

# *UNIT IV*

## *Module 5*

### *Creating New Applications*



#### *Overview*

You live in an age which, half a century ago, could only have been regarded as unbelievable science fiction, futuristic movies or fantasy comics. Who would have thought of man probing and exploring the mysteries of the universe, projecting messages by satellite, living on donated organs, restoring severed limbs, building undersea railroads, tunneling across mountains, going on interplanetary flight, solving the most intricate problems by pushing a button, or even cloning animals?

These wonders, and many more, are the realities of your age. You are familiar with the life-giving and life-sustaining machines, antibiotics, synthetics, supersonic speeds, bionics, the computer, transplants and yes, robotics – everything designed for your comfort, convenience and long life. But science and technology do not stop here. They are ever on the move, opening new doors in the least expected fields as cloning and artificial intelligence and, if you want to share in their benefits, you also have to advance and keep in step with the latest discoveries and inventions.

There is no better time than now, when you are full of the enthusiasm and idealism of youth, to learn about the sciences and their attendant technologies and relate your experiences and your information to that knowledge which has been man's for centuries – that he is part of an infinite pattern designed in cosmic proportion by an Almighty God and Omnipotent Creator.

This module focuses on new applications created by science and technology for the improvement of mankind. After going through this module you will hopefully be able to answer the question: Will the invention benefit mankind or destroy it?

## *Objectives*

After working on the activities in this module, you will be able to

1. discover literature as a means of having a better understanding of man and his environment.
2. improve one's knowledge of technical and scientific terms by using prefixes and suffixes.
3. read closely to select appropriate details from a selection for specific purposes.
4. plot out the history of robotics in a cline.
5. demonstrate understanding of some idioms with *read* by using them in sentences.
6. express ideas clearly.
7. combine ideas effectively.
8. write about a personal experience with a technological invention.
9. observe parallelism and unity in a written composition.

## *Instructions*

1. Do not write anything on this module as several students will be using it. Do all your work in your notebook. **Be sure to label your work by the module number and title.** Keep a separate notebook for your Reflective Journal.
2. Read each section carefully. If you have not read the first two sections, go over them first.
3. Each module begins with an **Overview** or brief introduction followed by a list of **Objectives** that you are expected to learn.
4. Before working on the activities answer the **Pretest** first. Find out how well you did by checking your answers against the answers given under the **Self-check** of the pretest.
5. As you work on the activities, try to relate them to the objectives of this module. What skill or strategy does the activity develop?
6. After each activity, go over the **Self-check** that follows to find out how well you fared in that activity. Pay attention to the items you missed. Learn from your mistakes.
7. After working on all activities, take the **Posttest**.



## I. Vocabulary. Using Affixes

Using the prefixes or suffixes in the box, complete the blanks with the correct word formed from the words in **boldface**. Observe correct spelling.

<i>dis-</i>	<i>-able</i>	<i>-ness</i>
<i>im-</i>	<i>-ance</i>	<i>-or</i>
<i>mis-</i>	<i>-ary</i>	<i>-ous</i>
<i>sub-</i>	<i>-erly</i>	<i>-ure</i>
<i>trans-</i>	<i>-ful</i>	
<i>un-</i>		

1. Penelope is not **liked** at all; she is \_\_\_\_\_ by most.
2. Myron works at a **mission**; he is a \_\_\_\_\_.
3. Many people will **attend** the play; there should be a record \_\_\_\_\_.
4. This proposal has no **advantage** whatsoever; in fact it is full of \_\_\_\_\_.
5. He wasn't **informed** about the real facts; he was \_\_\_\_\_.
6. The tourists traveled across the **Atlantic**; their trip was a \_\_\_\_\_ crossing.
7. I do **love** my pet dog; Snowball is \_\_\_\_\_.
8. **Victory** is almost ours; already we feel \_\_\_\_\_.
9. The ship headed nearly **north**; it headed in a \_\_\_\_\_ direction.
10. Because they are young they cannot make **mature** decisions; even their views are frequently \_\_\_\_\_.
11. Thomas **invents** things; he is an \_\_\_\_\_.
12. The boy will **mourn** his puppy's death; he will be very \_\_\_\_\_.
13. The old man was very **bitter** about his life; he spoke with great \_\_\_\_\_.
14. Because of his attitude, Andy will **fail**; he is doomed to \_\_\_\_\_.
15. The steel bars used in the construction are below **standards**; they are \_\_\_\_\_.

## II. Reading Comprehension

Read the poem carefully then write the letter of the word or phrase that best answers each question.

## And Yet Fools Say

<sup>1</sup> He captured light and caged it in a glass.

<sup>2</sup> Then harnessed it forever to a wire;

<sup>3</sup> He gave new robots with no backs to tire

<sup>4</sup> In bearing burdens for the toiling mass;

<sup>5</sup> He freed the tongue in wood and wax and brass,

<sup>6</sup> Imbued dull images with notion's fire.

<sup>7</sup> Transmitted metal into human choir.

16. What is the “captured light in a glass” in line 1?
- Glass reflecting light
  - Light from electricity
  - Light inside a lampshade
  - Fire produced by lightning
17. What is the “glass” with the captured light?
- Cage lamp
  - Glass lamp
  - Light glass
  - Incandescent bulb
18. What does *it* in lines 1 and 2 refer to?
- Wire
  - Glass
  - Light
  - Fire
19. What does *harness* in line 2 mean?
- Let run
  - Put to good use
  - Dressed in armor
  - Placed in a yoke
20. What are the *robots* mentioned in line 3?
- Mechanical toys
  - Mechanical men
  - Gadgets
  - Machines
21. Which statement best explains line 5?
- He untied a protruding piece from the wood.
  - He removed a tongue attached to the wood, brass and candle.
  - He changed the use of fire in wood, candle and brass in producing light.
  - He set men free from dependence on wood, brass and wax in providing light.

