National University of Computer and Emerging Sciences, Lahore Campus

	Course:	Computer Architecture	**Course Code:**	EE204
	Program:	BS(Computer Science)	**Semester:**	Fall 2016
	Duration:	30 Minutes	**Total Marks:**	20
	Paper Date:	28-11-2016	**Weight**	~4
	Section:	A	**Page(s):**	2
	Exam:	Quiz 4b		

Q1: What is the difference between EPROM and MASK programmed ROM. What is their write ability and storage permanence? **Marks 5**

Q2: Consider a machine with a byte addressable main memory of 64 Kbytes and block size of 16 bytes. Assume that a direct mapped cache consisting of 64 lines is used with this machine. 15 marks

   a. **How is a 16-bit memory address divided into tag, index and offset?**

   b. **Into what line would bytes with each of the following addresses be stored?**
      0001 0001 0001 1011
      1101 0000 0001 1101

c. **Suppose the byte with address 0001 1010 0001 1010 is stored in the cache. What are the addresses of the other bytes stored along with it?**

d. **If the cache is 4-way set associative then tell the location of values (given in part b) in this cache**

e. **If the cache is fully associative then what would be the size of index bits and tag bits?**