PHYSICS

BOOKS - MCGROW HILL EDUCATION PHYSICS (HINGLISH)

MEASUREMENT

Example

1. Express light year in terms of metres.

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2. Define one parsec. Express it in terms of metres.

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3. Express the following derived units in terms of the fundamental units of length, mass and time.

A. speed

B. area

C. acceleration

D. density

Answer:

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Exercise True Or False

1. Light year is the unit of time

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2. One micron is equal to 10^3 m.

    A. true

    B. false

    C.

    D.

Answer: F

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3. National Physical Laboratory is situated at Kolkata.

4. The prefix used for 10^9 is nano.

A. true

B. false

C.

D.

Answer: F

5. The prefix used for 10^3 is kilo.

A. true

B. false

C.

D.

Answer: T

6. In C.G.S. system, gram is the unit of mass.

7. Kg is the unit of mass in the M.K.S. system.

8. India adopted metric system of units in 1947.

A. false

B. true

C.

D.

Answer: F

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Exercise Ii Fill In The Blanks

1. Density is a _____ physical quantity.

2. Mass is a _____ physical quantity.

3. Physical quantity = _____ X unit.

4. The units of fundamental physical quantities are known as _____ units.

5. Light year is a unit of _____.

6. One angstrom is equal to _____.

7. The prefix used for 10^6 is _____.

Elementary Questions

1. Which of the following is different from others ?

A. Micron

B. Light year

C. Mole

D. Angstrom

Answer: C

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2. Which of the following is different from

others

A. Mass

B. Length

C. Time

D. Density

Answer: D

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3. Which of the following is different from others ?

A. Speed

B. Density

C. Force

D. Time

Answer: D

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4. Light year is the unit of

A. time

B. distance

C. speed of light

D. intensity of light

Answer: B

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5. Angstrom is the unit used to express

A. length

B. mass

C. time

D. none of these

Answer: A

6. 1 m is equal to

    A. 10^{-6} micron

    B. 10^{6} micron

    C. 10^{-3} micron

    D. 10^{3} micron

Answer: B

7. 1 fermi is equal to

  A. 10^{-15} m

  B. 10^{15} m

  C. 10^{-12} m

  D. 10^{12} m

Answer: A

8. The wavelength of light is usually expressed in

    A. micron

    B. fermi

    C. nanometer

    D. Angstrom

Answer: D

9. The prefix used to represent 10^{-2} is called

A. milli

B. centi

C. kilo

D. deci

Answer: B

10. 1 AU. is equal to

    A. 1.5×10^{11} m

    B. 1.5×10^{10} m

    C. 1.5×10^{-13} m

    D. 1.5×10^{-11} m

Answer: A

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11. One light year is equal to

A. 9.46×10^{-15} m

B. 9.46×10^{15} m

C. 9.46×10^{-13} m

D. 9.46×10^{13} m

Answer: B

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12. 1 parsec is equal to

A. 3.1×10^{15} m

B. 3.1×10^{-15} m

C. 3.1×10^{16} m

D. 3.1×10^{-16} m

Answer: C

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13. 1 parsec is equal to

A. 3.26 AU

B. 3.26 ly

C. 3.26Å

D. none of these

Answer: B

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14. The symbol used for angstrom is

A. A

B. K

C. Å

D. M

Answer: C

15. Which of the following is the largest unit of length ?

    A. Light year

    B. Astronomical unit

    C. Parsec

    D. Nothing can be decided

Answer: C

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16. 1 light year is equal to

    A. $6.3 \times 10^4 \text{Å}$

    B. 6.3×10^4 A.U.

    C. $3.0 \times 10^8 ms^{-1}$

    D. $6.3 \times 10^7 \text{Å}$

Answer: B

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17. Which of the following is the smallest unit ?

