Digital Test

Name

Date

Draw the appropriate symbol for the following terms:

1. NPN Transistor ____________________________

2. Zener Diode ______________________________

3. NAND Gate, 2 input ________________________

4. Variable Resistor __________________________

5. Full Wave Bridge __________________________

6. Transformer ______________________________

7. Inductor _________________________________

8. PNP Transistor _____________________________

9. Fuse ______________________________________

10. Circuit Breaker ____________________________
Provide the following conversions:

11. 1000 pico farad to _______________ microfarad
12. 0.100 volts to _______________ milli volts
13. 0.001 volts to _______________ milli volts
14. 0.001 kΩ to _______________ ohms
15. 0.01 μsec to _______________ nano sec

Provide the correct output for the given Inputs in the following circuit (assume positive logic):

```
A B C D E
0 0 0 1 __
1 1 0 0 __
1 0 1 0 __
```
19. Determine the voltage drop for the following:

![Circuit Diagram]

20. R5 ________

R2 ________

C1 ________

R1 ________

Complete the following formulas:

21. Power = ______________ X Voltage

22. Current = ______________ ÷ Voltage

23. Voltage = Current X ______________
28. Draw a latch using 2 dual input NAND gates. Label \( \overline{R} \), \( S \), \( Q \) and \( \overline{Q} \).

29. Describe the circuit listed below.

![Circuit Diagram](image)

30. What RMS voltage would be required at the transformer secondary to provide specified output of 7 volts (on question 29)?

31. What does the band on Diode packages indicate?
32. To measure current through a resistor, an ammeter must be connected in ____________________________________________________________________________

33. To measure a voltage across a resistor, a voltmeter must be connected in ____________________________________________________________________________

What is the typical forward voltage drop of the following devices for operating conditions usually encountered?

34. Silicon signal Diode _____________________________

35. LED _____________________________

36. SCR (Anode to Cathode) _____________________________

37. Germanium signal Diode _____________________________

38. Silicon small signal transistor VCD SAT. _____________________________

39. Given binary 1001 1110, convert to hexadecimal _____________________________

40. Given hexadecimal FC0B, convert to binary equivalent _____________________________

41. According to the diagram below, how long will it take \( V_{c1} \) to reach 63.2% Of \( V_{cc} \) or 6.32V? _____________________________