



MDCAT 2020



TEST RESULT

Practice Test-1 (Measurement)



10



10 min



06-Jun-2020



38 sec

[Result Detail](#)





Practice Test-1 (Measurement)

MDCAT 2020

Q : Units of power in terms of base units

A watt

B J/s

C $\text{kgm}^2\text{s}^{-3}$

D $\text{kgm}^2\text{s}^{-2}$

Explanation

$$\text{watt} = \frac{\text{J}}{\text{s}} = \frac{\text{N m}}{\text{s}} = \frac{(\text{kgms}^{-2})\text{m}}{\text{s}} = \text{kgm}^2\text{s}^{-3}$$

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Practice Test-1 (Measurement)

MDCAT 2020

Incorrect 1/10

Q : Units of power in terms of base units

A watt

B J/s

C $\text{kgm}^2\text{s}^{-3}$

D $\text{kgm}^2\text{s}^{-2}$

Explanation

$$\frac{\text{J}}{\text{s}} = \frac{\text{N m}}{\text{s}} = \frac{(\text{kgms}^{-2})\text{m}}{\text{s}} = \text{kgm}^2\text{s}^{-3}$$

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Practice Test-1 (Measurement)

MDCAT 2020

Q : Which of the following pairs have not the same units?

A Torque and angular momentum

B Young's modulus and pressure

C Torque and work

D Work and energy

Explanation

Torque = $Fr = \text{Nm}$

Angular momentum = $mvr = \text{kgm/s m} =$

$\text{kgm}^2/\text{s}^2 \text{ s} = \text{Js}$

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Practice Test-1 (Measurement)

MDCAT 2020



Incorrect



3/10

Q : The unit of power is

A

kilowatt

B

kilowatt-hour

C

dyne

D

joule

Explanation

kilowatt is a unit of power.

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Practice Test-1 (Measurement)

MDCAT 2020

Q : The unit of electric field is equivalent to

A NC^{-1}

B $\text{JC}^{-1}\text{m}^{-1}$

C Vm^{-1}

D All of these

Explanation

$$E = \frac{-\Delta V}{\Delta r} = \frac{\text{V}}{\text{m}}, E = \frac{F}{q_0} = \frac{\text{N}}{\text{C}}$$

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Practice Test-1 (Measurement)

MDCAT 2020

A NC^{-1}

B $\text{JC}^{-1}\text{m}^{-1}$

C Vm^{-1}

D All of these

Explanation

$$E = \frac{-\Delta V}{\Delta r} = \frac{V}{m}, E = \frac{F}{q_0} = \frac{N}{C}$$

$$\Rightarrow \text{Vm}^{-1} = \frac{J}{C} \text{m}^{-1} = \text{JC}^{-1}\text{m}^{-1}$$

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Practice Test-1 (Measurement)

MDCAT 2020



Incorrect



5/10

Q : Which of the following is not the unit of time?

A

Leap year

B

Lunar month

C

Solar day

D

Parallactic second

Explanation

Parallactic second is unit of distance

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Practice Test-1 (Measurement)

MDCAT 2020



Incorrect



6/10

Q : **Steradian is the SI unit of:**

A Plane Angle

B Solid Angle

C Mass

D Force

Explanation

Steradian is the unit of 3-Dimensional angle (solid angle).

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Practice Test-1 (Measurement)

MDCAT 2020

Q : Unit of energy is

A Js

B Jm

C kilowatt

D watt.s

Explanation

$$P = \frac{W}{t} = \frac{\text{Energy}}{\text{time}}$$

$$\text{Energy} = pt \Rightarrow J = W.S$$

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Practice Test-1 (Measurement)

MDCAT 2020

Q : Which one is not measured in units of energy?

A Fd

B $\frac{1}{2} LI^2$

C $I \times t$

D QV

Explanation

$I \times t$ is not measured in units of energy because $I \times t$ is charge not energy and all others can be measured in units of

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Practice Test-1 (Measurement)

MDCAT 2020

energy?

A Fd

B $\frac{1}{2} LI^2$

C $I \times t$

D QV

Explanation

$I \times t$ is not measured in units of energy because $I \times t$ is charge not energy and all others can be measured in units of energy.

