

OPERATING SYSTEM (CS-206)

Lecture-5

JAISHREE MAYANK

ASSISTANT PROFESSOR

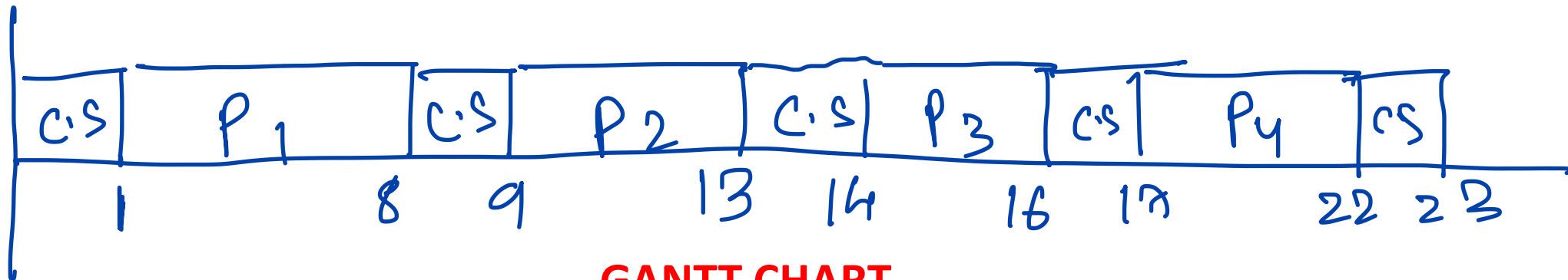
IIITDM Kancheepuram

FCFS

Context Switch

Overhead = 1 time quantum.

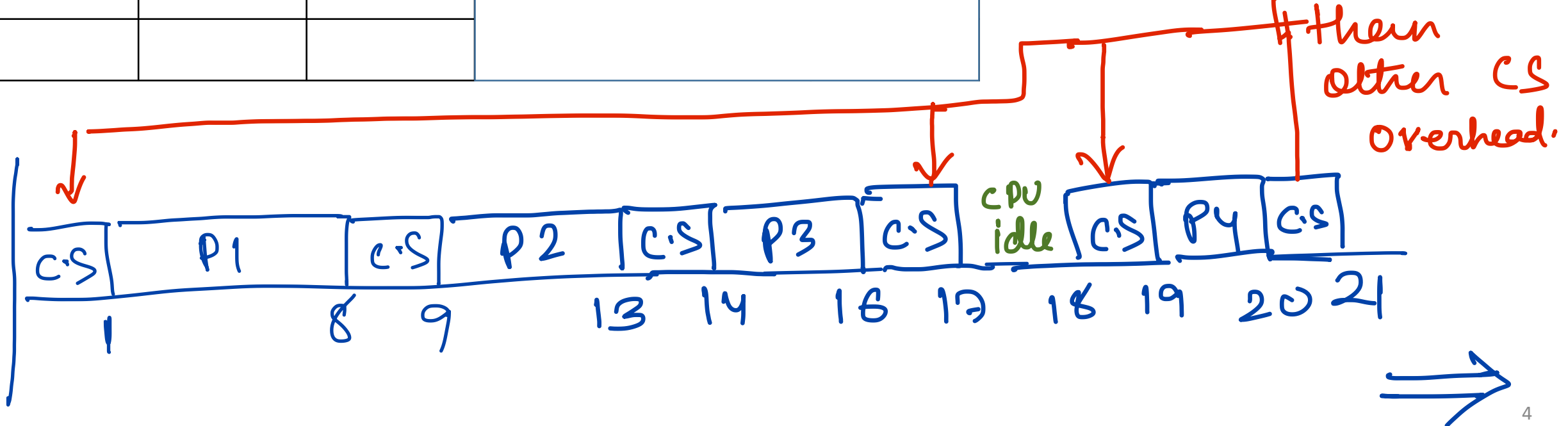
PID/P#	AT	BT	CT/FT	TAT	WT	LT
1	0	7	8	8	1	1
2	0	4	13	13	9	9
3	0	2	16	16	14	14
4	0	5	22	22	17	17



