

**ELECTRONIC DEVICES AND CIRCUITS  
WORKSHEET-4: Transistor Amplifiers**

1. What is the condition for Simplified hybrid model of BJT \_\_\_\_\_
2. The equivalent hybrid parameter for the transistor hybrid parameter  $h_{oe}$  is \_\_\_\_\_
3. What is biasing \_\_\_\_\_
4. Bandwidth of amplifier is \_\_\_\_\_
5. Amplification means \_\_\_\_\_
6. What is operating point \_\_\_\_\_
7. The equivalent hybrid parameter for the transistor hybrid parameter  $h_{re}$  is \_\_\_\_\_
8. A transistor acts as a small-signal amplifier when it is biased in the \_\_\_\_\_ region.
9. The h-parameter model is also known as the \_\_\_\_\_ parameter model.
10. In CE configuration,  $h_{ie}$  represents the \_\_\_\_\_ input resistance.
11. The h-parameter  $h_{oe}$  represents the output \_\_\_\_\_.
12. The unit of h-parameters is generally \_\_\_\_\_.
13. The purpose of an emitter bypass capacitor is to increase \_\_\_\_\_ gain.
14. The CB amplifier has a \_\_\_\_\_ input impedance.
15. The output of the CB amplifier is in \_\_\_\_\_ phase with the input.
16. 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
17. 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
18. What is the use of coupling capacitors in CE amplifier?
  - a) blocks dc
  - b) pass ac

- c) reduce distortion
  - d) pass ac & blocks dc
19. How many hybrid parameters are there in a transistor circuit?
- a) 16
  - b) 2
  - c) 4
  - d) 8
20. The use of by-pass capacitor in CE amplifier is
- a) to increase voltage gain
  - b) to increase negative feedback
  - c) for decreasing the frequency
  - d) to block dc
21. Which of the following BJT region does amplification?
- a) Active
  - b) Cut-off
  - c) Saturation
  - d) Both a & c
22. Why do we use hybrid parameter models while describing the working of a transistor?
- a) A pure resistor
  - b) Voltage controlled current source
  - c) Current controlled current source
  - d) Voltage controlled voltage source
23. Without the emitter bypass capacitor, the voltage gain of CE amplifier:
- a) Increases
  - b) Decreases
  - c) Becomes zero
  - d) Stays same
24. Unbypassed RE introduces what type of feedback?
- a) Positive feedback
  - b) Negative feedback
  - c) No feedback
  - d) Random feedback
25. Unbypassed RE causes:

- a) Lower input impedance
  - b) Higher input impedance
  - c) No change
  - d) Short circuit
26. The primary disadvantage of removing bypass capacitor is:
- a) Higher distortion
  - b) Lower gain
  - c) Higher cost
  - d) Higher temperature rise
27. Using a bypass capacitor increases:
- a) AC voltage gain
  - b) DC collector current
  - c) Phase shift
  - d) Noise
28. The bypass capacitor must have \_\_\_\_\_ reactance at signal frequency.
- a) High
  - b) Zero
  - c) Low
  - d) Infinite
29. The unit of  $h_{ie}$  is:
- a) Ohm
  - b) Ampere
  - c) Volt
  - d) Dimensionless
30. 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