

Delhi Public School, Jammu
Assignment for Half-Yearly Exam (2018-19)

Subject: Science

Class: 10th

Physics:

Chapters covered:

1. Current Electricity.

2. Magnetic effects of current.

3. Sources of Energy.

Q1: Define 1) 1 volt 2) 1kWh and 3) 1 Ohm.

Q2: State Ohm's law and Joule's law of heating effect.

Q3: Define resistance and mention the factors affecting resistance.

Q4: Find the expression for total resistance in parallel combination of three different resistors with diagram.

Q5: Define solenoid and draw magnetic field lines for it. Also give the factors affecting the magnetic field produced in it.

Q6: Define electromagnetic induction and explain the Faraday's experiment to produce induced current.

Q7: Give the properties of magnetic field lines and explain why two magnetic field lines cannot intersect each other?

Q8: Explain the principle, construction and working of electric motor and generator with neat diagram.

Q9: Define (a) wind energy and (b) geothermal energy. How OTE is harnessed from oceans.

Q10: Explain the working of solar cooker and biogas plant with diagram.

Chemistry:

Chapters covered:

1. Chemical equations and reactions.

2. Acid. bases and salts.

3. Metal and non-metal (up to ionic compounds)

Q1: Give reasons for the following;

(a) All decomposition reactions are endothermic reactions.

(b) Colour of copper sulphate solution changes when an iron nail is dipped in it.

(c) Respiration is an endothermic reaction.

Q2: Write balanced equations for the following;

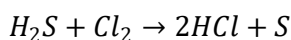
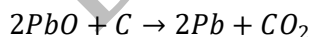
(a) Dilute sulphuric acid is poured over zinc granules.

(b) Potassium iodide solution is added to lead nitrate solution.

(c) Calcium carbonate is strongly heated in a hard glass test tube.

Q3: Define corrosion. What is corrosion of iron called? How can we prevent corrosion?

Q4: Identify the oxidizing and reducing agent in the following reactions;



Q5: What happens when (a) Copper powder is heated in a china dish? (b) Hydrogen gas is passed over hot copper II oxide.

Q6: (a) Why do acids not show acidic behavior in absence of water? (b) Why does dry HCl gas not change the colour of dry litmus paper. (c) How is the concentration of (OH^{-1}) ions affected when excess base is dissolved in a solution of NaOH?

Q7: Give the preparation of the following salts;

- (a) Sodium hydroxide.
- (b) Plaster of Paris.
- (c) Sodium bicarbonate.
- (d) Bleaching Powder.

Q8: (a) Metals form basic oxides while non-metals form acidic oxides. Explain?

(b) Why is hydrogen gas not evolved when a metal reacts with nitric acid?

Q9: Give the formation of CaO and MgCl_2 and explain why ionic compounds have high melting and boiling points and should be soluble in water?

Q10: Give reason for the following;

- (a) Metals conduct electricity.
- (b) Electric wires are made up of copper.
- (c) Some alkali metals can be cut by a knife.

Biology:

Chapters covered:

1. Life process

2. Control and Coordination

3. How do organisms reproduce?

Q1: Explain reproduction in a flower?

Q2: What is reproduction? What are the different types of reproduction?

Q3: What are phytohormones? Explain any three.

Q4: Explain the structure and function of a nephron.

Q5: Differentiate between tropic and nastic movements.

Q6: What is photosynthesis? What is the importance of photosynthesis?

Q7: Describe double circulation in the human heart.

Q8: Describe the structure of a neuron.

Q9: What are the different methods of contraception?

Q10: Explain the male reproductive system with the help of a diagram.