1. Which component replaced the vacuum tube and was one of the first solid-state devices developed?

2. How many layers of semiconductor material make up a BJT? (Bipolar-junction transistor)

3. What are the two types of BJT?

4. What device, connected back to back, resembles a BJT?

5. What are the three leads on a transistor?

6. Which part of a transistor is identified with an arrow?

7. What is the main difference between the PNP and NPN transistors?

8. What determines the case size and style of a transistor?

9. What is the main difference between power and signal transistors?

10. What is the purpose of a “heat sink”?

11. What is the function of an amplifier?

12. What electrical device operates similar to a transistor?

13. What are some of the advantages of a transistor over a relay?

14. How is the collector current controlled in a simple transistor amplifier?

15. Which two transistor currents must add up to equal the third current?

16. What term is used to describe a very low or non-existent base current in a transistor?

17. How is a PNP transistor connected different from an NPN transistor?

18. What is “biasing” a transistor?

19. What is the voltage $V_{CE}$ when a transistor is saturated?

20. What is the voltage $V_{CE}$ when a transistor is cut off?

21. What is the voltage $V_{BE}$ when the base supply voltage is 16V in a transistor?
22. What is the voltage $V_{RB}$ when the base supply voltage is 16V in a transistor?

23. What is the base circuit current in the previous question if $R_B=2250$ ohms?

24. What is the collector circuit current in the previous question if Beta=200?

25. What is the value of the emitter current in the previous questions?

26. Which value in a transistor must be changed to control the collector current?

27. What is the result of reducing the resistance $R_b$ below the point of saturation in a transistor?

28. What wattage value is considered a “power” transistor?

29. What are the two positions of the transistor switch?

30. What are two advantages of transistor switching compared to mechanical switching?

31. What is the main advantage of a two-transistor circuit?

32. What is “cascading” with transistors?

33. What is the formula for amplifier gain?

34. How is an amplifier biased?

35. What is the description of a Class A and Class B power amplifier?

36. What is the main advantage of the darlington-pair transistor?

37. What is the typical beta for a darlington-pair transistor?

38. What is a phototransistor?

39. What is the result of increased light falling on the collector-base region of a phototransistor?

40. What is the gain of the photo-darlington transistor?

41. What is a field-effect transistor (FET)?

42. What are the two types of FETs?
43. Which FET has a fourth lead and an oxide layer?

44. What precautions should be taken when working with MOSFETS?