Dhaka University of Engineering & Technology, Gazipur

Department of Computer Science and Engineering

Course Title: Operating System Sessional

Course Code: CSE 3222

Lab 02: Implementation of Banker's Algorithm

Considering a system with five processes P0 through P4 and three resources of type A, B, C. Resource type A has 10 instances, B has 5 instances and type C has 7 instances. Suppose at time t0 following snapshot of the system has been taken:

Process	Allocation	Max	Available
	A B C	A B C	A B C
P_0	0 1 0	7 5 3	3 3 2
P_1	2 0 0	3 2 2	
P_2	3 0 2	9 0 2	
P_3	2 1 1	2 2 2	
P_4	0 0 2	4 3 3	

Task 01: Find the content of the Need matrix

Task 02: Is the system in a safe state? If yes, then find the safe sequence and print it.

Task 03: Suppose now process P1 requests one additional instance of resource type A and two instances of resource type C, can the request be granted immediately? If granted, then print the sequence.

Task 04: Again, a request for (3,3,0) by P4 happened. Now, can the request be granted immediately?