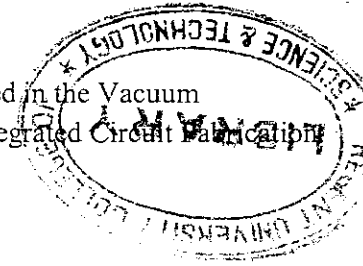


4. a) What is Common Base Configuration of a Transistor?
- b) In a Common Base Transistor Configuration, the input current is 20mA and the Collector Current is 350mA. Determine the Current Amplification Factor of the Transistor.
5. Explain with the appropriate circuit diagrams the operations of a diode in both Forward and Reverse Bias Conditions.
6. Sketch and Explain the setup used in the Vacuum Evaporation of the Thin film Integrated Circuit Fabrication.



REGENT UNIVERSITY

COLLEGE OF SCIENCE AND TECHNOLOGY



EXAMINATION PAPER

END OF SECOND SEMESTER EXAMINATIONS,
DECEMBER 2008, LEVEL 100

COURSE: BASIC ELECTRONICS

DURATION: THREE HOURS

LECTURER: MR. RANSFORD ODOOM

Please Read ALL Instructions.

SECTION ONE

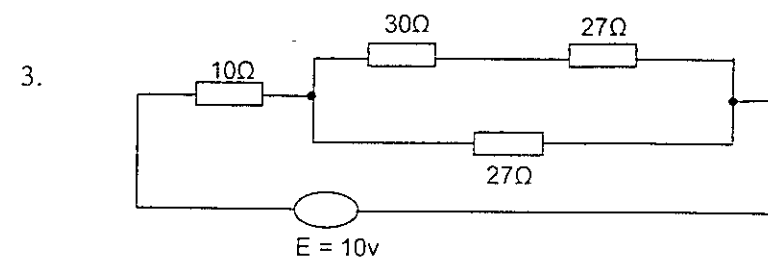
Attempt ALL Questions in this Section – (2 Marks Each)

1. What is the importance of the collector of a Transistor?
2. Describe the behavior of electrons of any mentioned particle.
3. Explain what is meant by Cathode Sputtering as used in Thin Film Integrated Circuit Fabrication.
4. What are the basic types of Field Effect Transistors commonly used in Electronics?
5. What is meant by IGFET and how is it constructed?
6. List any three forms of Transistor configuration.
7. What do you understand by Transistor Biasing?
8. Differentiate between Digital and Analog Integrated Circuits.
9. Differentiate between Extrinsic and Intrinsic Semiconductors?
10. What is a P-N Junction Device?

SECTION TWO

Attempt Any FOUR Questions in this Section – (10 Marks Each)

1. a) State the Kirchoff's First Law.
b) A 2V accumulator with an internal resistance of 1ohm and a 6V generator with an internal resistance of 2ohms both feed current into a load resistance of 5ohms. Calculate the current in each loop of the network and the total current in the load.
2. List and explain all the processes involved in the industrial manufacturing of Integrated Circuits using the Monolithic Technology.



In the circuit above, calculate the potential difference across

- a) The 10Ω resistor
- b) The 30Ω and 27Ω resistors in parallel.