جامعة 6 اكتوبر
October 6 Uuniversity

كليه نظم المعلومات وعلوم الحاسب
Faculty of information system and computer science

October 6 University
Faculty of Information Systems and Computer Science
final exam for 2nd term, Academic year 2018/2019

Department of CS & IS
Study Year/Level: 4th
Course Title: Distributed Systems
Course Code: CS431

Examination Date: 2020-06-03
Examination Starts: Morning
Allowed Examination time: 1 hour(s)
Total Marks: 60 **Marks**

The Examination consists of 4 Question(s) in 2 Page(s)

Instructions of Examination (Read following Questions Carefully answer all of them, assume any messing data)

Question(1): Answer The following questions (20 Marks)

1. A requirement of distributed systems is transparency. What is meant by transparency? Explain the concept and describe the different types of transparencies.
2. Draw the IP address class structure
3. What are the failures that affect the processes? Define each of them
4. What are the ways of implementing message queue attached to link
5. What is an open distributed system and what benefits does openness provide?

Question(2): Answer The following questions in details (10 Marks)

1. Draw client-server architecture?
2. What is a three-tiered client-server architecture?
3. Describe possible occurrences of each of the main types of security threat (threats to processes, threats to communication channels, denial of service) that might occur in the Internet
4. A search engine is a web server that responds to client requests to search in its stored indexes and (concurrently) runs several web crawler tasks to build and update the indexes. What are the requirements for synchronization between these concurrent activities?
5. The host computers used in peer-to-peer systems are often simply desktop computers in users' offices or homes. What are the implications of this for the availability and security of any shared data objects that they hold and to what extent can any weaknesses be overcome through the use of replication?

Question(3): Choose correct answer (20 Marks)

1. Process of writing parallel programs is often referred to as
A- Parallel processes B- Parallel developmentC- Parallel programming D- Parallel computation

2. To provide high-throughput service is measures taken by
A- Efficiency B- Adaptation C- Dependability D- Flexibility

3. The local operating system on the server machine passes the incoming packets to the:
A- server stub B- client stub C- client operating system D- none of the mentioned

4. A global system of interconnected computer networks is known as
A- Ethernet B- Intranet C- Internet D- Ultra-net

5. Three-tier architecture simplifies application's

A- Initiation B- Implementation C- Deployment D- Maintenance

6. A dynamic connection that grows into dynamic networks of networks, is called
A- Cyber cycle B- nternet of things C- Cyber-physical system D- Multithreading

7. Type of architecture that is considered responsible for success of
A- Two-tier architecture B- Three-tier architecture C- n-tier architecture D- Peer-to-Peer architecture

8. A model in which components of a software system are shared among multiple computers is known as
A- Parallel cloud B- Distributed cloud C- Virtualized cloud D- Centralized cloud

Question(4): State for each of the following statements if True or False (10 Marks)

1. An internet provides local users only local services but no internet services.
2. The socket abstraction is used to provide a way of buffering incoming data streams.
3. Local area networks are based on packet broadcasting on a shared medium, mostly Ethernet
4. An internet provides local users only local services but no internet services.
5. Synchronization for pull replication is less disruptive and occurs only when needed by each site, not when a central master site thinks it is best to update.

With My Best Wishes

Dr.Ahmed Nagi