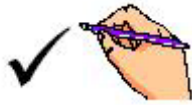
22. What figure of speech is found in line 6?
  - a. Metaphor
  - b. Personification
  - c. Simile
  - d. Hyperbole
23. What is another word for *imbued*?
  - a. Created
  - b. Reflected
  - c. Filled
  - d. Taught
24. Which of the following is NOT a “transmitted metal” referred to in line 7?
  - a. Photograph
  - b. Phonograph
  - c. Radio
  - d. Television
25. Which expresses what the poem is all about?
  - a. The creation of miracles
  - b. Robots work for men
  - c. The discovery of electricity
  - d. The transformation of things

### III. Grammar

The following sentences are unparallel in structure. Write the unparallel structure in your notebook and correct it. Number 1 is done for you.

26. On weekends Missey loves to garden, piano playing and play computer games.  
 Answer:      piano playing      -      to play the piano
27. Robotic technology has made many things possible including dangerous military and police missions, life-like new toys, new types of entertainment and exploring space and deep seas.
28. The winning short story is vivid, interesting and simple in plot.
29. Whenever I have a free time I enjoy reading best sellers, to go on long walks and swimming.
30. Paolo’s fondest dream is to study medicine or be an engineer.
31. They learned better ways of making fire, how to heat dwelling places and handling smoke.
32. In factories, ‘robot arms’ are manually taught reaching, gripping, to pull and bending.
33. There were no longer enough horses to move us about, or enough wood to warm us or enough candles lighting our way.
34. Wouldn’t that mean less work and worry, less fighting and less pestilence?
35. In these days of urban decay and energy crisis, people long to flee back to a simple way of life, to return to the land and forgetting the materialism of our culture.
36. Tahiti is known for its idyllic scenery, exotic cuisine and a climate that is perfect.

## Self-check



Let's see how you performed. Check your answers against those that follow.

### I. Vocabulary. Using Affixes. Wrong spelling wrong.

- |                  |                  |                 |
|------------------|------------------|-----------------|
| 1. unliked       | 6. transatlantic | 11. inventor    |
| 2. missionary    | 7. lovable       | 12. mournful    |
| 3. attendance    | 8. victorious    | 13. bitterness  |
| 4. disadvantages | 9. northerly     | 14. fallible    |
| 5. misinformed   | 10. immature     | 15. substandard |

### II. Reading Comprehension

- |       |       |       |       |
|-------|-------|-------|-------|
| 16. b | 19. b | 22. b | 25. c |
| 17. d | 20. c | 23. d |       |
| 18. c | 21. d | 24. a |       |

### III. Grammar. Parallelism. Score each number 2 points.

- exploring space and deep seas - space and deep seas exploration
- simple in plot - simple
- to go on long walks - going on long walks
- be an engineer - to take up engineering
- how to heat dwelling places - heating dwelling places
- to pull - pulling
- enough candles lighting our way - enough candles to light our way.
- less fighting - less war
- forgetting the materialism of our culture - to forget the materialism of our culture
- a climate that is perfect - perfect climate

## Your score



Perfect score is 45. Perfect? That's great! Congratulations.

Is your score between 33 – 44? Good work! Keep it up or better yet improve.

Did you get between 21 – 32? You did well. But don't stop there. Study this module well so you'll do better.

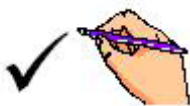
Did you get 20 or lower? That's okay. Your score will improve if you spend more time studying this module. Don't be content to be a tail ender. Good luck!

## Words Unlocked

Using the *suffixes* *-ion, -ity, -ing, -ic, -ous, -al, -ive, -able, -tion, -er and -ment* complete the blanks with the new words formed from the **boldfaced** word in the following sentences.

1. **Robots** are machines that can be programmed to work for humans. \_\_\_\_\_ technology has made many things possible.
2. In 1989 a **mobile** robot was introduced at MST. Since then the \_\_\_\_\_ of later robots has been increased and improved.
3. To **explore** space or the deep sea, scientists encounter many **hazards**. In this \_\_\_\_\_ undertakings, space and deep sea \_\_\_\_\_ make use of robots in their \_\_\_\_\_.
4. Robots used in **industry** are popularly known as \_\_\_\_\_ robots.
5. Robots **move** and **operate** according to their **programs**. Their \_\_\_\_\_ and \_\_\_\_\_ are \_\_\_\_\_.
6. Although robots are **machines** they differ greatly from other \_\_\_\_\_ equipment.
7. Robots operate through computer **programs**. An expert computer \_\_\_\_\_ is needed for the purpose.
8. In factories, robots **repeat** the same tasks they are programmed to do a hundred times a day. Humans find these \_\_\_\_\_ tasks boring.
9. 'Robot arms' are taught how to **reach, bend, grip** and **pull** things. This \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ actions mimic the movement of human arms and hands.
10. In theory, scientists involved in the study of the **genes** can build intelligent, superhumans today, but in the **real** world they can't. \_\_\_\_\_ engineers, in \_\_\_\_\_ are a long way from creating such creatures.

### Self-check



Want to know how you fared? Check your answers against those below.

