QP Code : 76369

(3 Hours) [Total Marks: 75]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

SECTION – I

Q 1. a Explain Different Multiprocessor Interconnection Networks. 6
b Define Parallel Processing .Explain Pipelined processor in detail. 6

OR

Q 1. a Write a note Abstract model of parallel Machine. 6
i) Random Access Machine (RAM)
ii) Parallel Random Access Machine (P-RAM).
b With the help of example explain how mutual exclusion works. 6

Q 2. a Explain different benchmarking schemes for measuring parallel performance. 6
b What is the use of cache memory? 7

OR

Q 2. a Explain how matrix multiplication is performed using tightly coupled multiprocessors. 6
b Explain the Parallel reduction algorithm. State the analysis of parallel reduction algorithm. 7

Q 3. a How nCUBE C language be used for parallel processing? Explain with example. 6
b State and explain the Gustafson-Barsis's law. 7

OR

Q3. a State the debugging technique for message passing parallel programs (MPP) with help of space-time diagram. 6
b State the four conditions should hold when the shared memory (SMP) programs give the same output in repeated execution. 7

SECTION – II

Q 4. a What is RPC? Write the steps for Implementing RPC. 6
b Describe a single scheme in which there are as many lightweight processes as these are runnable threads. 6

OR

Q 4. a Explain Remote Object Invocation. 6
b What is namespace? Explain how they are implemented. 6

Q 5. a Explain the concept of Pull and Push Protocol. 6
b Explain any two data centric consistency model. 6

OR

Q 5.	a	Explain any two consistency protocols.	6
	b	Explain any one distribution protocol in brief.	6
Q 6.	a	Explain in brief the CODA file system.	6
	b	Give comparison between 2-phase and 3-phase commit protocol.	7

OR

Q6.	a	Give comparison between CORBA, GLOBE and DCOM.	6
	b	Write a note on Virtual Synchrony.	7
