

Name:

Grade and Section:

Score: /10.0

Date:



## Quiz # 2 on Electric Potential

GENERAL INSTRUCTIONS:

- 1. ) Use No. 2 pencil only to shade your answer. To change your answer, neatly erase your old answer and shade the new one. You may request a scratch paper from the proctor whenever you need to.
- 2. ) Scientific calculators are allowed while other electronic devices are prohibited.
- 3. ) Any form of cheating in examinations or any act of dishonesty in relation to studies shall be subject to disciplinary action.

I. Multiple Choice. Shade the letter of the BEST answer (5 points).

1. What is the change in potential energy when a +3.5 C point charge was moved from a negative plate to a positive plate with a potential difference of 8V?

a

28 J

b

0.4375 J

c

2.29 J

d

0 J

2. If the distance between two charges is quadrupled, how would the electric potential energy change?

a

doubled

b

halved

c

quadrupled

d

quartered

3. What is the SI Unit of Electric Charge?

a

C

b

E

c

A

d

N

4. Whether the test charge in the electric field is positive or negative, the potential energy\_\_\_\_\_ if the test charge moves opposite to the direction of the electric force.

a

increases

b

decreases

c

stays the same

d

quadruples

5. Potential energy \_\_\_\_\_ if the charge moves in the same direction as the electric force.

a

decreases

b

increases

c

stays the same

d

quadruples

II. True or False. Determine whether the statements are TRUE or FALSE by shading the BEST ANSWER (3 points).

6. Electromagnetic force is associated with a fundamental property of matter - electric charge

a

True

b

False
7. All charge separation involves the expenditure of energy

a

True

b

False
8. Electrostatic effects occur when electrical charges are separated.

a

True

b

False

**III. Problem Solving.** Solve the given problem. Write your GIVEN, REQUIRED, SOLUTION and box your final answer with proper statement (2 points).

9. A charge of  $4.50 \times 10^{-8} \text{ C}$  is placed in a uniform electric field that is directed vertically upward with a magnitude of  $5.00 \times 10^4 \text{ N/C}$ . What work is done by the electrical force when the charge moves 0.450 m to the right? 0.800 m downward? 2.60 m at an angle of 45 degrees from the horizontal?

[illegible]