



Name:

Student No.:

Equivalents

1- Provide Persian equivalents for the following terms (30):

Unsolicited		Proximity	
En route		Benevolent	
Literally		Contend	
Tally		Authority	
Harness		Pertain	
Stripe		Infer	
Chronological		Transceiver	
Allot		Colloquial	
Irate		Alleviate	
Frontier		Terminology	
Emulation		Grasp	
Intuitive		Swivel	
Fatigue		Fraud	
Unravel		Barrier	
Conflict		Denote	



Reading

2- Read the text and answer the questions¹ (30):

The robotics revolution

Many of the robots in use today do jobs that are especially difficult for human workers. These are the types of jobs that require great strength or pose danger. For example, robots are particularly useful in the auto-manufacturing industry where parts of automobiles must be welded together. A welding tool used by a human worker weighs about 100 pounds or more and is difficult to handle. As mechanical supermen, robots may be called upon to do anything from moving heavy components between workstations on a factory floor to carrying bags of cement.

Spray painting is another task suited to robots because robots do not need to breathe. Unlike human painters, they are unaffected by the poisonous fumes. Robots are better at this task, not because they are faster or cheaper than humans, but because they work in a place where humans cannot.

Third in the list of useful jobs for robots is the assembly of electronic parts. Robots shine at installing chips in printed circuit boards because of a capability that robots have that people don't. A robot, once properly programmed, will not put a chip in the wrong place. This automatic accuracy is particularly valuable in this kind of industry because locating and fixing mistakes is costly.

Earlier robots were usually blind and deaf but newer types of robots are fitted with video cameras and other sensing devices that can detect heat, texture, size, and sound. These robots are used in space projects, nuclear reactor stations, and underwater exploration research.

In their efforts to expand the range of robotic applications, researchers are looking beyond traditional designs to examine a variety of potential models from the biological world. The industrial arm is a classic example. Scientists have

been able to model robots to imitate the vertebrate spine of a snake in order to paint the interior of automobiles. They have simulated the muscle structure and movement of an elephant's trunk in an attempt to create a robotic arm capable of lifting heavy objects. Scientists have also emulated the flexibility of an octopus where the tentacles can conform to the fragile objects of any shape and hold them with uniform, gentle pressure. A variation of this design can be used to handle animals, turn hospital patients in their beds, or lift a small child.

The challenge of equipping robots with the skills to operate independently, outside of a factory or laboratory, has taxed the ingenuity and creativity of academic, military, and industrial scientists for years. Simply put, robot hands – like robot legs, or eyes, or reasoning powers – have a long way to go before they can approach what biological evolution has achieved over the course of hundreds of millions of years. Much more will have to happen in laboratories around the world before robots can be compared to nature's handiwork.

In the meantime, the robotics revolution is already beginning to change the kind of work that people do. The boring and dangerous jobs are now assumed by robots. By the turn of the century, more and more humans will be required for tasks that machines cannot do. There are some industrialists who hope that by the year 2000 all their employees will be knowledge workers, no longer standing on assembly lines but rather sitting at desks and computer terminals to deal with information. These changes are already under way, and their pace accelerates every year.

¹ The text and questions have been adapted from: Boeckner, K., Brown, C., *Oxford English for Computing*, Oxford University Press, 1993.



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Vocabulary

welded (l. 9) – (of pieces of metal) joined together by heating
shine at (l. 30) – do very well at
octopus (l. 66) – sea-animal with eight arms (tentacles)
has taxed (l. 77) – has made heavy demands on

1

Summarize the reasons that certain jobs and environments are suitable for robots by completing the table below.

Job or environment	Reason
Welding	<hr/> <hr/>
Carrying components, etc.	<hr/> <hr/>
Spray painting	<hr/> <hr/>
Assembling components	<hr/> <hr/>
In nuclear reactors, underwater, etc.	<hr/> <hr/>

2

These are answers to questions about the text. Write the questions.

