**Computer Organization and Architecture (CS157)**

**ST-2 (Detailed Syllabus with source)**

**Book: Computer System Architecture (3rd Edition) by M. Morris Mano**

1. Micro-program Control Memory: p.g. 235-238
2. Address Sequencing: p.g. 238-240
3. Mapping of Instruction: p.g. 241
4. Microprogram Example: Microinstruction format: p.g. 244-250 (**Table 8.2** **very important**)
5. Central processing Unit p.g. 265
6. General Register Organization: p.g. 266 (**Figure 9.2, Table 9.1**)
7. Stack Organization p.g. 270-274 (**Figures 9.3, 9.4**)
8. Instruction Formats p.g. 279-282 till zero-address instructions
9. Addressing Modes: p.g. 283-288 (**Figure 9.7 very important**)
10. Types of interrupts: p.g. 303-304
11. RISC and CISC characteristics p.g. 304-306 (excluding overlapped register windows Berkley RISC)
12. Parallel Processing: p.g. 323-326 (**Fig 10.1, 10.2, 10.3**)
13. Pipelining: p.g. 330 (**Figure 10.6, Table 10.1**)
14. Speed up ratio: p.g. 332 (**Fig. 10.8**)
15. Instruction Pipelining: p.g. 337 (**Figure 10.11, 10.12**)
16. Pipeline Hazards: p.g. 340 (**Figure 10.3**)
17. DMA: p.g. 446-450 (**Figures 12.16, 12.17, 12.18 very important**)

**NUMERICALS (Morris Mano Unsolved questions very very important):**

1. Questions 9.1, 9.18
2. Questions 10.1, 10.2, 10.3, 10.4

PPTs uploaded on LMS Brightspace for these topics can also be used along with book.

Everything has been covered in the class including numericals. Start reading all these topics thoroughly to score better in upcoming tests.