



# PHYSICS

## BOOKS - SURA PUBLICATION

### Measurement

#### Exercise

1. Define FPS system of units.

A. CGS

B. MKS

C. EPS

D. SI

**Answer:**



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2. Electric current belongs to..... quantities.

A. base

B. supplementary

C. derived

D. professional

**Answer: A**



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**3. SI unit of temperature is**

A. celsius

B. fahrenheit

C. kelvin

D. ampere

**Answer:**



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**4. Amount of substance is**

A. directly proportion to the number of

atoms

B. inversely proportional to the number of

atoms

C. directly proportional to the square of  
the number of atoms

D. inversely proportional to the square of  
the number of atoms

**Answer: A**



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**5. Luminous intensity is the intensity of**

**A. Laser light**

B. UV light

C. visible light

D. IR light

**Answer: C**



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**6.** Closeness of two or more measured values is called as

A. accuracy

B. precision

C. error

D. approximation

**Answer: B**



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7. Which of the following statements about approximation is wrong?

A. Approximation gives accurate value.

B. approximation simplifies the calculation.

C. approximation is very useful when little information is available.

D. approximation give the nearest value only.

**Answer: A**



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**8. The solid angle is measured in.....**







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9. The coldness or hotness of a substance is expressed by.....



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10. .... Is used to measure electric current.



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**11.** One mole of substance contains.....atoms or molecules.



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**12.** The uncertainty in measurement is called as....



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**13.** The closeness of the measured value to the original value is.....



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**14.** The intersection of two straight lines gives us.....



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## 15. Match the following:

Match the following :

Column - A		Column - B	
1.	Temperature	(a)	Closeness to the Actual Value
2.	Plane Angle	(b)	Measure of hotness or coldness
3.	Solid Angle	(c)	Closeness to two or more measurements
4.	Accuracy	(d)	Angle formed by the intersection of three or more planes
5.	Precision	(e)	Angle formed by the intersection of two planes



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16. Name some common systems of measurement.



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17. Convert 300 K into celsius.



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18. The SI unit of length is the \_\_\_\_\_

A. millimetre

B. centimetre

C. metre

D. kilomrtre

**Answer:**



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**19.** The magnitude of a physical quantity consists of.....

- A. a unit
- B. a number and a unit
- C. a number
- D. a unit and a symbol

**Answer:**



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**20.** The SI unit of mass is .....

A. milligram

B. gram

C. quintal

D. kilogram

**Answer:**



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21. Among the following, Which is not an metric system?

A. CGS

B. MKS

C. FPS

D. SI

**Answer:**





22. .... is a physical quantity that expresses the degree the hotness or coldness of a substance.

- A. Electric current
- B. Luminous intensity
- C. voltmeter
- D. analog clock

**Answer:**



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23. Luminous intensity is measured by a \_\_\_\_\_ which give the luminous intensity in terms of candela.

- A. ammeter
- B. photometer
- C. voltmeter
- D. analog clock

**Answer:**



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24. Scicntitsts modified the clock's mechanism to obtain \_\_\_\_\_ .

- A. precision
- B. opproximation
- C. accuracy
- D. none of the above

**Answer:**



25. Atomic clock have an accuracy of one second of one second in every\_\_\_\_\_ seconds.

A.  $10^9$

B.  $10^3$

C.  $10^{10}$

D.  $10^{13}$

**Answer:**



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26. Time difference between two adjacent time zones is \_\_\_\_\_.

A. 2 hours

B. 5:30 hours

C. 1 hours

D. 24 hours

**Answer:**



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27. GMT is measured at the longitude of \_\_\_\_\_ degree.

A. 20

B. 0

C. 10

D. 5

**Answer:**



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28. \_\_\_\_\_ is the process of finding an unknown physical quantity by using a standard quantity.



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29. The CGS, MKS and SI system of units are \_\_\_\_\_ system of units.



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30. FPS is a \_\_\_\_\_ system of units.



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31. Temperature is a measure of the average \_\_\_\_\_ of the particles in a system



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32. Melting point of pure ice ( $0^{\circ}\text{C}$ ) is taken as \_\_\_\_\_ fixed point.



