

IIT Vadodara
B.Tech. (CSE): Semester VII
Introduction to Distributed & Parallel Computing (CS401)
End Semester Exam

Time: 3 Hours

Max-Marks – 50

Instructions – Question 1 is compulsory with 2 marks each. Attempt any five from the rest. All questions are compulsory and carry equal marks. Answers must be specifically written.

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1. A. Whenever the socket is created, the server specifies the program—true or Fales. Justify.
B. What are the limitations of distributed computing?
C. What is the difference between distributed and parallel computing?
D. Amazon Web Services is an example of IAAS. Justify.
E. What are three widely used models of communications?
F. What are the uses of Google Colab?
G. Can GPU replace CPU? Justify.
H. What is the concept behind virtualization?
I. Multithreading and Multiprocessing are both the same or different.
J. What do you mean by speed up in the context of parallel implementation of a serial program?

2. Explain the application of parallel computing. What are the limitations of parallel computing? Give examples of instruction level and task level parallelism.

3. Describe the working of the OSI model with different layers. Describe the difference between OSI vs. TCP/IP Model.

+4. Describe the working IPv4. What are the steps involved in Client-Server Communication?

5. Describe Uniform Memory Access (UMA) and Non Uniform Memory Access (NUMA) with their advantages and disadvantages.

+6. Why is a GPU suitable for image processing? Give justification with an example.

7. Describe various web services components i.e. SOAP, UDDI, WSDL. Also, describe features of web service.

8. Explain the hardware, operating, server, and storage types of virtualization. How does virtualisation work in cloud computing?