GANTT CHART

FCFS

PID/P#	AT	BT	CT/FT	TAT	WT
1	0	7			
2	2	4			
3	4	2			
4	18	1			



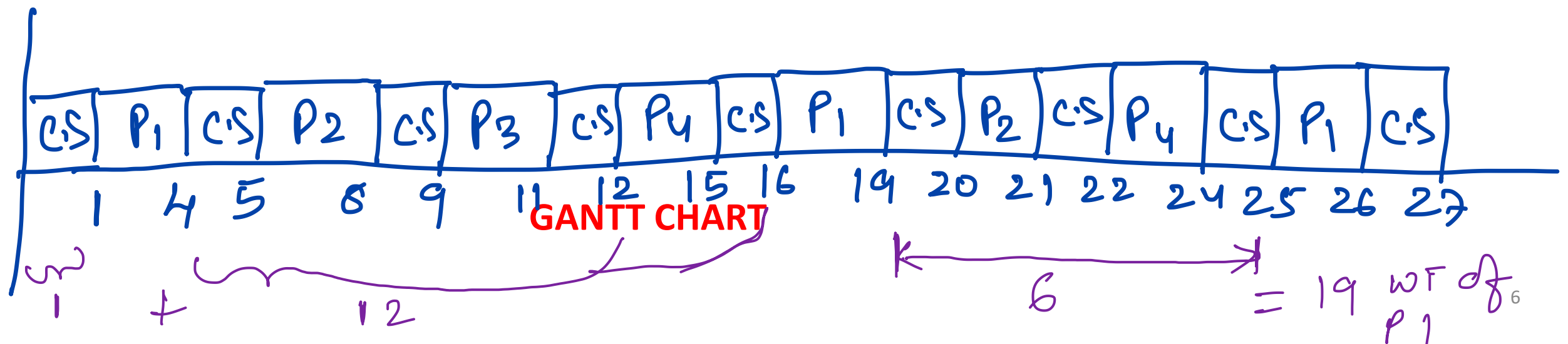
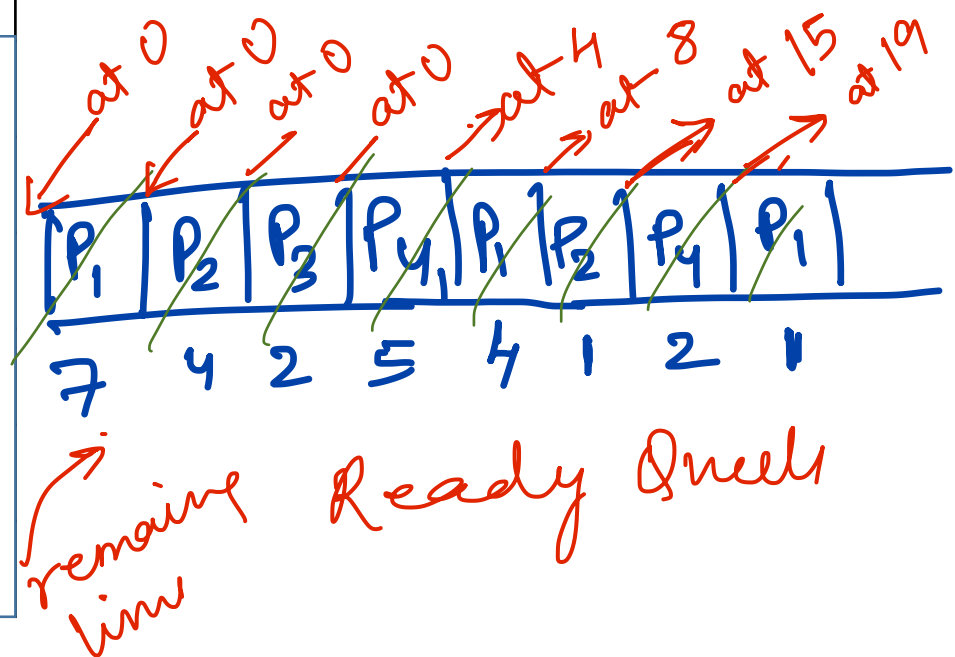
$$\text{CPU Utilization} = \frac{\text{Time CPU is not doing useful work} + \text{context switch time} + \text{processor idle time}}{\text{Total Schedule length (TSL)}}$$

