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Operational Amplifiers MCQ Test

Practice Operational Amplifiers MCQ Test & Online Quiz to Test Your Knowledge

We have listed below the **Operational Amplifiers MCQs** that checks your basic knowledge of Operational Amplifiers. This **Operational Amplifiers MCQ Test** contains 20+ Multiple Choice Questions. You have to select the right answer to the question to check your final preparation for the Operational Amplifiers/Electrical Engineering Exams. Finally, you can also download below the **Operational Amplifiers MCQ PDF** completely free.

Q1. What is the main purpose of an operational amplifier?

- **A. The basic role of an operational amplifier is to amplify and output the voltage difference between the two input pins.**
- B. The basic role of an operational amplifier is to input the voltage difference between the two input pins.
- C. Both A and B
- D. None of the above

Q2. The tail current of a differential amplifier is ____.

- A. half of either collector current
- B. equal to either collector current
- **C. two times either collector current**
- D. equal to the difference in base currents

Q3. The node voltage at the top of the tail resistor is close to zero.

- **A. True**
- B. False

Q4. The tail current in a differential amplifier equals ____.

- A. difference between two emitter currents

- **B. sum of two emitter currents**
- C. collector current divided by current gain
- D. collector voltage divided by collector resistance

Q5. What is the another name for a unity gain amplifier?

- A. Difference amplifier
- B. Comparator
- C. Single ended
- **D. Voltage follower**

Q6. A series dissipative regulator is an example of a ____.

- **A. linear regulator**
- B. switching regulator
- C. shunt regulator
- D. dc-to-dc converter

Q7. The major difference between ground and virtual ground is:

- **A. Virtual ground is only a voltage reference.**
- B. Virtual ground is only a current reference
- C. Virtual ground is only a power reference
- D. None of the above

Q8. OPAMP is a/an:

- **A. Differential amplifier**
- B. Oscillator
- C. Rectifier
- D. None of the above

Q9. Is Bandwidth of an ideal op-amp infinite?

- **A. Yes**
- B. No

Q10. CMRR stands for which of the following?

- A. Central Mode Rejection Ratio
- B. Cross Mode Rejection Ratio
- C. Common Model Rejection Ratio
- **D. Common Mode Rejection Ratio**

Q11. What is operational amplifier?

- **A. simply a linear Integrated Circuit (IC) having multiple-terminals**
- B. simply a hyper Integrated Circuit (IC) having multiple-terminals
- C. simply a cross Integrated Circuit (IC) having multiple-terminals
- D. None of the above

Q12. Differential amplifiers are used in Instrumentation amplifiers.

- **A. True**
- B. False

Q13. The output voltage of the op-amp V_{out} is given by the equation:

- A. $V_{out} = A_{OL} (V_+ * V_-)$
- B. $V_{out} = A_{OL} (V_+ / V_-)$
- **C. $V_{out} = A_{OL} (V_+ + V_-)$**
- D. $V_{out} = A_{OL} (V_+ - V_-)$

Q14. The input offset current equals the _____.

- **A. difference between two base currents**
- B. average of two base currents
- C. collector current divided by current gain
- D. None of the above

Q15. Slew rate is defined as the:

- **A. Maximum rate of change of output voltage with time**
- B. Minimum rate of change of output voltage with time

- C. Moderate rate of change of output voltage with time
- D. None of the above

Q16. The gain of a op-Amp Voltage follower is unity.

- **A. True**
- B. False

Q17. Which of the following electrical characteristics is not exhibited by an ideal op-amp?

- A. Infinite voltage gain
- B. Infinite bandwidth
- **C. Infinite output resistance**
- D. Infinite slew rate

Q18. An ideal op-amp requires infinite bandwidth because ____.

- **A. Signals can be amplified without attenuation**
- B. Output can drive infinite number of device
- C. Output voltage occurs simultaneously with input voltage changes
- D. Output common-mode noise voltage is zero

Q19. Ideal op-amp has infinite voltage gain ____.

- A. to control the output voltage
- **B. to obtain finite output voltage**
- C. to receive zero noise output voltage
- D. None of the above

Q20. The common-mode gain is very low.

- **A. True**
- B. False

Q21. What is the full form of Op-Amp?

- A. Operand amplitude

- **B. Operational Amplifier**
- C. Operational amplitude
- D. None of the above

Q22. Op-Amp performs which type of mathematical type operations.

- A. Linear
- B. Non-linear
- C. Frequency-dependent
- **D. All of the above**

Q23. Op-Amp was invented by in 1967.

- A. Henry
- B. David
- C. Richard
- **D. Karl D. Swartzel Jr.**

Q24. An Instrumentational type amplifier is also called as

- A. Insta amplifier
- B. Interior amplifier
- **C. Instrumentation amplifier**
- D. None of the above

Q25. Which of the following are the characteristics of In-Amp.

- A. Low drift
- B. Low DC offset
- C. High open-loop gain
- **D. All of the above**

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