**Computer Architecture Assignment**

**Attempt ALL Questions.**

**1. (**a) What is the key idea behind the von Neumann architecture? **[2 marks]**

(b)Using diagram to what extent do modern computers conform to this architecture? **[2 marks]**

**2.** (a) Explain why modern computers contain both Dynamic RAM (DRAM) and Static RAM (SRAM). **[2marks]**

(b) How do modern computers represent signed integer values? Why? **[2 marks]**

**3. (**a) In the context of assembly language programing:

(i) What is an addressing mode? **[2 marks]**

(ii) What are pseudo instructions? Why are they used? **[2 marks]**

(iii) What is the stack? What is it used for? **[2 marks]**

**4.** Computer A has 32 32-bit registers, while Computer B has 16 64-bit registers. Give two advantages that Computer A possesses over Computer B. **[2 marks]**