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SET NO. 2



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. What is the nature and size of the image formed by a concave mirror if the magnification produced by the mirror is +3? 1
2. Which gas is evolved when sodium hydrogen carbonate is treated with dil.hydrochloric acid? 1
3. What change in colour is observed when white silver chloride is left exposed to sun light? State the type of chemical reaction in this change. 2
4. 2
 1. What is life processes?
 2. Name the type of nutrition
 - a) Fungi like bread mould, yeast, mushroom breakdown the food materials outside the body and absorb it.
 - b) Cuscuta, lice and ticks derive nutrition from plants or animals without killing them.

5. 1. Write the aim of the experiment when potted plants kept with potassium hydroxide and without potassium hydroxide under a bell jar to assess the rate of photosynthesis. 2
2. What is the role of potassium hydroxide?
6. Name the type of mirror preferred as (i) rear view mirror in vehicles (ii) solar furnaces. Justify your answer in each case. 3

OR

A spherical mirror produces an image of magnification -1 on a screen placed at a distance of 50 cm from the mirror.

- (i) Write the type of mirror. Give reason.
- (ii) Find the distance of the image from the object.
- (iii) What is the focal length of the mirror?
7. An object 2 cm in size is placed 25 cm in front of a concave mirror of focal length 15 cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? What will be the nature and size of the image formed? 3
8. (i) Can absolute refractive index of a medium be less than one? Give reason. 3
- (ii) The refractive index of water is 1.33. What is the meaning of this statement.
- (iii) The refractive index of two transparent media A and B are 1.33 and 1.5 respectively. In which of the two medium light travels faster and why?
9. (i) State the laws of refraction of light. 3
- (ii) Write the S.I. unit of refractive index.
10. You could have noted that when copper powder is heated in a china dish, the surface of copper powder gets coated with black coloured substance. 3
- (a) What is this black substance?
- (b) Why is this black coloured substance formed?
- (c) Write the balanced chemical equation of the reaction taking place.

OR

Identify the substance oxidized and substance reduced in the following reactions:

- (a) $\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$
- (b) $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$
- (c) $\text{Fe}_2\text{O}_3 + 2 \text{Al} \rightarrow 2 \text{Fe} + \text{Al}_2\text{O}_3$
11. What are Olfactory indicators? 3
- What happens when a base reacts with a non-metallic oxide? What would you infer about the nature of non-metallic oxide?
12. (a) What will you observe when a drop of phenolphthalein is added to the solution of lime water? 3
- (b) Name the products formed when granulated zinc reacts with sodium hydroxide.
- (c) What do all acids and bases have in common?
13. 1. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds? 3
2. Why do herbivores have longer, small intestine than carnivores?

OR

1. In single celled organisms diffusion is sufficient to meet all their requirements of food, exchange of gases or removal of wastes but it is not in case of multi cellular organisms. Explain the reason for this difference.
2. What are enzymes?
14. Write about the formation and course of circulation of lymph. Mention any one function of lymph. 3
15. List the three events that occur during the process of photosynthesis. 3
16. It is desired to obtain an erect image of an object, using a concave mirror of focal length 20 cm. 5
 - (i) What should be the range of distance of object from the mirror?
 - (ii) Draw a ray diagram to show the image formation in this case.
 - (iii) Mention the nature and size of the image formed.
17. A ray of light PQ is incident obliquely on a rectangular glass slab. 5
 - (i) Draw the ray diagram showing the refraction of the light ray through the glass slab.
 - (ii) Define lateral displacement and write any two factors on which the lateral displacement depends.
 - (iii) Why the emergent ray is parallel to the direction of incident ray in a glass slab?
18. (a) What happens when carbon dioxide gas is bubbled through lime water in excess? 5
(b) Explain the following terms with one example each: (1) Corrosion (2) Rusting.
(c) Oil and fat containing food items are flushed with nitrogen. Why?
19. Which gas is usually liberated when an acid reacts with a metal? Illustrate with an example. How 5
you test the presence of this gas? What type of reaction is this? What is the action of methyl orange on Sulphuric acid?

OR

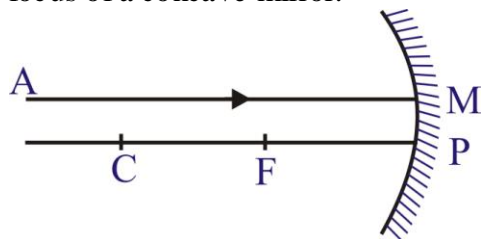
- (a) What is a base? Write any two physical properties of bases.
- (b) While diluting an acid, why it is recommended that acid should be added to water?
20. 1. Name the following parts which is associated with functioning of human respiratory/digestive 5
system.
 - a) Air is filtered by fine hair and mucus
 - b) Partition separating chest cavity and abdomen
 - c) Absorption of water
 - d) Part where bile is discharged into
2. Mention any two steps in the digestion of fat in the human digestive system
3. Why do the walls of the trachea not collapse when there is less air in it?
21. 1. Draw a diagram to show various stages of nutrition in amoeba and label the parts used for this 5
purpose.
2. How is required acidity or alkalinity is maintained in the stomach and small intestine in the human digestive system which enables proper digestion.

OR

1. Draw a schematic diagram / explain the steps involved in the breakdown of glucose by three following pathways during respiration.

SECTION B

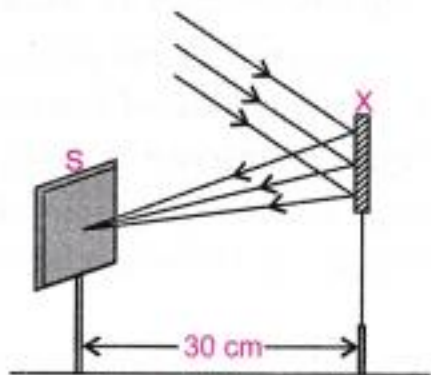
22. Redraw the ray diagram in the answer sheet and show the path of reflected ray. Define principal focus of a concave mirror. 2



OR

Write two points of differences between real image and virtual image.

23. In the set-up shown below, a clear image of a distant object is obtained on the screen. Identify the device, X and calculate its focal length. 2



24. Solid calcium oxide was taken in a container and water was added slowly to it: 2
- Write any two observations.
 - Write the chemical formula of the product formed.

OR

On adding few drops of Barium chloride solution to an aqueous solution of sodium sulphate, a precipitate is formed.

- What is the colour of the precipitate?
 - What other name can be given to this precipitation reaction?
25. A green coloured hydrated metallic salt on heating loses its water molecules and gives a suffocating smell. Identify the salt and name the gases evolved. 2
26. After the preparation of a good leaf peel students draw the diagram of stomata by observing through microscope. Mention any two important parts that can be labeled. 2

OR

Name the commonest stain used for the preparation of leaf peel to study stomata.

Mention any one precaution that can be taken for a better temporary slide preparation of stomatal apparatus.

27. While observing a leaf peel in the laboratory under a microscope some students viewed few cells found to contain some green dot like structures. Name the green dot like structures. What is this green colour due to? 2