Bahria University
Discovering Knowledge

Operating System
BSCS- 5th A
Department of Computer Science
Bahria University, Lahore Campus

Quiz: [2]

Best

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Evaluation of CLO	Question Number	Marks	Obtained Marks
CLO2: Apply the concepts of memory management, I/O management CPU management and processor management etc.	1	1.5	1.0
	2	1	1.0
Total Marks		2.5	2.0

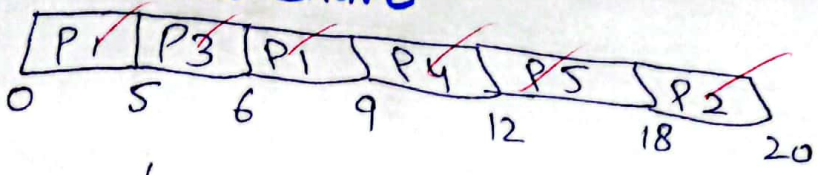
stion – 1:

Consider the system of five processes (P1 to P5) given below with their arrival time, burst time, and priority. Apply the Preemptive Priority CPU Scheduling Scheme to execute all the processes. Draw the Gant chart, calculate wait time of each process and average turnaround time. Note, smaller the number have higher the priority.

Process	Arrival Time	Burst Time	Priority
P1	0	3	2
P2	3	2	3
P3	5	1	1
P4	6	4	3
P5	2	5	4

Answer:

Gant Chart



Avg. wait = $\frac{(6-5)+18+5+9+12}{5} = 9.8$

Avg. Tat = $\frac{9+20+6+12+18}{5} = 13$

Throughput = $20/5 = 4$

1.0

b. Consider the given system two processes (P1 and P2) and five semaphore variables S, R, X, Y, & Z. The initial value of each semaphore variable is one. Apply the concept of process synchronization, justify which process would execute prior than other and will both processes execute successfully?

P1	Wait (R); ... Wait(S); ... Signal(R); Wait(R); ... Signal(R); Wait(S); ... Signal(S);
P2	Wait(X); ... Wait(Z); ... Signal(X); Wait(Y); ... Signal(Z); Wait(Y); ... Signal(Y);

Answer:

Both of them can be put to execution first, and non of them will be completely executed.

1/1