



BALVANTRAY MEHTA VIDYA BHAVAN A.S.M.A G K II  
SUBJECT: SCIENCE  
CLASS: X  
PERIODIC TEST II

Time: 3 Hrs

Max. Marks: 80

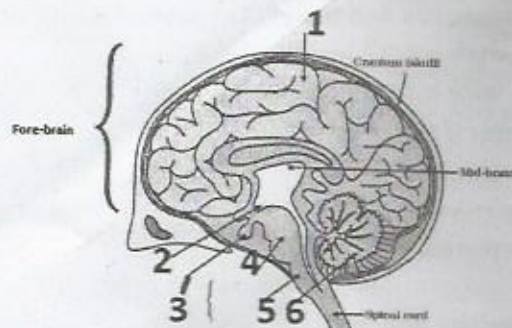
General instructions:

- All the questions are compulsory.
- Q1 to Q 5 are of one mark each.
- Q6 to Q 8 are of 2 marks each.
- Q9 to Q 17 are of 3 marks each.
- Q18 to Q 23 are of 5 marks each.
- Q24 to Q 29 are practical based questions and are of 2 marks each.
- Do all the questions neatly and draw the diagrams wherever necessary.

- Which sodium compound is used as an antacid in medicine? (1)
- Write the chemical name of Plaster Of Paris. (1)
- What is potential difference? (1)
- Why does a compass needle get deflected when brought near a bar magnet? (1)
- What is an ecosystem? (1)
- Differentiate between aerobic and anaerobic respiration. (2)
- The reaction of metal 'X' with  $\text{Fe}_2\text{O}_3$  is highly exothermic and is used to join railway tracks. Identify the metal 'X'. Write the chemical equation of the reaction. (2)
- Compare and contrast bio-mass and hydro electricity as sources of energy. (2)
- What is double circulation? Explain with the help of a well labelled diagram. (3)

OR

Label the following diagram.



- Read the passage and answer the questions that follow. (3)  
Aseem and Kunal went to see *Delhi Circus* that had just come to their town. They enjoyed the acrobatics, the animal tricks, fire show etc. Then came the jokers who started playing a lot of tricks to regale the visitors. One of the jokers was a dwarf. Aseem started making fun of the dwarf by laughing loudly and pointing specifically

towards him. The dwarf saw him and was sad for a moment before turning away. Kunal scolded Aseem for his action. He explained about the medical condition *dwarfism*. Aseem was ashamed of his actions and personally went to apologize to the dwarf joker. The dwarf joker just smiled and nodded.

- What values were displayed by Aseem and Kunal?
  - What is the cause of *dwarfism* in a human?
  - What is *gigantism*?
  - Which gland produces the hormones responsible for dwarfism and gigantism?
- 11) Explain the following giving chemical equation in each case: (3)
- Baking soda is heated.
  - Gypsum is heated at 373K.

12) Answer the following (3)

- Define universal indicator? Mention its one use.
- Name one salt whose solution has pH more than 7 and one salt whose pH is less than 7.

Or

Write one example each of the following:

- Most malleable and most ductile metal.
  - The best conductor and poor conductor of electricity.
  - A liquid metal and a liquid non-metal.
- 13) Answer the following: (3)

- Write any two properties of ionic compounds.
- Show the formation of aluminium chloride by the transfer of electrons between the atoms. (Atomic number of aluminium and chlorine are 13 and 17 respectively)

Or

- What happens when the compound silver chloride is kept in sunlight?
  - What happens when metal oxide reacts with an acid? Give an example.
- 14) (a) State Joule's law of heating. (1+2)
- (b) 100 J of heat are produced each second in a  $4\ \Omega$  resistance. Find the potential difference across the resistor?

Or

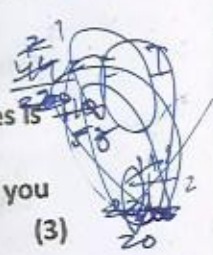
Two devices of rating 44W, 220V and 11W, 220V are connected in series. The combination is connected across a 440 mains. The fuse of which of the two devices is likely to burn when the switch is ON? Justify your answer.

