

SURE TRUST G14 VLSI BACKEND ASSIGNMENT FOR B.GUNASEKAR

1.LIST OUT THE SEMICONDUCTOR PRODUCTS AND ITS CORRESPONDING COMPANIES:

Microprocessor:

- Intel ,AMD,QUALCOMM,APPLE.

Graphical processing unit:

- NVIDIA,AMD,INTEL IRIS.

Microcontroller:

- STM,ATMEGA,ARUDINO.

Memory chips:

- DRAM,DDR.

Analog semiconductor

- ANALOG DEVICE.

System-on-chip(soc)

- BROADCOM,MEDIATEK,QUALCOMM,APPLE.

2.WHAT ARE THE LATEST LAPTOP PROCESSORS FROM AMD,INTEL AND APPLE:

- AMD[AMD RYZEN 9500HX]
- FREQUENCY 3.3GHZ TO 4.6GZH
- SIZE 7NANOMETER TECHNOLOGY USED

- INTEL[CORE i9 12900K]
- FREQUENCY:3.2GHZ TO3.8GHZ
- NODE:5NANOMETER TECHNOLOGY

- APPLE[M1 PRO AND M1 MAX]
- CPU CORE 10-CORE,16CORE GPU
- SIZE:5NANOMETER TECHNOLOGY

3.LATEST MOBILE LAPTOP PROCESSOR:

- QUALCOMM[SNAPDRAGON 8TH GEN 3]
- FREQUENCY 3.2GHZ TO 3.30GHZ
- SIZE:4NANOMETER TECHNOLOGY

- APPLE(A16 BIONIC CHIP)
- SIZE(4NANOMETER)
- FREQUENCY(3.46GHZ)

4.JOB ROLES AVAILABLE IN VLSI

- VLSI DESIGN ENGINEER
- PHYSICAL ENGINEER
- DFT ENGINEER
- LAYOUT ENGINEER
- FABRICATION TEAM
- SOC ARCHITECT ENGINEER
- TESTING ENGINEER

5.WHY THERE IS SHIFT FROM BJT TO MOSFET TO FINFET..?

BJTs(BIPOLAR JUNCTION TRANSISTORS)AND MOSFET(METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR)BOTH SERVE AS SWITCHES AND AMPLIFIERS IN ELECTRONIC CIRCUITS.THIS MOSFET HAVE A TWO DIMENSIONAL ARCHITECTURE BUT AN COMPARED TO FINFET IS A 3 DIMENSIONAL ARCHITECTURE AND DESIGN TO IT CAN PREVENT AN LEAKAGE CURRENT FROM THE TRANSISTION SO WE ARE MOVING TO FINFET

6.EVALUATION OF MEMORY TECHNOLOGY:

MEMORY

- PRIMARY MEMORY
- SECONDARY MEMORY

RAM

- SRAM
- DRAM

DRAM

- SDRAM
- RDRAM
- DDR SDRAM

DDR SDRAM

- DDR1
- DDR2
- DDR3
- DDR4
- DDR5