SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No: | | | | | | | | | | | | Total number of pages:[1]

Total number of questions: 06

B.Tech. || ECE|| 3rd Sem

Analog Devices & Circuits

Subject Code: BTEC-302A/301 (RP)

Paper ID: 11/18 (2011 batch onwards)

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

Important Instructions:

- **All questions are compulsory.**
- **Assume any missing data**

PART A (2×10)

Q. 1. Short-Answer Questions:

(a) How the depletion layer is formed?
(b) Explain the V-I characteristics of Zener Diode.
(c) Compare CB, CE and CC parameters.
(d) Write a short note on Schottky diode.
(e) What is Barkhausen's Criteria?
(f) Compare UJT and BJT and give one example of each.
(g) Draw the dissipation curve.
(h) Compare Positive and negative Feedback.
(i) Design a cheapest Oscillator with minimum number of components.
(j) Explain Tunneling effect with two applications.

PART B (8×5)

Q. 2. Explain in detail working principal and characteristics of Tunnel Diode. CO1

OR

Design a power supply using Zener diode as a voltage regulator. CO1

Q. 3. Explain the design of CE amplifier with voltage divider biasing circuit. CO2

OR

Draw the circuit diagram of Emitter follower and discuss its applications. CO2

Q. 4. Explain in detail the working of Complimentary Push Pull amplifier. CO3

OR

Explain in detail the Voltage series Feedback amplifier. CO3

Q. 5. Explain the construction, working, efficiency and distortion analysis of Transformer coupled audio amplifier. CO3

OR

Explain the design of Wein bridge Oscillator and its applications? CO3

Q. 6. Design h model of Transistor amplifier in CE mode. CO4

OR

Explain and prove Miller's Theorem. CO4