PES UNIVERSITY

Dept. of Electronics and Communication Engineering

UE25EC141A - Electronic Principles and Devices (4-0-0-4-4)

Unit3: Question Bank

1) Name the different terminals of transistor and explain them briefly.(4 Marks)
2) Write a brief note on the following (6 Marks)
   (i) Active region
   (ii) Saturation region
   (iii) Cut-off region
   (iv) Inversely active region
3) What is Base width modulation with respect to common base configuration.(4 Marks)
4) With a neat diagram explain Common base input- output characteristics (6 Marks)
5) With a neat diagram explain Common emitter input-output characteristics. (6 Marks)
6) Obtain the relationship between α and β (4 Marks)
7) Why biasing is required? (4 Marks)
8) Explain briefly operating point. (6 Marks)
9) Write a note on effects of temperature on Q-point (4 Marks)
10) With mathematical interpretations explain Fixed bias configuration (6 Marks)
11) With mathematical interpretations explain Emitter bias configuration (6 Marks)
12) Explain with mathematical interpretations Voltage divider bias configuration (7 Marks)
13) Explain Single Stage CE Amplifier. (6 Marks)
14) With a neat diagram explain the Common Mode operation in Operational Amplifier [Op-Amp] (4 Marks)
15) Define the following with respect to Op-Amps (8 Marks)
   (i) Input offset Voltage
   (ii) Output offset Voltage
   (iii) Input resistance
   (iv) Output resistance
16) With a neat diagram explain Gain Bandwidth (4 Marks)
17) Determine the cut-off frequency of an-amp having specified values (2 Marks)
   B1=1MHz, A_{VD}= 200 V/mV

18) Define the following with respect to op-amp (4 Marks)
   (i) Slew rate
   (ii) Common mode rejection ratio
19) Why negative feedback is necessary in Op-Amps? (4 Marks)
20) Explain the Virtual Ground concept. (4 Marks)
21) With relevant mathematical interpretation explain an Op-Amp inverting amplifier.(4 Marks)
22) With relevant mathematical interpretation explain an Op-Amp Non-inverting amplifier. (4 Marks)
23) With relevant mathematical interpretation explain an Op-Amp summing amplifier. (4 Marks)
24) With relevant mathematical interpretation explain an Op-Amp sub tractor. (4 Marks)
25) Explain unity follower or voltage follower using Op-Amp (4 Marks)
26) What is the significance of voltage follower? (2 Marks)
27) With a neat diagram explain Comparators using op-amp (4 Marks)

PES UNIVERSITY

Dept. of Electronics and Communication Engineering