

4222 - COMPUTER ORGANISATION – II									
Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)				
Lectures	Practical	Credit			Theory		Practical Ex.	Total	
4	-	4	25	-	3Hrs	100	-		125
Pre-requisite		Source	Semester	Theory	Test	Total	TW	PR	Gr Total
4220		COM		75	25	100	-	-	100

Rationale: This course is a continuation of the earlier course in Computer Organisation & deals with Memory & I/O Organisation. Besides Basic Organisation, Interconnection of the above module to the CPU & transfer of data is also dealt with elaborately. A brief study of Pipeline, Vector & Multiprocessing is also introduced.

COURSE CONTENTS		Hrs	Mks
1. MEMORY ORGANISATION		8	10
Main Memory, Ram & Rom chips, Memory Address Map, Memory Connection to the CPU, Auxiliary Memory, Floppy Disks, Hard Disks, Magnetic Tapes, CD ROMS.			
2. RAID TECHNIQUES		8	10
Associative Memory: Hardware Organisation, Match Logic, Read Operation, Write Operation.			
3. CACHE MEMORY		12	20
Associative Mapping, Direct Mapping, Set Associative Mapping, Writing into Cache.			
4. VIRTUAL MEMORY		12	20
Space and Memory Space, Memory Allocation and Mapping. Base & Segment Registers, Paging, Page Replacement, Memory Segmentation.			

5. INPUT - OUTPUT ORGANISATION	12	20
Input Output Interface: I/O bus and Interface Modules, I/O v/s Memory Bus, I/O Mapped I/O & Memory Mapped I/O.		
Input Output Processor (IOP) : CPU - IOP Communication, Intel 8089 IOP.		
6. PIPELINE & VECTOR PROCESSING	12	20
Pipelining: General Considerations, Arithmetic pipeline, Instruction Pipeline.		
Vector Processing: Vector operations, Matrix Multiplication, Memory Interleaving.		4
Introduction to multiprocessing and Array Processors.		
Total	64	100

REFERENCE BOOKS:

1. Computer System Architecture by Morris Mano
2. Computer Organisation and System Architecture by Stalling
3. Microprocessor System Design Concept by Nikitas A. Alexandridis
4. Digital Computer Design by V. Rajaraman