- 1 About 100 pounds.
 - 2 Because locating and fixing mistakes is costly.
 - 3 In space projects, for example.
 - 4 They are examining the potential of certain biological models.
 - 5 No, they cannot be compared yet.
 - 6 They will be doing intellectual rather than manual work.
-

- 1
- 2
- 3
- 4
- 5
- 6



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3

Fill in this table with details of the animals mentioned in the text.

	1	2	3
Animal	_____	_____	_____
Aspect being emulated	_____	_____	_____
Reason	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

4

Using the line references given, look back in the text and find words in the text which have a similar meaning to:

- 1** manipulate (lines 10–15)
- 2** correcting (lines 35–40)
- 3** expensive (lines 35–40)
- 4** increase (lines 45–50)
- 5** copy (lines 55–60)
- 6** reproduced artificially (lines 60–65)
- 7** easily damaged (lines 65–70)
- 8** gets faster (lines 105–110)



Word Forms

3- Fill in the blanks with the words provided; some words may be used more than once. You may have to change some words slightly (15):

generate, generated, generative, generation

- a** Exercises can be quickly _____ using this program.
- b** Our company is working on a new _____ of software products.
- c** This development is sure to _____ great interest.

consider, considered, consideration, considerable, considerably

- a** We'll have to _____ using another company if they can't provide the software we need.
- b** The company has invested a _____ sum of money in ergonomic workstations.
- c** The CEO has submitted this proposal for your _____.
- d** This computer is _____ faster than the old one.

apply, applying, applicant, application, applicable

- a** We have interviewed five _____ for the new position.
- b** The last part of the form is not _____ to foreign students.
- c** My student is thinking of _____ for a government grant to continue his research.
- d** The new book uses business _____ to teach computer studies.



depend, depending, dependent, dependence, dependable, dependably

- a** The company has supplied us _____ for over ten years.
- b** We have to reduce our _____ on imported goods.
- c** This is very _____ equipment. We have never had a serious breakdown.
- d** Today, many companies _____ more on FAXes than on mail.

TRANSLATION

4- Translate the following passages into Persian (35):

- Telephony promotes efficient interactions. As it matures, look for many routine communications to be handled entirely by computers (for example, scheduling of meetings). Much of what has to be done in a typical business phone call can be accomplished between cooperating computers. If and when we are needed, we will be asked to join the conversation.

- This is in: Laptop PCs use space-saving flat-panel monitors, some less than half an inch thick. Flat-panel monitors use a variety of technologies, the most common being *LCD (liquid crystal display)*. LCD monitors are *active matrix* or *passive matrix*. Active matrix monitors have higher refresh rates and better contrast, making for a more brilliant display.



- Entrepreneurs are becoming very imaginative about delivery of Internet service. There's even a plug-in cartridge that turns a Sega video game into a Web browser. The telephone Internet appliance is another path to Internet access. Such devices are used primarily for checking e-mail. Some cellular phones have tiny embedded displays, like those on a video camera, that let you tap the Internet.

- The ATM idea has caught on for other applications. A consortium of companies is installing thousands of ATM-like terminals that will let you order and receive a wide variety of documents on the spot. For example, you can now obtain an airline ticket, your college transcript, and an Internal Revenue Service (IRS) form electronically, and many more applications are on the way.

- The terms *network security* and *information security* refer in a broad sense to confidence that information and services available on a network cannot be accessed by unauthorized users. Security implies safety, including assurance of data integrity, freedom from unauthorized access of computational resources, freedom from snooping or wiretapping, and freedom from disruption of service.



- Satellites eliminate the line-of-sight limitation because microwave signals are bounced off satellites, avoiding buildings, mountains, and other signal obstructions. One of the advantages of satellites is that data can be transmitted from one location to any number of other locations anywhere on (or near) our planet. Satellites are routinely launched into orbit for the sole purpose of relaying data communications signals to and from earth stations.

- With unlimited accessibility come mischievous hackers, the plague of computer networks. Such hackers are continually doing what they can to disrupt the flow of information. Often these electronic assaults are on Internet servers and the other communications devices that route the data from node to node on the Net. These actions are like changing the road signs along the highway system. Hackers also plant computer viruses on the Internet, disguised as enticing downloadable files or distributed as e-mail.