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Practice Test-1 (Measurement)

MDCAT 2020

Q : The different magnitudes of same physical quantities are measured by comparing them to.

A available scale

B standard size

C each other

D other physical quantities

Explanation

The different magnitudes of same physical quantities are measured by comparing them to standard size.

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MDCAT 2020



TEST RESULT

Practice Test-2 (Measurement)



10



10 min



07-Jun-2020



60 sec

[Result Detail](#)





Practice Test-2 (Measurement)

MDCAT 2020



Correct



Unattempted



Incorrect



1/10

Q : A student takes 100 observations in an experiment. Second time he takes 500 observations in the same experiment. By doing so the possible error becomes



5 times greater



1/5 times lesser



10 times greater



1/10 times lesser

1

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Practice Test-2 (Measurement)

MDCAT 2020

observations in the same experiment. By doing so the possible error becomes

A 5 times greater

B 1/5 times lesser

C 10 times greater

D 1/10 times lesser

Explanation

Possible error has decreased due to the increase in the number of observations.

$$\text{Reduction in the possible error} = \frac{\text{Error in 1 observation}}{\text{Error in } n \text{ observations}}$$

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Practice Test-2 (Measurement)

MDCAT 2020

observations in the same experiment. By doing so the possible error becomes

A 5 times greater

B 1/5 times lesser

C 10 times greater

D 1/10 times lesser

Explanation

Increased due to the
of observations.

$$\text{The error} = \frac{\text{Error in 100 observations}}{\text{Error in 500 observations}} = \frac{1}{5}$$

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Practice Test-2 (Measurement)

MDCAT 2020

Q : Repeating measurement several times and taking an average can reduce the effect of:

A systematic error

B random error

C personal error

D all of these

Explanation

A remedy of random error

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Practice Test-2 (Measurement)

MDCAT 2020



Correct



Unattempted



Incorrect



3/10

Q : Errors which occurs due to some definite rule is:



personal error



random error



systematic error



uncertain error

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Practice Test-2 (Measurement)

MDCAT 2020

Q : The density of a cube is measured by measuring its mass and the length of its side. If the maximum errors in the measurement of mass and length are 3% and 2%, respectively, then maximum error in the measurement of density is

A 1 %

B 5 %

C 7 %

D 9 %

Explanation

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Practice Test-2 (Measurement)

MDCAT 2020

A 1 %

B 5 %

C 7 %

D 9 %

Explanation

$$\rho = \frac{m}{\ell^3}; \text{ \% age unc. of } \rho = (\% \text{ unc. of}$$

Second method;

$$\frac{\Delta\rho}{\rho} = \frac{\Delta m}{m} + \frac{3\Delta\ell}{\ell} \Rightarrow \% \text{ unc.} = \frac{\Delta\rho}{\rho} \times 10$$

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Practice Test-2 (Measurement)

MDCAT 2020

A 1 %

B 5 %

C 7 %

D 9 %

Explanation

$$s) + 3(\% \text{ unc. of } \ell) = (3\%) + 3(2\%) = 9\%$$

$$+ 3(2) = 9 \%$$

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Practice Test-2 (Measurement)

MDCAT 2020



Incorrect



5/10

Q : The absolute uncertainty of screw gauge is

A 0.01 cm

B 0.01 mm

C 0.001 mm

D 0.1 cm

Explanation

basic concept

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Practice Test-2 (Measurement)

MDCAT 2020

Q : Any measurement taken from an instrument will be more precise, if instrument has

A large absolute uncertainty

B small least count

C both a and b

D none of these

Explanation

An instrument will be more precise which have small least count and less absolute uncertainty.

