**Introductory to Operating Systems**

Name and ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Worksheet #1**

Q1. Give the definition of Operating System.

Q2. What are the main differences between operating systems for mainframe computers and personal computers?

Q3. What are the three main purposes of an operating system?

Q4. Why we need two separate modes of operation: user mode and kernel mode?

Q5. What are differences between symmetric and asymmetric multiprocessing?

Q6. What are three advantages and one disadvantages of multiprocessing?

Q7. What are three types of networks according to the covered area?

Q8. In a multiprogramming and time-sharing environment, several users share the system simultaneously. This situation can result in various security problems.

1. What are two such problems?
2. Can we ensure the same degree of security in a time-shared machine as we have in a dedicated machine? Explain your answer

Q9. What are the differences between a trap and an interrupt? What is the use of each function?

Q10. Which of the following instructions should be privileged?

1. Set value of timer.
2. Read the clock.
3. Clear memory.
4. Turn off interrupts.
5. Switch from user to monitor mode.