Higher Secondary Revision Examination 2018-19 – Unit:2

TOTAL MARKS: 40
TIME: 45 Min

PHYSICS

N.B.  i) Answer all the following.
    ii) Choose and write the correct answer with option.

1. A charge of 60 C passes through an electric lamp in 2 minutes. Then the current in the lamp is
   a) 30A   b) 1A   c) 0.5A   d) 5A

2. If the resistance of a coil is 2 Ω at 0°C and α = 0.004/°C, then its resistance at 100°C is
   a) 1.4 Ω   b) 0 Ω   c) 4 Ω   d) 2.8 Ω

3. If the length of a copper wire has a certain resistance R, then on doubling the length its specific resistance
   a) will become doubled   b) will become 1/4th   c) will become 4 times   d) will remain the same

4. The amount of current flowing through a conductor is directly proportional to
   a) the number of electrons per unit volume   b) the drift velocity   c) the cross sectional area of the conductor   d) all the above

5. If there is no coloured ring on the other end of a carbon resistor, then the tolerance is
   a) 20%   b) 10%   c) 2%   d) 1%

6. The transition temperature of Mercury is
   a) 4.2°C   b) -268.8°C   c) -277.2°C   d) (a) & (c)

7. When two equal resistances connected in series and parallel, then the ratio of their effective values is
   a) 1:1   b) 1:4   c) 4:1   d) 1:2

8. In a Wheatstone bridge P = 15 Ω, Q = 35Ω, R = 60Ω, Then S = ?
   a) 80 Ω   b) 85 Ω   c) 105 Ω   d) 140 Ω

9. The equivalent resistance between A & B is
   a) 17/24 Ω   b) 4/3 Ω   c) 29 Ω   d) 24/17 Ω

10. The resistance of the wire is R ohm. What will be the new resistance, if it is stretched uniformly n times its original length
   a) nR   b) R/n   c) n²R   d) R/n²

II. Answer for any four of the following. Qn No.15 is compulsory:

11. Why copper wire is not suitable for a potentiometer?
12. State Ohm’s law.
13. Distinguish between emf and potential difference (or) Compare and contrast for emf and potential difference.
15. The resistance of a platinum wire at 0°C is 4Ω. What will be the resistance of the wire at 100°C if the temperature coefficient of resistance of platinum is 0.0038/°C.

III. Answer for any four of the following. Qn No. 20 is compulsory:

16. List the applications of superconductors.
17. Distinguish between electric power and electric energy.
18. State Kirchoff’s first law.
19. What is a Secondary cell? Mention the applications of Secondary cells.
20. A Manganin wire of length 2m has a diameter of 0.4mm with a resistance of 70Ω. Find the resistivity of the material.

IV. Answer all the following:

21. a) Distinguish between drift velocity and mobility.
    (or)
    b) (i) Discuss the variation of resistance with temperature with an expression and a graph.
        (ii) The colours of a carbon resistor is orange, orange, brown. What is the value of resistor?

22. a) (i) Explain the determination of the internal resistance of a cell using voltmeter.
        (ii) State Faraday’s second law of electrolysis.
    (or)
    b) Explain the reactions at the electrodes of: (i) Daniel cell (ii) Leclanche cell.