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Practice Test-2 (Measurement)

MDCAT 2020

Q : The percentage uncertainty for V in relation of $V = 3.3 \text{ v} \pm 0.1 \text{ V}$

A 2%

B 4%

C 3%

D 5%

Explanation

$$V = \frac{\Delta V}{V} \times 100 = \frac{0.1}{3.3} \times 100$$

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Practice Test-2 (Measurement)

MDCAT 2020

Q : The percentage errors in the measurement of mass and speed are 2% and 3% respectively. How much will be the maximum error in the estimation of the kinetic energy obtained by measuring mass and speed

A 11%

B 8%

C 5%

D 1%

Explanation

4

5

6

7

8

9



Practice Test-2 (Measurement)

MDCAT 2020

kinetic energy obtained by measuring mass and speed

A 11%

B 8%

C 5%

D 1%

Explanation

$$KE = \frac{1}{2}mv^2$$

$$\begin{aligned} \% \text{ Error in K.E.} &= \% \text{ error in} \\ \text{mass} + 2 \times \% \text{ error in velocity} \\ &= 2 + 2 \times 3 = 8\% \end{aligned}$$

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Practice Test-2 (Measurement)

MDCAT 2020

Q : A body travels uniformly a distance of (13.8 ± 0.2) m in a time (4.0 ± 0.3) s. The velocity of the body within error limits is

A $(3.45 \pm 0.2) \text{ ms}^{-1}$

B $(3.45 \pm 0.3) \text{ ms}^{-1}$

C $(3.45 \pm 0.4) \text{ ms}^{-1}$

D $(3.45 \pm 0.5) \text{ ms}^{-1}$

Explanation

Here, $S = (13.8 \pm 0.2)\text{m}$

error, we have, $S = 13.8 \pm \frac{0.2}{13.8}$

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Practice Test-2 (Measurement)

MDCAT 2020

A $(3.45 \pm 0.2) \text{ ms}^{-1}$

B $(3.45 \pm 0.3) \text{ ms}^{-1}$

C $(3.45 \pm 0.4) \text{ ms}^{-1}$

D $(3.45 \pm 0.5) \text{ ms}^{-1}$

Explanation

Here, $S = (13.8 \pm 0.2) \text{ m}$

error, we have, $S = 13.8 \pm \frac{0.2}{13}$

$$\therefore V = \frac{s}{t} = \frac{13.8 \pm 1.4}{4 \pm 7.5} = (3.45 \pm 0.3) \text{ ms}^{-1}$$

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Practice Test-2 (Measurement)

MDCAT 2020

A $(3.45 \pm 0.2) \text{ ms}^{-1}$

B $(3.45 \pm 0.3) \text{ ms}^{-1}$

C $(3.45 \pm 0.4) \text{ ms}^{-1}$

D $(3.45 \pm 0.5) \text{ ms}^{-1}$

Explanation

$$\begin{aligned} & \pm 0.2) \text{m} \quad \text{and } t = (4.0 \pm 0.3) \text{ sec} \\ & = 13.8 \pm \frac{0.2}{13.8} \times 100 \quad \text{and } t = 4 \\ & = (3.45 \pm 0.3) \text{ m/s.} \end{aligned}$$

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Practice Test-2 (Measurement)

MDCAT 2020

A $(3.45 \pm 0.2) \text{ ms}^{-1}$

B $(3.45 \pm 0.3) \text{ ms}^{-1}$

C $(3.45 \pm 0.4) \text{ ms}^{-1}$

D $(3.45 \pm 0.5) \text{ ms}^{-1}$

Explanation

3) sec Expressing it in percentage
 $t = 4.0 \pm \frac{0.3}{4} \times 100$

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Practice Test-2 (Measurement)

MDCAT 2020

Q : If the length of rod A is 3.25 ± 0.01 cm and that of B is 4.19 ± 0.01 cm then the rod B is longer than rod A by

A 0.94 ± 0.00 cm

B 0.94 ± 0.01 cm

C 0.94 ± 0.02 cm

D 0.94 ± 0.005 cm

Explanation

Length of rod B - Length of rod A = $4.19 - 3.25 \pm 0.01 + 0.01 = 0.94 \pm 0.02$ cm

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MDCAT 2020



TEST RESULT

"Test Level-1 (Measurement)"



20



15 min



08-Jun-2020



6 sec

[Result Detail](#)





"Test Level-1 (Measurement)"

MDCAT 2020



Incorrect



1/20

Q : The unit of thermodynamic temperature is:



K



$^{\circ}\text{C}$



$^{\circ}\text{F}$



none of these

Explanation

SI unit of temperature is kelvin.





