



**St. Mira's College for Girls, Pune**  
**(Autonomous-Affiliated to Savitribai Phule Pune University)**  
**Subject: BS61701-Operating systems (BSc computer science)**  
**SEMESTER:VI**  
**Year (Example: 2020-2021)**

1. Unit No.: 1,2,3,4
2. Employability/Entrepreneurship/Skill development - Skill development .  
Internal assessment based on bankers algorithm problem solving

Answer the following questions using Banker's Algorithm

- i) What is the content of need Matrix.
- ii) Is the system in safe state? If yes, give the safe sequence.

**SOLVE USING BANKERS ALGORITHM -5MARKS**

Process	Mat			Allocation			Available		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
P1	7	5	3	0	1	0	3	3	4
P2	3	2	2	2	0	0			
P3	9	0	2	3	0	2			
P4	2	2	2	2	1	1			

- 1) Calculate the need matrix
- 2) Give the safe sequence
- 3) If the request from p1 arrives for (2,2,4) can be it granted immediately

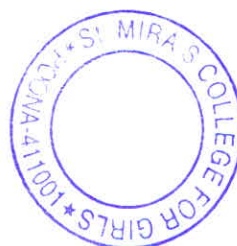
Arjaji Sharma  
roll No - 5621

3. Allocation      Max      Available

	A	B	C		A	B	C	A	B	C
P <sub>0</sub>	2	8	5	P <sub>0</sub>	3	10	6	0	2	1
P <sub>1</sub>	2	2	3	P <sub>1</sub>	3	4	3			
P <sub>2</sub>	3	2	2	P <sub>2</sub>	3	7	8			
P <sub>3</sub>	1	1	3	P <sub>3</sub>	1	2	1			
P <sub>4</sub>	3	3	4	P <sub>4</sub>	3	8	7			

ii) Initialize finish = {f, f, f, f, f}  
 look = Available = {0, 2, 3}

check(h) = ...



Principal Incharge  
St. Mira's College for Girls