

TH-I 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. What is computer architecture?
 - b. What are the different types of field contain in an instruction format?
 - c. Define indexed addressing mode.
 - d. What is the requirement of page table?
 - e. What is the use of RAID system?
 - f. Define the types of micro operations.
 - g. Define MIPS.
 - h. Define MAR & MDR.
 - i. Define hit ratio.
 - j. What is parallel processing?
2. Answer **Any Six** Questions 5X6
 - a. Differentiate between SRAM & DRAM.
 - b. Explain the different address instruction format.
 - c. Comparison between I/O mapped I/O & memory mapped I/O.
 - d. How an instruction is executed? Explain the steps of each cycle.
 - e. Why cache memory is needed? Explain the mapping procedures of cache memory.
 - f. Explain five addressing modes with suitable example.
 - g. Explain the working principle USB protocol.
3. What is pipelining? Draw the space time diagram to represent the processing in a pipeline. 10
4. Define interrupt. Explain interrupt initiated I/O method of data transfer to and from peripherals. 10
5. Describe the FLYNN's classification. 10
6. What is bus structure? Explain the basic parameter of bus design. Write the function of each type of bus. 10
7. Draw a functional block diagram of a computer and explain the function of each unit. 10