

SOUTHAMPTON SOLENT UNIVERSITY

HND COMPUTING - LEVEL 2
HND COMPUTING (BUSINESS INFORMATION TECHNOLOGY) - LEVEL 2
FULL & PART TIME (Years 2 & 3)

COMMUNICATION TECHNOLOGY

Date: Tuesday 30th May 2006

Time: 13:30 - 15:30

INSTRUCTIONS TO CANDIDATES

Time allowed for this examination is **TWO** hours.

This paper contains **FOUR** questions.

Candidates are required to answer **FOUR** questions.

The allocation of marks is indicated on the paper.

Calculators may be used as University policy.

QUESTION ONE

Networks usually use the OSI model. Some layers are only implemented if needed. A common network configuration uses TCP/IP and Ethernet over Cat 5E cable.

- a) List the seven layers of the OSI model from Application at level 7 to level 1.
(4 Marks)
- b) Give one example of electronic equipment used at each of the layers 1, 2 and 3.
(3 Marks)
- c) Briefly describe some possible functions of a Router in an Ethernet network. Include a description of the numbering system the Router would use to identify other machines.
(6 Marks)
- d) Define CSMA / CD and describe how peer-to-peer connection is established using CSMA / CD on an Ethernet bus.
(5 Marks)
- e) List the layers of TCP/IP.
(2 Marks)

QUESTION TWO

In store cash registers that communicate with central machines are part of a system called EPOS.

- a) Describe the difference between using stand-alone cash registers and using EPOS.
(6 Marks)
- b) Sales between business use EDI, rather than EPOS. Describe the benefits of EDI over a manual ordering system.
(6 Marks)
- c) List four possible Physical connection methods for EPOS and EDI.
(4 Marks)
- d) List four software security methods used to protect networks.
(4 Marks)

QUESTION THREE

The Internet has changed the availability of data and had an effect on society.

- a) What is meant by the term "Intranet" as opposed to "Internet"? (2 Marks)
- b) What are the possible uses of an Intranet? (4 Marks)
- c) Discuss the effect of the Internet and Intranets on education and the location of workers. In particular discuss the need to be at a central location. (6 Marks)
- d) Describe the main requirements of the 1998 Data Protection Act. (3 Marks)
- e) What is Video Conferencing and what sort of network quality of service does it require? (3 Marks)
- f) Describe TWO of the potential health hazards associated with prolonged use of computers. (2 Marks)

QUESTION FOUR

- a) Give three examples of the laws governing the information held or transferred on networks. (3 Marks)
- b) Describe an example of 3 tier or N Tier computing. (6 Marks)
- c) Describe the advantages and problems associated with a networked distributed 3 tier or N Tier computing. (6 Marks)
- d) Describe the basic characteristics of ATM. (3 Marks)
- e) Why is a SONET implementation considered desirable ? (2 Marks)