- |               |                           |             |
|---------------|---------------------------|-------------|
| 1. robotic    | 5. movements; operations; | 9. reaching |
| 2. mobility   | programmable              | bending     |
| 3. hazardous  | 6. mechanical             | gripping    |
| explorers     | 7. programmer             | pulling     |
| explorations  | 8. repetitive             | 10. genetic |
| 4. industrial |                           | reality     |

## Your Score



Perfect score is 18. You should get 12 or higher to say you know your affixes quite well. Otherwise, please study your prefixes and suffixes again and try to do better in the succeeding exercises.

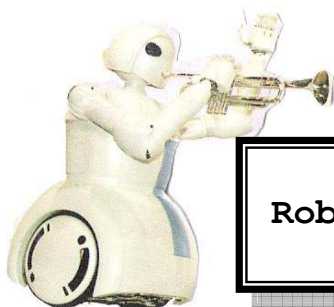
## Reading Adventure

### Pre-reading

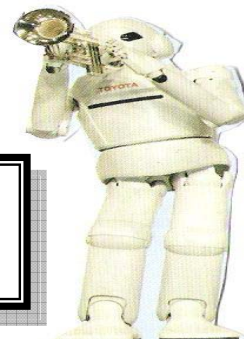


What comes to your mind upon reading or hearing the word *robot*? List down your ideas and after reading the selection check which of your ideas are facts or real and which are fiction or not real.

### While Reading



## Robots: Yesterday, Today and Tomorrow



Remember the human-like-forms, walking and talking machine of **Star Wars** fame? C-3 Po, the machine, is a robot. So is his unshapely, moving, beeping and blinking companion. R2-D2.

Robots are machines that can be programmed to work for us, often in a human like way. Since their invention, people have been very interested in them. Robotic technology has made many things possible including 1) space and deep sea exploration, 2) dangerous military and police missions, 3) new types of entertainment, and 4) life-like new toys that talk and respond like real creatures. Through laser guidance and video cameras, pressure pads and other sensors, they take in information and then make the response they have been programmed to make. But robots cannot think for themselves.

The word **robot** comes from the 1921 play **R.U.R** (Rossum's Universal Robots) by the Czech writer Karel Capek . It comes from the Czech word "robota" meaning "forced or compulsory



labor.” The word **robotics** also comes from science fiction – it first appeared in the short story *Runaround* by Isaac Asimov who introduced the idea of a “positronic brain” (used by character **Data** in *Star Trek*) and the **Three Laws of Robotics** namely:



**Law One:**

A robot may not injure a human being or through inaction, allow a human being to come to harm.



**Law Two:**

A robot must obey orders given it by human beings, except where such orders would conflict with the First Law.



**Law Three:**

A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

Asimov later added the “zeroth law” to the list.



**Zeroth Law:**

A robot may not injure humanity, or, through inaction, allow humanity to come to harm.

A **robot** is a reprogrammable, multifunctional manipulator designed to move materials, parts, tools or specialized devices through various programmed motions for the performance of a variety of tasks.

In the real world, one of the first robots was the **Clepsydra** or water clock made in 250 B.C. by Ctesibius of Alexandria, a Greek physicist and inventor. In 1898 Nikola Tesla, the inventor of AC electric power, radio (before Marconi), induction motors, Tesla Coils, etc. built and demonstrated a remote controlled robot boat. Other early robots were Grey Walter’s **Elsie the Tortoise** built between 1940’s – 50’s; the **General Electric Walking Truck**, a 3,000 pound four-legged robot that could walk up to four miles an hour. It was the first legged vehicle with a computer-brain developed by Ralph Moser at General Electric Corporation in the 1960’s. Between 1950’s and 60’s George Devol and Joe Engleberger created probably the first modern industrial robots **Unimates**. Engleberger started the first robotics company called “Unimation” and has been called the “father of robotics.”

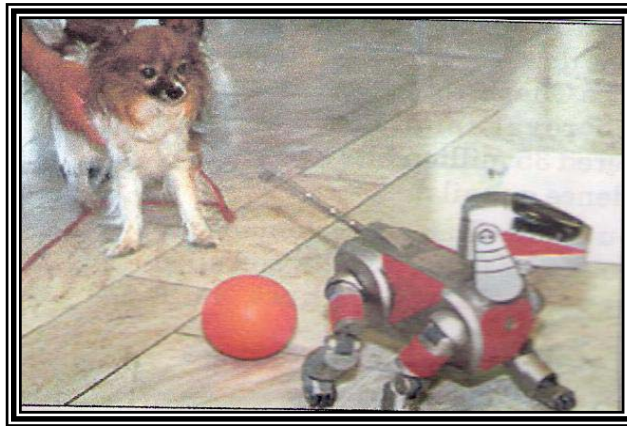
In 1966 the Stanford Research Institute (SRI) created **Shakey** the first mobile robot to know and react to its own actions. It was a small unstable box on wheels that used memory and logical reasoning to solve problems and to navigate in its environment. In 1989, a walking robot named **Genghis** was unveiled by the Mobile Robots Group at MIT (Massachusetts Institute of Technology). It became known for the way it walked, popularly referred as the “Genghis gait.”

In 1986 Honda began a robot research program that started with the premise that the robot “should coexist and cooperate with human beings, by doing what a person cannot do and by

cultivating a new dimension in mobility to ultimately benefit society.” In 1996 Honda debuted **P3** the fruits of its decade long effort to build a humanoid robot.

