

OLLSCOIL NA hEIREANN
THE NATIONAL UNIVERSITY OF IRELAND, GALWAY

SEMESTER II EXAMINATIONS 2000-2001

SECOND YEAR BA INFORMATION TECHNOLOGY

CT245 TECHNOLOGICAL FRAMEWORKS II

Prof. D. Bell

Dr. G. Lyons

Ms. P. Byrne

Time allowed: TWO hours

ANSWER QUESTION ONE AND ANY TWO OTHERS

1. (a) Describe the LAN topologies of star, ring and bus and explain the implications of each for data security on a local area network. [20]
(b) Explain the methods used to detect errors in data communications and how these errors may be subsequently corrected and prevented. [20]
2. (a) Explain the role of a file server and the functions it might carry out in the management of a local area network. [20]
(b) Explain the principles of packet-switching. What are its advantages in a data communications network? [10]
3. (a) Explain the following terms when used in data communications:
EDI ; bandwidth ; TCP/IP ; modulation ; CSMA/CD [15]
(b) Compare the communications media forms of telephone, television and computer in terms of the barriers and opportunities each provide. [15]
4. Discuss the origins and development of the Internet and its current role as a vehicle for research and for commerce. [30]
5. (a) Choose two areas where multimedia applications are used today and explain the advantages of these over traditional work methods. [20]
(b) Write brief notes on a topic you have researched in the area of data security, privacy or software ownership. [10]