"Test Level-1 (Measurement)"

MDCAT 2020

Q : Which of the following is not the unit of length

A light year

B angstrom

C micro

D mm

Explanation

micro is a sub-multiple which is equal to 10^{-6} .

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"Test Level-1 (Measurement)"

MDCAT 2020



Correct



Unattempted



Incorrect



3/20

Q : _____ error is occurred due to fault in measuring instruments.



Random



systematic



physical



personal

1

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : Electric charge in terms of base units are

A as

B a

C As

D s

Explanation

$Q = It$
Coulmb = (ampere) (sec)

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"Test Level-1 (Measurement)"

MDCAT 2020

Q: QV^{-1} stands for

- A Electric flux
- B Electric pressure
- C Electric field density
- D Capacitance**

Explanation

As capacitance is mathematical define as $C = Q/V$

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"Test Level-1 (Measurement)"

MDCAT 2020

following equation? $F = 6\pi\eta rv = krv$ Where
 $F =$ force, $v =$ velocity and $r =$ radius.

A $\text{kgm}^{-1}\text{s}^{-1}$

B kgms

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

D kgm^2s^2

Explanation

$$F = krv$$

$$k = F/rv$$

$$k = \text{N/m} (\cdot\text{ms}^{-1}) = \text{kgm}^{-1}\text{s}^{-1}$$

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"Test Level-1 (Measurement)"

MDCAT 2020



Correct



Unattempted



Incorrect



7/20

Q : In addition and subtraction resultant uncertainty is obtained by



adding absolute uncertainties



subtraction of absolute uncertainties



addition of % uncertainties



multiplication of % uncertainties

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"Test Level-1 (Measurement)"

MDCAT 2020



Incorrect



8/20

Q : The radius of the sphere is $(4.3 + 0.1)$ cm. The percentage error in its volume is



$$\frac{0.1}{4.3} \times 100$$



$$3 \times \frac{0.1 \times 100}{4.3}$$



$$\frac{1}{3} \times \frac{0.1 \times 100}{4.3}$$



$$3 + \frac{0.1 \times 100}{4.3}$$

Explanation

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"Test Level-1 (Measurement)"

MDCAT 2020

A $\frac{1}{4.3} \times 100$

B $3 \times \frac{0.1 \times 100}{4.3}$

C $\frac{1}{3} \times \frac{0.1 \times 100}{4.3}$

D $3 + \frac{0.1 \times 100}{4.3}$

Explanation

$$V = \frac{4}{3} \pi r^3$$

$$\%V = \frac{4}{3} \pi (3r)$$

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"Test Level-1 (Measurement)"

MDCAT 2020



Correct



Unattempted



Incorrect



9/20

Q : Instrumental error is



Random error



Systematic error



Both



None

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"Test Level-1 (Measurement)"

MDCAT 2020



Incorrect



10/20

Q : The device which have more precision

A

High absolute uncertainty

B

More least count

C

Maximum percentage uncertainty

D

Both A and B

Explanation

If instrument have more precision then its least count is high so it will have more least count and high absolute

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : The device which have more precision

A High absolute uncertainty

B More least count

C Maximum percentage uncertainty

D Both A and B

Explanation

If instrument have more precision then its least count is high so it will have more least count and high absolute uncertainty (Least Count).

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : The error in measurement of mass of sphere 1%, and error in measurement of radius 0.5%. The error in density is

A 0.5%

B 1.5%

C 2.5%

D 3.5%

Explanation

$$\therefore \rho = \frac{m}{V_{ol}} = \frac{m}{\frac{4}{3}\pi r^3} \Rightarrow \% \text{ Error in } \rho = \% E_m$$

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : The error in measurement of mass of sphere 1%, and error in measurement of radius 0.5%. The error in density is

A 0.5%

B 1.5%

C 2.5%

D 3.5%

Explanation

$\therefore \text{Error in } \rho = \% \text{ Error in } m + 3(\% \text{ Error in } r) =$

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : The error in measurement of mass of sphere 1%, and error in measurement of radius 0.5%. The error in density is

A 0.5%

B 1.5%

C 2.5%

D 3.5%

Explanation

$$3(\% \text{ Error in } r) = 1\% + 3\frac{1}{2}\% = \frac{5}{2}\% = 2.5\%$$

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"Test Level-1 (Measurement)"

MDCAT 2020

A

Power

B

Force

C

Temperature

D

Energy

Explanation

kWh is a unit of energy because we know

Energy = Power \times time

In above formula, watt is the unit of power and hour is the unit of time and kilo is a prefix so kWh is unit of energy.