A. Micron

B. Fermi

C. Millimetre

D. Kilometre

Answer: B

18. The average distance between the earth and the sun is called

A. astronomical unit

B. light year

C. parallactic second

D. none of these

Answer: A

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19. The amount of substance in the SI system of units is represented by

A. candela

B. mole

C. weight

D. kilogram

Answer: B

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20. The SI unit of temperature is

A. kelvin

B. second

C. mole

D. candela

Answer: A

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21. The National Physical Laboratory is situated

at

A. Kolkata

B. New Delhi

C. Mumbai

D. none of these

Answer: B

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22. The SI unit of electric current is

A. ampere

B. candela

C. mole

D. none of these

Answer: A

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23. The SI unit of luminous intensity is

A. ampere

B. candela

C. mole

D. none of these

Answer: B

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24. India adopted metric system of units in

A. 1947

B. 1950

C. 1956

D. 2000

Answer: C

25. SI units were introduced in

    A. 1960

    B. 1956

    C. 1947

    D. none of these

Answer: A

26. Pound is the unit of - in the F.P.S. system.

A. Mass

B. length

C. time

D. temperature

Answer: A

27. The unit of length in the F.P.S. system is

A. foot

B. pound

C. metre

D. none of these

Answer: A

28. How many fundamental units are present in the SI system of units ?

A. 5

B. 6

C. 7

D. 3

Answer: C

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29. 1 nano metre (1 nm) is equal to

A. 10^{-7} m

B. 10^{-9} m

C. 10^{9} m

D. none of these

Answer: B

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30. 1 quintal is equal to

A. $\dfrac{1}{10}$ kg

B. 10 kg

C. 100 kg

D. 1000 kg

Answer: C

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31. The time taken by earth to complete one rotation about its axis is

A. 12 hours

B. 16 hours

C. 24 hours

D. 365 days

Answer: C

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32. The time interval between identical phases

of the Moon is called

A. Mean Solar Day

B. Solar Day

C. Lunar Month

D. none of these

Answer: C

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1. The ratio of one micron to one nanometre is

    A. 10^{-3}

    B. 10^{-6}

    C. 10^{6}

    D. 10^{3}

Answer: D

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2. If mass of an electron is 9.1×10^{-31} kg, the number of electrons in 1 mg is

    A. 1.09×10^{27}

    B. 1.09×10^{24}

    C. 9.1×10^{28}

    D. 9.1×10^{31}

Answer: B

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3. The density of water is 1 g/cc. Its value in SI is

A. $10^{-3} \text{kg}/\text{m}^3$

B. $10^{-6} \text{kg}/\text{m}^3$

C. $10^3 \text{kg}/\text{m}^3$

D. $10^6 \text{kg}/\text{m}^3$

Answer: C

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4. The time of heart beat is of the order of

A. 10^{-2} s

B. 10^2 s

C. 10^{-1} s

D. 10^0 s

Answer: D

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5. Light year is the unit of

    A. time

    B. length

    C. speed

    D. intensity of light

Answer: B

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6. A cube has numerically equal volume and surface area. The volume of such a cube is

A. 216 unit

B. 300 unit

C. 636 unit

D. 1000 unit

Answer: A

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7. Human life expectancy is of the order of

A. 10^6 s

B. 10^7 s

C. 10^8 s

D. 10^9 s

Answer: D

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8. A laser signal sent towards the moon returns after t seconds. If c is the speed of light then the distance of the moon from the observer is

A. cT

B. Ct^{-2}

C. $\dfrac{ct}{2}$

D. 2 cT

Answer: C

9. Electron volt is the unit of

    A. energy

    B. power

    C. intensity

    D. charge of electron

Answer: C

10. 1 MeV equals

    A. 1.6×10^{-19} J

    B. 1.6×10^{-16} J

    C. 1.6×10^{-13} J

    D. 1.6×10^{13} J

Answer: C

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11. 1 MeV is used to represent

A. energy

B. power

C. intensity

D. none of these

Answer: A

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12. Hertz is the unit for

A. frequency

B. number of cycles

C. pressure

D. none of these

Answer: A

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13. Light from the sun reaches the earth approximately in

A. 5 s

B. 50 s

C. 500 s

D. 5000 s

Answer: C

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