The University of the West Indies, St. Augustine
INFO2603 Platform Technologies 1
Semester 1, 2018/2019
Work Sheet #1

Computer Architecture and Organisation

1. Compare and contrast the terms: computer architecture and computer organisation. Use an example to illustrate your points.

2. Using a diagram, identify the four main components of any general-purpose computer and how they are connected.

3. List and briefly describe the possible states that define an instruction execution.

4. List 3 registers found in the CPU. Which register contains the next instruction to executed by the CPU?

5. List and briefly describe any three buses that are used to transport data.

6. What determines the speed of the system bus?

7. Create a table that compares and contrasts the following types of buses in terms of device usage and data transfer speeds: ISA, PCI, SCSI, and USB. List the full names of the acronyms.

8. Briefly describe the Fetch—Decode—Execute cycle.

9. Describe the difference between programmed I/O devices and interrupt-driven I/O devices.

10. What is the benefit of Direct Memory Access?

11. What is a driver? Why is it important?

12. Explain the differences between the address bus and the data bus.

13. Why is the data bus used to classify a microprocessor?

14. Research and list examples of 8-bit, 16-bit, 32-bit, 64-bit microprocessors.

15. Explain how the width of the address bus determines the maximum possible memory capacity of a system.

16. What is the Stored-Program concept of the Von Neumann architecture? Why was it proposed and what are the benefits.

17. Create a table that compares and contrasts a hardwired program and a software program.