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : The number of steradians in a sphere of radius r are:

A π

B $2\pi r$

C 4π

D $4\pi r$

Explanation

By definition:

$$(\text{steradian}) \Omega = \frac{S_{\text{surface Area}}}{r^2} = \Omega_{\text{comp.}} = \frac{4\pi}{1}$$

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : The number of steradians in a sphere of radius r are:

A π

B $2\pi r$

C 4π

D $4\pi r$

Explanation

$$\frac{\text{Surface Area}}{r^2} = \Omega_{\text{comp.}} = \frac{4\pi r^2}{r^2} = 4\pi \text{ steradian}$$

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"Test Level-1 (Measurement)"

MDCAT 2020



Correct



Unattempted



Incorrect



14/20

Q : The unit of Force in terms of base units



kg ms



kgms⁻¹



kgms⁻²



kgms⁻³

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : Name the quantity which can be measure by using base unit 'kg m² s⁻³':

A Weight

B Pressure

C Power

D Work

Explanation

$$P = \frac{W}{t} = \frac{J}{s} = \frac{Nm}{s} = \frac{kgm^2}{s^3}$$

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : An observer notes reading of a scale from different angles (parallax) while measuring the length of wire, what kind of error can occur?

A Systematic Error

B Precised Error

C Zero Error

D Random Error

Explanation

An observer notes reading of a scale from different angles (parallax) while

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"Test Level-1 (Measurement)"

MDCAT 2020

measuring the length of wire, what kind of error can occur?

A Systematic Error

B Precised Error

C Zero Error

D Random Error

Explanation

An observer notes reading of a scale from different angles (parallax) while measuring the length of wire, that kind of error is called random Error

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : A physical quantity is given by $X = M^a L^b T^c$. The percentage error in measurement of M, L and T are α, β and γ respectively. Then maximum percentage error in the quantity X is

A $a\alpha + b\beta + c\gamma$

B $a\alpha + b\beta - c\gamma$

C $a/\alpha + b/\beta + c/\gamma$

D None of these

Explanation

Percentage error in X

1

12

13

14

15

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"Test Level-1 (Measurement)"

MDCAT 2020

$X = M \sim L \sim T$. The percentage error in measurement of M, L and T are α, β and γ respectively. Then maximum percentage error in the quantity X is

A $a\alpha + b\beta + c\gamma$

B $a\alpha + b\beta - c\gamma$

C $a/\alpha + b/\beta + c/\gamma$

D None of these

Explanation

Percentage error in X
 $= a\alpha + b\beta + c\gamma$

1

12

13

14

15

16

17



"Test Level-1 (Measurement)"

MDCAT 2020

Q : Henry/ohm can be expressed in

A

Second

B

Coulomb

C

Mho

D

metre

Explanation

L/R

is a time constant of L-R circuit so
Henry/ohm can be expressed as
second.

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"Test Level-1 (Measurement)"

MDCAT 2020



Correct



Unattempted



Incorrect



19/20

Q : The unit of e.m.f. is



Joule



Joule-Coulomb



Volt-Coulomb



Joule/Coulomb

4

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18

19

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"Test Level-1 (Measurement)"

MDCAT 2020

Q : What is the correct sequence in which the lengths of the following units increase?

1. Angstrom
2. Micron
3. Nanometer

Select the correct answer using the code given below:

A 1, 2, 3

B 3, 1, 2

C 1, 3, 2

D 2, 3, 1

4

15

16

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18

19

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MDCAT 2020



TEST RESULT

Test Level 2 (Unit-1-
Measurements)



30



25 min



08-Jun-2020



50 sec

[Result Detail](#)





Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



1/30

Q : In the equation $x = x_0 \sin \omega t$ the unit of ω is



rad



Hz



rad s⁻²



rad s⁻¹



*MDCAT 2020*

Correct



Unattempted



Incorrect



2/30

Q : The velocity of a freely falling body varies according to relation $v = g^a \times h^b$, where g is the acceleration due to gravity and h is height from where it is released. The values of 'a' and 'b' are respectively



