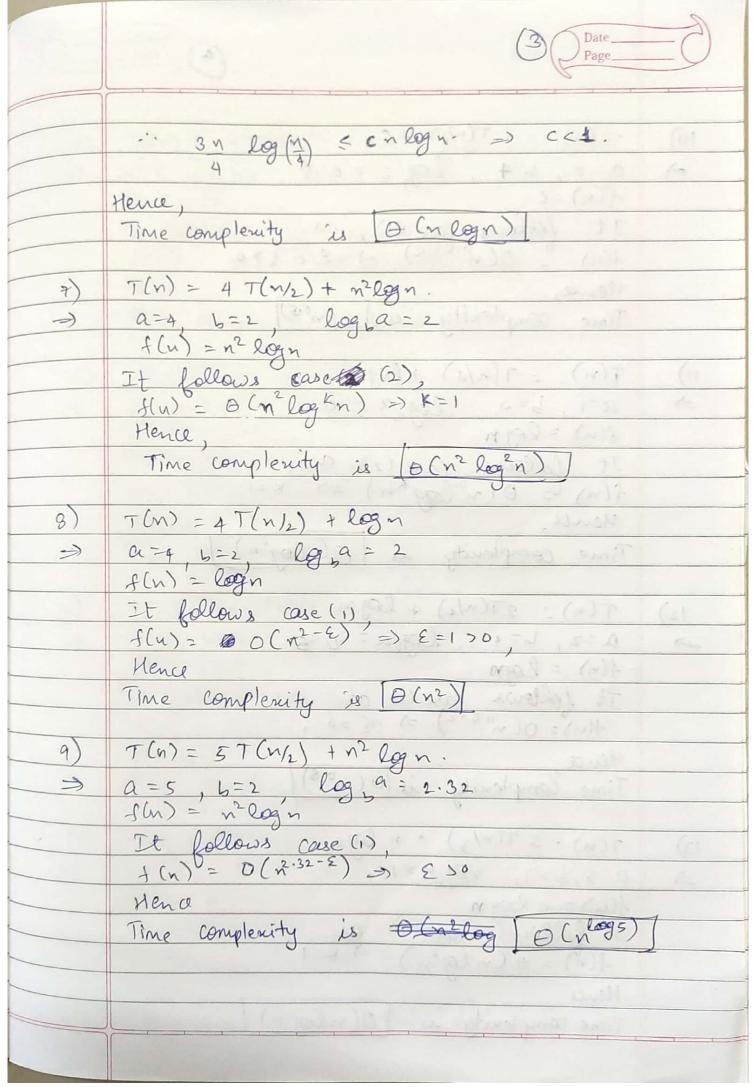
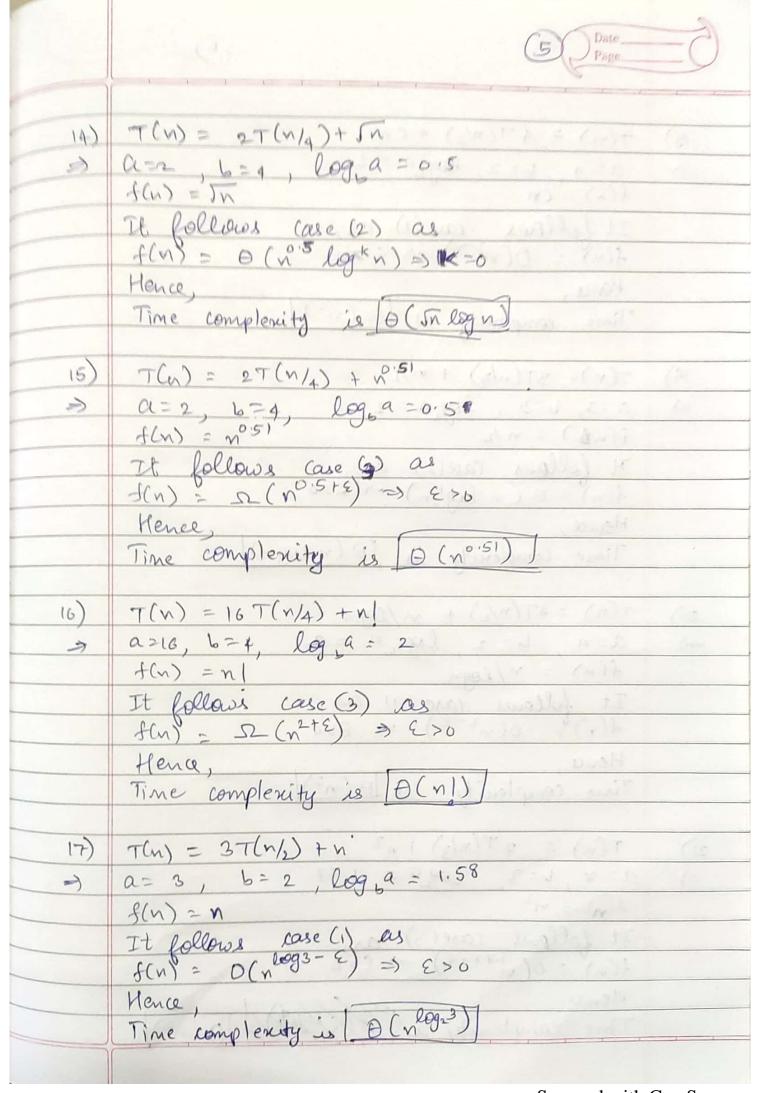
(0)	Date Page
	Mana: Sugally Chindangs
3)	T(n) = 4 T(n/2) + n2
>	$a = 4$ , $b = 2$ , $\log_{b} a = 2$
	$f(n) = n^2$
	It follows case (2) as
	It follows case (2) as $f(n) = O(n^2 \log^k n)  \text{with } k=0.$
	Hence,
	Time complexity is $\Theta(n^2 \log n)$ .
