

UNIT 28

Exercise 1

wire	a thin piece of metal for conducting electrical current
wave	an electric, electromagnetic, acoustic, mechanical or other form whose physical activity rises and falls as it travels through a medium
analogue	a system in which data is represented as a continuously varying voltage
digital	a system in which data is represented as 0 or 1
amplitude modulation	where audio signals increase and decrease the amplitude of the carrier wave
frequency modulation	where voltage levels change the frequency of a carrier wave
source encoder	a device which maps the source into a set of binary strings
channel encoder	a device which maps the binary strings into coded bits or waveforms for transmission
degradation	the deterioration in quality, level, or standard of performance
distort	to fail to reproduce accurately the characteristics of the input
carrier wave	a wave suitable for modulation by an information-bearing signal

Exercise 2

wire	coaxial cable	copper wire	repeater
	single-wire line		
radio	antenna	microwave	satellite transmitter
optical	fibre optic cable	laser	light-emitting diode
	wavelength		

Exercise 3

Telecommunications
Fundamentals

Introduction to the
electromagnetic transmission of
information

Telecommunications
Fundamentals Lab

Hands-on practical experiments to
transmit signals

Analogue Communications

Direct transmission of signals

Digital Electronics

Converting analogue signals

Fundamentals of Optical
Communications

The advantages of *laser*
technologies

Fundamentals of
Telecommunications

Introduction to *sharing*
information

Networking

Data Communications
Networking

Sharing information between
networks

UNIT 29

Exercise 1

- | | |
|------------------|---------------------|
| 1 a, b, d | 4 a, b, c, d |
| 2 a, c, d | 5 c, d |
| 3 b, c | 6 a, c, d |

Exercise 2

answering machine radio signal video camera relay station
cable television television set retrieve messages
transmitting antenna cordless phone telephone jack

- 1** The telephone can be used to pay bills and *retrieve messages* from *answering machines*.
- 2** With an omnidirectional antenna, *radio signals* can be transmitted over a wide area.
- 3** A videophone incorporates a *video camera* and display, a microphone and speaker.
- 4** A *cordless phone* allows limited mobility in and around the home.
- 5** *Cable television* allows access to many television stations.

Exercise 3

- | | |
|---------------------|-----------------------------|
| a PDA | f clock and alarm |
| b email | g currency converter |
| c browsing | h alert |
| d screen | i organizer |
| e cell phone | j weight |