

Don't overdo your answers, most answers are 6 words or less.

Some of the questions come from your textbook, starting on p.488.

1. Why are transmission lines operated at high voltages?
2. Why are high-voltage overhead transmission lines not insulated?
3. So, what provides the electrical insulation?
4. What is the purpose of a shield wire?
5. Optical fibers are commonly used for communication between substations. Where is this optical fiber often placed?
6. Name at least 3 common voltages used for transmission lines between cities?
7. Name the 3 most important parameters for transmission lines.
8. Which parameter dominates in lightly loaded lines (under 1 SIL)?
9. Which parameter dominates in heavily loaded lines (over 1 SIL)?
10. 9-4 Suppose that there are two transmission lines using a single conductor per phase, and that the conductors in the two transmission lines are identical (same material and same diameter). If one transmission line is rated at 345 kV and the other one is rated at 230 kV. which transmission line is likely to have the highest inductance? Why?
11. What does "bundling" mean?
12. Bundling;

a) Affects inductance:	b) Affects capacitance:	c) Affects resistance:	d) Affects conductance to ground:
i) increases L	i) increases C	i) increases R	i) increases G
ii) decreases L	ii) decreases C	ii) decreases R	ii) decreases G
iii) little effect	iii) little effect	iii) little effect	iii) little effect
iv) unpredictable effect	iv) unpredictable effect	iv) unpredictable effect	iv) unpredictable effect
This is:	This is usually:	Decreasing R is:	This is:
i) good ii) bad	i) good ii) bad	i) good ii) bad	i) good ii) bad
iii) unimportant	iii) unimportant	iii) unimportant	iii) unimportant
13. Why are underground lines not used for long distance transmission lines?
14. 9-5 Suppose someone asked you to evaluate a proposal for an underwater power cable between North Carolina and the Bahamas. What would you say about the probability of success of this proposal? Why?
15. 9-6 What line lengths are generally considered to be short transmission lines? Medium-length transmission lines? Long transmission lines?