

1. Depletion regions has
  - a. Electrons only
  - b. holes only
  - c. Neither Electrons nor Holes
  - d. Both Electrons and Holes
2. For rectification we use
  - a. Diode
  - b. Transformer
  - c. capacitor
  - d. none of these
3. Reverse biasing the CB junction of a transistor
  - a. Reverse -biases the EB junction
  - b. Forward biases the EB junction
  - c. Is necessary for it to amplify
  - d. Is not necessary for it to amplify
4. Specially designed semi conductor diodes used as indicator lamps in electronic circuits are
  - a. Photodiodes
  - b. Solar cells
  - c. LED
  - d. Photovoltaic cell
5. Which one of the following is correct for a common emitter (CE) amplifier?
  - a. Its current gain  $\beta$  is high
  - b. It has very high voltage gain
  - c. It produces high power gain
  - d. All of them
6. Since the input resistance of an ideal OP-amplifier is infinite
  - a. its output resistance is zero
  - b. It becomes a current controlled device
  - c. its input current is zero
  - d. none of them
7. An open loop OP-amplifier has output voltage  $V_o$  and difference between non inverting input voltage  $V_i$  its open loop gain is given by
  - a.  $A_{OL} = V_o/V_i$
  - b.  $A_{OL} = V_i/V_o$
  - c.  $A_{OL} = V_o \times V_i$
  - d. none of the two
8. The closed loop gain of an OP-amplifier is  $G = -R_2/R_1$ . the negative sign shows that output signal is out of phase w.r.t. input signal by
  - a.  $45^\circ$
  - b.  $90^\circ$
  - c.  $180^\circ$
  - d.  $270^\circ$
9. Linear integrated circuits (LICs) find their applications in
  - a. operational amplifiers
  - b. voltage comparators
  - c. comparator
  - d. all of them
10. The emitter-base junction of a transistor is usually
  - a. forward biased
  - b. reverse biased
  - c. non-conduction
  - d. working in the break-down region
11. The output of 2-input Or gates is 0 only when its
  - a. both inputs are 0
  - b. either input is 1
  - c. both inputs are 1
  - d. either input is 0
12. An XOR gate produces an output only when its two inputs are
  - a. high
  - b. low
  - c. different
  - d. same
13. Equivalent logic circuit of XOR gate can be designed by the combination of
  - a. AND, OR and NOT gates
  - b. NAND, NOR and NOR gates
  - c. NOT, AND, and NOR gates
  - d. NOT, AND and NOR gates
14. Equivalent logic circuit of XNOR gate can be designed by the combination of
  - a. AND, OR, and NOT gate
  - b. AND, NOR, and NOT gate
  - c. NAND, AND, and NOR gate
  - d. NAND, AND and NOR gates
15. Donor impurities are
  - a. Germanium, Silicon etc
  - b. Indium, Gallium etc
  - c. Antimony, arsenic etc.
  - d. Sodium, Zinc etc.
16. In full wave rectification, the output DC voltage across the load is obtained for
  - a. The positive half cycle of input AC only
  - b. The negative half cycle of input AC only
  - c. The completes cycle of input AC only
  - d. All of the above
17. Demodulation
  - a. Is performed at the transmitting station
  - b. Removes side bands
  - c. Rectifies modulated signal
  - d. Is opposite to of modulation
18. In amplitude modulation
  - a. Carrier frequency is changed
  - b. Carrier amplitude is changed
  - c. Three sides bands are produced
  - d. Fidelity is improved
19. 100% modulation is produced in AM when carrier,
  - a. Frequency equals signal frequency
  - b. Frequency exceed signal frequency
  - c. Amplitude equals signals amplitude
  - d. Amplitude exceed signals amplitude
20. A non conducting semiconductor diode is

- a. Forward biased                      b. Poorly biased                      c. Reverse biased                      d. None
21. Special algebra used in digital system is called  
a. De-Morgan Algebra    b. Bernoulli's Algebra    c. Boolean's Algebra    d. All of the above
22. Photovoltaic cell is device that converts  
a. Light energy into electrical energy                      b. Chemical energy into electrical energy  
c. Light energy into sound energy                      d. None of these
23. Identify which one is might be the most important building block of Circuit any complex; electric circuit  
a. diode                      b. Resistor                      c. Thermistor                      d. Amplifier
24. The barrier potential across the p-n junction is created by  
a. majority carriers                      b. minority carries                      c. fixed rows of oppositely charged ions                      d. depletion layer
25. The barrier potential of silicon diode at room temperature is .  
a. 0.3 V                      b. 0.7 V                      c. 1 V                      d. 2mV
26. The width of depletion region of a junction  
a. increases under forward bias                      b. is independent of applied voltage  
c. increases under reverse bias                      d. None of them
27. A non-conduction semiconductor diode is  
a. forward biased                      b. poorly biased                      c. reverse biased                      d. None
28. The characteristics of a transistor are  
a. Light dependents                      b. Temperature dependant                      c. Energy dependent                      d. Sound dependant
29. A photo diode is usually made from  
a. bismuth                      b. antimony                      c. Silicon                      d. None
30. A light emitting diode (LED) is made from  
a. gallium arsenide (GaAs)                      b. gallium phosphide (GaP)                      c. gallium arsenic phosphide (GaAsP)                      d. all of them
31. A light emitting diode (LED) emits light only when  
a. forward biased                      b. reverse biased                      c. unbiased                      d. none of them
32. A photo-diode can switch its current ON or OFF in  
a. milli-seconds                      b. micro-seconds                      c. nano-second                      d. centi-second
33. The term transistor stands for  
a. transfer resistor                      b. transfer of voltage                      c. transfer of power                      d. transfer of current
34. The emitter of a transistor is generally doped the heaviest because it  
a. has to dissipate maximum power                      b. has to supply the charge carries  
c. is the first region of the transistor                      d. must posses low resistance
35. For proper working of transistors in normal circuit  
a. emitter-base junction is reverse biased and collector-base junction is forward biased  
b. emitter-base junction is forward biased and collector-base junction is reverse biased  
c. emitter-base junction is forward biased and collector-base junction is forward biased  
d. none of them
36. Transistor is an electronic device that has  
a. two terminals                      b. Three terminals                      c. four terminals                      d. None of them
37. For common-emitter configuration of n-p-n transistor, the current gain  $\beta$  is given by  
a.  $I_C / I_B$                       b.  $I_B / I_C$                       c.  $I_E / I_B$                       d.  $I_E / I_C$
38. The transistor is basically a  
a. Voltage amplifier                      b. current amplifier                      c. Rectifier                      d. None of these
39. A diode can convert  
a. ac into dc but not dc into ac                      b. dc into ac but not ac into dc  
c. ac into dc & dc into ac                      d. neither ac into dc nor dc into ac
40. In a transistor  
a. Length of emitter is greater than that of collector                      b. Length of collector is greater is greater than that of emitter  
c. 80th collector and emitter have the same length                      d. Anyone of emitter or collector can have greater length
41. In a transistor, the basic is  
a. An insulator                      b. A conductor of higher resistance  
c. A conductors of lowers resistance                      d. An extrinsic semiconductors.