SSN COLLEGE OF ENGINEERING, KALAVAKKAM – 603 110
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
B.E. Computer Science and Engineering
CS6801 MULTICORE ARCHITECTURES & PROGRAMMING

Date: 5-2-2018, 8.00-9.30 AM **UNIT TEST – 2** **Max. Marks: 50**
Academic Year: 2017-2018 EVEN **Batch: 2014-2018**
Semester: 8 **Faculty: Dr.DVVPrasad / K.Lekshmi**

Qn. No	Part - A	Marks	(KL,COn)
1.	List the requirements of mutual exclusion?	2	K1,CO2

2.	Consider the following code fragment
	acquire(s1),
	a++;
	acquire(s2);
	v++;
	release(s2);
	release(s1);
	s1 ,s2 are the semaphores. All variables are atomic. Now consider two threads running this fragment of code simultaneously. Can there be a deadlock?
		2	K3,CO2

3.	What are the three conditions for the deadlock to occur?	2	K2,CO2
4.	What is the difference between strong and weak semaphore ?	2	K2,CO2
5.	Define Amdahl's law.	2	K1,CO2
	Part – B Answer all questions (16+16+8)		
6.	Explain the impact of program and data structures on performance of a system.	16	K2,CO2
	OR		
7.	Write a note on scalability issues in performance of a system.	16	K1,CO2
8.	Explain the various Synchronization Primitives	16	K1,CO2
	OR		
9.	Explain the different ways of communication between threads and processes.	16	K2,CO2
10.	Given the process resource usage and availability as shown in the table below. Draw the resource allocation graph.	8	K3,CO2

Process	Hold Resources			Outstanding Requests			Resources Available		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
P1	2	0	0	1	1	0	0	0	0
P2	3	1	0	0	0	0			
P3	1	3	0	0	0	1			
P4	0	1	1	0	1	0			

OR

11. Write a note on Data Races. 8 K1,CO2

************B E S T O F L U C K************

Prepared by	

Reviewed by HoD, CSE