

**JEE PHYSICS**

*Topic: Unit and Dimension*

- Q.1 The unit of power is-
- (A) kilowatt                      (B) kilowatt-hour  
(C) dyne                          (D) joule
- Q.2 The unit of energy is -
- (A) J/s                              (B) watt-day  
(C) kilowatt                      (D)  $\text{g-cm/s}^2$
- Q.3 In the S.I. system, the unit of temperature is-
- (A) degree centigrade  
(B) Kelvin  
(C) degree Celsius  
(D) degree Fahrenheit
- Q.4 In the S.I. system the unit of energy is-
- (A) erg                              (B) calorie  
(C) joule                          (D) electron volt
- Q.5 Unit of pressure in S.I. system is-
- (A) atmosphere  
(B) dynes per square cm  
(C) pascal  
(D) bar
- Q.6 Which of the following is not a unit of time ?
- (A) microsecond              (B) leap year

(C) lunar month      (D) light year

Q.7 Which of the following is not a unit for energy ?

(A) Kilo watt hour      (B) Newton- meter

(C) (weber) (ampere) (D) None of these

Q.8 In SI unit the angular acceleration has unit of-

(A)  $\text{Nmkg}^{-1}$       (B)  $\text{ms}^{-2}$

(C)  $\text{rad.s}^{-2}$       (D)  $\text{Nkg}^{-1}$

Q.9 Surface tension has unit of-

(A)  $\text{Joule.m}^2$       (B)  $\text{Joule.m}^{-2}$

(C)  $\text{Joule.m}$       (D)  $\text{Joule.m}^3$

Q.10 The unit of Stefan's constant is-

(A)  $\text{Joule sec}^{-2} \text{K}^{-4}$       (B)  $\text{Joule.sec.K}^{-4}$

(C)  $\text{Watt.m}^2 \text{K}^{-4}$       (D)  $\text{Watt. m}^{-2}.\text{K}^{-4}$

Q.11 The M.K.S. units of coefficient of viscosity is-

(A)  $\text{kg m}^{-1}\text{s}^{-1}$       (B)  $\text{kg m s}^{-2}$

(C)  $\text{kg m}^2 \text{s}^{-1}$       (D)  $\text{kg}^{-1} \text{m}^{-1} \text{s}^2$

Q.12 The unit of intensity of magnetisation is-

(A)  $\text{Amp m}^2$       (B)  $\text{Amp m}^{-2}$

(C)  $\text{Amp m}$       (D)  $\text{Amp m}^{-1}$

Q.13 Unit of magnetic induction (B) is-

(A) Weber      (B) Weber/metre

(C) Newton/amp-metre      (D) Henry

Q.14 The specific resistance has the unit of-

- (A) ohm/m                                      (B) ohm/m<sup>2</sup>  
(C) ohm.m<sup>2</sup>                                      (D) ohm.m

Q.15 The mutual inductance has unit of-

- (A) Gauss                                      (B) Weber  
(C) Farad                                      (D) Henry

Q.16 Which of the following is not unit of energy ?

- (A) Watt-hour                                      (B) Electron volt  
(C) Nm                                      (D) kg m s<sup>-2</sup>

Q.17 The MKS unit of 'G' is -

- (A) Nm<sup>2</sup> kg<sup>-2</sup>                                      (B) Nkg<sup>2</sup>m<sup>-2</sup>  
(C) Nm<sup>2</sup>kg<sup>2</sup>                                      (D) Nkgm<sup>-1</sup>

Q.18 Surface tension has MKS unit of-

- (A) N/m                                      (B) N/m<sup>2</sup>  
(C) Nm                                      (D) Nm<sup>2</sup>

Q.19 In Vander Waal's equation the unit of 'a' is-

- (A) Nm<sup>4</sup>                                      (B) Nm<sup>-4</sup>  
(C) Nm<sup>-2</sup>                                      (D) Nm<sup>2</sup>

Q.20 The unit of magnetic moment is-

- (A) amp m<sup>2</sup>                                      (B) amp m<sup>-2</sup>  
(C) amp m                                      (D) amp m<sup>-1</sup>

Q.21 The electrical permittivity for vacuum has unit-

- (A) Farad                                      (B) Farad m<sup>2</sup>  
(C) Farad/m                                      (D) Volt × metre

Q.22 Which of the following is usually a derived quantity ?

- (A) Mass                      (B) Velocity  
(C) Length                    (D) Time

Q.23 A dimensionless quantity -

- (A) never has a unit    (B) always has a unit  
(C) may have a unit    (D) does not exist

Q.24  $[M L T^{-1}]$  are the dimensions of -

- (A) power                    (B) momentum  
(C) force                    (D) couple

Q.25 The dimensions of impulse are equal to that of-

- (A) force  
(B) angular momentum  
(C) pressure  
(D) linear momentum

Q.26 Which of the following pairs have same dimensions –

- (a) Torque and work  
(b) Angular momentum and work  
(c) Energy and moment of inertia  
(d) Light year and wavelengths
- (A) a and b                    (B) a and d  
(C) b and c                    (D) a , b, and d

Q.27 Which of the following does not have dimensions of length ?

- (A) Fermi                    (B) Micron  
(C) Angstrom                (D) Radian

Q.28 Plank constant has the same dimensions as-

- (A) Force  $\times$  time
- (B) Force  $\times$  distance
- (C) Force  $\times$  speed
- (D) Force  $\times$  distance  $\times$  time

Q.29 If E, M, J and G denote energy , mass , angular momentum and gravitational constant then  $\frac{EJ^2}{M^5G^2}$  has the dimensions of –

- (A) length
- (B) angle
- (C) mass
- (D) time

Q.30 The dimensional formula for angular momentum is –

- (A)  $ML^2T^{-2}$
- (B)  $ML^2T^{-1}$
- (C)  $MLT^{-1}$
- (D)  $M^0L^2T^{-2}$

## ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	A	B	B	C	C	D	D	C	B	D
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	A	D	C	D	D	D	A	A	A	A
Que.	21	22	23	24	25	26	27	28	29	30
Ans.	C	B	C	B	D	B	D	D	B	B