In 1998, Tiger Electronics introduced **Furby** into the Christmas toy market. It quickly became “the toy” to get for the season. Using a variety of sensors this “animatronic pet” can react to its environment and communicate using over 800 phrases in English and their own language. “Furbish.”

In 1999 Sony released **AIBO** robotic pet and in 2000 Honda debuted new humanoid robot **ASIMO** which rang the opening bell at the New York Stock Exchange in 2002. In 2003 Sony released the **AIBO ERS-7** its third generation robotic pet and finally on January 4, 2004 the robot rover **Spirit** landed on Mars.



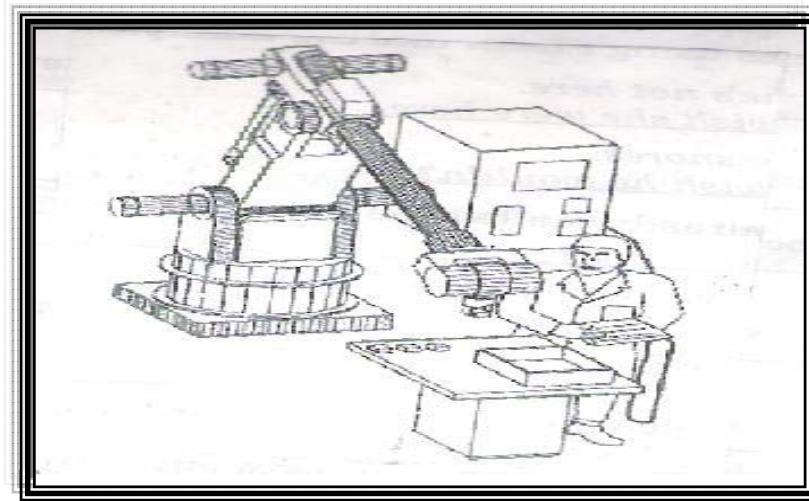
### **Sony’s AIBO ERS -7**

Today, robots are widely used in factories to perform unsafe, highly repetitive, hazardous and unpleasant tasks. Because they do not need holidays, do not need to be paid, eat, drink or go to the bathroom like people nor do they get ill, bored or stop, slow down or fall asleep like humans, they are cheap to run. These robots, mostly “robot arms” which perform the same sequence of actions thousands of times a week are known as industrial robots.

An **industrial robot** is a reprogrammable, multifunctional mechanical device designed to move materials, parts, tools or specialized devices through programmed motions to perform a variety of tasks. It is a complex, technical system consisting of several subsystems which perform its own carefully defined function with the robot’s physical make-up.

Being machines, these robots need expert computer programming. They are hydraulically powered, which means that liquid flows along pipes inside them, applying pressure in different places as directed by the computer. In this way, the robots mimic the movements of human arms and hands-reaching, binding, gripping and pulling.

Most industrial robots are set up for an operation by the teach and repeat technique.



In this procedure a trained operator (programmer) typically uses a portable control device ( a teach pendant) to teach a robot its task manually. Robot speeds during these sessions are slow but increase as the programming sessions progress.

Although machines, the operational characteristics of robots can be significantly different from other mechanical devices and equipment. Robots are capable of high-energy (fast and powerful) movements through a large volume of space even beyond its base dimension. The pattern and initiation of the robot's movements is predictable if the thing being worked and the environment are constant. Any change to any or both of the factors can affect the programmed movements resulting in accidents.

Robotic accidents in the workplace can be caused by any of the following: 1) human errors, 2) control errors, 3) unauthorized access, 4) mechanical failures, 5) environmental sources, 6) power systems and 7) improper installation.

In military and police work. Certain types of robots are needed by the police for bomb-disposal and for bringing video cameras and microphone into dangerous areas, where a human policeman might get hurt or killed. The military also uses robots for 1) locating and destroying mines on land and water. 2) entering enemy bases to gather information, 3) spying on enemy troops.

In medicine doctors sometimes have to use robots when operating. A human surgeon would not be able to make a hole exactly one 100<sup>th</sup> of an inch wide and long, a feat only a robot can do with precision. When making medicines, robots can do the job faster and more accurately than humans can. Also, a robot can be more exact and delicate than a human.

Robots are also used in the toy and entertainment industries. Sony has created its robotic pet **AIBO**, Tiger Electronics has its animatronic pet **Furby** and Lego with MIT has robot constructions

**Mindstorms.** Many robots are featured in a lot of movies like *Star Wars*, *Robocop*, *Star Trek-The Next Generation*, *Forbidden Planet*, *Blade Runner*, *I Robot*, etc.

Could robots take over the world? It is an idea you often see in films. Scenarios like: an experiment goes wrong; an evil dictator creates an army of indestructible robots, a ‘cyborg’- or a human brain in an artificial body – runs out of control.... take place or present themselves. But could it actually happen? Some aspects of the technology are almost there. We know how to clone animals, build artificial limbs that connect with the nervous systems and programmed computers to learn by their mistakes. In theory, genetic engineers could start trying to build intelligent superhuman; but in reality we are a long way from creating such creatures. Even if that possibility would come and a cyborg or artificial intelligence were made, it would certainly be used – as most robots are – for improving life on Earth rather than destroying it.

- Adapted

## Post Reading



### Scanning for Details

Write the letter of your answer to each question that follows.

