Seat No.								

KADI SARVA VISHWAVIDYALAYA

B.E. Semester-VIII Examination (April-2022)

SUBJECT CODE: IT801-N **SUBJECT NAME: Distributed and Parallel Computing**
DATE: 08/04/2022 **TIME: 12.30 P.M. to 3:30 P.M.** **TOTAL MARKS: 70**

Instructions:
1. Answer each section in separate Answer Sheet.
2. All questions are compulsory.
3. Indicateclearly, the options you attempted along with its respective question number.
4. Use the last page of main supplementary for rough work.

SECTION –1

Q-1. **A)** Explain Counter implementation in synchronization. **[5]**

B) Explain Message passing multicomputers in detail. **[5]**

C) Explain Following Terms in detail **[5]**

1) Time Complexity
2) Latency Hiding

OR

C) Explain Pipeline Processing with space-time diagram. **[5]**

Q-2. **A)** Explain Static and Dynamic Process Creation in Message- Passing Programming. **[5]**

B) Explain M-ary Divide-and-conquer method. **[5]**

OR

Q-2. **A)** Explain Pipelining for sorting using insertion sort. **[5]**

B) Explain Semaphore in detail. **[5]**

Q-3. **A)** Explain Pipelining for adding numbers with master process and with direct access to slave processes. **[5]**

B) Explain butterfly barrier in detail. **[5]**

OR

Q-3. **A)** Explain Sequential and Parallel process of Prime number generation. **[5]**

B) Explain debugging in detail. **[5]**

SECTION – 2

Q-4.	A)	What is barrier? Explain in detail with figure.	[5]
	B)	Explain Computational Time and Communication Time to evaluate parallel program.	[5]
	C)	Explain Ring Termination Algorithm.	[5]
		OR	
	C)	Explain Tree Algorithm.	[5]
Q-5.	A)	How to solve a System of Linear Equations by iterations.	[5]
	B)	Explain Centralized Dynamic Load Balancing and Decentralized Dynamic Load Balancing.	[5]
		OR	
Q-5.	A)	Explain shared memory multi processor using crossbar switch.	[5]
	B)	Explain OPENMP in detail.	[5]
Q-6.	A)	What is deadlock in shared memory programming? Explain in detail.	[5]
	B)	Explain Distributed shared memory programming primitives.	[5]
		OR	
Q-6.	A)	What is monitor in shared memory programming? Explain Pthread condition variables.	[5]
	B)	How to implement Distributed shared memory? Explain in detail.	[5]

********BEST OF LUCK********