

Th1 Computer System Architecture

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Define clock rate.
 - b. State the function of accumulator.
 - c. What does RISC and CISC stands for?
 - d. What do you mean by cycle stealing?
 - e. State the amdahl's law.
 - f. What is volatile memory?
 - g. Define polling.
 - h. Differentiate between direct and indirect addressing modes.
 - i. What is multiprocessor?
 - j. Define the term computer architecture.
2. Answer **Any Six** Questions 6 x 5
 - a. Explain the different instruction format with a suitable example.
 - b. Draw a functional block diagram of a computer and explain the function of each unit.
 - c. How an instruction is executed? Explain the steps of instruction cycle.
 - d. Explain the segmentation technique used in virtual memory with a suitable example.
 - e. Define interrupt service routine. Explain the characteristics of interrupt handling mechanism.
 - f. Explain in detail multiple bus architecture.
 - g. Define RAM. Discuss different types of RAM.
3. Illustrate how memory addressing and memory operation is done in a personal computer. 10
4. Identify the most popular method of data transfer. Explain interrupt driven I/O method of data transfer. How it is different from programmed I/O data transfer? 10
5. Classify organisation of computers using Flynn's criteria 10
6. Explain in detail SCSI Bus standards. How it is different from USB? 10
7. Define pipeline. Describe the different types of pipeline hazards 10