



**INDIAN SCHOOL SOHAR**  
**PERIODIC TEST II (2018 -19)**  
**SUBJECT: SCIENCE**

CLASS: X

Max. Marks: 80

DATE: 25/09/2018

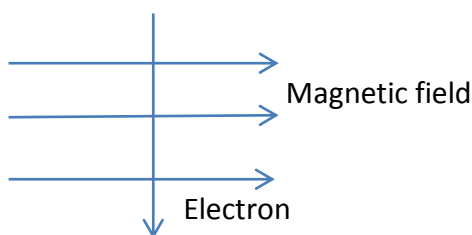
Duration: 3Hrs

**General Instructions:-**

- i. The question paper comprises of two Sections, **A** and **B**. You are to attempt both the sections.
- ii. Question paper consist of **27** questions. **All** questions are compulsory.
- iii. All questions of Section-**A** and **B** are to be attempted separately.
- iv. Question numbers **1** to **2** in Section-**A** are **one** mark questions. These are to be answered in one word or in one sentence.
- v. Question numbers **3** to **5** in Section-**A** are **two** marks questions. These are to be answered in about 30 words each.
- vi. Question numbers **6** to **15** in Section-**A** are **three** marks questions. These are to be answered in about 50 words each.
- vii. Question numbers **16** to **21** in Section-**A** are **five** marks questions. These are to be answered in about 70 words each.
- viii. Question numbers **22** to **27** in Section-**B** are **two** marks questions based on practical skills. These are to be answered in brief.
- ix. There is no overall choice. However an internal choice will be provided in three questions of **3** marks each, two questions of **5** marks each and one question (for assessing the practical skills) of **2** marks. Attempt only one of the choices in such questions.
- x. Wherever necessary the diagrams drawn should be neat and properly labelled.

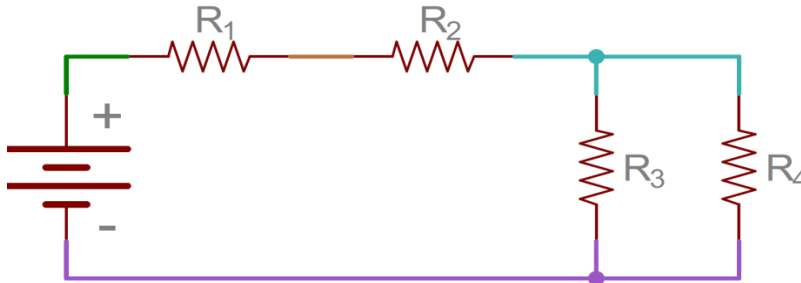
**SECTION-A**

1. Write the balanced equation for the reaction of iron with steam. 1
2. Name the process of transport of soluble products of photosynthesis. Mention the tissue which transports it? 1
3. A coil of insulated wire is connected to a galvanometer. What would be seen if a bar magnet with its south pole towards one face of the coil is:
  - a) moved quickly towards it?
  - b) moved quickly away from it ?
  - c) placed near its one surface ?
  - d) Name the phenomenon involved. 2
4. Write the name and chemical formula of the calcium compound used for disinfecting drinking water. How is this compound manufactured? 2
5. How would digestion of food be affected if the bile duct is completely blocked? (Two points). 2
6. a) State the Fleming's left hand rule.
  - b) An electron enters a magnetic field at right angles to it as shown in the diagram. What will be the direction of force acting on the electron. Give reason. 3