1, 1

 $\frac{1}{2}, -\frac{1}{2}$  $\frac{1}{2}, -\frac{1}{2}$  $\frac{1}{2}, \frac{1}{2}$

1

2

3

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Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



3/30

Q : 1 Pascal =



kgms^{-2}



$\text{kgm}^{-1}\text{s}^{-2}$



$\text{kgm}^{-2}\text{s}^{-3}$



$\text{kgm}^{-2}\text{s}^{-2}$

1

2

3

4

5

6

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Correct



Unattempted



Incorrect



4/30

Q : In a complete rotation solid angle is equal to



$2 \pi \text{ rad}$



$2 \pi \text{ sr}$



$4 \pi \text{ rad}$



$4 \pi \text{ sr}$

1

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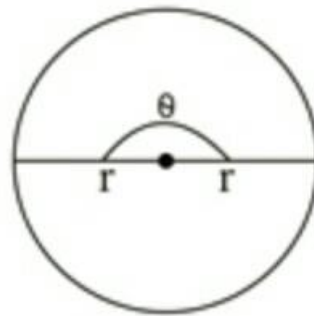


Incorrect



5/30

Q : A circle is shown in the figure whose radius is 2cm. What must be the plane angle if arc length is equal to half of the



circumference of circle?

A 2 rad

B $\frac{\pi}{2}$ rad

C 2π rad

D π rad

1

2

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4

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*MDCAT 2020*

Match List I (Physical quantity) with List II (Units) and select the correct answer using the codes given below the lists.

List I (Physical quantity) (Units)	List II (Units)
A. Power	1. kg
B. Energy	2. kg
C. Momentum	3. $N\cdot m$
D. Pressure	4. kW
	5. kWh

A A-4, B-5, C-1, D-3

B A-4, B-5, C-1, D-2

C A-5, B-4, C-1, D-2

1

2

3

4

5

6

7



MDCAT 2020

List I (Physical quantity) (Units)	List II (Units)
A. Power	1. kg
B. Energy	2. kg
C. Momentum	3. $N\cdot s$
D. Pressure	4. kW
	5. kWh

A A-4, B-5, C-1, D-3

B A-4, B-5, C-1, D-2

C A-5, B-4, C-1, D-2

D A-5, B-4, C-2, D-3

1

2

3

4

5

6

7



Test Level 2 (Unit-1-Measurement...

MDCAT 2020

is given below the lists.

(Physical quantity)	List II (Physical)
Power	1. kg m s^{-1}
Energy	2. $\text{kg m}^2 \text{s}^{-1}$
Momentum	3. Nm^{-2}
Pressure	4. kW
	5. kWh

A A-4, B-5, C-1, D-3

B A-4, B-5, C-1, D-2

C A-5, B-4, C-1, D-2

D A-5, B-4, C-2, D-3

1

2

3

4

5

6

7



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



7/30

Q : The unit of percentage error is



Same as that of physical quantity



Different from that of physical quantity



Percentage error is unit less



Errors have got their own units which are different from that of physical quantity measured

3

4

5

6

7

8

9



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



8/30

Q : A suitable unit for gravitational constant is



kg-m sec⁻¹



N m⁻¹sec



Nm²kg⁻²



kgmsec⁻¹

3

4

5

6

7

8

9



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



9/30

Q : If the unit of length and force be increased four times, then the unit of energy is



Increased 4 times



Increased 8 times



Increased 16 times



Decreased 16 times

3

4

5

6

7

8

9



Q : What is the correct sequence in which the lengths of the following units increase?

1. Angstrom
2. Micron
3. Nanometer

Select the correct answer using the code given below:

A 1, 2, 3

B 3, 1, 2

C 1, 3, 2

D 2, 3, 1



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



11/30

Q : Which of the following quantities has not been expressed in the proper units?



