

STATE BOARD OF TECHNICAL EDUCATION AND TRAINING TELANGANA  
**203F**



18AA/A/C/CH/CM/EE/EI/FW/M/MET/PT, PKG/MNG/BM/ES/EV/TT/EC  
DIPLOMA EXAMINATION (C-18)  
C-18-REGULAR-OCTOBER-2020  
SEMESTER END EXAM  
APPLIED PHYSICS  
SEMESTER II, PCODE: 6203

Time: 2 Hours

[Total Marks: 40]

**PART-A**

8 X 1 = 8

**Instructions:** 1. Answer the following questions  
2. Each question carries **ONE** mark

1. Define Wave.
2. Define magnetic lines of force.
3. What is Doping?
4. List two examples of the materials with negative temperature coefficient of resistance.
5. Define superconductivity.
6. Define electrical resistance.
7. Define insulators.
8. Define hole in semiconductors.

**PART-B**

**Instructions:** 1. Answer the following questions  
2. Each question carries **THREE** marks

4 X 3 = 12

- 9(a). State three laws of Simple pendulum.  
----- OR -----
- 9(b). State and explain Kirchhoff Voltage law.
- 10(a). Explain Einstein photo electric equation.  
----- OR -----
- 10(b). Distinguish between p type and n type semiconductors.
- 11(a). In Wheatstone bridge  $P=2\ \Omega$ ,  $Q=3\ \Omega$ ,  $R=5\ \Omega$ . What is the resistance required to balance the bridge.  
----- OR -----
- 11(b). Three resistors  $10\ \Omega$ ,  $20\ \Omega$  and  $30\ \Omega$  connected in PARALLEL across a battery of potential difference 5.45 V. Find the current "i" produced in the circuit.
- 12(a). Explain Forbidden Band.  
----- OR -----
- 12(b). Distinguish between intrinsic and extrinsic semiconductors.

## PART-C

- Instructions:**
1. Answer the following questions
  2. Each question carries **FIVE** marks

4 X 5 = 20

- 13(a). Distinguish between longitudinal and transverse wave motion  
----- OR -----
- 13(b). Explain the working of a moving coil galvanometer.
- 14(a). State five laws of photo electric effect.  
----- OR -----
- 14(b). List five applications of PN diode.
- 15(a). List five applications of superconductors.  
----- OR -----
- 15(b). Explain briefly meter bridge with neat diagram.
- 16(a). Explain working principle of Light Emitting Diode with neat diagram.  
----- OR -----
- 16(b). Explain forward and reverse bias of PN diode.