

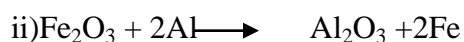
Delhi Public School, Jammu
Assignment for Preboard-I (2018-19)

Class: X

Subject: Chemistry

Q1. Why does the colour of copper sulphate solution change when an iron nail is dipped in it?

Q2. Identify the substances that are oxidized and the substances that are reduced in the following reactions.



Q3. What is the difference between Displacement and Double displacement reactions? Write equations for these reactions.

Q4. Why does dry HCl gas not change the colour of the dry litmus paper?

Q5. While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?

Q6. Name the sodium compound which is used for softening hard water.

Q7. What will happen if a solution of sodium hydrogen carbonate is heated? Give the equation of the reaction involved.

Q8. What would you observe when Zinc is added to a solution of iron(II)sulphate? Write the chemical reaction that takes place.

Q9. What chemical process is used for obtaining a metal from its oxide?

Q10. State three ways to prevent the Rusting of Iron.

Q11. What are amphoteric oxides? Give two examples of amphoteric oxides.

Q12. What were the criteria used by Mendeleev in creating his Periodic Table?

Q13. Name two elements you would expect to show chemical reactions similar to Magnesium. What is the basis for your choice?

Q14. In the Modern Periodic Table, which are the metals among the first ten elements?

Q15. Compare and contrast the arrangement of elements in Mendeleev's Periodic Table and the Modern Periodic Table.

Subject: Biology

- Q1. How are fats digested in our bodies? Where does this process take place?
- Q2. What are the necessary conditions for autotrophic nutrition and what are its by-products?
- Q3. What are the differences between the transport of materials in xylem and phloem?
- Q4. How is oxygen and carbon dioxide transported in human beings?
- Q5. Draw the structure of a neuron and explain its function.
- Q6. How does phototropism occur in plants?
- Q7. How does chemical coordination take place in animals?
- Q8. What is the need for a system of control and coordination in an organism?
- Q9. What are the advantages of sexual reproduction over asexual reproduction?
- Q10. What are the different methods of contraception?
- Q11. What is the role of the seminal vesicles and the prostate gland?
- Q12. Why is DNA copying an essential part of the process of reproduction?
- Q13. What is biological magnification? Will the levels of this magnification be different at different levels of the ecosystem?
- Q14. What are the problems caused by the non-biodegradable wastes that we generate?
- Q15. Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?

Subject: Physics

- Q1. Why do we prefer a convex mirror as a rear-view mirror in vehicles?
- Q2. Light enters from air to glass having refractive index 1.50. What is the speed of light in the glass? The speed of light in vacuum is 3×10^8 m/s.
- Q3. Find the power of a concave lens of focal length 2m.
- Q4. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image.
- Q5. When a 12 V battery is connected across an unknown resistor, there is a current of 2.5 mA in the circuit. Find the value of the resistance of the resistor.

Q6. A hot plate of an electric oven connected to a 220 V line has two resistance coils A and B, each of $24\ \Omega$ resistance, which may be used separately, in series, or in parallel. What are the currents in the three cases?

Q7. An electric iron of resistance $20\ \Omega$ takes a current of 5 A. Calculate the heat developed in 30s.

Q8. Why are coils of electric toasters and electric irons made of an alloy rather than a pure metal?

Q9. State the principle of an electric generator.

Q10. Draw a labelled diagram of an electric motor. Explain its principle and working. What is the function of a split ring in an electric motor?

Q11. Name some devices in which electric motors are used.

Q12. What is the function of an earth wire? Why is it necessary to earth metallic appliances?

Q13. What are the qualities of an ideal source of energy?

Q14. Hydrogen has been used as a rocket fuel. Would you consider it a cleaner fuel than CNG? Why or why not?

Q15. What are the advantages of nuclear energy?
