

**ELECTRONIC DEVICES AND CIRCUITS  
WORKSHEET-3: BJT Biasing**

1. Amplification means\_\_\_\_\_
2. operating point means\_\_\_\_\_
3. Biasing means\_\_\_\_\_
4. The condition for Simplified hybrid model of BJT\_\_\_\_\_
5. The operating point is also called the .....
6. In a transistor amplifier circuit  $V_{CE} = V_{CB} + \dots\dots$
7. The operating point ..... on the a.c. load line
8. The disadvantage of voltage divider bias is that it has .....
9. The base resistor method is generally used in .....
10. Transistor biasing represents ..... Conditions
  - a) AC
  - b) d.c.
  - c) both a.c. and d.c.
  - d) none of the above
11. What is the expression for the Current Amplification factor?
  - a)  $\Delta I_c \Delta V_c$
  - b)  $\Delta V_c \Delta I_c$
  - c)  $(\Delta I_C / \Delta I_B) V_{CE}$
  - d)  $(\Delta I_C / \Delta I_B) V_{BE}$
12. Transistor biasing is done to keep ..... in the circuit
  - a) Proper direct current
  - b) Proper alternating current
  - c) The base current small
  - d) Collector current small
13. Operating point represents .....
  - a) Values of  $I_C$  and  $V_{CE}$  when signal is applied
  - b) The magnitude of signal
  - c) Zero signal values of  $I_C$  and  $V_{CE}$
  - d) None of the above
14. If biasing is not done in an amplifier circuit, it results in .....
  - a) Decrease in the base current

- b) Unfaithful amplification
  - c) Excessive collector bias
  - d) None of the above
15. Transistor biasing is generally provided by a .....
- a) Biasing circuit
  - b) Bias battery
  - c) Diode
  - d) None of the above
16. For faithful amplification by a transistor circuit, the value of  $V_{BE}$  should ..... for a silicon transistor
- a) Be zero
  - b) Be 0.01 V
  - c) Not fall below 0.7 V
  - d) Be between 0 V and 0.1
17. For proper operation of the transistor, its collector should have .....
- a) Proper forward bias
  - b) Proper reverse bias
  - c) Very small size
  - d) None of the above
18. Thermal runaway is caused by:
- a) Decrease in  $I_C$  due to heating
  - b) Increase in  $I_C$  causing further temperature rise
  - c) Constant base current
  - d) Low  $\beta$  of the transistor
19. The main disadvantage of fixed bias is:
- a) High cost
  - b) Complexity
  - c) Poor thermal stability
  - d) Low gain
20. High stability factor means:
- a) Poor stability
  - b) Good stability
  - c) High  $\beta$
  - d) Low collector voltage
21. Which type of biasing is most commonly used in CE amplifier?

- a) Fixed bias
  - b) Collector to base bias
  - c) Voltage divider bias
  - d) Emitter bias
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23. For best operation of a BJT, which region must the operating point be set at?
- a) Active Region
  - b) Cutoff region
  - c) Saturation Region
  - d) Reverse Active Region
24. The feature of an approximate model of a transistor is
- a) It helps in quicker analysis
  - b) It provides individual analysis for different configurations
  - c) It helps in dc analysis
  - d) AC analysis is not possible
25. How many hybrid parameters are there in a transistor circuit?
- a) 16
  - b) 2
  - c) 4
  - d) 8