

**Department of Computer Science & Engineering**

**Microprocessor & Computer Architecture**

**UNIT 2 Notes**

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| **Class #** | **Topics to be Covered** | **Chapter Title / Reference Literature** |
|  | |  | | --- | | Introduction to Pipelining,  3 stage pipelining, 5 stage pipelining | | Text Book T2 Section 4.1, 4.2 |
|  | Performance Analysis, Speed up Calculations…..etc | Text Book T1 **Appendix C-1** |
|  | |  | | --- | | Introduction to Pipeline hazards, Structural Hazards | | Text Book T1 **Appendix C-2** |
|  | |  | | --- | | Data Hazards 1 | | Text Book T1 **Appendix C-2** |
|  | |  | | --- | | Data Hazards 2 | | Text Book T1 **Appendix C-2** |
|  | |  | | --- | | Control Hazard 1 | | Text Book T1 **Appendix C-2** |
|  | Control Hazard 2 & Introduction to Branch Prediction | Text Book T1 **Appendix C-2** |
|  | |  |  | | --- | --- | |  | Branch Prediction 1 | | Text Book T1 **Appendix C-2** |
|  | |  | | --- | | Branch Prediction 2 | | Text Book T1 **Appendix C-2** |
|  | |  | | --- | | Branch Prediction 3 | | Text Book T1 **Appendix C-2** |
|  | Performance Analysis, Speed up Calculations …..etc | Text Book T1 **Appendix C-2** |

**Literature:**

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| --- | --- | --- | --- | --- | --- |
| Book Type | Code | Title & Author | Publication Info | | |
|  |  | Edition | Publisher | Year |
| Text Book | T1 | Hennessy Patterson | Fifth Edition | MK Morgan Kaufmann | 2012 |
| Text Book | T2 | ARM System on Chip, Steve  Furber | Second Edition, | Pearson Education | 2000 |
| Text Book | T3 | ARM System Developer's Guide | Reprint 2009 | Elsevier | 2009 |