

Course No: SWE 4417
 Course Title: Distributed System.
 Date: 23/ 03 / 2014
 No. of Questions:2
 Time: 1 H.
 Using Calculator (Yes)

University of Palestine



Midterm Exam
 2nd Term 2013/2014
 Total Grade: 20

Instructor Name: Eng. M. Timraz
 Student No.: _____
 Student Name: _____
 College Name: Engineering
 Dep. / Specialist: Software
 Using Dictionary (No)

First Question **No. of Branches (2)** **(10/20)**

Q1 B1: **(5/10)**

Put True or False in the specific table below.

- (1) The client/server model is organized around clients that request services and servers that provide services.
- (2) The scalability is a major feature in distributed system to make is secure system.
- (3) Fundamental models describe properties common to all architectural models often focusing on communications between nodes.
- (4) Cache proxy is a layer between client and server that provide data with replication backup technique.
- (5) Middleware is the software between your application and the operating system and networking on a computer.
- (6) In peer to peer system each client sees other clients in the same time.
- (7) Network provides transparency of the transport interface code.
- (8) Proxy servers can be located at each client, or can be shared by several clients.
- (9) Reliability is ensuring that when something goes wrong, the system can recover or bypass the fault rapidly without loss of information.
- (10) Interaction technique needs to apply on one server only.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>

Q1 B2 **(5/10)**

Choose the correct answer (a, b, c or d) and then put it in the specific table in the model answer note.

- (1)is a wide interconnected collection of computer networks of many different types.
 - a. The distributed System.
 - b. The Internet.
 - c. The middle ware.
 - d. Architectural models.
- (2) Distributed systems can be used in many different ways by persons or systems with different.....
 - a. Attributes.
 - b. Objectives.
 - c. a and b.
 - d. non of the above.
- (3) Server only responsible for data management. This feature is done by.....
 - a. Middle ware.
 - b. Fat client.
 - c. Thin client.
 - d. b and c.

Course No: SWE 4417
Course Title: Distributed System.
Date: 23/ 03 / 2014
No. of Questions:2
Time: 1 H.
Using Calculator (Yes)

University of Palestine



Midterm Exam
2nd Term 2013/2014
Total Grade: 20

Instructor Name: Eng. M. Timraz
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: Software
Using Dictionary (No)

(4) is software that makes hardware useable.

- a. Operating System
- b. Middle ware.
- c. The application.
- d. All of the above.

(5) Typically used as cache for web resources.

- a. Internet.
- b. Proxy server.
- c. a and b.
- d. non of the above.

(6)is protection from compromise or loss of information or investment.

- a. Reliability.
- b. Security.
- c. Load balancing.
- d. non of the above.

(7)High potential throughput can be defeated if the work is not distributed to make maximum use of potential because some of the system is idle.

- a. Reliability.
- b. Time Criticality.
- c. Load balancing.
- d. all of the above.

(8) Time taken by communication service and OS for processing.

- a. Bandwidth.
- b. Latency.
- c. Flow time.
- d. b and c.

(9) Each message transmission over a channel has a bounded time. This feature occurs in...

- a. Asynchronous Systems.
- b. Synchronous Systems.
- c. a and b.
- d. non of the above.

(10)is a widely used communications process for building distributed applications.

- a. Middleware.
- b. RPC.
- c. RMI.
- d. all of the above.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>

Course No: SWE 4417
Course Title: Distributed System.
Date: 23/ 03 / 2014
No. of Questions:2
Time: 1 H.
Using Calculator (Yes)

University of Palestine



Midterm Exam
2nd Term 2013/2014
Total Grade: 20

Instructor Name: Eng. M. Timraz
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: Software
Using Dictionary (No)

Second Question	No. of Branches (3)	(10/20)
------------------------	----------------------------	----------------

<u>Q2 B1</u>	<u>(4/10)</u>
---------------------	----------------------

Imagine that you are working in the Directorate of Education in the northern area of the Gaza Strip, and you are asked to do distributed program to serve all schools in the region and linked in three other areas of the sector in the same program, this program serving teaching and administrative staff of school in entering and collected grades, print certificates, and preservation and respect all of the data related to students for all stages.

Also this system will serve the students to know their grades.

Which degree of synchrony you will base on? (Explain why)

Which degree of communication medium you will base on? (Explain why)

Which model of Fault you will base on? (Explain why)

Which architectural model you will choose? (Explain why)

What is the fundamental technique? (Explain why)

Course No: SWE 4417
Course Title: Distributed System.
Date: 23/ 03 / 2014
No. of Questions:2
Time: 1 H.
Using Calculator (Yes)

University of Palestine



Midterm Exam
2nd Term 2013/2014
Total Grade: 20

Instructor Name: Eng. M. Timraz
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: Software
Using Dictionary (No)

Q2 B3

(6/10)

Under this title, Architectural models are ways to organize the parts and structure the relationships between them.

(1) Design a distributed system for a social organization Working in the service of people wounded and the martyrs in Gaza, It has “4” branches in Gaza, Jabalea, Deralblah and Rafah.

- They interest is to collect data for the wounded and the martyrs and their families.
- They paid a salaries for them by cash transfer bank directly from a system connects all branches with the main branch in Gaza which link to the bank with financial system.
- Each branch has an internet connection with bandwidth 265Kbps.

(2) You should consider the following:

- 2.1 The type of the architectural model.
- 2.2 The type of client and server type. (if you are chosen)
- 2.3 The tire type you need to implement. (if you need)
- 2.4 The number of proxy if you need and its contents. (if you need)
- 2.5 The type of connection between branches and the bank.
- 2.6 The middleware you will use.
- 2.7 The type of protocols you will apply on the network.
- 2.8 The minimum bandwidth you need to the main branch.

(3) Draw a suggestion graph to implement the system above showing all DS parts you use or need.

Course No: SWE 4417
Course Title: Distributed System.
Date: 23/ 03 / 2014
No. of Questions:2
Time: 1 H.
Using Calculator (Yes)

University of Palestine



Midterm Exam
2nd Term 2013/2014
Total Grade: 20

Instructor Name: Eng. M. Timraz
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: Software
Using Dictionary (No)

End of Questions