



**Department of Computer Science & Engineering**  
**Microprocessor & Computer Architecture**

**UNIT 3 Notes**

**Memory Hierarchy**

<b>Class #</b>	<b>Topics to be Covered</b>	<b>Chapter Title / Reference Literature</b>
1.	Introduction to Memory Subsystem, Bottle neck, Memory Hierarchy Introduction to Cache, Locality of reference and Cache Design Philosophy	<b>Appendix B.1, B.2, B.3</b>  <b>Computer Architecture A Quantitative Approach (5th edition)</b> <b>Hennesy Patterson, MK Morgan Kaufmann</b>  And  <b>Anchor PPT</b>
2.	Cache Design Philosophy Continued: Block Placement, Block Identification, Block Replacement, Read / Write issues with cache	
3.	Direct Map Cache Memory	
4.	Set Associative Cache Memory	
5.	Fully Associative Cache Memory	
6.	Page Replacement Algorithms	
7.	Read / Write Policy	
8.	Performance Analysis	
9.	Cache Optimization	