



English for Computer Science and Engineering

Unit 10

High-Speed Wireless Communication

line-of-sight	an imaginary straight line along which an observer looks	خط دید
curvature	state of being curved	انحنا، خمیدگی
satellite	celestial body revolving around a larger body	ماهواره
eliminate	remove, omit	حذف کردن، محو کردن
limitation	restriction	محدودیت
bounce off	bounce against and spring back	اصابت کردن و بازگشتن
avoid	prevent	اجتناب کردن
obstruction	obstacle, impediment	ممانعت
routinely	ordinarily, customarily	به طور عادی
launch	send forth	روانه کردن
relay	electronic regulation device	ایستگاه یا دستگاه تقویت

High-Speed Wireless Communication

geosynchronous	of or having an orbit with a fixed period of 24 hours	همگام با زمین
Expense	cost, price	هزینه
tremendous	huge, enormous	شگرف
capacity	capability	ظرفیت
venue	scene or setting of an event	محل واقعه
widespread	common, prevalent	شایع
temporary	impermanent	موقتی
judge	one who chooses the winner in a contest	داور
carrier	signal transmitted over a telephone line when two computers are connected	حامل
dedicate	devote to	اختصاص دادن
strict	rigid, severe	سخت ، اکید

Satelite Communications Systems

sophisticated	complicated	مشکل و پیچیده
track	follow a path	رد یابی کردن
aim	direct; intend	نشانه گرفتن ، هدف گرفتن
slight	small, unimportant	قلیل ، اندک
adjustment	tuning	تنظیم کردن
wander	move aimlessly	سرگردان بودن
construction	structure	ساختار
utilize	take advantage of , exploit	بکار گرفتن ، بهره برداری کردن
radiation	process of emitting	تشعشع

Language focus J

Explanations and definitions

Texts containing technical terminology frequently contain definitions and explanations. This is particularly the case if the text is aimed at non-experts or students of technical subjects, or if the purpose of the text is to inform specialists about new developments.

- 1 Common words and expressions used in definitions or explanations are listed below.

is/are	by ... we mean
means	by ... is meant
is taken to be	in other words
denotes	that is (to say)
is/can be defined as	

Examples:

- 1 A computer **is** an electronic device.
- 2 Printers **are** output devices.
- 3 The term computer **refers to** the processor plus the internal memory.
- 4 A microchip **can be defined as** a tiny piece of silicon or similar material carrying an integrated circuit.
- 5 By peripherals **we mean** those devices attached to the computer.

- 2 Some definitions and explanations give further distinguishing characteristics by means of a defining relative clause.

Examples:

- 1 A computer is an electronic device **which/that processes information.**
- 2 Tapes and disks are memory devices **which/that can be stored away for future use.**
- 3 A programmer is a person **who/that prepares programs to solve problems.**
- 4 The arithmetic-logical unit is the part of the CPU **where arithmetic and decision-making operations are done.**

Note: The relative pronouns used in this type of definition or explanation will be *who* or *that* for people, *when* for a period of time, *where* for a place or location, and *that* or *which* for things.

- 3 Another way of defining or explaining is to use a noun, a noun phrase, or a clause separated from the rest of the sentence by commas or dashes.

Examples:

- 1 Computers – **electronic devices for processing information** – are now used in practically every aspect of life. (noun phrase)
- 2 Turnkey systems, **complete hardware/software products which are ready for use**, are available from many suppliers. (clause)

Exercise 1

Study the following definitions. A definition usually includes three parts: the term to be defined, the group it belongs to, and the characteristics which distinguish it from other members of the group.

Term	Group	Characteristics
A core	is a ferrite ring	which is capable of being either magnetized or demagnetized.
Silicon	is a non-metallic element	with semiconductor characteristics.

Now analyse the following definitions and identify the different parts:

- a by circling the term
- b by underlining the group once
- c by underlining the characteristics twice.

Example: *A computer is a machine with an intricate network of electronic circuits that operate switches or magnetize tiny metallic cores.*

- 1 Input is the information presented to the computer.
- 2 The term 'computer' includes those parts of hardware in which calculations and other data manipulations are performed, and the high-speed interval memory in which data and calculations are stored during actual executions of programs.
- 3 A 'system' is a mixture of integrated parts working together to form a useful whole.
- 4 Large computer systems, or mainframes, as they are referred to in the field of computer science, are those computer systems found in computer installations processing immense amounts of data.

Exercise 2

Now read the following sentences, which have all appeared in previous units, and analyse them in the same way as you did in Exercise 1.

- 1 The part of the processor which controls data transfers between the various input and output devices is called the control unit. (Unit 1)
- 2 A modem is a device which serves a dual purpose because it acts as a MOdulator (digital to analog) and a DEModulator (analog to digital) ... (Unit 3)
- 3 The compiler is a systems program which may be written in any language, but the compiler's operating system is a true systems program which controls the central processing unit (CPU), the input, the output, and the secondary memory devices. (Unit 4)
- 4 A variable is a quantity that is referred to by name, such as **a, b, c, d**, and **average** in the above program. (Unit 4)
- 5 A WAN is a network connected over long-distance telephone lines. (Unit 6)

- 6** ...a LAN is a localized network, usually in one building or in a group of buildings close together. (Unit 6)
- 7** A computer virus – an unwanted program that has entered your system without you knowing about it – has two parts, which I'll call the infector and the detonator. (Unit 7)
- 8** There are actually two kinds of antivirus programs: virus shields, which detect viruses as they are infecting your PC, and virus scanners, which detect viruses once they've infected you. (Unit 7)