UNIT-I
1. a) What is the difference between an MIMD computer and an SIMD computer? 4
   b) Explain the ATM protocol architecture with a neat diagram 8

   OR
2. a) Differentiate between the monolithic kernel and micro kernel approaches for designing a distributed operating system. State the relative advantages and disadvantages 7
   b) How is call back RPC facility very useful in certain distributed applications? 5

UNIT-II
3. Explain the Election algorithms 12

   OR
4. a) Explain centralized deadlock detection algorithm 7
   b) What is a Phantom deadlock? How to eliminate a Phantom deadlock 5

UNIT-III
5. What is meant by a thread? Explain the different organizations of thread models 12
6. Discuss the various Processor Allocation algorithms in detail 12

UNIT-IV

7. Explain different types of Consistency models 12

OR

8. a) Explain about various update protocols used with replicated files 6
   b) Explain the DASH architecture 6

UNIT-V

9. a) Discuss about ‘C’ thread calls for direct thread management 5
   b) Explain the concept of external memory managers in MACH operating system 7

OR

10. Explain the role of network message server and UNIX emulator in MACHOS 12