

**PRINCE PUBLIC SCHOOL**  
**HALF YEARLY EXAMINATION (2019-20)**  
**SCIENCE**  
**SAMPLE PAPER-1**  
**X**

**TIME ALLOWED: 3 HOURS**


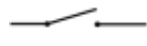
**MAXIMUM MARKS: 80**

**General Instructions**

1. There are 36 questions in total. This question paper comprises of four sections A, B C and D. You have to attempt all the sections.
2. Question number 1 to 10 in section A are 1 mark questions.
3. Question number 11 to 20 in section B are also 1 mark questions. These are to be answered in one word or in one sentence.
4. Question number 21 to 30 in section C are 3 marks questions. These are to be answered in about 50 words each.
5. Question number 31 to 36 in section D are 5 marks questions. These are to be answered in about 70 words each.

**SECTION-A**

- Q1.** Electrolysis of water is a decomposition reaction. The molar ratio of hydrogen and oxygen gases liberated during electrolysis of water will be \_\_\_\_\_.
- a) 1:1                                      b) 2:1                                      c) 4:1                                      d) 1:2
- Q2.** \_\_\_\_\_ can be used as an acid-base indicator by a visually impaired (blind).
- a) Litmus                                      b) Turmeric                                      c) Vanilla essence                                      d) Petunia leaves
- Q3.** \_\_\_\_\_ is used for dissolution of gold.
- a) Hydrochloric acid                                      b) Sulphuric acid                                      c) Nitric acid                                      d) Aqua regia
- Q4.** \_\_\_\_\_ contains mercury as one of its constituents.
- a) Stainless steel                                      b) Alnico                                      c) Zinc amalgam                                      d) Solder
- Q5.** Among four metals \_\_\_\_\_ would be displaced from the solution of its salts by other three metals.
- a) Mg                                      b) Ag                                      c) Zn                                      d) Cu
- Q6.** When \_\_\_\_\_ reacts with oxygen, it will form an amphoteric oxide.
- a) Na                                      b) Ca                                      c) Al                                      d) Cu
- Q7.** In humans, carbon dioxide gas is excreted which passes directly from the blood into \_\_\_\_\_.
- a) trachea                                      b) kidneys                                      c) alveoli                                      d) liver
- Q8.** Nitrogenous waste is formed from the breakdown of \_\_\_\_\_.
- a) fat                                      b) water                                      c) amino acids                                      d) ammonia
- Q9.** The process in which loss of water takes place in the form of water vapour through stomata is called \_\_\_\_\_.
- a) transportation                                      b) transpiration                                      c) guttation                                      d) translocation
- Q10.** Number of valence electrons present in  $Mg^{2+}$  ion is \_\_\_\_\_.
- a) 10                                      b) 8                                      c) 12                                      d) 2
- Q11.** Write one function of RBC in human beings.
- Q12.** Why a solar cooker is painted black from outside?
- Q13.** Name the charge responsible for the conduction in a conductor.
- Q14.** DC generator is based on the principle of \_\_\_\_\_.
- Q15.** Work done on unit charge is called \_\_\_\_\_.
- Q16.** Complete the reaction,  $Ca(OH)_2 + CO_2 \rightarrow$  \_\_\_\_\_ +  $H_2O$ .
- Q17.** Give one example each for basic oxide.
- Q18.** Give any one name of the conventional source of energy.
- Q19.** What is the energy transformation in an electric motor?
- Q20.** What happens to resistance of a conductor when its area of cross-section is increased?
- Q21.** What is the function of liver in the human digestive system?
- Q22.** How does our body respond when adrenaline is secreted in large amounts into the blood?

- Q23.** Why should curd and sour substances not be kept in brass and copper vessels?
- Q24.** Discuss how the roles of vena cava and pulmonary veins differ from each other?
- Q25.** What is function of an earth wire? Why is it necessary to earth the metallic bodies of electrical appliances?
- Q26.** State characteristics of the chemical reaction,  
 a) when diluted sulphuric acid is poured over zinc granules.  
 b) an aqueous calcium carbonate solution reacts with dilute hydrochloric acid.
- Q27. a)** How much current will an electric bulb draw from a 220 V source, if the resistance of the bulb filament is  $1200 \Omega$ ?  
 b) How much current will an electric heater coil draw from a 220 V source, if the resistance of the heater coil is  $100 \Omega$ ?
- Q28.** What are main events occurring in the small intestine?
- Q29.** Explain why, some materials are biodegradable but some are non-biodegradable.
- Q30.** Leaves of a healthy potted plant were coated with vaseline. Will this plant remain healthy for long? Give reason for your answer.
- Q31.** Write the meaning of the word electromagnetic induction. On what factor does the value of induced current produced in a circuit depend? Explain the principle of electric motor.
- Q32.** A milkman adds a very small amount of baking soda to fresh milk.  
 a) Why does he shift the pH of the fresh milk from 6 to slightly alkaline?  
 b) Why does this milk take a long time to set as curd?
- Q33.** What is overloading? State the causes of overloading.
- Q34. a)** Give schematic representation of different pathways of breakdown of glucose molecule.  
 b) How is food transported in a plant?
- Q35. a)** Name and state the law that gives relationship between the current through a conductor and the potential difference across its two terminals. Also express this law mathematically.  
 b) Draw the V-I graph for this law. Justify your answer.  
 c) Write the name and use of the circuit components whose symbols are given below.
- i)  ii) 
- Q36. a)** What are the various ways in which a chemical equation can be made more informative? Give examples to illustrate your answer.  
 b) Write balanced chemical equation from the following information.  
 i) An aqueous calcium hydroxide solution (lime water) reacts with carbon dioxide gas to produce a solid calcium carbonate precipitate and water.  
 ii) Aluminium burns in chlorine to form aluminium chloride. Write a balanced chemical equation for this reaction.