**OR**

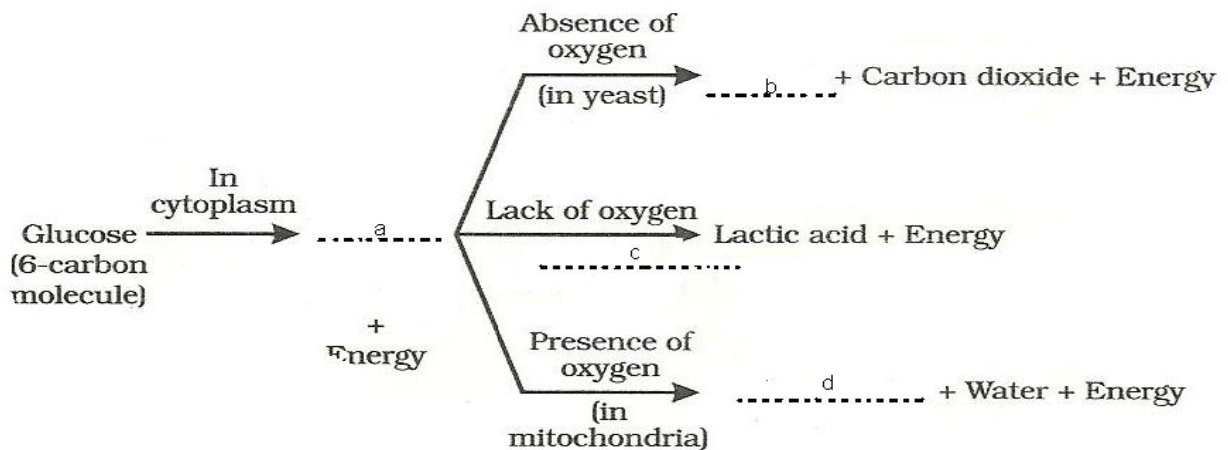
- a) A student draws magnetic field lines close to the axis of a current carrying circular loop. As she moves away from the center of the circular loop she observes that the lines keep diverging. How will you explain her observation?
- b) Write two properties of magnetic field lines?

7. a) What is Geothermal energy? 3  
 b) Mention the advantages associated with solar cells? (Any two points) 3
8. What is the function of an electric fuse? How is it connected in a device? Explain its working. 3
9. a) Why are alloys commonly used in electrical heating devices ?  
 b) In the circuit given below all the resistors  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  have the resistance of  $1\Omega$  connected to a battery of  $5V$ . Determine the equivalent resistance and the current flowing in the circuit. 3

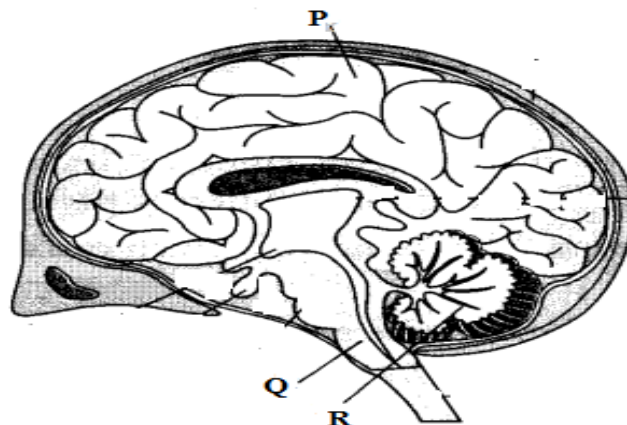


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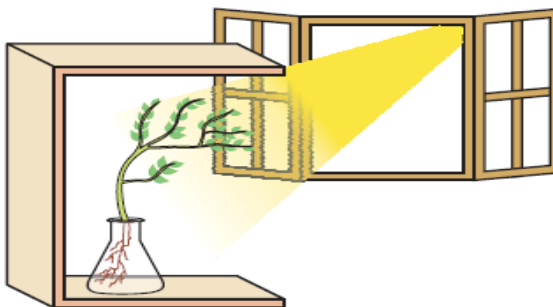
- a) Write Joule's Law of heating.  
 b) Calculate the electric energy flowing into the filament of an electric bulb in 20 seconds, when its resistance is 40 ohm and potential difference across its terminal is 12V.
10. a) Complete the glucose breakdown pathways in respiration by filling the blanks. 3



- b) Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds?
11. In the given figure of the human brain label the parts marked P, Q and R and mention their function. 3



12. The figures below shows a type of plant movement.



- a) Identify the type of movement and the stimulus that bring about the movement in the plant.  
b) Explain, the role of auxin in the above plant movement. 3
13. A white powder A is a mild non-corrosive base and is used in preparation of cakes. When the powder is heated it gives another powder B. The powder B is re-crystallised to get a substance C which has detergent properties. Identify A, B and C and also write balanced chemical equations for the conversions. 3
14. a) Write the electron dot structures of calcium and oxygen. Show the formation of calcium oxide by transfer of electrons.  
b) Why do ionic compounds in general have high melting and boiling points? 3
15. a) What is a redox reaction?  
b) Identify the (i) the oxidizing agent and (ii) the reducing agent in the following reaction:  
$$2\text{PbO} (\text{s}) + \text{C} (\text{s}) \longrightarrow 2\text{Pb} (\text{s}) + \text{CO}_2 (\text{g})$$
  
c) Why do we store halides of silver in dark coloured bottles? 3

**OR**

On heating blue coloured powder of copper(II) nitrate in a boiling tube, copper oxide (black), oxygen gas and a brown gas X is formed

