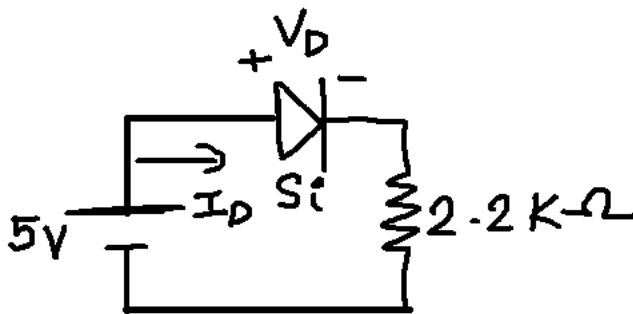# EDC-1 SEM III CBCS (SUBJECT CODE: ELX302) ELECTRONICS ENGINEERING

SAMPLE QUESTIONS (EACH QUESTION CARRIES 2 MARKS)

1. What are the application of PN junction diode
   a. Switch
   b. Clipper
   c. Clamper
   d. All of the above

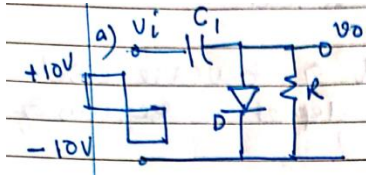2. For the following circuit calculate V_D, I_D, and V_R

   a. V_D= 0.7V, I_D= 1.95mA, V_R=4.29V
   b. V_D= 0.7V, I_D= 3mA, V_R=4V
   c. V_D= 0.7V, I_D= 5 mA, V_R=4V
   d. V_D= 0.7V, I_D= 1mA, V_R=4.29V

3. Identify the following circuit
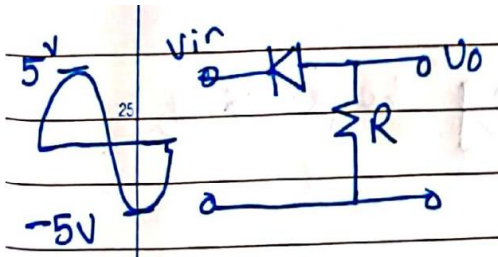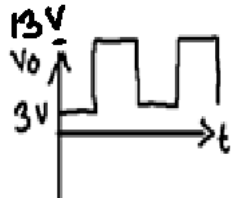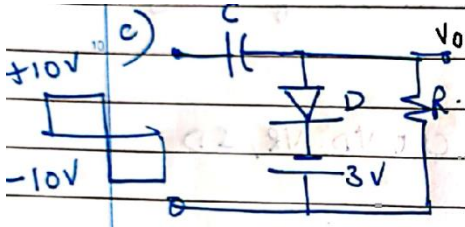

   a. Shunt positive Clipper
   b. Series positive clipper
   c. Series negative clipper
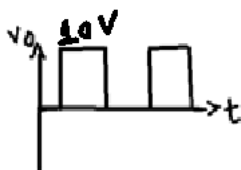   d. Shunt negative Clipper

4. Identify the following circuit

a. Negative shunt clipper
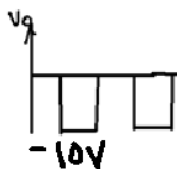b. Positive clamper
c. Negative clampler
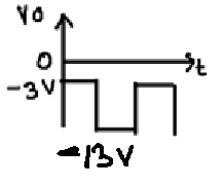d. Positive shunt clipper

5. What is the output of following circuit?

a.

c.

d.

6. In CB configuration of BJT input is applied at …….and output is collected at….
   a. B and C
   b. E and C
   c. C and B
   d. B and E

7. Identify the type of biasing used in the following circuit diagram
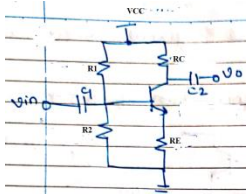
   a. Fixed bias
   b. Emitter stabilized bias
   c. Feedback bias
   d. Voltage divider bias