Young's modulus = Nm^{-2}



Pressure = Nm^{-2}



Surface tension = Nm^{-1}



Spring constant = $\text{kg m}^{-1}\text{s}^{-1}$

6

7

8

9

10

11

12



Correct



Unattempted



Incorrect



12/30

Q : If the maximum error in the measurement of mass and length of a cube are 2% and 3% respectively, then the maximum error in the measurement of its density will be



1%



7%



5%



11%

6

7

8

9

10

11

12



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



13/30

Q : Which of the following prefixes are written in descending order?



atto, pico, centi, giga



micro, exa, femto



micro, femto, kilo



kilo, milli, pico

9

10

11

12

13

14

15



Correct



Unattempted



Incorrect



14/30

Q : In given equation $v=at^2+bt$, t is the time and v is the velocity the unit of a and b respectively



ms^3 and ms^{-2}



ms^{-3} and ms^{-2}



ms^3 and ms^2



ms^{-3} and ms

9

10

11

12

13

14

15



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



15/30

Q : Which one is a pair of SI base units?



ampere , joule



coulomb , second



kilogram , kelvin



meter , newton

11

12

13

14

15

16

17



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



16/30

Q : Those quantities which do not have base on other physical quantities



Base quantities



Derived quantities



Supplementary quantities



All of these

11

12

13

14

15

16

17



Correct



Unattempted



Incorrect



17/30

Q : In addition, and subtraction resultant uncertainty is obtained by



Adding absolute uncertainties



Addition of % uncertainties



Subtraction of absolute uncertainties



Multiplication of % uncertainties

1

12

13

14

15

16

17



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



18/30

Q : The branch of physics which deals with the atomic nuclei is called



Nuclear physics



Atomic physics



Particle physics



Modern physics

14

15

16

17

18

19

20



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



19/30

Q : Which of them is not a physical quantity?



Density



Impulse



Energy



Kilogram

14

15

16

17

18

19

20



Correct



Unattempted



Incorrect



20/30

Q : The radius of ball is (2.5 ± 0.2) cm the percentage error in volume of ball is



24%



9%



7%



15 %

4

15

16

17

18

19

20



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



21/30

Q : An ideal standard has _____ principle characteristics



2



3



4



5

17

18

19

20

21

22

23



Correct



Unattempted



Incorrect



22/30

Q : If error in the measurement of mass is 1 % and radius is 2%. Then maximum error in moment of inertia is



3%



4%



5%



6%

17

18

19

20

21

22

23



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



23/30

Q : The ratio of micro to mega is



1



10^{-12}



10^{-6}



10^{12}

7

18

19

20

21

22

23



Correct



Unattempted



Incorrect



24/30

Q : Under same environment the measurement of physical quantity gives different values the error is called



Systematic error



Random error



Instrument error



All of these





Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



25/30

Q : What is the answer of $\frac{\text{milli} \times \text{kilo}}{\text{deca}}$



10^2



10^{-1}



10^{-3}



10^7

21

22

23

24

25

26



Correct



Unattempted



Incorrect



26/30

Q : Ratio of solid angle of sphere to plane angle of a circle is



2π



π



$\frac{\pi}{2}$



2

21

22

23

24

25

26



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



27/30

Q : Plane angle and solid angle are



Primary fundamental units



Secondary fundamental unit



Supplementary quantities



Derived units

23

24

25

26

27

28

29



Correct



Unattempted



Incorrect



28/30

Q : If $\frac{a}{b}$ the maximum % age error in measurement of y will be



$$\left(\frac{\Delta a}{a} + \frac{\Delta b}{b} \right) 100$$



$$\left(\frac{\Delta a}{a} \times \frac{\Delta b}{b} \right) 100$$



$$\frac{\Delta a/a}{\Delta b/b} \times 100$$



$$\left(\frac{a}{\Delta a} \times \frac{b}{\Delta b} \right) 100$$

23

24

25

26

27

28

29



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



29/30

Q : A precise measurement is one which has



Less percentage uncertainty



Less absolute uncertainty



Maximum precision



Both A and B

24

25

26

27

28

29

30



Test Level 2 (Unit-1-Measurement...

MDCAT 2020



Correct



Unattempted



Incorrect



30/30

Q : $\text{Kg m}^2 \text{s}^{-3}$ are base units of

A

Pressure

B

Power

C

Intensity

D

Force

24

25

26

27

28

29

30