M.M.80 **Science Theory Mock Test 2010** Time 3h

Section A

Q1 to Q6 – 1 Mark each

1. How does the earthing protect users from getting electric shock?

2. Two thin lenses of power +3.5D and – 2.5D are placed in contact. Find the power of combination.

3. Explain the following
   How does resistance of a wire vary with its area of cross section?

4. Write a chemical equation to show the thermal decomposition of lead nitrate.

5. Name two metals that melt when kept in hand.

6. Show the formation of MgO by transfer of electrons.

Q7 to Q10 – 2 Marks each

7. Why is a normal eye not able to see clearly, the objects placed closer than 25cm?

8. State two differences between an electromagnet and a permanent magnet.

9. A substance is used for disinfecting drinking water. Identify the substance. How is it prepared? Write chemical equation only.

10. Write a chemical equation each for the following
    (i) displacement reaction (ii) combustion reaction of methane gas.

Q11 to Q14– 3 Marks each

11. A converging mirror forms three times magnified virtual image when an object is placed at a distance of 6cm from it.
    Calculate (i) the position of the image (ii) The focal length of the mirror.

12. What is hypermetropia ? Draw the diagrams of defective and corrected hypermetropic eye.

13. (i) How will you obtain copper from copper sulphide?
    (ii) How is concentration H_3O^+ affected when a solution of an acid is diluted?

14. (i) State periodic law.
    (ii) Metallic character increases down the group why?

Q15 to Q16 – 5 Marks each

15. Three resistors of 6Ω, 2 Ω and XΩ resistances are connected in series to a cell such that the potential difference at the ends of the resistance is 1.5v and the current flowing in the circuit is $\frac{1}{6}$A. Draw a circuit diagram and calculate the value of X.

Or

(a) State the law which governs the strength of current passing through a conductor when a potential difference is applied across its ends. Illustrate this law graphically.
(b) Three resistors each of 10 Ω are connected to obtain
(i) minimum resistance
(ii) maximum resistance. Calculate the effective resistance in each case and the ratio of minimum to the maximum resistances so obtained.

16. (i) Write electron dot formula for ethanoic acid.
(ii) carbon compounds are covalent in nature. Why?
(iii)Write chemical equation for sponification?
(iv)A compound x on reaction with Na metal produces a gas, which burns with a pop sound. The compound x get oxidised to another substance y which also produces a gas that burn with a pop sound on reaction with sodium metal. Identify x and y. Write chemical equations involved.

Section B

Q1 to Q3 – 1 Mark each

1. Name the two traditional water harvesting structures.

2. Name two STD caused by bacteria.

3. Explain why flow of energy in the biosphere is considered unidirectional

Q4 to Q8 – 1 Marks each

4. Wing of bat and the wing of bird be can be considered analogous organ. Why or why not?

5. How is the brain protected? Explain.

6. Explain the formation of urine.

7. What are the advantages of bio gas plant? Why biogas is considered an efficient fuel?

8. What is ozone? How does it affect any ecosystem?

Q9 to Q10 – 3 Marks each

9. Give the functions of the following
   (i) auxin
   (ii) cytokinin
   (iii) abscisic acid

10. What is regeneration? Explain with diagram.

Q11– 5 Marks

11. (i) Work out the cross between pea plant Tt(tall) and tt(dwarf)
    (ii) Explain the sex determination mechanism in human beings.

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