Assignment 3

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment.

Note: While one correct answer may be right, partial marks awarded in some of the correct answers are selected. No marks awarded if every one of the wrong answers is selected.

1) Resistance of a conductor
   - Increases with increase in the cross-sectional area
   - Decreases with increase in the cross-sectional area
   - Decreases with increase in the length
   - Increases with increase in the length
   No, the answer is incorrect. 1 point

2) Conductivity of a metallic conductor
   - Increases with increase in the cross-sectional area
   - Decreases with increase in the cross-sectional area
   - Increases with increase in the length
   - Decreases with increase in the length
   No, the answer is incorrect. 1 point

3) When voltage applied across a conductor is gradually increased
   - The current gradually increases
   - The resistance gradually increases
   - The power consumed increases
   - The electric field decreases
   No, the answer is incorrect. 1 point

4) In a semiconductor, if two free electrons are in 1 square meter and the area is subject to an electric field of 100 V/m
   - Both the electrons will eventually accelerate
   - It is possible that the electrons can meet
   - It is possible that the electrons can meet and accelerate slowly
   - The two electrons will prevent each other from moving
   No, the answer is incorrect. 1 point

5) The answer is incorrect. 1 point

6) Heat transfer in a metal occurs through
   - Conduction
   - Convection
   - Radiation
   - Forced convection
   No, the answer is incorrect. 1 point

7) Thermal conduction in a diamond occurs
   - Only through free electrons
   - Only through lattice vibrations
   - Using both free electrons as well as lattice vibrations
   - Neither through free electrons nor through lattice vibrations
   No, the answer is incorrect. 1 point

8) A sample is 10 cm long and is placed flat to the right, and it is heated at a point 7 cm away from the left end
   - Heat will flow from the left end to the right end
   - Heat will flow from the left end to the right end
   - Heat will flow towards the center
   - Heat will flow towards the center
   No, the answer is incorrect. 1 point

9) The answer is incorrect. 1 point

10) Crossed beams is a method to inhibit steam cooling in events because
    - Pencil contact at a lower temperature stops evaporation
    - Heat transfer through copper is better than that through stainless steel
    - Enhances the efficiency of the cooling
    - It makes the steel safe
    No, the answer is incorrect. 1 point

11) The answer is incorrect. 1 point

12) The answer is incorrect. 1 point

13) Metal with high thermal conductivity, when heated and left in air
    - Will cool faster
    - Will cool faster
    - Will still decrease in electrical resistance with time while cooling
    - Will increase in electrical resistance with time while cooling
    No, the answer is incorrect. 1 point

14) The answer is incorrect. 1 point

15) The answer is incorrect. 1 point