

# Division C Circuit Lab Test Answer Sheet

Team Name: \_\_\_\_\_

Competitor Names: \_\_\_\_\_

**Created by: Photolithoautotroph**

Total Score: \_\_\_\_\_/150

Total Multiple Choice Score: \_\_\_\_\_/50

Total Free Response Score: \_\_\_\_\_/100

**Directions and Information:** Circle your answer for each multiple choice question. Write your final answer on the given line labeled "Final Answer" for free response questions. Box any diagrams that are part of your answer if applicable. Show all work for full credit.

Read all directions on the test booklet.

## 1 Multiple Choice

- |     |     |   |          |     |     |   |   |   |   |
|-----|-----|---|----------|-----|-----|---|---|---|---|
| 1.  | (a) | 0 | $\infty$ | 14. | A   | B | C | D |   |
|     | (b) | 0 | $\infty$ | 15. | A   | B | C | D |   |
|     | (c) | 0 | $\infty$ | 16. | A   | B | C | D |   |
|     | (d) | 0 | $\infty$ | 17. | A   | B | C | D |   |
|     | (e) | 0 | $\infty$ | 18. | A   | B | C | D |   |
|     | (f) | 0 | $\infty$ | 19. | A   | B | C | D |   |
| 2.  | A   | B | C        | D   | 20. | A | B | C | D |
| 3.  | A   | B | C        | D   | 21. | A | B | C | D |
| 4.  | A   | B | C        | D   | 22. | A | B | C | D |
| 5.  | A   | B | C        | D   | 23. | A | B | C | D |
| 6.  | A   | B | C        | D   | 24. | A | B | C | D |
| 7.  | A   | B | C        | D   | 25. | A | B | C | D |
| 8.  | A   | B | C        | D   | 26. | A | B | C | D |
| 9.  | A   | B | C        | D   | 27. | A | B | C | D |
| 10. | A   | B | C        | D   | 28. | A | B | C | D |
| 11. | A   | B | C        | D   | 29. | A | B | C | D |
| 12. | A   | B | C        | D   | 30. | A | B | C | D |
| 13. | A   | B | C        | D   |     |   |   |   |   |

## 2 Free Response

1. (a) Final Answer:  $R_e =$  \_\_\_\_\_

(b) Final Answer:  $C_e =$  \_\_\_\_\_

(c) Diagram:

(d) Diagram:

2. (a) Diagrams: Thévenin:

Norton:

(b) Final Answer:  $R_l =$  \_\_\_\_\_

(c) Diagrams: Thévenin:

Norton:

3. (a) Final Answer:  $I_1 =$  \_\_\_\_\_,  $I_2 =$  \_\_\_\_\_,  $I_3 =$  \_\_\_\_\_

(b) Final Answer:  $P_2 =$  \_\_\_\_\_,  $P_3 =$  \_\_\_\_\_

(c) Final Answer:  $\sigma =$  \_\_\_\_\_,  $l =$  \_\_\_\_\_

4. (a) Final Answer:  $Q =$  \_\_\_\_\_,  $I_0 =$  \_\_\_\_\_

(b) Explanation:

(c) Final Answer:  $t =$  \_\_\_\_\_

(d) Final Answer:  $E =$ \_\_\_\_\_

(e) Final Answer:  $q =$ \_\_\_\_\_

5. (a) Final Answer:  $O =$ \_\_\_\_\_. Box your truth table.

(b) Final Answer:  $O =$ \_\_\_\_\_, Diagram:

6. (a) Final Answer:  $V_1 =$  \_\_\_\_\_,  $V_2 =$  \_\_\_\_\_

(b) Final Answer:  $Q_1 =$  \_\_\_\_\_,  $Q_2 =$  \_\_\_\_\_

(c) Explanation:

(d) Final Answer:  $Q =$  \_\_\_\_\_,  $x =$  \_\_\_\_\_

7. (a) Final Answer:  $I =$  \_\_\_\_\_

(b) Final Answer:  $B =$  \_\_\_\_\_

(c) Final Answer:  $F_b =$  \_\_\_\_\_

(d) Final Answer:  $\rho =$  \_\_\_\_\_