1. The playwright who introduced the word *robot* to the world is
  - a. Isaac Asimov
  - b. Ctesibius
  - c. Karel Capek
  - d. George Devol
2. One of the first robots was
  - a. Clepsydra
  - b. Elsie, the Tortoise
  - c. Shakey
  - d. G.E. Walking Truck
3. The father of robotics is
  - a. Johns Hopkins
  - b. Nikola Tesla
  - c. Ralph Moser
  - d. Joe Engleberger
4. In the real world, all of the following use robots EXCEPT
  - a. surgery
  - b. housekeeping
  - c. espionage
  - d. mines sweeping
5. The **Three Laws of Robotics** were formulated by
  - a. Karel Capek
  - b. Nikola Tesla
  - c. Joe Engleberger
  - d. Isaac Asimov
6. One of the first robots appeared in
  - a. 250 B.C
  - b. 1898
  - c. 1926
  - d. 1940

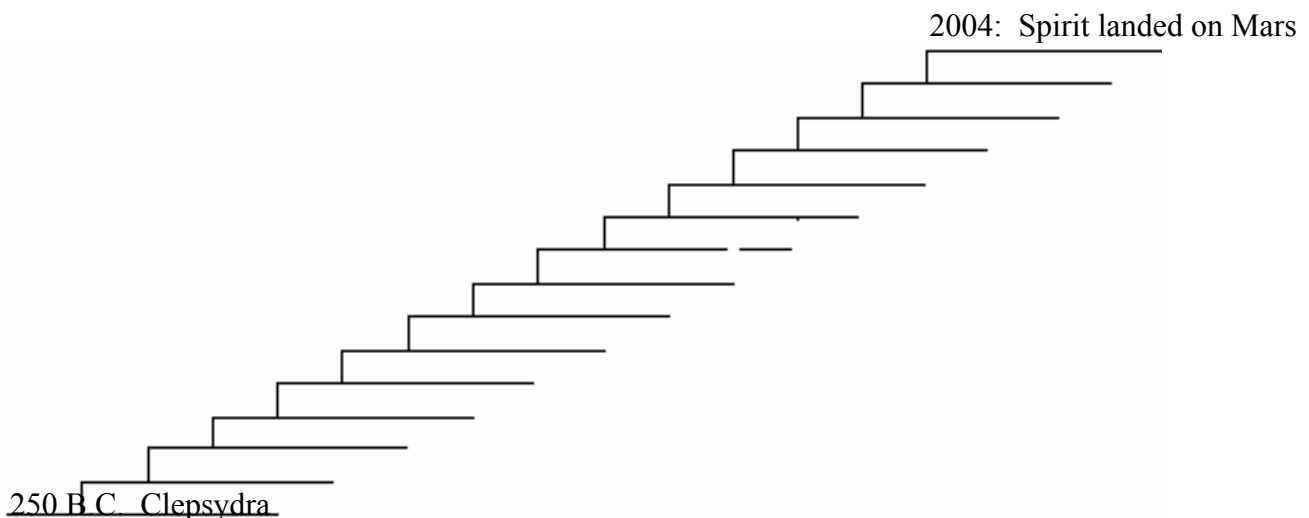
## Understanding the Selection

A. Write T if the statement is true and F if it is false. Give your reason if your answer is F.

1. Today's technology has made talking, walking and thinking robots.
2. **Furby** is a humanoid robot that can communicate using 800 phrases in English and Furbish.
3. The word **robot** comes from a Czechoslovakian term.
4. In real life robots can kill humans when ordered to do so.
5. 'Robot arms' are used mostly in factories because they are cheap to run.
6. One cause of robotic accidents in the workplace is human error.
7. Robots can experience mechanical trouble.
8. In 1986 Honda created the **P3** a humanoid robot.
9. The first mobile robot was **Shakey** created by SRI in 1966.
10. Today, walking and talking robots in human form are used only in factories to do highly repetitive and boring tasks.
11. Industrial robots are set for operation mostly by the teach-and-repeat technique.
12. A robot's movement is predictable even if its environment and tasks are not constant.
13. Karel Capek formulated the "Zeroth Law" of robotics.
14. The 'positronic brain' used by **Data** of *Star Trek – The Next Generation* and *V.I.K.I* of *I, Robot* was introduced in science fiction by Isaac Asimov.
15. A couple of years from now, genetic engineers will have created cyborgs in real life.

B. Plot out the History of Robotics in a Cline. Use the model below. The first historic appearance of a robot and the most recent are done for you.

## History of Robotics



## Self-check



Let's find out how well you understood the selection. Check your answers against those that follow.

