

NEET PHYSICS in 123 CONCEPTS C 11-UNIT 2-UNITS &  
MEASUREMENTS

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**C 11- UNIT 2- UNITS & MEASUREMENTS- MCQS (120Q)**

- In which year SI system of units was developed and recommended by General Conference on Weights and Measures?**  
(1) 1951                      (2) 1961                      (3) 1971                      (4) 1981
- In mechanics, the number of base quantities is**  
(1) 2                              (2) 3                              (3) 4                              (4) 5
- Number of base SI units is**  
(1) 4                              (2) 7                              (3) 3                              (4) 5
- Which of the following units is not a base unit?**  
(1) metre                      (2) candela                      (3) ampere                      (4) pascal
- One nanometre is equal to**  
(1)  $10^9$  mm                      (2)  $10^{-6}$  cm                      (3)  $10^{-7}$  cm                      (4)  $10^{-9}$  cm
- Wavelength of ray of light is 0.00006m. It is equal to**  
(1) 6 microns                      (2) 60 microns                      (3) 600 microns                      (4) 0.6 microns
- Universal time is based on**  
(1) Rotation of the earth on its axis                      (2) Earth's orbital motion around the earth  
(3) Vibrations of cesium atom                      (4) Oscillations of quartz crystal

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**Key:**    1. 3      2. 2                      3. 2                      4. 4                      5. 3                      6. 2                      7. 3

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**Explanations:**

- (3)
- (2) In mechanics the number of base quantities is 3 i.e. length, mass and time. All other quantities of mechanics can be expressed in terms of length, mass and time through simple relations.
- (2)
- (4) Among the given units pascal is the derived unit whereas others are the fundamental or base units.
- (3)  $1 \text{ nm} = 10^{-9} \text{ m} = 10^{-7} \text{ cm}$
- (2)  $6 \times 10^{-5} = 60 \times 10^{-6} = 60 \text{ microns}$
- (3) According to the definition, second is the time in which cesium - 133 atom in ground state vibrates 9,192,631,770 times in an atomic clock.

8. A micron is related to centimeter as

- (1) 1 micron =  $10^{-8}$  cm (2) 1 micron =  $10^{-6}$  cm  
(3) 1 micron =  $10^{-5}$  cm (4) 1 micron =  $10^{-4}$  cm

9. Which is the correct unit for measuring nuclear radii

- (1) micron (2) millimetre (3) angstrom (4) fermi

10. kilowatt - hour is a unit of

- (1) Electrical charge (2) Energy  
(3) Power (4) Force

11. How many wavelengths of  $\text{Kr}^{86}$  are there in one metre?

- (1) 1553164.13 (2) 1650763.73 (3) 2348123.73 (4) 652189.63

12. fathom is the unit to measure the

- (1) speed of ship (2) depth of sea  
(3) distance of the ship (4) speed of cyclone

13. ampere - hour is a unit of

- (1) Quantity of electricity (2) Strength of electric current  
(3) Power (4) Energy

14. parsec is a unit of

- (1) Distance (2) Velocity (3) Time (4) Angle

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Key : 8.4      9.4      10.2      11.2      12.2      13.1      14.1

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**Explanations:**

8. (4) 1 micron =  $10^{-6}$  m =  $10^{-4}$  cm  
9. (4)  
10. (2)  
11. (2) metre is the distance that contains 1650763.73 wavelengths of orange - red light of Kr- 86.  
12. (2) fathom is a unit of length equal to six feet. It is used measure depth of water in sea.  
13. (1) Charge = current  $\times$  time  
14. (1) Astronomical unit of distance

15. **1kWh =**  
 (1) 1000W            (2)  $36 \times 10^5$ J            (3) 1000 J            (4) 3600 J
16. **Which of the following is not the unit of time**  
 (1) micro second    (2) leap year            (3) lunar months    (4) parallactic second
17. **'torr' is the unit of**  
 (1) Pressure            (2) Volume            (3) Density            (4) Flux
18. **The S.I. unit of gravitational potential is**  
 (1) J                      (2)  $\text{Jkg}^{-1}$             (3)  $\text{Jkg}$             (4)  $\text{Jkg}^{-2}$
19. **Density of wood is  $0.5\text{gm cm}^{-3}$  in the CGS system of units. The corresponding value in MKS units is**  
 (1) 500                      (2) 5                      (3) 0.5                      (4) 5000
20. **The solid angle subtended by the periphery of an area  $1\text{cm}^2$  at a point situated symmetrically at a distance of 5 cm from the area is**  
 (1)  $2 \times 10^{-2}$  steradian    (2)  $4 \times 10^{-2}$  steradian    (3)  $6 \times 10^{-2}$  steradian    (4)  $8 \times 10^{-2}$  steradian
21. **What is the length of the arc of a circle of radius 30 cm which subtend an angle at the centre?**  
 (1) 11.7 cm            (2) 14.7 cm            (3) 16.7 cm            (4) 15.7 cm

**Key :** 15.2                                      16.4                                      17.1                                      18.2                                      19.1    20.                                      21. 4

**Explanations:**

15. (2)  $1 \text{ kWh} = 1 \times 10^3 \times 3600 \text{ W} \times \text{sec} = 36 \times 10^5 \text{ J}$
16. (4)
17. (1)
18. (2) Gravitational potential =  $\frac{\text{work}}{\text{mass}}$      $\therefore V = \frac{W}{m}$     so, SI unit of V =  $\frac{\text{Joule}}{\text{kg}}$
19. (1)  $0.5 \text{ gm cm}^{-3} = 500 \text{ kgm}^{-3}$
20.  $\theta = \frac{\text{Area}}{r^2} = \frac{1 \text{ cm}^2}{(5 \text{ cm})^2} = 4 \times 10^{-2} \text{ steradian}$
21. (4)  $\theta = \frac{l}{r} \Rightarrow l = \theta r = \frac{\pi}{6} \times 30 \text{ cm} = \frac{3.14}{6} \times 30 \text{ cm} = 15.7 \text{ cm}$

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