressure of 140/90 mm of Hg, what about the persons present blood pressure stage? Write the technical terms used for above said numerical value and describe them individually. 5

OR

Identify the labeled parts and explain the functioning of Human Heart.



SECTION B

22. Draw the ray diagram that is suitable for finding the focal length of a concave mirror in the laboratory. 2

OR

Calculate the focal length of a concave mirror if its radius of curvature is 47cm.

23. Find the position and size of the image formed if the object is at a distance of 60cm away from a concave mirror of focal length 15cm. 2

24. Silvery grey iron nail was kept in copper sulphate solution for 15-20 minutes. Write two observations that will be noted by a student and give reason for the same. 2

OR

Sodium sulphate solution was added to barium chloride solution to give a white precipitate. Write the chemical name and formula of the precipitate formed. Also write a balanced chemical equation for the same.

25. In an experiment, student mixed calcium oxide with water and notes down the change in temperature. What would the student observe? Why? Also give one precaution that the student must take while doing this experiment. 2

26. Describe the mechanism of opening & closing of stomata 2

OR

Enlist steps involved in the activity preparing the temporary mount of a leaf peel to show stomata

27. Differentiate the shape of stomata in Monocot & Dicot plants. Why number of stomata is higher in lower epidermis than upper epidermis in dicot? 2

End of the Question Paper