



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2015/2016**

COURSE NAME : COMPUTER ARCHITECTURE  
COURSE CODE : BNR 21803  
PROGRAMME CODE : BNF  
EXAMINATION DATE : JUNE / JULY 2016  
DURATION : 3 HOURS  
INSTRUCTION : ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

- Q1** (a) State and discuss **THREE (3)** important elements for a computer. (6 marks)
- (b) Briefly explain each of the following specifications for a computer below:
- (i) 4.2GHz
  - (ii) 256MB SDRAM
  - (iii) 80GB Hard Disk Drive
- (6 marks)
- (c) One of the computer system type is Von Neumann architecture. Sketch and explain Von Neumann architecture. (8 marks)
- Q2** (a) Explain briefly memory hierarchy and each of its level. (6 marks)
- (b) Compare optimizations on SDRAM and DDRAM. (8 marks)
- (c) Discuss bus connection scheme and sketch suitable diagram. (6 marks)
- Q3** (a) Illustrate and differentiate between asynchronous timing and synchronous diagram. (6 marks)
- (b) Compare between single programming operation and multi programming operation. (4 marks)
- (c) Discuss **FIVE (5)** state process model.. (10 marks)

- Q4** (a) Sketch example of full adders for addition in computer arithmetic (6 marks)
- (b) Assume A is 1000 and B is 0101, calculate:
- (i) A+B for unsigned addition
  - (ii) A+B for signed addition (8 marks)
- (c) Sketch example hardware for implementing multiplication in computer system. (6 marks)
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- Q5** (a) Sketch diagram for instruction sets format and explain briefly each parts. (6 marks)
- (b) Differentiate between Reduced Instruction Set Computer (RISC) and Complex Instruction Set Computer (CISC). (6 marks)
- (c) State and discuss any **FOUR** (4) types of addressing modes. (8 marks)

- END OF QUESTION -