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33.

1.	K - 273	(a)	Mars climate orbiter
2.	$\pi$ radian	(b)	mol
3.	Base quantities	(c)	C
4.	Amount of substance	(d)	7
5.	Martian climate	(e)	$180^\circ$



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34.

1.	$80^\circ \text{C}$	(a)	Plane angle
2.	$\frac{Q}{t}$	(b)	Royal observatory
3.	GMT	(c)	353 K
4.	Two dimensional	(d)	Solid angle
5.	Three dimensional	(e)	I



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**35.** Assertion and Reason. Mark the correct choice as: Assertion: The SI unit of temperature is kelvin. Reason: Thermometers are calibrated with some standard scales like celsius, fahrenheit and kelvin.

A. If both assertion and reason are true and reason is the correct explanation of the assertion.

B. If both assertion and reason are true but the reason is not the correct explanation

of the assertion.

C. If the assertion is true, but the reason is false.

D. If the assertion is false, but the reason is true.

**Answer:**



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**36.** Assertion and Reason. Mark the correct choice as: Assertion: Temperature is a physical quantity. Reason: Thermometers is the degree of hotness or coldness of a body.

A. If both assertion and reason are true and reason is the correct explanation of the assertion.

B. If both assertion and reason are true but the reason is not the correct explanation of the assertion.

C. If the assertion is true, but the reason is false.

D. If the assertion is false, but the reason is true.

**Answer:**



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**37.** Assertion and Reason. Mark the correct choice as: Assertion: Radian is the angle subtended at the center of a circle by an arc

whose length is equal to the radius of the circle. Reason  $1\text{radian} = \frac{180^\circ}{\pi}$

A. If both assertion and reason are true and reason is the correct explanation of the assertion.

B. If both assertion and reason are true but the reason is not the correct explanation of the assertion.

C. If the assertion is true, but the reason is false.

D. If the assertion is false, but the reason is true.

**Answer:**



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**38. Complete the given table**

**Complete the given table :**

Types of scale	Lower fixed point	Upper fixed point	Number of divisions in thermometer
Celsius	(i) _____	100° C	(ii) _____
Fahrenheit	32° F	(iii) _____	180
Kelvin	273 K	(iv) _____	(v) _____



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**39.** Convert  $36^{\circ} C$  into kelvin.



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**40.** Convert 100 K into celsius.



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**41.** When 5 coulomb of charge, flows through a circuit for 20 seconds. Calculate the current?



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**42.** Convert  $90^\circ C$  into radian.



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**43.** Round off the number 5.323 to two decimal places.



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**44.** The SI unit of temperature is \_\_\_\_\_.

A. celsius

B. fahrenheit

C. kelvin

D. ampere

**Answer:**



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**45.** Closeness of two or more measured values is called as

A. accuracy

B. precision

C. error

D. approximation

**Answer:**



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**46.** Heat given to a substance will\_\_\_\_\_ its temperature.

A. increase

B. decrease

C. remains same

D. none

**Answer:**



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**47. .... Is used to measure electric current.**



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48. The SI unit of plane angle is \_\_\_\_\_.



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49. \_\_\_\_\_ clocks are used in Global Positioning System.



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50. Match the following:

**Match the following**

Quartz clock	(a)	periodic vibrations
Atomic clock	(b)	ampere
Electric current	(c)	coulomb
Charge	(d)	$10^9$ seconds



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51. What is the SI unit of Luminous Intensity?



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**52.** What type of oscillations are used in atomic clocks?



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**53.** How many base quantities are there?



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**54.** Round off the number 1.862 to two decimal places.



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**55.** What is measurement?



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**56.** What are the differences between Plane angle and solid angle?



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57. What are the rule for rounding off a number?



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58. Define one light year.



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59. Define super conductors.



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**60.** Write a short note on different types of clocks.



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**61.** Write a note on accuracy and precision.



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**Example**

1. Temperature is a measure of total kinetic energy of the particles in a system.



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2. One coulomb of charge flowing per minute is called 'ampere'.



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3. Amount of substance give the number of particles present in the substance.



