

ROLL
NUMBER



INDIAN SCHOOL MUSCAT

SECOND PERIODIC TEST

SCIENCE

CLASS: X

Sub.Code: 086

Time Allotted: 50mts.

18.05.2023

Max .Marks: 20

GENERAL INSTRUCTIONS:

1. All Questions are compulsory.
2. Draw Diagram wherever necessary .

1. State Snell's law of refraction. 1
2. Convex mirrors are usually used as rear view mirrors. Give reason. 1
3. Define magnification of a spherical mirror. 1
4. An object 4 cm in size is placed at a distance of 25 cm from a concave mirror of focal length 15 cm. Find the position and height of the image. 2
5. With the help of a neat labeled ray diagram, show the refraction of light through a transparent rectangular glass slab. 2
6. When hydrogen sulphide gas is passed through a blue solution of copper sulphate, a black precipitate of copper sulphide is obtained and sulphuric acid formed remains in solution. The reaction is an example of ----- 1
 - a. combination reaction
 - b. single displacement reaction
 - c. decomposition reaction
 - d. double displacement reaction.
7. $\text{H}_2\text{S}_{(g)} + \text{Cl}_{2(g)} \rightarrow 2\text{HCl}_{(g)} + \text{S}_{(s)}$ 1

The reaction is interpreted as :

- a. H_2S is getting oxidized, Cl_2 is getting reduced.
- b. H_2S is getting reduced, Cl_2 is getting oxidized.
- c. only H_2S is oxidized.
- d. Both H_2S and Cl_2 are reduced.

8. Chemical formula for rust is

1

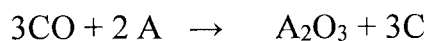
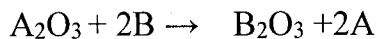
- a. Fe_2O_3 b. FeO c. Fe_3O_4 d. $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$

9. Oil and fat containing food items are flushed with nitrogen, Why?

2

10. A, B and C are three elements which undergo chemical reaction according to the following equations.

2



Answer the following questions with reasons.

- i) Which element is the most reactive?
- ii) Which element is the least reactive?
- iii) What is the type of reactions listed above?

11. The inner lining of stomach is protected by one of the following from hydrochloric acid. Choose the correct one.

1

- a) Pepsin b) Mucus c) Salivary amylase d) Bile

12. Write the function of the following in the human alimentary canal:

2

- i) Saliva ii) HCl in stomach iii) Bile juice iv) Villi

13. a) What are the differences between aerobic and anaerobic respiration?

3

b) After vigorous exercise you may experience cramps in your leg muscles. Why does this happen?

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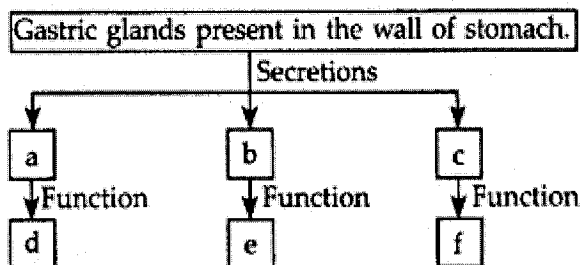
1. All Questions are compulsory.
2. Draw Diagram wherever necessary

1. Convex mirrors are usually used as rear view mirrors. Give reason. 1
2. 'The magnification of a mirror is (-1)'. What does the statement mean? 1
3. Give any one difference between concave and convex mirrors. 1
4. With the help of a neat labelled ray diagram, show the refraction of light through a transparent rectangular glass slab. 2
5. An object is placed at a distance of 20cm in front of a convex mirror of radius of curvature 30cm. Find the position of the image formed. 2
6. $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$. 1

The above reaction is an example of a

- | | |
|---------------------------|----------------------------------|
| a. combination reaction | b. double displacement reaction |
| c. decomposition reaction | d. single displacement reaction. |

7. Rancidity is not prevented by 1
- a. adding anti-oxidants b. packing oily foods in argon gas
 c. packing oily foods in nitrogen gas d. vacuum packing
8. When the gases SO_2 and H_2S are mixed in the presence of water, the reaction is 1
- $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + 3\text{S}$; Here H_2S is acting as
- a. an oxidizing agent b. reducing agent c. dehydrating agent d. catalyst
9. What is corrosion? Suggest any two ways to prevent rusting of iron. 2
10. Identify the substances that are oxidized and the substances that are reduced in the following reactions 2
- a. $4\text{Na}_{(s)} + \text{O}_{2(g)} \rightarrow 2\text{Na}_2\text{O}_{(s)}$
 b. $\text{CuO}_{(s)} + \text{H}_{2(g)} \rightarrow \text{Cu}_{(s)} + \text{H}_2\text{O}_{(l)}$
11. The majority of the water from the indigestible food is absorbed in the 1
- a) Stomach b) Small intestine c) Large intestine d) Rectum
12. What is the fate of glucose molecule in: 2
- i) Anaerobic respiration in yeast.
 ii) Aerobic respiration in mitochondria.
13. Complete the following flow chart as per the given instructions. 3



9/17/15

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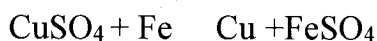
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GENERAL INSTRUCTIONS:

1. All Questions are compulsory.
2. Draw Diagram wherever necessary

1. Give two uses of concave mirror. 1
2. 'Magnification of a mirror is +3'. What does the statement mean? 1
3. Convex mirrors are usually used as rear view mirrors. Give reason. 1
4. With the help of a neat labelled ray diagram, show the refraction of light through a transparent rectangular glass slab. 2
5. A concave mirror produces three times enlarged virtual image of an object placed at 10 cm in front of it. Calculate the focal length of the mirror. 2
6. In which of the following, displacement reaction is possible: 1
 - a. Solution of AgNO_3 + Coin of copper
 - b. Solution of MgCl_2 + Coin of Aluminium
 - c. Solution of FeSO_4 + Coin of Silver
 - d. Solution of NaCl + Coin of copper
7. In the reaction, Fe with CuSO_4 , 1



- a. CuSO_4 is reduced to Cu. b. CuSO_4 is an reducing agent c. FeSO_4 is oxidized
d. Fe is an oxidizing agent
8. Which of the following method is not used for the prevention of corrosion? 1
a. greasing b. painting c. electroplating d. heating
9. What is a redox reaction? Identify the substance oxidized and the substance reduced in the following reaction 2
a. $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$
10. Explain the following terms with one example each, 2
i) Corrosion ii.) Rancidity
11. The breakdown of pyruvate to give carbon dioxide, water and energy takes place in 1
a) Cytoplasm b) Mitochondria c) Nucleus d) Chloroplast
12. State reasons for the following: 2
i) Herbivores need a longer small intestine while carnivores have shorter small intestine.
ii) Villi are richly supplied with blood vessels.
13. a) What is the role of saliva in the digestion of food? 3
b) Mucus is not used for churning the food or digesting it. Then why is it secreted in the stomach?
c) A product is formed in our muscles due to break down of glucose when there is lack of oxygen. Name the product and also mention the effect of buildup of this product.

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