

1. Describe the functions of the TCP in data networking. (10%)
2. What is meant when a computer is described as a "64-bit, 500-MIPS processor with 1 GB of RAM"? (10%)
3. What is network address translation (NAT)? How can NAT help in address shortage in IPv4? (15%)
4. What is CISC? What is RISC? Please compare the two different designs between CISC and RISC. (15%)
5. Describe major differences between Windows OS and Unix OS. (15%)
6. Given the following declarations and definitions (15%)

```
int size=1000;  
int table1[size]  
int table2[size][size]  
int table3[size][size][size];
```

How many memory do we need to store the three arrays?
7. Write a C/C++ code segment that can compute the following expression: (20%)
 $1 \times 2 + 2 \times 3 + 3 \times 4 + 4 \times 5 + \dots + N \times (N+1)$