UNIVERSITY OF DAR ES SALAAM

COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGIES (COICT)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE)

UNIVERSITY EXAMINATIONS-SEMESTER TWO - 2012/2013

IS 258: PC MAINTENANCE (2 Units)

17th June, 2013

INSTRUCTIONS TO CANDIDATES:

1. This examination consists of one question in section A and four questions in Section B.
2. Answer the question in Section A and any three questions in Section B.
3. Each question carries 25 marks.
4. Time allowed is **2 Hours.**

SECTION A

Question One (25 marks)

(a) (i) Explain the difference between System Bus and Processor. **(2 marks)**

(ii) What are measurements of frequency of a system bus and Processor? Which one is faster between the system bus and the Processor? **(3 marks)**

(b) Why do batteries and monitors need to be properly disposed off? **(2 marks)**

(c) What are the five main categories of form factors used for motherboards? What motherboard form factor is the most popular? **(3 marks)**

(d) Explain the main function of the following PC components:

(i) Modem (ii) I/O port (iii) Memory (iv) Adapter Cards **(2 marks)**

(e) State the two components that make up the *Chipset*. Briefly explain the main difference between those two components. **(3 marks)**

(f) Which is faster, SRAM or DRAM? Why? **(4 marks)**

(g) Which document exhibits better quality, one printed with 600 dpi or one printed with 1200 dpi? Why? **(2 marks)**

(h) Describe a *SCSI bus* termination. Why *SCSI bus* termination is necessary? **(4 marks)**

SECTION B

Question Two (25 marks)

(a) Briefly explain any four of secondary storage devices **(8 marks)**

(b) Explain any three components that must have the same or compatible form factor **(6 marks)**

(c) Explain any three steps that a technician uses to install a power supply. **(6 marks)**

(d) Suppose a *CMOS battery* in a computer system is died, if the user turn on the system, will you expect the system to boot up normally to the operating system level? What information do you think the system would not have available for a successful boot? **(5 marks)**

Question Three (25 marks)

(a) Describe the methods used to monitor, power supplies and fans, removing dust and dirt from inside a computer. **(6 marks)**

(b) The electrical power in most of developing countries is still unstable. Explain any four possible solutions that might be used to protect computer hardware such as laptops, personal computers, switches from power fluctuations. **(8 marks)**

(c) How do you enter the into BIOS setup program? . **(3 marks)**

(d) Briefly, describe any four main functions of BIOS in most Personal Computers. **(8 marks)**

Question Four (25 marks)

(a) Why the volatile memory is used in most Personal Computers and not non-volatile memory? Explain any three reasons **(3 marks)**

(b) Explain six Electrophoto (EP) steps or stages to transfer an image onto a paper using a laser printer **(12 marks)**

(c) Assume you are a computer technician, during upgrading a memory you received an add-on or error message, briefly explain any five approaches that can be done to rectify the problem. **(10 marks)**

Question Five (25 marks)

(a) Most buses are 16, 32, 64 or 128 bits wide. Explain any two reasons why buses widths are multiples of eight. **(2 marks)**

(b) Processors have a specified safe temperature range that represents their limits for normal operation. If the processor overheats may result into malfunction problems. Compare and contrast any three CPU cooling mechanisms. **(8 marks)**

(c) Describe two criteria that are used to identify form factor of a motherboard. **(3 marks)**

(d) Explain the following terms: **(6 marks)**

(i) Multiprocessing, (ii) Multiprocessor (iii) Multicore Processing

(e) Explain Overclocking and Throttling in processor or motherboard. What is the disadvantage of Overclocking processor or Motherboard? **(6 marks)**