

FBQ1: Systematic error can be eliminated to an ____.

Answer: *extent*

FBQ2: In an experiment to determine the acceleration due to gravity of a simple pendulum, the measurements needed from the instrument are length of the thread and ____ of oscillation of the pendulum bob

Answer: *time*

FBQ3: The S.I unit of acceleration due to gravity, g is ____.

Answer: ms^{-2} *

FBQ4: The error due to wear and tear of a particular instrument is called ____.

Answer: *Back lash error*

FBQ5: Error not due to instrumental problem is ____.

Answer: *Observational error*

FBQ6: ____ causes like parallax in reading a voltmeter scale.

Answer: *Faulty observation*

FBQ7: A plotted graph showing a straight line through the origin indicates that the two plotted variables are ____ to each other

Answer: *directly proportional*

FBQ8: To record the observations during an experiment the measured values would be recorded to at least ____ decimal places

Answer: *two*

FBQ9: If y is plotted on the vertical axis and x on the horizontal axis in equation $y = mx$, the slope is m which is the ____ value.

Answer: *constant*

FBQ10: ____ are due to causes which can be identified.

Answer: *Systematic error*

FBQ11: In the equation $y = mx + b$, m and b are ____.

Answer: *constants*

FBQ12: When independent measurements are multiplied or divided the ____ in error in the result is the square root of the sum of squares of fractional errors in individual quantities.

Answer: *fractional error*

FBQ13: The following values 32, 30, 28, 26 have two significant digits except ____.

Answer: *30*

FBQ14: In recording the observations in an experiment, the calculated values like reciprocal, square, sine of values would be recorded to at least ____ decimal places

Answer: *three*

FBQ15: The error in the result is found by determining how much change occurs in the result when the maximum error occurs in the ____.

Answer: *Data*

FBQ16: Data collected can be used to show ____ between two physical quantities through graphs.

Answer: *relationship*

FBQ17: Which type of motion is executed by a simple pendulum bob?

Answer: *simple harmonic motion*

FBQ18: ____ is defined as when an object moves to and fro in such a way that its acceleration is directly proportional to its displacement and is always directed to its equilibrium position.

Answer: *simple harmonic motion*

FBQ19: Materials that can regain their original shape after the deformation (change in dimensions) are called ____.

Answer: *Elastic materials*

FBQ20: An ____ is said to perform simple harmonic motion if it moves to and fro in such a way that its acceleration is directly proportional to its displacement and is always directed to its equilibrium position

Answer: *object*

FBQ21: A measurement possessing greater number of significant digits has _____ accuracy

Answer: *Greater*

FBQ22: At _____ position of Simple Harmonic Motion (SHM) the displacement of the body is zero.

Answer: *Equilibrium*

FBQ23: What is the unit of the specific latent heat of fusion of ice?

Answer: *Jkg⁻¹*

FBQ24: If a simple pendulum of mass was displaced such that the bob made 20 oscillations in 45.70 seconds. Calculate the period T of oscillation in second.

Answer: *2.29*

FBQ25: The period of oscillation is the time taken for the body to make ____ complete oscillation

Answer: *one*

FBQ26: When a mass is hung on a spring stretches 6 cm, its period of vibration if it is then pulled down a little is ____.

Answer: *0.5s*

FBQ27: A mass (m) is hung at the end of a spiral spring of force constant of 200N/m . If the spring oscillates with a period of 0.45 s when set in motion, the value of its mass is ____.

Answer: $*1\text{kg}*$

FBQ28: ____ can be defined as the ratio of the mass of water to the mass of an equal volume of water.

Answer: $*\text{Relative density}*$

FBQ29: Relative density bottle is also called ____ gravity bottle.

Answer: $*\text{specific}*$

FBQ30: If two values have equal unit of measurement, they are therefore said to be ____ Equally ____.

Answer: $*\text{precise}*$

FBQ31: Glass is an example of ____ material

Answer: $*\text{Brittle}*$

FBQ32: The relationship between any two physical quantities can be determined through the use of ____.

Answer: $*\text{graph}*$

FBQ33: Whose law is this "the force on an elastic material is directly proportional to the extension produced provided that the elastic limit is not exceeded"?

