S. No.	Physical Quantity	Relation with other quantities	Dimensional formula	SI unit
41.	Boltzmann's constant	$\frac{\text{Energy}}{\text{Temperature}}$	$\frac{ML^2T^{-2}}{K} = [ML^2T^{-2}K^{-1}]$	JK^{-1}
42.	Stefan's constant	$\frac{\text{Energy}}{\text{Area} \times \text{time} \times (\text{temp.})^4}$	$\frac{ML^2T^{-2}}{L^2 \cdot T \cdot K^4} = [ML^0T^{-3}K^{-4}]$	$Js^{-1}m^{-2}K^{-4}$
43.	Solar constant	$\frac{\text{Energy}}{\text{Area} \times \text{time}}$	$\frac{ML^2T^{-2}}{L^2 \cdot T} = [ML^0T^{-3}]$	$Js^{-1}m^{-2}$
44.	Mechanical equivalent of heat	$J = \frac{W}{H}$	$\frac{ML^2T^{-2}}{ML^2T^{-2}} = [M^0L^0T^0]$ (dimensionless)	—
	C. Electrical Quantities			
45.	Electric charge	Time × Current	T. A = [M°L°TA]	C (coulomb)
46.	Electrical potential	$\frac{\text{Work}}{\text{Charge}}$	$\frac{ML^2T^{-2}}{TA} = [ML^2T^{-3}A^{-1}]$	V (volt)
47.	Resistance	$\frac{\text{Potential difference}}{\text{Current}}$	$\frac{ML^2T^{-3}A^{-1}}{A} = [ML^2T^{-3}A^{-2}]$	Ω (ohm)
48.	Capacitance	$\frac{\text{Charge}}{\text{Potential difference}}$	$\frac{TA}{ML^2T^{-3}A^{-1}} = [M^{-1}L^{-2}T^4A^2]$	F (farad)
49.	Inductance	$\frac{\text{EMF}}{\text{Current / time}}$	$\frac{ML^2T^{-3}A^{-1}}{AT^{-1}} = [ML^2T^{-2}A^{-2}]$	H (henry)
50.	Permittivity of free space	$\varepsilon_0 = \frac{q_1 q_2}{Fr^2}$	$\frac{AT \cdot AT}{MLT^{-2}L^2} = [M^{-1}L^{-3}T^4A^2]$	$A^2C^2N^{-1}m^{-2}$
51.	Relative permittivity or dielectric constant	ε_r or $\kappa = \frac{\varepsilon_0}{\varepsilon}$	a pure ratio = $[M^0L^0T^0]$ (dimensionless)	—
52.	Intensity of electric field	$E = \frac{F}{q} = \frac{\text{Force}}{\text{Charge}}$	$\frac{MLT^{-2}}{AT} = [MLT^{-3}A^{-1}]$	NC^{-1} or Vm^{-1}
53.	Conductance	$C = \frac{1}{R}$	$\frac{1}{ML^2T^{-3}A^{-2}} = [M^{-1}L^{-2}T^3A^2]$	Ω^{-1} or mho
54.	Specific resistance or resistivity	$\rho = \frac{RA}{l}$	$\frac{ML^2T^{-3}A^{-2} \cdot L^2}{L} = [ML^3T^{-3}A^{-2}]$	Ωm
55.	Specific conductance or conductivity	$\sigma = \frac{1}{\rho}$	$[M^{-1}L^{-3}T^3A^2]$	$\Omega^{-1}m^{-1}$
56.	Electric dipole moment	$q \times 2l$	$AT \cdot L = [M^0LTA]$	Cm
	D. Magnetic Quantities			
57.	Magnetic field	$B = \frac{F}{qv \sin\theta}$	$\frac{MLT^{-2}}{AT \cdot LT^{-1} \cdot 1} = [ML^0T^{-2}A^{-1}]$	T (tesla)
58.	Magnetic flux	$\phi = BA$	$MT^{-2}A^{-1} \cdot L^2 = [ML^2T^{-2}A^{-1}]$	Wb (weber)
59.	Permeability of free space	$\mu_0 = \frac{4\pi r \cdot F}{I_1 I_2 l}$	$\frac{L \cdot MLT^{-2}}{A^2 \cdot L} = [MLT^{-2}A^{-2}]$	
60.	Magnetic moment	Current × area	$A \cdot L^2 = [M^0L^2T^0A]$	Am^2
61.	Pole strength	$\frac{\text{Magnetic moment}}{\text{Magnetic length}}$	$\frac{AL^2}{L} = [M^0LT^0A]$	Am