- a) Write a balanced chemical equation of the reaction.  
b) Identify the brown gas X evolved.  
c) Identify the type of reaction.  
d) What could be the  $\text{p}^{\text{H}}$  range of aqueous solution of the gas X?
16. a) What is a solenoid? Draw the pattern of magnetic field lines around a current carrying solenoid.  
b) What is the pattern of field lines inside a solenoid? What do they indicate?  
c) How is the magnetic field produced in a solenoid used? 5
17. a) How is biogas made?  
b) Describe the construction and working of a fixed dome-type biogas plant.  
c) Mention any two advantages of biogas. 5
18. a) Differentiate between roasting and calcination processes used in metallurgy. Give an example of each.  
b) Compound X and aluminium are used to join railway tracks.  
(i) Identify the compound X  
(ii) Name the reaction  
(iii) Write down its reaction.

**OR**

- a) Write the balanced chemical equations for the extraction of copper metal from its ore.  
b) How impure copper is purified by electrolytic refining? Explain with the help of a diagram. 5

19. a) HCl and HNO<sub>3</sub> show acidic characters in aqueous solution while alcohol and glucose solution do not. Give reasons.
- b) How does the p<sup>H</sup> of a solution change when a solution of a base is diluted?
- c) Name the acids present in (i) ant sting and (ii) vinegar. 5
- d) Write the name and chemical formula of the main product formed by heating gypsum at 373K.
20. Name the endocrine gland and the hormone required for the following functions.
- a) Development of secondary sexual characters in females.
- b) Metabolism of carbohydrates, proteins and fats.
- c) Regulating blood sugar levels.
- d) Regulates growth and development of the body.
- e) That enables our body to deal with emergency situations. 5
21. a) Draw a neat diagram of the urinary system in man and label the following parts:
- i) The tube which connects kidney to bladder.
- ii) The passage through which urine is passed out of the body.
- iii) Part where urine is produced.
- iv) The part where urine is stored.
- b) State two vital functions of the filtering units in the human kidneys. 5

**OR**

- a) Draw the reflex arc and label the following parts:
- i) Spinal cord    ii) Sensory neurons    iii) Effector    iv) Motor neuron.
- b) Name the specialized tip of nerve cells that receive information from the environment. Where are they located? Name two such tips which help in detecting taste and smell.

### SECTION-B

22. What is the relationship between current flowing through a conductor, with resistance of a conductor and the potential difference at its ends? State the law. 2
23. A current of 0.6A flows through two resistors A and B of resistance 6 Ω and 3 Ω connected in series. What is the potential difference at the ends of the resistor A and B? 2
24. a) Which will be more acidic and why?
- (i) A solution with p<sup>H</sup> value of 6 or (ii) A solution with p<sup>H</sup> value of 5.
- b) What would be the colour of litmus in a solution of sodium carbonate? 2
25. What will you observe when a piece of aluminium metal is added to copper sulphate solution? Write the chemical reaction involved. 2
26. A student while performing an experiment on respiration in plants, placed a test tube containing KOH in the conical flask. He left the setup undisturbed. He later observed that the water level in the delivery tube started rising up.
- a) Why does the level of water rise in the bent tube?
- b) Mention any two precautions to be followed while performing the experiment. 2
27. You are asked to prepare a stained temporary mount of a leaf peel. What will be the steps followed by you after placing the stained leaf peel on the slide? 2

**OR**

While preparing a temporary mount of leaf peel to study the stomata. In a hurry Pooja dropped the coverslip on the stained peel placed on the slide. She could not observe the stomata clearly under the microscope.

- a) Why could Pooja not see the stomata clearly?
- b) What are the correct steps she should have followed while placing the coverslip?

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