

Department of ECE

B. Tech. Mid Question Bank (R22 Regulation)

Academic Year: 2024-25

Semester: V

Subject Name: Computer organization and operating system

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PART-A

MID-I Questions					
Q.No	Questions	Marks	BL	CO	Unit No
1	State the difference between Multiprocessors and Multi Computers.	2M	L1	CO1	I
2	Convert the hexadecimal number F3A7C2 to binary and octal.	2M	L3	CO1	I
3	Explain about Register Transfer Language.	2M	L1	CO1	I
4	Describe about Computer register and Computer Instruction.	2M	L1	CO1	I
5	Explain about Register Stack organization.	2M	L1	CO1	I
6	List of logical Microoperations.	2M	L3	CO1	I
7	Write the basic principle of virtual memory.	2M	L2		
8	What is RAID?	2M	L1	CO2	II
9	Difference between virtual memories and secondary storage memory.	2M	L4	CO2	II
10	Explain about cache memory.	2M	L1	CO2	II
11	Define address sequencing.	2M	L1	CO2	II
12	Define Microprogram.	2M	L1	CO2	II
13	Define interrupt.	2M	L1	CO3	III
14	What is strobe signal in asynchronous data transfer.	2M	L2	CO3	III
15	What is the need for Input output Interface?	2M	L1	CO3	III
MID-II Questions					
16	Explain Memory Bus.	2M	L2	CO3	III
17	Difference between synchronous and asynchronous Communication.	2M	L1	CO3	III
18	Name standard serial communication protocols.	2M	L1	CO3	III
19	Explain about Deadlock Characterization.	2M	L1	CO4	IV
20	List various functions of Operating system.	2M	L1	CO4	IV
21	Differences between internal fragmentation and external fragmentation.	2M	L4	CO4	IV
22	Difference between page and segment.	2M	L4	CO4	IV
23	What is Virtual Memory? Why is it required?	2M	L1	CO4	IV
24	Define system call.	2M	L1	CO4	IV
25	List the operations on a file.	2M	L1	CO5	V
26	Define mounting. What is the need for mounting in a file system?	2M	L1	CO5	V
27	Discuss about back-up and recovery of a file system.	2M	L2	CO5	V

28	Discuss the goals of protection.	2M	L2	CO5	V
29	Name file system allocation methods.	2M	L1	CO5	V
30	Define file system structure.	2M	L2	CO5	V

PART-B

MID-I Questions					
Q.No	Questions	Marks	BL	CO	Unit No
1	Explain about the Bus structure.	4M	L1	CO1	I
2	Explain about floating point representation.	4M	L1	CO1	I
3	Explain about the basic operation of the computer.	4M	L1	CO1	I
4	Discuss about Instruction Codes.	4M	L2	CO1	I
5	Sketch the block diagram of a 4-bit parallel adder and subtractor and explain its significance and functionality.	4M	L3	CO1	I
6	List differences between CISC and RISC Architectures.	4M	L1	CO1	I
7	Explain in detail about 4-bit Arithmetic circuit.	8M	L1	CO1	I
8	Describe about Arithmetic Logic Shift Unit.	8M	L2	CO1	I
9	Explain an Addressing mode? List and explain the various addressing modes with an example.	8M	L1	CO1	I
10	List the differences between hardwired control and micro programmed control.	4M	L1	CO2	II
11	Explain briefly about address sequencing in control memory.	4M	L1	CO2	II
12	Explain operation of Control unit of basic computer with diagram.	4M	L1	CO2	II
13	Sketch and explain the microinstruction format.	4M	L3	CO2	II
14	Explain about ROM, PROM, EPROM, EEPROM.	4M	L4	CO2	II
15	difference between subroutine and an interrupt-service routine.	4M	L4	CO2	II
16	Sketch a neat block diagram, explain in detail about micro programmed control unit and explain its operations.	8M	L3	CO2	II
17	Explain the cache memory mapping techniques with relevant diagrams.	8M	L1	CO2	II
18	Analyze with the help of a neat block diagram, explain the decision-making capabilities in the control unit.	8M	L4	CO2	II
19	Explain in detail about Input-Output Interface.	4M	L1	CO3	III
20	Explain strobe control method of Asynchronous data transfer Technique.	4M	L1	CO3	III
21	Discuss handshaking method of Asynchronous data transfer Technique.	4M	L1	CO3	III
UNIT-II Questions					
22	Analyze Using block diagram explain the working of DMA Controller.	4M	L4	CO3	III
23	Analyze When a device interrupt occurs, how does	4M	L4	CO3	III

	the processor determine which device issued the interrupt? Explain.				
24	Analyze What is the basic advantage of using interrupt-initiated data transfer over transfer under programmed control without an interrupt? Explain interrupt-initiated I/O in detail.	4M	L4	CO3	III
25	What are the different types of operating systems? Explain them in detail.	4M	L1	CO4	IV
26	Explain about the implementation of the hashed page table approach.	4M	L1	CO4	IV
27	Briefly explain about demand paging.	4M	L1	CO4	IV
28	Discuss Characteristics of deadlock.	4M	L2	CO4	IV
29	Explain about bankers algorithm.	4M	L1	CO4	IV
30	Explain about paging in detail.	4M	L1	CO4	IV
31	What is the need for system calls? Explain the types of system calls provided by an operating system with respect to memory management.	8M	L1	CO4	IV
32	How to avoid deadlock? Illustrate with an example.	8M	L1	CO4	IV
33	Consider there are three page frames which are initially empty. If the page reference string is 1,2,3,4,2,1,5,3,2,4,6. The number of page faults using the optimal page replacement policy ,LRU, FIFO?	8M	L1	CO4	IV
34	Explain the concept of file sharing. What are the criteria to be followed in systems which implement file sharing?	4M	L1	CO5	V
35	Explain in detail about free space management.	4M	L1	CO5	V
36	Explain about directory Implementation.	4M	L1	CO5	V
37	Discuss the log structured file system implementation.	4M	L2	CO5	V
38	Explain the following disk scheduling algorithm with proper diagram a) FCFS b) SSTF	4M	L1	CO5	V
39	Explain the following disk scheduling algorithm with proper diagram c) SCAN d) LOOK e) C-SCAN.	4M	L1	CO5	V
40	Explain different file access methods in detail.	8M	L1	CO5	V
41	Explain contiguous file allocation method with example.	8M	L1	CO5	V
42	Explain in detail about file sharing and protection.	8M	L1	CO5	V