

Course No: ITGD4103
Course Title: Data Communications and Networks
Date: 05 / 11/ 2012
No. of Questions: 3
Time: 1 hours
Using Calculator (yes)

University of Palestine



Midterm Exam, First Semester
2012/2013
Total Grade: 100

Instructor Name: Dr. Anwar Mousa
Student No.: _____
Student Name: _____
College Name: Faculty of IT
Using Dictionary (No)

• **Answer all Questions**

First Question	No. of Branches (3)	(45/100)
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Q1 B1 **(15/45)**

An image is composed of a matrix of pixels where each pixel is a small dot.

- a. For an image made of only black and white dots how many bit is needed to represent a pixel.
- b. If an image is made of four levels of gray scale (black, a dark gray, a light gray and white), how many bit is needed to represent a pixel.
- c. To represent color image, explain a method in brief.

Q1 B2 **(20/45)**

State the difference between:

- a. Simplex, half-duplex and full duplex channels
- b. Circuit switched and packet switched network
- c. Bridge and router
- a. Unshielded Twisted Pair (UTP) and Shielded Twisted Pair (STP) Cables.

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Q1 B3

(10/45)

Compute the number of links needed to connect 71 devices in a mesh network.

Second Question

No. of Branches (1)

(25/100)

Q2 B1

(25/25)

Compare the OSI and TCP/IP Models in terms of number of layers and functions of each layer.

Third Question

No. of Branches (2)

(30/100)

Q3 B1

(15/30)

stating the advantages, disadvantages and usage of:

- a. Ring topology
- b. Mesh topology

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Q3 B2

(15/30)

Compare the following protocols regarding cabling, topology and transmission speed:

- a) Local Talk
- b) FDDI

End of Questions

Good Luck