CMP 213 STUDY

1 What is a Digital Computer?

a In our society today, digital computers are used for soo many activities? (Give 5 of them)

b The digital Computer is made up of? (Name all 3)

c What is the function of the CPU in the Computer?

d Draw a diagrammatic representation of the CPU?

e State 4 Features of the CPU

f The CPU is made up of three (3) essential Components. What are they?

g State 3 things about the ALU

h List all Arithmetic & Logical operations

i When ALU operations become more Complex. What happens?

j What does the CU do in the CPU?

k What are Registers

2 Whats are Registers? (Give both Definitions)

a State 5 Facts about registers

b State the 3 Types of registers and their sub parts

c Draw the register representation?

d List the 4 registers we will be looking at?

e What 2 registers are used to perform read and write operations

f These two registers are used exclusively by ____ and are not ____

g Write the 3 steps of performing a write operation into a specified memory locat

h Similarly, Write the steps involved in a read operation

i What are the Instruction Fetching Registers (2)? State their sub parts?

j State 3 things about the Condition registers?

j What is a Memory in Computer?

k Name 4 Major Storage devices

l In a Conventional digital Computer, ____

m Draw a Complete memory heirachy

n Draw a Memory heirachy with registers removed

o What exactly is an engineering trade-off? What vs What?

p Memory heirachy can be characterized ~~Auto~~ using a number of parameters. Which are?

q For a given point in time, ____

r Explain in a line or more: Access, Capacity, cycle time, Latency, Bandwidth, Co

s Draw the Table summarizing the Parameters of a memory heirarchy

t List 4 Features of the Cache

u State 4 advantages of the Cache and 2 disadvantages

v State 4 Features of the Main Memory

w Name the 2 main types of Main Memory

x List 5 characteristics of the Main Memory

y List 5 Features of the Secondary Memory

3 List 5 characteristics of the Secondary Storage

i Draw out the Memory Blocks diagram

ii Address Translation. List 5

iii Name the 2 Memory Allocation Techniques

iv In Free bit map. How many bits for each block? 1 for ____ and 0 for ____? Draw Diagram?

v In Predicted List, Draw Diagram. Each free block _____?

vi Where are pointers stored

vii Free List Array. Give 2 Attributes and Draw Diagram

viii What are the two Fragmentations and describe in a line or two

ix What are the 4 picks in Variable sized Allocation

3 What are Peripheral Devices?

a What are the 4 types of Peripheral Devices and examples for each

b What are the 4 Elements of the Input and Output subsystem?

c What are the 4 I/O Service Concepts?

d Name and Explain the 3 Components of the Device driver?

e Draw the Device Driver Structure

f What are Monitors? and their Types of Display Screens?

g What is the Full Meaning of CRT, when invented it and when? where is it used

h What are the procedures that make a CRT Monitor work?

i Draw the CRT Monitor

j What are LCD Monitors? Full meaning, Usesen ____?, Consists of ____?

k How is optical Effect achieved and What are the types?

l Draw the LCD Monitor display

m List 3 advantantages and 3 disadvantages of using the LCD

n What are LED's Monitors? Do they use more power?

o What are printers? Printers can be classified into?

p What is the Difference between each Printer classifications?

q Explain the What are the 3 Types of printers?

r Explain the Dot Matrix Printer and Draw one of the print?

s Explain the Ink Jet Printer. State the two (2) technologies used?

t State 2 advantages and 3 disadvantages of using the Ink Jet

u Explain the Laser Jet Printer

4 What is the INGOT GROWTH? And the process of making it

a Draw the INGOT GROWTH Diagram

b What is a wafer? How is the wafer surface smoothened? Draw Wafer Sawing diagram?

c What is Lithography? Photolithography And Photolithography in IC Structure?

d What is the Photoresist? And the role it plays in photolithography

e What are the Process of Exposure in Photolitography? Draw Diagram

f Development: The PR is developed using ____? State Two Positive Tones in development

g What is the Final Structure? Draw a diagram of this.

h Draw the Photolithography Diagram

i What is a Reticle? Draw the Diagram

j What are the Mask Generation repeating steps, Draw Diagram

k What 1X Masks

l What is Etching? What happens in dry and wet etching?

m What are the two important issues in Etching?

n How does the Thermal oxidation step work

o Oxide forms due to ____?

p Differences between wet and Dry oxidation. State 3

q What about Local Oxidation

r How does the Dopant Diffusion Process

s Ion Implantation?

t What is Deposition and its types?

u What is Patterning?

v What is scribing and cleaning? Draw A Diagram