$$= \frac{21 - 7}{21} \times 100$$

RR

quantum = 3
Context switch overhead = 1 time unit

PID/P#	AT	BT	CT/FT	TAT	WT	RT
1	0	7	26	26	19	1
2	0	4	21	21	17	5
3	0	2	11	11	9	9
4	0	5	24	24	19	12

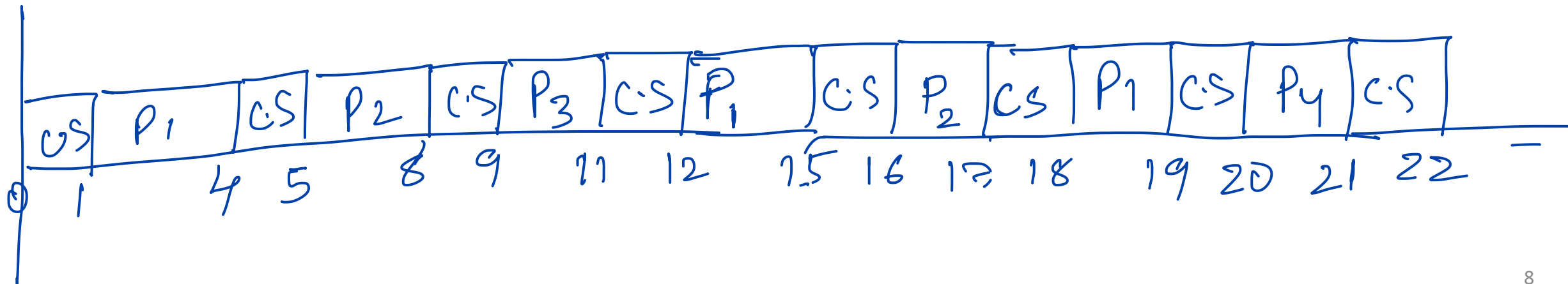
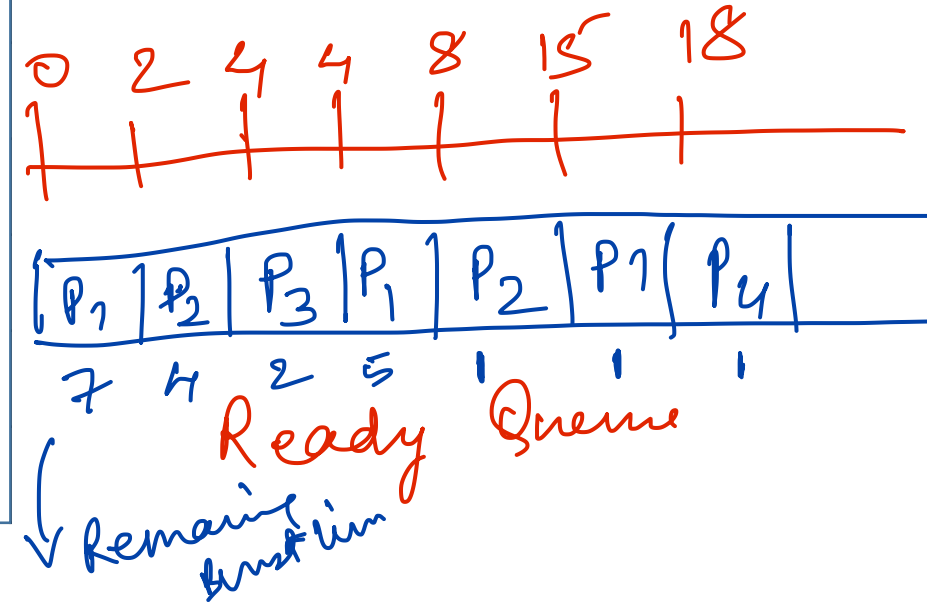


$$\text{Utilization} = \frac{27 - 9}{27} \times 100$$

RR

C.S Overhead = 3 time quantum

PID/P#	AT	BT	CT/FT	TAT	WT	RT
1	0	7	19	19	12	1
2	2	4	17	15	11	3
3	4	2	11	7	5	5
4	18	1	21	3	2	2



$$\text{Utilization} = \left(\frac{22 - 8}{22} \right) \times 100 \%$$

