

IS 158 – COMPUTER HARDWARE & SYSTEM MAINTENANCE

Assignment (10 Marks)

Submission Deadline 2nd July 2021

Instructions: Assignment should be done in a group of five (5) students. Grading will be based on how professional, brief, concrete and correct is your approach. Unnecessary long explanation will add no value to your work. Reference to the textbook, slides and other sources should be clearly indicated whenever necessary (for the book you should state the respective chapter).

Question: Consider the following scenario and answer the questions below:

Mrs. Mshumbusi, a Doctor working with Muhimbili Hospital has had a gradual decline in performance of her PC, tower model with an ATX motherboard with a P4 processor, 2GB of RAM, an old CRT screen, a wired Keyboard, Mouse and USB printer. Because of the nature of her work, she could not afford to have her computer away from her since she was always busy dealing with patient records on the PC. The climax of all was her computer this time suddenly failing to boot or tried to start-up but all she got was a black screen. She attempted several times but all in vain. Mrs. Mshumbusi had no alternative other than contacting you as a good computer expert.

Imagine you as a computer expert, you started by asking for the history of the computer before performing anything. Mr. Mshumbusi provided the following information; the computer used to run so fast, but by the time it collapsed, it had become abnormally slow. Screen would blackout, strange and unpredictable behavior from programs, the computer would reboot without clear cause, the computer would show constant activity occurring, and email files or other files would disappear. You asked her whether she had ever backed-up her data, to which she answered YES. She had backed up data on the Internal Hard Disk itself. The only storage device she had was the hard disk. There was no record of regular maintenance.

1. As a computer expert before you embark on the computer repair alone, explain the steps you would take to prepare yourself in order to repair the computer.
2. Suggest any five possible causes of the computer becoming abnormally slow.
3. After hearing how Mrs. Mshumbusi used her computer before it failed what are the symptoms you think caused it to fail, before you begin actual repair?
4. What process would you advice Mrs. Mshumbusi to follow to avoid such failures in the future?
5. Looking at the type of hardware used by Mrs. Mshumbusi, describe the various I/O device connections that you would have to disconnect and reconnect before and after repairs were done.
6. What safety precautions would you need to take in order to protect hardware devices, software resources, and data?
7. If you were to recommend for an upgrade, specifically where possible would this upgrade be performed and why?
8. What tools would you have at hand to begin repairs?