- 15) A coil of insulated copper wire is connected to a galvanometer. What changes do you observe in the galvanometer if the bar magnet is (3)
- pushed into the coil.
  - withdrawn from inside the coil.
  - held stationary inside the coil.

Or

State the rule to determine the direction of

- magnetic field produced around a straight conductor-carrying current,
  - force experienced by a current-carrying straight conductor placed in a magnetic field which is perpendicular to it.
- 16) Explain the working of hydro power plant by drawing labelled diagram? (3)



17) How does our body respond when adrenaline is secreted into our blood? (3)

18) Define corrosion. What is corrosion of iron called? How will you recognise the corrosion of silver? Why corrosion of iron is serious problem and how can we prevent it? (5)

Or

State what happens when electricity is passed through an aqueous solution of sodium chloride? Write balanced chemical equation. What is this process called? Mention an important use of each of the product formed.

19) Answer the following: (5)

a) While diluting an acid, it is preferred to add acid to water not water to acid. Why?

b) What happens when carbon dioxide gas is passed through lime water for

i) short span of time

ii) Considerable period of time?

Write the chemical reactions to support your answer.

20) 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? Name some devices in which electric motors are used. (5)

OR

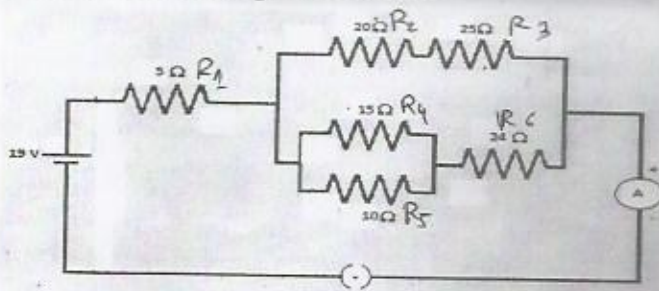
Explain the underlying principle and working of an electric generator by drawing a labelled diagram.

21) (a) State Ohm's law. (1+4)

(b) In the circuit diagram given below the resistors  $R_1, R_2, R_3, R_4, R_5$  and  $R_6$  have the values  $5\Omega, 20\Omega, 25\Omega, 15\Omega, 10\Omega$  and  $24\Omega$  respectively, which have been connected to a battery of  $19\text{ V}$ . Calculate,

a. the total resistance in the circuit?

b. the total current flowing in the circuit?



22) a) What is 10% Law? Explain with the help of an example. (5)

b) What is biological magnification? Will the levels of this magnification be different at different trophic levels? Why?

23) Draw a well labelled diagram of the structure of nephron and explain the process of urine formation. (5)

OR

a) How do auxins promote the growth of a tendril around a support?

b) Differentiate between tropic and nastic movements in plants.

### PRACTICAL BASED QUESTIONS

- 24) Mention two observations which you will make on heating ferrous sulphate in a boiling tube. (2)
- 25) On placing a iron plate in a copper sulphate solution it was observed that the iron plate develops a reddish brown layer over it after a few minutes. Give a chemical equation to explain this. (2)
- 26) If the resistor of a known resistance value is replaced with a nichrome wire of 10 cm length. How do the values of current through the nichrome wire and potential difference across the two ends of it may change if the known resistance is less than the resistance of nichrome wire? How will the values change if the replaced wire is of manganin in place of nichrome? (2)
- 27) Two resistors are connected in series and then in parallel. what effect will it have on the readings of voltmeter and ammeter? (2)
- 28) In the experiment to prepare a temporary mount of a leaf peel to show stomata, which side of the leaf shows more number of stomata and why? (2)
- 29) In the experimental set up to demonstrate that  $\text{CO}_2$  is given out during respiration, why do we use KOH pellets and why does the level of water rise in the bent tube? (2)

