Student Name   : SHREERANG PRASHANT MHATRE (1032211745)

Academic Session: 2022-2023   Semester Name: SEMESTER-III   Course Year Name: SY BTECH ELE & COMP(SEM)-A

Subject Name : Computer Organization and Operating Systems

Sr No	Unit	Topic Details
1	UNIT-I	Addressing modes, Assembly language
		Instructions and instruction sequencing
		Memory location and addresses, Memory operations
		Clock rate, performance measurement
		Performance – processor clock, basic performance equation
		Basic operational concepts, bus structures
		Basic input and output operations, Stacks and queues, subroutines
		Additional instructions, Encoding of machine instructions
2	UNIT-II	Cache memories – mapping functions
		ROM, speed, size, and cost
		Basic concepts, semiconductor RAM memories
		Buses, interface circuits, standard i/o interfaces: PCI bus, SCSI bus, USB
		Interrupts – interrupt hardware, direct memory access
		Accessing i/o devices
		Replacement algorithms
		Performance considerations
3	UNIT-III	Overview of Operating Systems: Introduction to OS, Architecture,
		Goals & Structures of O.S Evolution of OS,
		Types of operating systems
		Concept of a process, processes and threads
		Concept of Multithreading, types of threads
		Thread programming using Pthreads, Types of scheduling
		Scheduling Algorithms: FCFS, SJFS, Priority, Round Robin
4	UNIT-IV	Memory management requirements, Memory partitioning: fixed partitioning, dynamic partitioning
		paging, segmentation
		Virtual memory file management: overview

Sr No	Unit	Topic Details
		File organization and access, file directories
		File sharing, record blocking
		I/o management: I/O devices, Organization of the i/o functions
		I/o buffering, disk scheduling