Answer: $*\text{Hooke}*$

FBQ34: If the graph of force F is plotted against the extension e , we shall obtain a ____ graph showing that Hooke's law is obeyed.

Answer: $*\text{linear}*$

FBQ35: A mass of 40kg hung on an elastic spring of length 37.2cm extends to 42.0cm . The force constant of the spring take g as 10ms^{-2} is ____.

Answer: $*83.33\text{ Nm}^{-1}*$

Multiple Choice Questions (MCQs):

MCQ1: Which of the following measurement done with meter rule is more precise?

Answer: 17.9 cm

MCQ2: Relative error is ____

Answer: the difference between possible error and the total measurement

MCQ3: The two types of variables that can be measured are ____.

Answer: X and Y variables

MCQ4: If two values have equal unit of measurement, they are therefore said to be ____

Answer: equally precise

MCQ5: The value of acceleration due to gravity depends on one of these:

Answer: velocity

MCQ6: The period of the body performing simple harmonic motion is 2s. If the amplitude of the motion is 3.5 cm, calculate the maximum speed ($\pi=22/7$).

Answer: 20.4 cm/s

MCQ7: Which of the following is the best equation of a non-linear graph?

Answer: $y=ax+bx$

MCQ8: If the graph produced is a straight line, then the relationship is described as _____

Answer: Linear

MCQ9: Graphs showing how two physical measurements are related can be represented in which form?

Answer: Variable

MCQ10: If $y=mx + b$, and y is plotted against x; what type of graph will be obtained?

Answer: horizontal graph

MCQ11: Relative error can be defined as _____

Answer: product of the possible error to the total measurement

MCQ12: A measurement possessing greater number of significant digits has _____

Answer: less relative accuracy

MCQ13: The time taken for a given event is 7.4s and the possible error is 0.05cm, what is the relative error?

Answer: 0.003

MCQ14: Consider the following pair of measurements 40.0cm or 8.0cm. Which one is more accurate?

Answer: 8.0cm

MCQ15: the following physical quantities are fundamental quantities except

Answer: Density

MCQ16: Which of the following is correct about types of graph?

Answer: linear graph

MCQ17: Multiplication and division rule states that the product or quotient of two measurements should be rounded off _____

Answer: to contain less significant digits as the measurement having fewer numbers of significant digits

MCQ18: In measurement report, the non-zero digits are _____

Answer: not significance

MCQ19: If x is equal to 1 in the equation $y = mx$, what will be the value of y ?

Answer: $y = 0$

MCQ20: consider the equation $T = 2\pi\sqrt{l/g}$ if T is plotted against l , the graph obtained will be _____

Answer: linear graph

MCQ21: Which of these statements about measurement is correct?

Answer: All measurements are not exact

MCQ22: Multiply the following figures: 5.2865, 3.8 and 19.62 and round off the result to more accurate value

Answer: 394.14

MCQ23: Divide 9.5362 by 3.2 round off the result to more accurate value

Answer: 3.21

MCQ24: Scientific measurements are expressed by using _____

Answer: rules

MCQ25: The major errors in measuring instrument are

Answer: zero error

MCQ26: Human errors are based on;

Answer: judgement and precision

MCQ27: The possible error in measurement is due to

Answer: imprecision in measuring devices

MCQ28: Precision is a function of _____

Answer: relative error only

MCQ29: The temperature of two places are recorded to be 30.56°C and 32.22°C we can say that they are _____

Answer: equally precise

MCQ30: A digit is significant if and only if _____

Answer: it affects the possible error

MCQ31: Which of the following pair of quantities have identical S I unit?
I. Force and surface tension
II. Surface tension and spring constant
III. Torque and spring constant
IV. Young's modulus and pressure

Answer: II only

MCQ32: The inverse of the slope of graph of extension against tension in the spring represents _____.

Answer: reciprocal of the spring constant

MCQ33: If m and b are constants in the graph of $y = mx + b$. The value of the constant

b represents ____.

Answer: intercept on the graph

MCQ34: The following are sources of error in a measuring instrument except ____

Answer: they arise due to changes in environment

MCQ35: One of the following is not a systematic error.

Answer: errors in judgement of an observer