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4. Intensity of light from a candle is approximately equal to one 'candela'.



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5. Angel formed at the top of a cone is an exemple of 'Plane Angle'.



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6. Quartz clocks are used in GPS Devices.



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7. The number 4.582 can be rounded off as 4.58.



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**8. Assertion & Reason:** Direction Mark the correct choice as Assertion: The SI system of units is the suitable system for measurements.

Reason: The SI unit of temperature is kelvin.

A. both assertion and reason are true and reason is the correct explanation of the assertion.

B. both assertion and reason are true but reason is not the correct explanation of the assertion.

C. Assertion is true, but reason is false.

D. both the assertion and the reason are false

**Answer:**



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9. Assertion & Reason: direction Mark the correct choice as Assertion: Electric current, amount of substance, Luminous Intensity are the fundamental physical quantities. Reason: They are independent of each other.

A. both assertion and reason are true and reason is the correct explanation of the assertion.

B. both assertion and reason are true but reason is not the correct explanation of



the assertion.

C. Assertion is true, but reason is false.

D. both the assertion and the reason are  
false

**Answer:**



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**10.** Assertion & Reason: direction Mark the correct choice as Assertion: Radian is the unit of solid angle. Reason: One radian is the angle

subtended at the center of a circle by an arc of length equal to its radius.

A. both assertion and reason are true and reason is the correct explanation of the assertion.

B. both assertion and reason are true but reason is not the correct explanation of the assertion.

C. Assertion is true, but reason is false.

D. both the assertion and the reason are  
false

**Answer:**



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**11.** How many base quantities are included in SI system?



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**12.** Give the name of the instrument used for the measurement of temperature.



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**13.** What is the SI unit of Luminous Intensity?



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**14.** What type of oscillations are used in atomic clocks?



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**15.** Mention the types of clocks based on their display.



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**16.** How many times will the 'minute hand' rotate in one hour?



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**17.** How many hours are there in a minute?



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**18.** What is measurement?



**Watch Video Solution**

**19.** Define- Temperature.



**Watch Video Solution**

20. Define Ampere :



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21. What is meant by electric current ?



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22. What is luminous Intensity? Mention its SI unit and symbol.



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**23.** Define mole .



**Watch Video Solution**

**24.** What are the differences between Plane angle and solid angle?



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**25.** List out the base quantities with their units.







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**26.** Write a short note on different types of clocks.



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**27.** Your friend was absent yesterday. You are enquiring about his absence. He told, he was affected by a fever of  $100^{\circ}C$  and went to a hospital for treatment. Is it possible of  $100^{\circ}C$

fever? If it is wrong, try to make him to understand his mistake.



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**28.** True or False- if false give the correct statement: The unit of length in FPS system is foot.



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**29.** The unit of mass in CGS system is kilogram.



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**30.** Heat is a physical quantity that expresses the degree of hotness or coldness of a substance.



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**31.** Heat removed from a substance will lower its temperature.



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**32.** In thermometers, boiling point of water ( $100^{\circ} C$ ) is taken as upper fixed point.



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**33.** Normal temperature of the human body is between  $98.4^{\circ} C$  and  $98.6^{\circ} C$ .



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**34.** Voltmeter is a device used to measure electric current.



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**35.** The super conductors are used to levitate trains from the track.



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**36.** What is the Physics?



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**37.** Name the British system of units.



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**38.** How many base quantities are there?



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**39.** What is the symbol for unit of electric current?



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**40.** Mention the SI unit of luminous flux.



**Watch Video Solution**

**41.** Mention the SI unit & symbol of temperature.



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**42.** Write any 2 application of various thermometric scales.



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**43.** Define electric current. Current. Write its formula and unit.



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**44.** Define super conductors.



**Watch Video Solution**

**45.** Define amount of substance. Mention its SI unit and symbol.



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**46.** What is luminous Intensity? Mention its SI unit and symbol.





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**47.** What are the rule for rounding off a number?



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**48.** Define one light year.



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**49.** Write a note on accuracy and precision.



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**50.** Explain the Greenwich mean time.



**Watch Video Solution**

**51.** Write a note on approximation.



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