unit 1- (levers)

Test 1

1 **A) Put (✓) or (✗) in front of the following sentences:** (5 marks)

1. The force lies between the resistance and the fulcrum in the first class levers. ( )
2. The resistance lies between the force and the fulcrum in the second class levers. ( )
3. Crowbar is a first class lever. ( )
4. A lever saves efforts when the arm of the force is longer than the arm of the resistance. ( )
5. The fulcrum lies between the force and the resistance in the third class levers. ( )
6. The lever balances when the product of "effort force x its arm" is equal to the product of "resistance force x its arm". ( )

B) Give a reason for each of the following:

1. Levers are very important in our daily life.

.....

.....

.....

2. Manual broom doesn't have a mechanical benefit.

.....

.....

.....

2 **A) Complete the following sentences:** (5 marks)

1. The only type of levers where the arm of force and the arm of resistance are equal is ..... .
2. Scissors are from the ..... class levers.
3. The force arm is the distance between ..... and ..... .

B) A first class lever is affected by 10 Newton force with an arm of 10 cm length and a resistance of 20 Newton.

1. Calculate the length of the arm of resistance.

.....

.....

2. Does the lever save effort? Why?

.....

.....

3 A) What happens when ...? (5 marks)

1. The effort force is less than the resistance force.

.....

2. The effort force is equal to the resistance force.

.....

B) Write the scientific term:

1. The type of levers, where the effort force is always smaller than the resistance force. (.....)
2. The lever which provides accuracy in performance. (.....)
3. The most popular type of levers in our daily life. (.....)

4 A) Correct the underlined words: (5 marks)

1. Bottle opener is an example of the third class levers.
2. The human arm is from the second class levers.
3. The first class levers always have no mechanical benefits.
4. Coal holder is an effort-saving lever.

B) A third class lever with a force arm of 0.5 meter length, and a resistance arm of 15 cm length. If the resistance equals 200 Newton, calculate the affecting force on the lever.

.....

.....