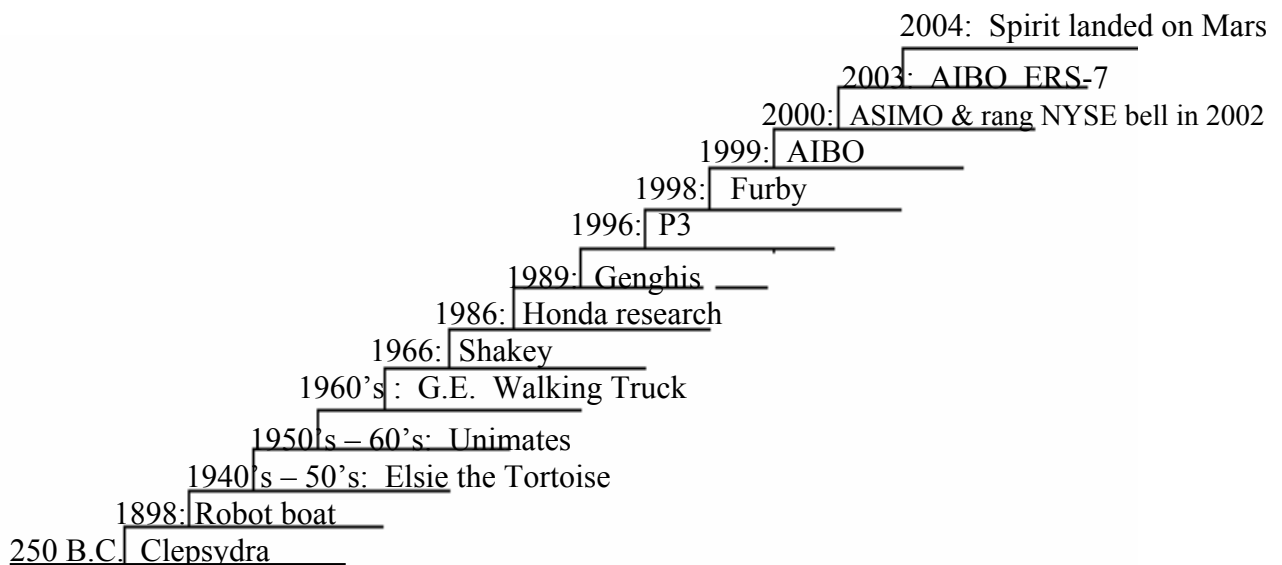
### Scanning for Details

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

### Understanding the Selection

- A.
1. F. The modern robots may talk and walk but can't think by themselves.
  2. F. **Furby** is an animatronic pet.
  3. T
  4. F. The **Three Laws of Robotics** embedded in their systems would not allow this.
  5. T
  6. T
  7. T
  8. F. P3 was introduced by Honda in 1996.
  9. T
  10. F. Factories only employ robot arms.
  11. T
  12. F. To be predictable the environment and tasks should be constant.
  13. F. Isaac Asimov formulated the 'Zeroth Law' along with the Three Laws of Robotics.
  14. T
  15. F. While some parts of the technology, in theory are there, we are still a long, long way from creating cyborgs in real life.

### B. History of Robotics



## Your score



Perfect score is 35. Perfect? Amazing! Congratulations. You must be a science fiction buff.

Is your score between 27-34? Very good! Keep it up.

Did you score between 19-26? You did okay but there is still so much room for improvement. Improve your reading habits.

But if you scored 18 or lower you are a long way off. Please put in more diligence in your studies. Don't be content to just **pass**; **lead**!

## Write Thing



*Recall a time when you had difficulty operating a machine. How did you respond toward the machine? Free write about the experience. Include your thoughts about the relationship between human beings and their machines. Write your composition in your notebook.*

The next part of this module will help you construct well-formed sentences.

## Language Focus



Study the following sets of sentences.

- Robots are used in dangerous military and police missions, in delicate and precise surgery, and in exploring the outer space.
  - Robots are used in dangerous military and police missions, in delicate and precise surgery, and in outer space exploration.
- Industrial robots perform many different functions such as resistance welding, painting, spraying, machine tool load and unload functions and materials handling.
  - Industrial robots perform many different functions such as resistance welding, painting, spraying, machine tool loading and unloading and material handling.

Which sentences in each set are clearer and more effective?

## Generalizations

Using similar structures within a sentence or within a series of sentences helps to tie related ideas together. This technique is called *parallelism* which means “like construction for like ideas.” It is indispensable to clear, grammatically correct and effective sentences. To achieve parallelism, remember the following.

1. As a general rule, sentence elements that are coordinate in rank should be parallel in structure. An infinitive should be followed by an infinitive of similar form, a gerund by a gerund, a phrase by a phrase, a clause by a clause, etc.

Example:

Poor : The fans started clapping, to cheer and chanting the ballclub’s jingle.

Improved: The fans started clapping, cheering and chanting the ballclub’s jingle.

Poor : Ria delights in a good novel – one which portrays strong characters and in reading the book she is thrilled.

Improved: Ria delights in a good novel – one which portrays strong characters and which thrills the reader.

2. Avoid misleading parallelism. Don’t use the same structural form for sentence elements which are not of equal rank. Avoid a series of elements which appear to modify the same element but do not.

Weak : They left hurriedly and they had a new car.

Improved: They left hurriedly in a new car.

3. Avoid ineffective, partial parallelism.

Faulty : The narrative is vivid, interesting and has a simple plot.

Improved: The narrative is simple, vivid and interesting.



4. Sentence elements following a correlative should be parallel in form.

Poor : Ignacio is either ill or he is dull.

Improved: Ignacio is either ill or dull.

5. Don't join a relative clause to its principal clause by *and*, *but* or *or*. Coordinators should connect only elements of equal rank. Avoid using *and which*, *but which*, *and who* or *but who* unless there is a preceding "which clause" or "who clause."

Faulty : Hector is a man of courage and who is a dedicated soldier.

Improved: Hector is a man of courage and dedication.

Better : Hector is a courageous and dedicated soldier.

### Activity 1. Recognizing Parallel Structures

Pick out the parallel structures from the poem, and write them in your notebook.

## The Seasons of Human Life

*For everything there is a season, and  
a time for every matter under heaven.*

a time to be born, and a time to die;  
a time to plant, and a time to pluck what is planted;  
a time to kill, and a time to heal;  
a time to break down, and a time to build up;  
a time to weep, and a time to laugh,  
a time to mourn, and a time to dance;  
a time to cast away stones, and a time to gather stones together;  
a time to embrace, and a time to refrain from embracing;  
a time to get, and a time to lose;  
a time to keep, and a time to cast away;  
a time to rend, and a time to sew;  
a time to keep silent, and a time to speak;  
a time to love, and a time to hate;  
a time for war, and a time for peace.

