

साधना देवी विद्यापीठ

Punjabi Colony (Dharampur) Samastipur. 848101 (Bihar)
Half Yearly Examination- 2018-19

Class :- X
Sub :- Science

Time :- 3hrs
F.M. :-100

Physics

1. What is the maximum resistance which can be made using five resistors each of $\frac{1}{5} \Omega$? 1
(a) $\frac{1}{5} \Omega$ (b) 10Ω (c) 5Ω (d) 1Ω
2. The main constituent of biogas is 1
(a) methane (b) carbon - dioxide (c) hydrogeon (d) hydrogen sulphide
3. What are the limitation in obtaining energy from wind? 2
4. What does the divergence of magnetic field lines near the ends of a current straight solenoid indicate? 2
5. What is the role of fuse, used in series with any electrical appliance? Why should a fuse with defined rating not be replaced by one with a larger rating? 2
6. What is electrical resistivity? In a series electrical circuit comprising a resistor made up of a metallic wire, the ammeter reads 5A. The reading of the ammeter decreases to half when the length of wire is doubled. Why? 3
7. What is the difference between electromagnet and permanent magnet? 3
8. What are the limitations in obtaining energy from wind? 3
9. Why are coils of electric toaster and electric irons made of an alloy rather than a pure metal? 3
10. Draw a labelled circuit diagram of a simple electric motor and explain its working in what way these simple electric motors are different from commercial motors? 5
11. What is joule's law of heating effect? How can it be demonstrated experimentally? List its four application in daily life. 5
12. Which is the process used to harness nuclear energy these days? Explain it briefly? 5

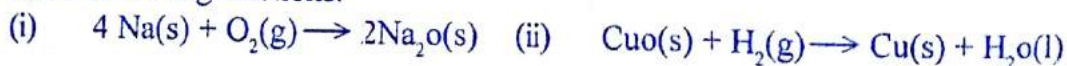
Chemistry

Question no (1 to 5) 2 marks each.

1. Why should a magnesium ribbon be cleaned before burning in air?
2. Write the balanced equation for the following chemical reactions.
(a) Barium chloride + Aluminium sulphate \rightarrow Barium sulphate + Aluminium chloride
(b) Sodium + Water \rightarrow Sodium hydroxide + Hydrogen
3. A solution of a substance 'X' is used for white washing.
(a) Name the substance 'X' and write its formula.
(b) Write the reaction of the substance 'X' named in (1) above with water.
4. Why does the colour of copper sulphate solution change when an iron nail is dipped in it?
5. What is double displacement reaction. write a suitable example.

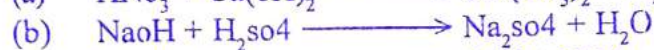
or

Identify the substances that are oxidised and the substances that are reduced in the following reactions.



Question (6 to 10) - 3 marks each

6. Balance the following chemical equations.



7. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light and electricity?

8. What is the difference between displacement and double displacement reaction? Write equations for these reactions?

9. In the refining of silver, the recovery of silver from silver nitrate solution involved displacement by copper metal. Write down the reaction involved.

10. A shiny brown coloured element 'X' on heating in air becomes black in colour. Name the element 'X' and the black coloured compounds formed.

Question (11 to 12) 5 marks each.

11. Why do HCl, HNO₃ etc, show acidic characters in aqueous solutions while solutions of compounds like alcohol, and glucose do not show acidic character?

12. Why does distilled water not conduct electricity, whereas rain water does? and why do acids not show acidic behaviour in the absence of water?

Biology

Question (i to v) 2 marks each.

1. (i) Name the gland which secretes growth hormone. Glucagon.
- (ii) Name the plant hormone responsible for elongation of cell.
- (iii) Name the stored food in animals.
- (iv) Name the respiratory pigment in human beings. where is this pigment found?
- (v) Name the term for transportation of food from leaves to other parts of plant.

Question (2 to 5) 5 marks each.

2. How are alveoli designed to maximize the exchange of gases?
3. Which signals will get disrupted in case of spinal cord injury?
4. Why is necessary to separate oxygenated and deoxygenated blood in mammals and birds?
5. Draw the structure of a neuron and label the nucleus, axon and cell body.

or

Draw the labelled diagram of Human brain.

