

**PRE-BOARD EXAMINATION, FEBRUARY – 2018.**

**CLASS: X**

**SCIENCE**

**Time: 3 hrs.**

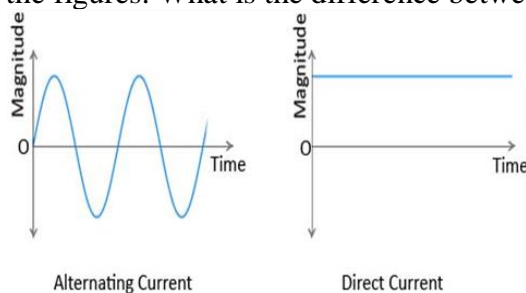
**Date.....**

**MAX. MARKS: 80**

**Name.....**

**Roll No.....**

1. Why do veins have valves and thin walls as compared to arteries? (1)
2. What are the different types of nuclear reactions? (1)
3. Identify AC and DC from the figures. What is the difference between this two? (2)



4. If focal length of a concave mirror is -10m.find the radius of curvature? (2)
5. An element placed in second group and third period of the periodic table, burns in the presence of oxygen to form an oxide. (2)
  - i) Identify the element.
  - ii) Electronic Configuration.
  - iii) Write the balanced equation when it burns in the presence of air.
  - iv) Draw the structure of this atom
6. Write a defect of eye in which a person is not able to see the object close to his eyes? What type of lens you suggest to solve it? (3)
7. State the law which gives the relationship between voltage and current in the electrical circuit? Write the equation? (3)
8. a) Sun appears red or orange when it is observed from a place on the earth early in the morning. Why? (3)  
b) Draw magnetic lines of forces inside and outside the magnet?  
c) Magnetic lines of forces will never intersect. Why?
9. A silver article generally turns black when kept in the open for a few days. The article when rubbed with toothpaste again starts shining. (3)
  - i) Why do silver articles turn black when kept in the open for a few days? Name the phenomenon involved.

ii) Name the black substance formed and give its chemical formula.

10. Atomic number of few elements are given below. (3)  
10, 20, 7, 14

Identify the name, group and period of the elements in the periodic table.

11. a) Plaster of Paris should be stored in a moisture proof container, explain. Why? Write the chemical equation involved. (3)  
b) Give two important uses of washing soda and baking soda
12. What are the raw materials for photosynthesis? State the various steps involved and an overall chemical equation of this process. (3)
13. You are worried about certain domestic practices becoming destructive for the environment. What changes would you suggest in domestic practices in order to be environment friendly? (3)
14. Work out a monohybrid cross up to F<sub>2</sub> generation for inheritance of height of garden pea plants. Draw flow diagrams to show the cross. What is the phenotypic and genotypic ratio of F<sub>2</sub> generation? (3)

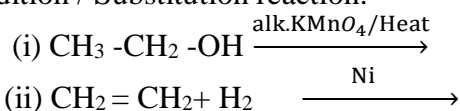
OR

What are fossils? How are they formed? Describe in brief methods of determining age of fossils.

15. We hear and read about female foeticide, which is really is a wrong practice. In some families, be it rural or urban, females are tortured for giving birth to a girl child. They do not seem to understand the scientific reason behind the birth of a boy or a girl. In your opinion, the approach of the society towards mother in this regard is correct or not? Explain the scientific reason. (3)
16. a) Explain the following terms by giving one example of each: (5)  
(i) Mineral  
(ii) Ore  
(iii) Gangue  
b) Distinguish between roasting and calcination. Give example.
17. a) Draw the electron dot structure of sodium, potassium and magnesium and lithium. (5)  
b) Show the formation of Na<sub>2</sub>O by the transfer of electrons.  
c) Write the properties of ionic compounds.

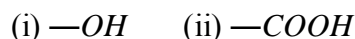
OR

a) Complete the reaction(s) given below and classify them as Combustion / Oxidation / Addition / Substitution reaction.





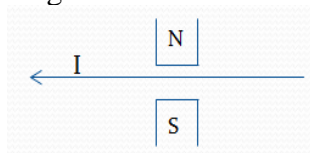
b) Give the names of the following functional groups:



18. a) Draw a diagram of human excretory system and label the parts. (5)  
b) List two vital functions of kidneys.  
c) How does our system control the amount of urine produced?

19. a) List down five phytohormones. Explain their functions. (5)  
b) Differentiate between nastic movement and tropic movement with examples.

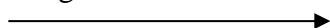
20. a) A wire is placed between N and S poles of a magnet as shown in figure. If current flows in the wire as shown, in which direction does the wire tend to move? Show the diagram (5)



- b) Find the nature and position of the image of an object placed at a distance of 15cm from a concave mirror of focal length of 10cm.
21. a) Two resistors, with resistances  $5 \Omega$  and  $10 \Omega$  respectively are connected to a battery of emf 6v. How will you obtain i) Minimum current ii) Maximum current? (5)  
b) Can you run an electric geyser with power rating 2Kw, 220 v on a 5 A line? Give reason to justify your answer.

### SECTION B

22. The direction of current is from West to East as shown. Find the direction of magnetic field from the given figure? (2)

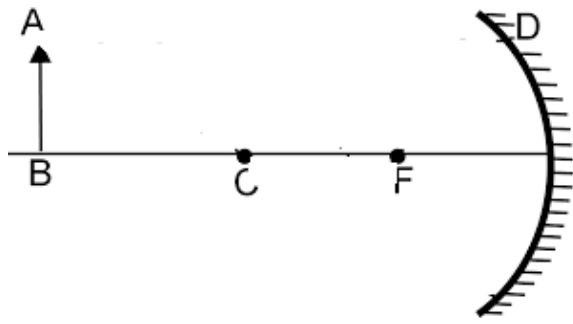


23. The following pairs of substances are available in laboratory. (2)  
i) Zn and dil HCl  
ii) Zn and dil NaOH.  
iii)  $\text{NaHCO}_3$  and dil.HCl.

Which one of these can be used to produce a colourless gas which gives a pop sound on burning.

24. Zn pieces are added to  $\text{FeSO}_4$  solution. Write the colour of the solution formed. (2)  
25. Differentiate between binary fission and budding. Draw diagrams to show binary fission. (2)  
26. Explain the procedure of preparation of temporary mount of leaf peel. (2)

27.



(2)

Complete the following ray diagram. Name the nature, size, and position of the image.