# **Exercises-Chapter 1**

# Introduction to OS

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

## 2. Keeping in mind the various definitions of operating system, consider whether the operating system should include applications such as Web browsers and mail programs. Argue both that it should and that it should not, and support your answers.

## 3. What is a “kernel”?

## 4. Describe the role of each of these system units in executing a user program

## - CPU

## - Controller of the Keyboard device

## RAM

## Disk Controller

## 5. What are interrupts and traps. How are interrupts handled? Give two examples of interrupts and two of traps. .

## 5 What steps does the computing system take to support I/O request by user. Explain in detail from the initial step of I/O request up to the completion of I/O

## 6. What are privileged instructions? Which of the following instructions should be privileged?

## a. Set value of timer.

## b. Read the clock.

## c. Clear memory.

## d. Issue a trap instruction.

## e. Turn off interrupts.

## f. Modify entries in device-status table.

## g. Switch from user to kernel mode.

## h. Access I/O device.

## 7. Some CPUs provide for more than two modes of operation. What are two possible uses of these multiple modes?