



Department of Electronics and Communication Engineering

EC8452 – Electronic Circuits II

Unit I - MCQ Bank

1. If the feedback voltage and the output voltage are given as 10v and 4v. Find the gain of the feedback circuit in voltage-series feedback amplifier?

- A. 2.5v
- B. 40v
- C. 3v
- D. 6.2v

Answer: (A)

Explanation: Gain of feedback, $B = V_f/V_o = 10v/4v = 2.5v$.

2. Why the feedback circuit is said to be negative for voltage series feedback amplifier?

- A. **Feedback voltage is 180° out of phase with respect to input voltage**
- B. Input voltage is 180° out of phase with respect to feedback voltage
- C. Feedback voltage is in same phase with respect to input voltage
- D. Input voltage is in same phase with respect to feedback voltage

Answer:(A)

3. Express closed loop voltage gain (A_F) in terms of open loop gain (A) and feedback circuit gain (B)?

- A. $A_F = A/AB$
- B. $A_F = 1 + (A/AB)$
- C. **$A_F = A/(1+AB)$**
- D. $A_F = AB/(1+A)$

Answer:(C)

4. Voltage shunt feedback amplifier forms

A. A negative feedback

B. A positive feedback

C. Both positive and negative

D. None of the mentioned

Answer: (A)

5. Voltage shunt feedback amplifiers are also called as

A. Non-inverting amplifier with feedback

B. Non-inverting amplifier without feedback

C. Inverting amplifier with feedback

D. Inverting amplifier without feedback

Answer: (C)

6. What is the break frequency of the op-amp?

A. $f_o = \text{Unity Gain Bandwidth} / \text{closed loop voltage gain}$

B. $f_o = \text{Unity Gain Bandwidth} / \text{open loop voltage gain}$

C. $f_o = \text{Unity Gain Bandwidth} / \text{Gain of feedback circuit}$

D. All of the mentioned

Answer: (C)

7. Negative feedback in amplifier _____

A. Improves the signal-to-noise ratio at input

B. Improves the signal-to-noise ratio at output

C. Does not improve the signal-to-noise ratio at I/O

D. Reduce Distortion

Answer: (D)

8. Which among the following is an output provided by trans resistance amplifier?

A. Output current proportional to signal voltage

B. Output voltage proportional to signal current

C. Output voltage proportional to input voltage

D. Output current proportional to signal current

Answer: (C)

9. After passing through which circuit/network, does the signal X_d (output signal obtained by taking the difference of two input signals) get multiplied by '-1'?

A. Amplifier circuit

B. Feedback network

C. Mixing network

D. Sampling network

Answer: (C)

10. Stability of a transfer gain is generally defined as the reciprocal of _____

A. Resistivity

B. Conductivity

C. Sensitivity

D. De sensitivity

Answer: (C)

11. In a negative feedback amplifier, Voltage sampling is

A. Tends to decrease the output resistance

B. Tends to increase the output resistance

C. Does not alter the output resistance

D. Produces the same effect on output resistance as current sampling

Answer: (B)

12. For a shunt shunt negative feedback amplifier

A. Input resistance decreases but output resistance increases

B. Both Input resistance and output resistance increases

C. Both Input resistance and output resistance decreases

D. None of the above

Answer: (A)

13. The feedback fraction B

- A. Is always less than 1
- B. Is usually greater less than 1
- C. May be equal to 1**
- D. May not be equal to 1

Answer: (C)

14. What are the consequences over the non-linear distortion by the inception of negative feedback?

- A. Level of non-linear distortion goes on increasing
- B. Level of non-linear distortion goes on decreasing**
- C. Level of non-linear distortion undergoes stability
- D. None of the above

Answer: (B)

15. Which among the following is not a special case of voltage shut feedback amplifier?

- A. Voltage follower**
- B. Current to voltage connector
- C. Inverter
- D. None of the mentioned

Answer: (A)

16. The main advantage of using negative feedback amplifier is to greatly improve stability, better tolerance to components variations, stabilization against DC drift as well as increasing amplifiers bandwidth -----

- A. True
- B. False

Answer: (A)

17. The negative feedback in an amplifier -----

- A. Increasing the voltage gain
- B. Decreasing the voltage gain
- C. Stabilize the voltage gain
- D. Both B and C are correct**

Answer: (D)

18. Which among the following parameter/s increase/s due to positive feedback?

- A. Input voltage
 - B. Output Voltage
 - C. Noise
 - D. Voltage Gain
- A. A & B
 - B. Only C
 - C. B & D
 - D. A, B, C & D**

Answer: (D)

19. Which among the below specified conditions is responsible to drive a low resistance load by the current amplifier circuit?

- A. $R_s \gg R_i$
- B. $R_0 \gg R_L$**
- C. $R_s \ll R_i$
- D. $R_0 \ll R_L$

Answer: (B)

20. What would be the computational value of feedback voltage in a negative feedback amplifier with $A = 100$, $\beta = 0.03$ and input signal voltage = 30 mV?

- A. 0.03 V
- B. 0.06 V
- C. 0.09 V**
- D. 0.15 V

Answer: (C)

21. What would happen, if the signal X_d passes through the feedback network?

- A. X_d will get multiplied by 'A'
- B. X_d will get multiplied by ' β '**
- C. X_d will get multiplied by ' $1 - A\beta$ '
- D. X_d will get multiplied by ' $1 + A\beta$ '

Answer: (B)

22. An amplifier with resistive negative feedback has two left half plane poles in its open loop transfer function. The amplifier will be -----

- A. Stable for all frequencies**
- B. unstable for all frequencies
- C. Stable for particular frequencies
- D. Unstable for particular frequencies

Answer: (A)

23. Negative feedback in an amplifier improves

- A. Signal to noise ratio at the output
- B. Reduces distortion
- C. Both a and b**
- D. None of the above

Answer: (C)

24. In a negative feedback amplifier, current sampling

- A. Tends to decrease the output resistance
- B. Tends to increase the output resistance**
- C. Does not alter the output resistance
- D. Produces the same effect on output resistance as voltage sampling

Answer : (B)

25. Loop gain is given by

A. A

B. β

C. $A\beta$

D. None of the above

Answer: (C)