

## TEST 1

Your Name (please PRINT): \_\_\_\_\_

## =====INSTRUCTIONS=====

- Fill in the above items.
- There is a total of 5 problems, for a maximum possible total value of 60 points. **Make sure you have all 6 test pages (this cover page + 5 test pages)**. You are responsible to check that your test booklet has all 6 pages. Alert a proctor if your copy is missing any pages.
- **Show all your work.** Only minimal credit will be given for answers without supporting work.
- **Write your answer in the box** at the bottom of pages 2-6.
- **Use the back of test pages if additional space is needed**, and for scratch paper.
- You may use scientific or standard calculators. No graphing calculators are allowed.

Do not write below this line

---

Pb. #	Max Points	Your Score
1	16	
2	10	
3	10	
4	12	
5	12	
<b>Total</b>	(60)	

1. Define the following words, units, and prefixes, as they pertain to computers.

1. GB

2. MHz

3. RAM

4. Register

5. Gateway

6. CPU

7. TCP/IP

8. Hostname

2. Suppose you have 3 programs running, with run times 100 seconds, 205 seconds, and 170 seconds. Of the 3 CPU schedules First come, first serve; Shortest Job Next; and Round-Robin (with a time slice of 60 units), which has the shortest average turnaround time?

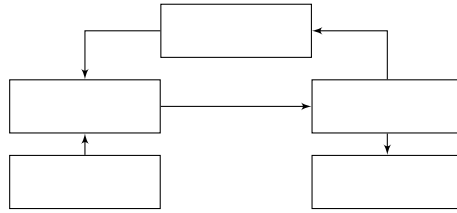
3. Suppose that for a certain program there are 5 pages which load into memory with a frame size of 512 according to the following Page Map Table.

Page	Frame
0	7
1	5
2	4
3	2
4	12

If a certain variable value is located at physical address 2975, find the logical address of this variable value.

4. Consider the following diagram illustrating the states of a process. Briefly define the following terms and place them in the diagram:

New, Ready, Waiting, Running, Terminated, Interrupt, Dispatch



5. (a) Draw a Ring topology and Bus topology for a Local Area Network. Describe one disadvantage of each system.

(b) What is a protocol stack and why is it important in the design of computers involved in networking?

(c) Describe the difference between IP4 address system and IPv6 address system. Why was an upgrade from IP4 to IPv6 necessary?