

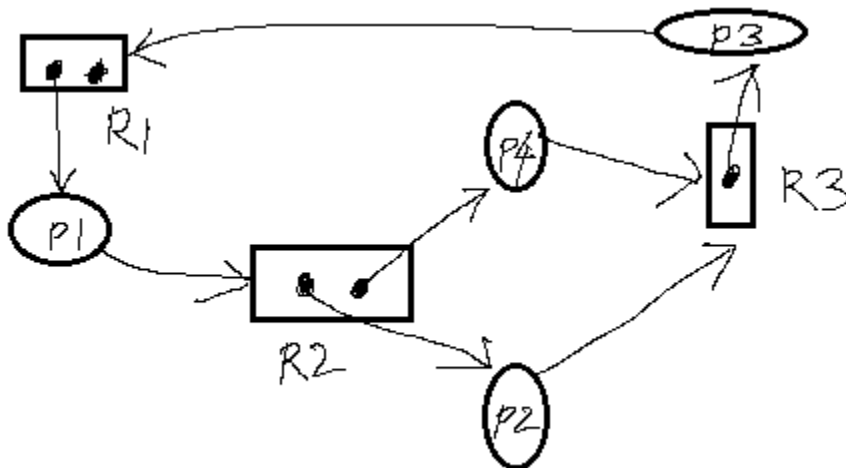
**Department of Computer Science & Information Technology**  
**Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)**  
**B.Sc.5<sup>th</sup> Sem CT1 Session 2021-22**  
**Subject: Operating System**  
**Time: 11.00am to 12.00am (60 minutes)**  
**Max Marks: 30**

PART: A

Note: Attempt all the questions of this part

- ✓ 1. Which of the following are not supposed to be performed by OS routines?
  - a. Process Management
  - b. Memory Management
  - c. I/O Management
  - d. None
  - e. All(a,b and c)
  
- ✓ 2. Pick the correct statement
  - a. Waiting time > Turnaround time > Response Time
  - b. Turnaround Time > Waiting Time > Response Time
  - c. Response Time > Turnaround time > Waiting time
  - d. Waiting Time > Response Time > Turnaround Time
  
- ✓ 3. In which of the following algorithm context switching is not required
  - a. FCFS
  - b. SJF
  - c. RR
  - d. Both a and b

Consider the following resource allocation graph for Q.No.4 and 5



4. With the current allocation the system is
- A. In deadlock state
  - b. In safe state
  - c. Neither deadlock nor in safe state
  - d. Cannot determined
5. Which of the following is not the safe sequence
- a. P3,P2,P4,P1
  - b. P3,P4,P2,P1
  - c. P3,P1,P2,P4
  - d. none
6. Consider a system with three processes that require a,b,c instance of some resource during peak demand. What should be the minimum number of instances of the resource required to avoid any possibility of deadlock.
- a. a+b+c
  - b. a+b+c-3
  - c. a+b+c-2
  - d. a+b+c-1

PART:B

Attempt any three questions only each carry six marks

1. Explain multilevel feedback queue scheduling.

2. Explain PCB.

3. Consider the table

Process	Arrival Time	Processing Time	
A	0	8	
B	0	6	
C	4	3	
D	7	15	
E	12	3	

Draw only Gant chart for FCFS,SJF and calculate avg waiting time in both the case.

4. Explain Round Robin algorithm.

5. Consider a system with Three process which requires four resource type A,B, C, D as given below find the safe sequence if possible.

Process	Allocation				Max				Available			
	A	B	C	D	A	B	C	D	A	B	C	D
P0	0	0	1	2	0	0	1	2	1	5	2	0
P1	1	0	0	0	1	7	5	0				
P2	1	3	5	4	2	3	5	6				

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