SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No: | | | | | | | | | | | | | Total number of pages:[2]

B.Tech. || EE || 3rd SEM.

Electronic Circuits & Devices

Subject Code:BTEE-304A

Paper ID:

Time allowed: 3 Hrs **Max Marks: 60**

Important Instructions:

- **All questions are compulsory**
- **Assume any missing data**
- **Additional instructions, if any**

PART A (10x 2marks)

Q. 1. Short-Answer Questions:

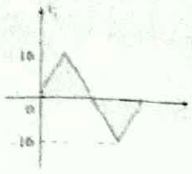
a) What do you mean by electronic filter?
b) Name the elements added in pure semiconductor to make it P-type and N-type semiconductor.
c) Why FETs are called voltage controlled device?
d) What do you mean by biasing?
e) Out of CB, CE and CC configurations which configuration has maximum input impedance.
f) Give any two advantages of FETs over BJTs.
g) Why SiO2 layer is deposited at gate circuit of MOSFETs?
h) Which type of feedback is used in oscillators?
i) What are the applications of oscillator?
j) Draw the output characteristics of MOSFETs.

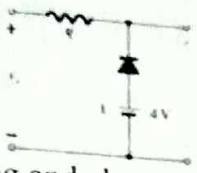
PART B (5×8marks)

Q. 2. Discuss the working of bridge type full wave rectifier and give the expression of average output voltage CO2

OR

What are electronic clipper and clamper circuits. Draw V_0 for the given circuit. CO2

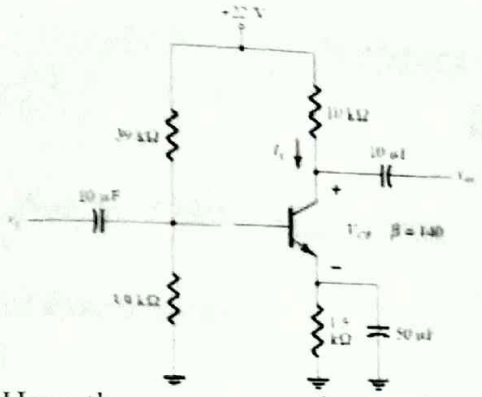




Q. 3. Discuss the working and characteristics of enhancement type MOSFET CO3

OR

Determine the dc bias voltage V_{CE} and the current I_C for the voltage-divider configuration of Fig CO3



Q. 4. How the opamp can be used as current to voltage convertor and voltage to current convertor CO1

OR

Explain the working of opamp as differential amplifier and integrating amplifier CO1

Q. 5. Explain the working of Wein bridge oscillator. CO2

OR

Explain the working of Colpitts oscillator. CO2

Q. 6. How 555 timer can be used as monostable multivibrator. CO4

OR

How 555 timer can be used as astable multivibrator