साधना देवी विद्यापीठ

Punjabi Colony (Dharampur) Samastipur. 848101 (Bihar)

Half Yearly Examination- 2019-20

Class :- X
Sub :- Science

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

Physics

1. Why are copper and aluminium wiress usually employed for electricity transmission ? 2
2. What is biomass ? What can be done to obtain bio - energy using bio - mass ? 2
3. What is the function of an earth wire ? Why is it necessary to earth metallic appliances ? 2
4. What does the direction of thumb indicate in the right hand thumb rule ? In what way this rule is different from fleming's left hand rule ? 2
5. What is Joule's heating effect ? How can it be demonstration experimentally ? Lists its four applications in daily life ? 3
6. 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 ? 3
7. What are the limitations in obtaining energy from wind ? 3
8. What is the role of the two conducting stationary brushes in a simple electric motor ? 3
9. Two conducting wires of the same material and of equal lenghts and equal diameters are first connected in series and then parallel in a circuit across the same potential difference. The ratio of heat produced in series and parallel combinations would be. 5
10. Draw a labelled circuit diagram of simple electric motor and explain its working. In what way these simple electric motors are different from commercial motors ? 5
11. What are the environmental consequences of the increasing demand far energy ? What steps would you suggest to reduce energy consumption ? 5

Chemistry

All questions are compulsory full marks 35

Q.No. 1 to 5 (1mark each)

1. The reaction between metal (Mg) and acid (HCL) is ..... reaction.
2. What is the natural sources of Amino acids ..... .
3. Base and Non-metal react to form ..... and ..... .
4. The pH of 10^{-5}M NaoH solution is ..... .
5. What is the PH of milk ..... .

Q.No. 6 to 10 (2 marks each)

6. What do you mean by sulphate salt ?

7. Write the formula of
   (i) calcium phosphate (ii) calcium acetate
8. Write two uses of plaster of paris.
9. Name the substance which on treatment with chlorine yields bleaching power.
10. Write an equlation to show the reaction between plaster of paris and water.

Q. No. 11 to 15 (3 marks each)

11. What is the difference between a strong acid and weak acid ? Give three examples of each of them.
12. Which of the following will show acidic properties and why ?
   (i) HCL (gas) (ii) solution of HCL gas in benzene
   (iii) Aqueous solution of HCL gas
13. An aqueous solution has a PH value of 7.0 IS this solution acidic, basic or Neutral ?
14. Which has a higher PH value, IM HCL or IM NaoH solution ?
15. Comment on the statement "All alkalies are bases but all bases are not alkalies".

Q. No. 16 (5 marks each)

16. (i) An aqueous solution has a PH value of 7.0. IS this solution acidic basic or neutral ?
   (ii) If H^+ concentation of the solution is $1x10^{-2}$ $moll^{-1}$ what is the PH value for it ?
   (iii) Which has a higher PH value, IM HCL or IM NaoH solution ?

Biology

1. What are necessary condition of autotrophic nutrition and what are its by product ? 6
2. What are the differences between aerobic and anaerobic respiration ? Name some organisms that use anaerobic mode of respiration. 6
3. What is the functions of receptors in our body ? 6
4. Which signals will get disrupted in case of spinal cord injury ? 6
5. Draw the diagram of Neuron and explain its functions. 6