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REVISION QUESTIONS OF PHYSICS FOR S2

Q1. A. Multiple choices

1. The number of significant digits in 0.0006032 is : a) 8   b) 7   c) 4   d) 2
2. The length of a body is measured as 3.51m .If the accuracy is 0.01m , then the percentage error in the measurement is a) 351%   b) 1%   c) 0.28%   d) 0.035%

 B. Round off to:

1. The nearest unit :a) 6.8   b)10.5   c) 801.625
2. The nearest tenths :a) 5.83   b)480.625   c)0.234   d)0.285   e) 6.58

C. A bulb thermometer recorded an indoor temperature reading of 21^0C. A digital thermometer in the same room gave a reading of 20.7^0C.Which device is more precise? Explain

Q2. (a) If u is the initial velocity of a body moving in uniformly accelerated linear motion, v, the velocity reached after a time t, a, its acceleration and S, its position. Derive the three equations of motion.

Q3. A brick falls down freely from a building and reaches the ground after 4seconds.

(a) Find the height of the building
(b) What is the speed of the brick just when it hits the ground?

Q4. Copy and complete the following table.

Quantity	Formula	SI Unit	Dimension
Force			
Density			
Acceleration			
Kinetic energy			
Power			

Q5. Given the table below, use these measurements recorded in the data sets and calculate
(a) the mean
(b) the range
(c) the uncertainty in a single measurement
(d) the uncertainty in the mean
(e) the measured value.

Measurements	X_1	X_2	X_3	X_4	X_5
Data sets	72	77	82	85	88

Q6. A plane starting at rest at one end of a runway undergoes a constant acceleration of 4.8m/s2 for 15s before takeoff. What is its speed at takeoff? How long must the runway be for the plane to be able to take off?

Q7. Imagine a ball that is thrown upward with a velocity of 5m/s. If the ball experiences a downward constant acceleration of 10m/s^2, how long will it take for its velocity to reach 25m/s downward?

Q8. A car with an initial speed of 23.7km/h accelerates at a uniform rate of 0.92m/s2 for 3.6s. Find the final speed and the displacement of the car during this time.

Q9. F ill in the blanks.

 (a) Friction opposes the _____ between the surfaces in contact with each other.

 (b) Friction depends on the _____ of surfaces.

 (c) Friction produces _____.

(d) Sprinkling of powder on the carrom board _____ friction.

(e) Sliding friction is _____ than the static friction.

Q10. Ineza has to push a lighter box and Shema has to push a similar heavier box on the same floor. Who will have to apply a larger force and why?

Q11.A rightward force is applied to a 5kg object to move it across a rough surface with a rightward acceleration of 2m/s2. The coefficient of friction between the object and the surface is 0.1. Use the diagram to determine the gravitational force, normal force, applied force, frictional force, and net force. (Neglect air resistance).

Q12. Which of the following equations is not correct?

 a) Force = mass x acceleration

b) Density = Volume Mass.

 c) Pressure = density x acceleration x height

d) Pressure = Force x Area

Q13. The static fluid pressure at any given depth depends on:

 a) the total mass

b) the surface area

c) the distance below the surface

d) all of the above

Q14. a) Define pressure and state the S.I unit in which pressure can be expressed.

b) A brick of mass 3kg measures 6cm by 4cm by 3cm.

(i) What is the greatest pressure it can exert when placed on a flat surface.

(ii) What is the least pressure it can exert?

Q15. Mercury has a density that is about 14 times greater than that of water. If you were to build a barometer that uses water instead of mercury, how would the height of the column of water needed compare to that of the mercury? a) higher than b) lower than c) equal to d) can't tell

Q16.A tube in a form of U with uniform section contains mercury. In one of the branches, they pour successively 8cm of water and 6cm of ether. Determine the difference in height between the two free levels; the volume weight (Weight / volume) of ether is $7115N/m^3$, that of mercury is $1333 \times 10^2 N/m^3$.

Q17. Calculate the pressure at a depth of 2m in swimming pool filled with water.

Q18. In a tube in a form of U, they pour mercury and then water in the other branch. The height of water column is 10cm. What could be the height of oil column that could bring the two levels of mercury into the same horizontal plan? The oil volume weight is 7752 kg/m^3