- Ecclesiastes 3: 1 – 8

## Self-check ✓



Let's find out how good you are at recognizing parallel structures. Check your answers against the following.

1. For everything there is a season, for every matter under heaven a time;
2. a time to be born, a time to die
3. a time to plant, a time to pluck up what is planted
4. a time to kill, a time to heal
5. a time to break down, a time to build up
6. a time to weep, a time to laugh
7. a time to mourn, a time to dance
8. a time to cast away stones, a time to gather stones together
9. a time to embrace, a time to refrain from embracing
10. a time to get, a time to lose
11. a time to keep, a time to cast away
12. a time to rend, a time to sew
13. a time to keep silent, a time to speak
14. a time to love, a time to hate
15. a time for war, a time for peace

You should get at least 12 or higher. Otherwise study the generalizations again before proceeding to the next activity.

### Activity 2. Expressing Ideas Clearly

Recast the following sentences to obtain effective parallelism. Number 1 is done for you.

1. In any endeavor doing your best is more important than to win.  
In any endeavor doing your best is more important than winning.
2. The committee members were enthusiastic, energetic and of great diplomacy.
3. As we watched the sailboats race from the shore, we saw billowing sails, rippling waters and that the gulls swept by.
4. The sense of smell is more powerful in evoking memories than how things sound.
5. Neither soft words nor offering threats could coax Missey to play the piano.
6. To keep the peace, to uphold human rights, and feeding the hungry – these are the goals for which nations strive.
7. Eating out is more expensive than to eat at home.

8. Some toys in the market today are neither of any educational value nor safe.
9. My best friend is sympathetic, understanding and of a kind nature.
10. Carlos wanted driving lessons and that someone inform him about buying a car.
11. The high school years are a time for learning, making friends and to prepare for later life.
12. The club members discussed how to recruit new members, where to go for club outing, and the pros and cons of raising dues.
13. Corazon proved herself trustworthy and a hardworking person.
14. Bernie's goals are to study computer engineering and saving money for the future.
15. Neither raking nor to sweep can remove all the fallen leaves in the garden.
16. *Constantine* is a narrative dealing with the supernatural and which treats about the conflict between good and evil.



Let's find out how you fared. Check your answers against the following.

2. The committee members were enthusiastic, energetic and diplomatic.
3. As we watched the sailboats race from the shore, we saw billowing sails, rippling waters and gulls sweeping by.
4. The sense of smell is more powerful in evoking memories than the sense of hearing.
5. Neither soft words nor threats could coax Missey to play the piano.
6. To keep the peace, to uphold human rights, and to feed the hungry – these are the goals for which nations strive.
7. Eating out is more expensive than eating at home.
8. Some toys in the market today are neither educational nor safe.
9. My best friend is sympathetic, understanding and kind.
10. Carlos wanted to take driving lessons and to buy a car.
11. The high school years are a time for learning, making friends and preparing for later life.
12. The club members discussed how to recruit new members, where to go for club outing, and what the pros and cons of raising dues are.
13. Corazon proved herself trustworthy and hardworking.
14. Bernie's goals are to study computer engineering and to save money for the future.
15. Neither raking nor sweeping can remove all the fallen leaves in the garden.
16. *Constantine* is a narrative dealing with the supernatural and treating about the conflict of good and evil.

## Your score



Perfect? Excellent! You are a fast learner.

Did you get between 11 – 14? Very good! Keep it up.

Did you score between 7 – 10? You did fine but you could have done better had you tried harder.

Did you score 6 or lower? Please study harder and try your best to improve in the succeeding activities.

### Activities 3. Combining Ideas

Below are pairs of sentences. Combine each pair making the second sentence into a structure parallel to the italicized structure in the first sentence. Use the connector in parentheses. Number 1 is done for you.

1. You have no reason to complain *if the rules are reasonable*. They are impartially administered. (and)

You have no reason to complain if the rules are reasonable and if they are impartially administered.

2. *Protecting your freedom* is the duty of government. It is also government's duty to protect you against assault. (and)
3. If you live in a civilized society, *you limit your freedom*. On the other hand, your rights to do things increase. (however)
4. Between 6,000 and 8,000 years ago, man began *to turn away from hunting*. They grew plants from different kinds of seeds. (and)
5. It must have been women *who were the first farmers*. Perhaps they tended small patches while their husbands were hunting. (and)
6. *Invented during the Bronze Age*, the wheel has been called the most useful invention of all time. It was gradually improved by man. (and)
7. Wheels are now indispensable *because all our transportations depend on them*. Another reason is that our machinery is largely composed of them. (moreover)
8. The invention of knives and spears *increased man's food supply*. It made murder easier. (but)

9. For countless years, man *relied upon wood for cooking*. They also relied upon wood for warmth. (not only.... but also)
10. Later they began *to use coal*. They began to use whale oil. (either.... or)
11. Men now have machines that *used gasoline for power*. Other machines used oil for power. (either.... or)

### Self-check



Interested in finding out how you performed? Check your answers against the following. Score every correct answer 2 points.