- 1	=1)
4)	T(n) = 9T(n/3) + n
→)	$a=9, b=3, lg_{a}=2$ $f(m)=m$
1.50	J(m) = M
	It follows case(i) as, $f(n) = D(n^{2-\epsilon}) \Rightarrow \epsilon = 1 > 0$ ,
	Hena Hena
	Time complexity is $\Theta(n^2)$ .
	complemely as [SCM],
5)	T(n) = T(2n/3) + 1
->	$\alpha = 1$ , $b = 3/2$ $\log \alpha = 0$
	$a=1$ , $b=3/2$ , $log_{1}a=0$
-	It follows case (1) as $t(n) = 1$ $t(n) = 0 (n^{2} \log k_{n}) \text{ with } k = 0$ Hence
	fln) = o(n° logkn) with k=0
	10.00
	time complexity is [O(logn)]
6)	
=)	$T(n) = 3 T(n/k) + n \log n$
	$a = 3$ , $b = 4$ $log_b a = 1-26$ $f(n) = n log_m$
	It bollows con a (a)
	It follows case(3) as, (i) $f(n) = a(h^{1.26+\epsilon}) \Rightarrow \epsilon > 0$
	(ii) 3f(n/4) < cf(n)



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10)	T(n) = 2 T(n/4) + C.
=>	a=2, b=4, log 2=0.5
	f(n)=(
	It follows case (1), as f(n) = 0(n°5-2) => 2:0:5>0
	f(n) = 0(n'5-2) => 20.570
	Hence,
	Time complexity is [O(n0.5)]
11)	MODE THE CAN IN
11)	T(n) = T(n/4) + log n
	$a=1, b=4, log_{a} = 0$
	$f(u) = \log n$
	It follows (ase (2) as.  f(n) = D(n° logg × n) => x=1
	1000000
	Time complexity is O(log2n)
	a leng as le cag "
12)	T(n): 2T(n/x) + log n.
->	a=2, 6=4, loga= D. 5
	- X 59 M
	It follows case (1) as t(n) = O(n0.5-2) => E>0,
	th)= O(n°52) => E>0,
	Time Canalait 1 - Cast
	Hence Time complexity is [D(n°.5)]
13)	$T(n) = 3 T(n/2) + n \Omega n$
A	13 13 1,
	ff = x 0 m
	It follows case(2) as
	It follows case(2) as $f(n) = O(n \log k_n) \rightarrow k=1$ Hence
	Time complexity is $O(n\log^2 n)$



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18)	T(n) = 4 T(n/2) + cn 1
)	a=4, b=2 log_b
	$f(n) = cn$ It follows case(1) as, $f(n) = O(n^{2-\alpha}) \Rightarrow 2 > 0$
	Time complexity is [6 (n2)]
19)	T(n) = 3T(n/3) + n/2
=	a=3 h=3 log a=1
	f(nb) = n/2
	It follows case(2) as, $f(n) = O(n \log^{k} n) \rightarrow k = 0$
	Hend,
	Time complexity is [O(nlogn)]
20)	T(n) = 4T(n/n) + 1/222 + 1/222
	$T(n) = 4T(n/2) + m/log n$ $a = 4$ $b = 2$ $log_1 = 2$
	a=4  b=2  log  a=2 $f(n) = n/log n$ $T + hold = a + b = 2$
-	It follows (ase (1) as, $f(n) = o(n^{2-\epsilon}) \Rightarrow \epsilon > 0$
	Tena
	Time complexity is IO (n2)
21)	$T(n) = 7T(n)_2 + n^2$
)	$T(n) = 7T(n)_3) + n^2$ $a = 7, b = 3, log_a = 1.77$
	) cm
	It follows case(3) as, $f(n) = O(n^{1+7+2}) \Rightarrow 2 > 0$ Hence
-	Time complexity is to ( 18 (n2))

