Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

		GUJAKAT TECHNOLOGICAL UNIVERSITT	
N	ME - S	EMESTER- I (New course) • REMEDIAL EXAMINATION – SUMMER 201	
Sul	bject	Code: 3715106 Date:16/05/20	15
Sul	oject N	Jame: Parallel Programming	
Tiı	me: 1	0:30 am to 1:00 pm Total Marks: 7	70
Inst	truction	18:	
		Attempt all questions.	
	2.	Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Q.1	(a)	Discuss Types of Parallel Computers in detail.	07
	(b)	Discuss Flynnøs Taxonomy of Parallel Architectures.	07
Q.2	(a)	Discuss Design criteria for interconnection network and Explain properties of	07
		interconnection networks.	
	(b)	Discuss Shared memory organization in detail with diagram.	07
	(b)	OR Explain various types of dependencies in a parallel program with example.	07
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Q.3	(a)	Explain Message Passing Routines in detail.	07
	(b)	Explain Race condition with example. How to avoid race condition? OR	07
Q.3	(a)	State and explain Gustafsongs law with equation.	07
Ų.J	(b)	What is granularity? Explain it with types and how does it affects performance	07
	(2)	of parallel program.	0,
ΩA	(a)	Explain Instruction level parallelism with suitable example.	07
Q.4	(a) (b)	Explain cluster computing with its architecture in detail.	07
	(0)	OR	07
Q.4	(a)	Explain Embarrassingly Parallel Computation with suitable example.	07
	(b)	Discuss Massive Parallel processing with example.	07
Q.5	(a)	Discuss various classes of parallel computers.	07
ν	(b)	Discuss concept of multi core processor and explain it with suitable	07
	` /	architecture.	
		OR	
Q.5	(a)	Write a short note on Distributed computing.	07
	(b)	Write a MPI function to perform Row-wise Matrix-vector multiplication using	07
		MPI ALLgather.	
