



- Notes :
1. Solve **any five** questions.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.

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| 1. | a) With suitable diagram, explain Interleaved memory organization. | 8 |
| | b) Compare and contrast following terms.
i) Implicit and explicit parallelism. ii) Static network and dynamic network. | 6 |
| 2. | a) What are data dependencies? Explain name dependencies with example between two instructions. | 6 |
| | b) Explain the basic VLTW approach for exploiting ILP, using multiple issues. | 8 |
| 3. | a) Explain Instruction format and support for explicit parallelism. | 8 |
| | b) Write short note on Superblock. | 6 |
| 4. | a) Differentiate between centralized shared Memory Multiprocessor and Distributed Memory Multiprocessor Systems. | 7 |
| | b) What is Multi-threading? How do you define thread-level parallelism?
How spin locks be implemented using coherence mechanism? | 7 |
| 5. | a) Explain state transition diagram for an individual cache block in a directory based system. | 8 |
| | b) Give the challenges of parallel processing. | 6 |
| 6. | a) Explain architecture of IBM 360 Model 91 in detail. | 8 |
| | b) Explain multiprocessing MIMD mode. | 6 |
| 7. | a) With suitable example explain blocking and non-blocking networks. | 6 |
| | b) Explain dependability and scalability and also write Advantages of cluster. | 8 |
| 8. | a) What are different types of storage devices? Explain flash memory with suitable diagram. | 8 |
| | b) Compare the following:
i) Shared memories and distributed memories.
ii) Static network and dynamic network. | 6 |