8. β is the ratio of
   a. I_B/I_C
   b. I_C/I_E
   c. I_C/I_B
   d. I_E/I_B

9. α is the ratio of
   a. I_B/I_C
   b. I_C/I_E
   c. I_C/I_B
   d. I_E/I_B

10. What is the value of I_{Csat} for the following circuit
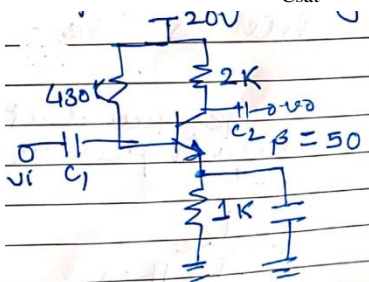
a. 6.67mA

b. 0.067 mA

c. 66.7mA

d. 0.667 mA

11.   Determine V_{CC}, R_B and R_C for the following network
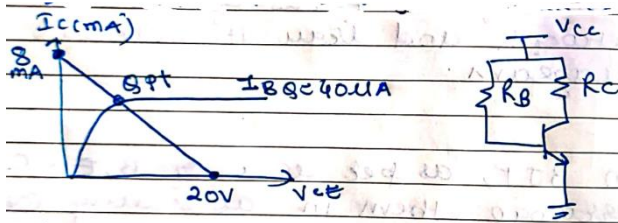
a. 10 V, 200K, 2.4K

b. 20V, 482.5K, 2.5K

c. 20V, 267K, 3.2 K

d. None of the above

12. What is the difference between EMOSFET and DMOSFET?

a.   Channel is present in EMOSFET and absent in DMOSFET

b.   Channel is absent in EMOSFET and present in DMOSFET

c.   Channel is present in both EMOSFET and in DMOSFET

d.   Channel is absent in EMOSFET as well as in DMOSFET

13.   Which of the following is Shockley's equation?

a. $I_D= I_{DSS}(1-V_{GS}/V_P)^2$

b. $I_D= I_{DSS}(1-V_{GS}/V_P)$

c. $I_D= 2I_{DSS}(1-V_{GS}/V_P)/|Vp|$

d. $I_D= 2I_{DSS}(1-V_{GS}/V_P)^2/|Vp|$

14.   What is the current equation for EMOSFET?

a. $I_D=K_n (V_{GS}-V_{TH})^2$

b. $I_D= I_{DSS}(1-V_{GS}/V_P)^2$

c. $I_D= 2I_{DSS}(1-V_{GS}/V_P)/|Vp|$

d. $I_D= 2I_{DSS}(1-V_{GS}/V_P)^2/|Vp|$

15.   Threshold voltage of n Channel EMOSFET is 5V. If 3V is applied at the gate what is the value of drain current?

a.   1mA

b.   2mA

c.   3mA

a.   0 mA

16. For n channel DMOSET I_{DSS}= 6mA, Vp= - 3V, V_{GS}= - 0.8 V, what is the value of drain current?
a.   4mA
b.   4.2mA
c.   3.22mA
d.   7mA

17.   Transconductance gm is
a.   Yfs
b.   1/yfs
c.   Yos
d.   1/yos

18.   Drain resistance of FET rd is given by
a.   Yfs
b.   1/yfs
c.   Yos
d.   1/yos

19.   PIV of full wave bridge rectifier is:
a.   Vm
b.   Vm/2
c.   2Vm
d.   3Vm

20. Ripple factor of half wave rectifier is
a.   1.21
b.   2.22
c.   0.43
d.   3

21.   Output frequency of half wave rectifier is
a.   f
b.   2f
c.   3f
d.   4f

22. Equation of ripple factor of full wave rectifier with filter is given by

a.   r=1/4√3 fRC
b.   r=1/3√3 fRC
c.   r=1/2√3 fRC
d.   r= 1/2 fRC

23. Equation of ripple voltage of full wave rectifier with filter is
a.   Vr(p-p)=Vm / (2fRC)
b.   Vr(p-p)=Vm * (2fRC)
c.   Vr(p-p)=Vm + (2fRC)
d.   Vr(p-p)=Vm - (2fRC)

24. Efficiency of full wave rectifier with centre tap transformer is
a.   40.6
b.   50
c.   75
d.   81.2

25. PIV of half wave rectifier is:
a.   Vm
b.   Vm/2
c.   2Vm
d.   3Vm