SET A- MCQ- CT1 – UNIT 1

1. Which BJT configuration is used as voltage follower?
   A. Common Emitter Configuration
   B. Common Base Configuration
   C. Common Collector Configuration
   D. Common Emitter Configuration &Common Base Configuration
   Ans: C
2. Calculate I_E in a transistor for which β=100 and I_B =10μA.
   A. 1.01mA
   B. 0.101mA
   C. 10.1mA
   D. 0.01mA
   Ans: A
3. Which is the Y axis point in the dc load line?
   A. $V_{CE} = V_{CC}$
   B. $I_C = V_{CC}/R_C$
   C. $I_E = I_B + I_C$
   D. $Vcc = I_C R_C + V_{CE}$
   Ans: B
4. Which JFET configuration is good voltage amplifier?
   A. Common Source Configuration
   B. Common Gate Configuration
   C. Common Drain Configuration
   D. Common Gate Configuration &Common Drain Configuration
   Ans: A
5. If the reverse bias on the gate of a JFET is increased, then width of the conducting channel_____
   a. is decreased
   b. is increased
   c. remains the same
   d. is highly increased
   Ans : A

6. The phase shift between the input and output signal in common source amplifier is
   A. 90°
   B. 180°
   C. 270°
   D. 360°
   Ans: B
7. The phase shift between the input and output signal in common collector amplifier is
   A. 90°
   B. 180°
   C. 270°
   D. 0°
   Ans: D
8. The power amplifier for which the collector current flows only for half the cycle of the input signal is
   A. Class A power amplifier
   B. Class B power amplifier
   C. Class AB power amplifier
   D. Both class A and class AB power amplifier
   Ans: B
9. Which of the power amplifier has the major disadvantage of cross over distortion
   A. Class A power amplifier
   B. Transformer coupled class A power amplifier
   C. Class B push –pull amplifier
   D. Class AB power amplifier
   Ans: C
10. A very high gain differential amplifier with high input impedance and low output impedance is
   A. Audio frequency amplifier
   B. Radio frequency amplifier
   C. Operational amplifier
   D. Tuned amplifier

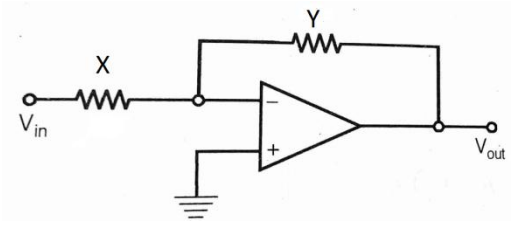
Ans: C

11. Pin number 6 of op amp is
    A. Inverting input
    B. Non inverting input
    C. Output
    D. Offset null

    Ans: C
12. Which is not the characteristic of ideal opamp
    A. Open loop gain is infinite
    B. Input impedance is infinite
    C. Output impedance is zero
    D. Bandwidth is zero

    Ans: D
13. The higher the CMRR in which the
    A. The open loop gain is high and common mode gain is low
    B. The open loop gain is low and common mode gain is high
    C. The open loop gain is high and common mode gain is high
    D. The open loop gain is low and common mode gain is low

    Ans: A
14. Considering the inverting amplifier, using an ideal operational amplifier shown in the figure. The designer wishes to realize the input resistance seen by the small signal source to be a large as possible, while keeping the voltage gain between -10 and -25. The upper limit on Y is 1 MΩ. The value of X should be



    a. Infinity
    b. 1 MΩ
    c. 40 kΩ
    d. 100 kΩ

    Ans: C

15. Find the input current of inverting amplifier with feedback resistance R_f =22 kΩ , input resistance R_1 =2.2 kΩ and input voltage v_{in} =4.4v.
    A. 1mA
    B. 2 mA
    C. 3 mA
    D. 4 mA
    Ans: B
16. Determine the maximum frequency of the input signal to obtain a sine wave output of peak voltage of 4V.Assume slew rate =0.5V/μs .
    A. 0.019 Hz
    B. 10.9 kHz
    C. 19.9 kHz
    D. 22 kHz
    Ans: C
17. With negative feedback the gain with feedback of amplifier reduces by
    A. (1+Aβ)
    B. 1
    C. Aβ
    D. (1-Aβ)
    Ans: A
18. The basic purpose for applying negative voltage feedback is to_____
    a. increase voltage gain
    b. reduce distortion
    c. increase the sensitivity
    d. maintain the constant temperature
    Ans: b
19. For current shunt feedback the forward amplifier gain is
    A. Voltage gain
    B. Trans impedance
    C. Current gain
    D. Trans conductance
    Ans: C

20. For series feedback connection input resistance --------

A. increases
B. decreases
C. remain the same
D. become zero.

Ans: A

21. An oscillator differs from an amplifier because it_____

a. has more gain
b. required no input signal
c. required no d.c supply
d. always has the same input

Ans: b

22. The device that exhibits negative resistance region is_____

a. DIAC
b. TRIAC
c. BJT
d. UJT

Answer: d) UJT

23. Barkhausen criterion is applicable for

A. Amplifier
B. Negative feedback amplifier
C. Operational amplifier
D. Oscillator

Ans: D

24. Pin number 2 of 555 timer is

A. Trigger
B. Output
C. Control
D. Threshold

Ans: A

25. Which is not the application of 555 timer?

A. Multivibrator

B. Linear ramp generator

C. Frequency divider

D. Radio and TV transmitters

Ans: D