

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING IV SEMESTER B.TECH.

Make up semester examination

SUBJECT: Essentials of IT (CSE 4302 – OE 1)

Duration: 3 Hours

Date: 29/07/2022

MAX.MARKS: 50

Note:

1. Missing data may be assumed suitably.

Q.No	Questions				Marks	CLO	AHEP LO	Blooms Taxonomy	
									level
1	Discuss the ma	2	1	1	2				
2.	How three layers of computer system helps in better architecture? Justify						1	1	3
	with suitable si	ketch.							
3	Evaluate the difference in page fault and page hit ratio considering FIFO page replacement algorithm for the page request sequence (7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 1, 2, 0) assuming 3 memory frames are available, and all are empty in the initial condition.						1	1	4
4	Detail the problems in cooperating processes with illustrative diagram.						3	5	3
5	"Thread is a part of program, but a process is program itself" – Justify this statement. Also, detail how thread creation is executed with suitable sketch.						2	1,3,5	4
6	Compute the a response time pre-emptive sh	5	2	1,3,5	4				
		Dragona		Dunct time	1				
		Plocess			-				
		PI	1	3					
		P2	2	4					
		P3	1	2					
		P4	4	4					



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7	With a neat sketch differentiate functional difference between seek time and rotational latency.	2	3	5	2
8	Justify how the load of the CPU with Programmed I/O(PIO) is reduced at times by offloading some work to a special purpose processor called a DMA controller with a schematic sketch.	3	3	5	2
9	 Evaluate which of the following disk scheduling algorithm is best in terms of minimal READ/WRITE head movements for queue request {93, 176, 42, 148, 27, 14,180}. i) FCFS scheduling ii) SSTF scheduling iii) SCAN scheduling Assume the current position of READ/WRITE head as 55 and disk contains total of 200 tracks {0-199}. 	5	3	5	5
10	Using a table customerloan with fields {custid, loanno, amountindollars} differentiate between three DBMS schema levels.		4	1,3,5	4
11	Write down the differences between file and DBMS operation.	3	4	1,3,5	2
12	List the types of attributes used in ER modeling with its definition and example. Illustrate with employee database assuming suitable fields.		4	1,3,5	2
13	Enumerate with a schematic sketch how a SQL request is processed in a DBMS?	2	5	5	4
14	Using data definition language, create a table named "customer" with fields {customerid, customername, dateofreg, userid, password} with following constraints and insert atleast three values in the table. i) customerid as primary key ii) customername, password being not null iii) userid be unique	3	5	5	4
15	 Considering item table with fields {itemid, itemname, unitprice, class}, write down SQL statement for the following requirement 1. List the minimum unit price from the item table 2. List the maximum unit price from the item table 3. List the average unit price of class A items in item table 4. List the minimum and sum of all the unit price of the items in item table 5. List the total number of items in the item table 	5	5	5	4