2. Protecting your freedom and protecting you against assault are the duties of government.
3. If you live in a civilized society, you limit your freedom; however, you increase your rights.
4. Between 6,000 and 8,000 years ago, man began to turn away from hunting and to grow plants from different kinds of seeds.
5. It must have been women who were the first farmers and who tended small patches while their husbands were hunting.
6. Invented during the Bronze Age and improved gradually by man, the wheel has been called the most useful invention of all time.
7. Wheels are now indispensable because all our transportations depend on them; moreover, our machinery is largely composed of them.
8. The invention of knives and spears increased man's food supply but made murder easier.
9. For countless years, men relied upon wood not only for cooking but also for warmth.
10. Later they began to use either coal or whale oil.
11. Men now have machines that used either gasoline or oil for power.

### Your score



Perfect score is 20. Perfect? You're simply great! Congratulations.

Is your score is between 15 – 19? Very good! You have made use of this module well. Keep it up.

Is your score between 10 – 14? You did considerably well but so much leaves to be desired. Spend more time in your studies.

If you score 9 or lower you are a long way off from the finish line. Please study the generalizations more diligently again before going any further.

## Everyday Expressions

You have learned that idioms developed naturally in a language and that they are frequently used because they are short but forceful.

The following are some idioms with *read*.

<i>read up (on)</i>	- to read silently to gain information or knowledge
<i>read out</i>	- to speak aloud the printed or written word
<i>read...back</i>	- to repeat aloud
<i>read into</i>	- to think that something means more than it does
<i>read between the lines</i>	- to understand something although it has not been said openly
<i>read...like a book</i>	- to clearly understand someone's motives, thoughts etc.
<i>read (a person's) thoughts</i>	- to interpret ( a person's) thoughts

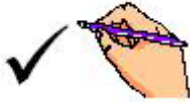
**Exercise 1.** Complete the blanks with the correct idiom with *read*.

1. After the executive had dictated the message over the phone, his secretary \_\_\_\_\_ to him.
2. She could \_\_\_\_\_ him \_\_\_\_\_ and knew when he had done something wrong.
3. To gain a working knowledge on robotics you must \_\_\_\_\_ the topic.
4. To fully appreciate a literary piece you must learn to \_\_\_\_\_.
5. \_\_\_\_\_ your answers so we can all hear.
6. Please don't lie to me; I can \_\_\_\_\_.
7. The teenager tried to lie to her mother but because she can \_\_\_\_\_ her \_\_\_\_\_ the true state of affairs came to light.
8. If you \_\_\_\_\_ of the contract, you'll see that what is left out is as important as what is said.
9. During the canvassing of votes, the chairman \_\_\_\_\_ the contents of the ballots.
10. You have \_\_\_\_\_ his words a promise that he can't keep.

**Exercise 2.** Choose the correct preposition to complete the idiomatic expression.

1. The precocious child read ( up, out, into) his parent's words that he is not allowed to join the trip.
2. Please read (back, up, between) on medieval literature during the weekend.
3. You may read (out, from, into) the announcement for everybody's information.
4. Please check for omissions as I read (into, back, out) what you have dictated.
5. The old man has a keen mind, he can read (into, between, out) what you are saying.
6. Reading is a pleasurable experience if you can read (out, into, between) the printed words.
7. The young man wanted to know more about artificial intelligence so he surfed the internet to read (back, up, out) on the topic.
8. Monet was not paying attention so the teacher asked him to read (between, into, back) what he had written.

## Self-check



Let's find out how you fared. Check your answers against those that follow.

### Exercise 1.

1. read it back
2. read him like a book
3. read up (on)
4. read between the lines
5. read out
6. read your thoughts
7. read her like a book
8. read between the lines
9. read out
10. read into

### Exercise 2.

1. into
2. up
3. out
4. back
5. into
6. between
7. up
8. back

## Your score



Perfect? Fantastic! You really know your idioms well. Congratulations.

Did you score between 13 - 17? Very good! Keep up the good work or better yet, improve.

Did you score between 8 - 12? Well, you did fine but so much room is left for improvement.

Please study your idioms more.

But if you scored 7 or lower you have a lot of catching up to do. Please put in more diligence in your studies.

Now you are almost through with this module. To assess your own performance take the *Posttest*.

## Posttest



### I. Vocabulary Using Affixes

Using the prefix or suffix in the box, fill in the blanks with the correct word formed from the word in **boldface**.

<i>fore-</i>	<i>-al</i>	<i>-ize</i>
<i>in-</i>	<i>-ate</i>	<i>-less</i>
<i>pre-</i>	<i>-ful</i>	<i>-ment</i>
<i>tri-</i>	<i>-ible</i>	<i>-or</i>
<i>in-</i>	<i>-ist</i>	<i>-y</i>

1. Good books have much **worth**; they are \_\_\_\_\_.
2. Her story is not **consistent**; in fact it is very \_\_\_\_\_.
3. The actors need to **rehearse** this scene; they will need more than one \_\_\_\_\_.
4. We experienced a **fright** the day we got lost in the storm; it was a \_\_\_\_\_ experience.
5. The teacher will **assign** many chapters to read; it will be a big \_\_\_\_\_.
6. They have not begun **school**; they are \_\_\_\_\_ children.
7. Mother treats me with lots of **affection**; she is a very \_\_\_\_\_ mother.
8. Divorce is not **legal** here; they want to \_\_\_\_\_ it.
9. Leslie's little **cycle** has three wheels; it is a \_\_\_\_\_.
10. Shakespeare wrote and produced **dramas**; he was a great English \_\_\_\_\_.
11. We must get this **lock** open; but it is very difficult to \_\_\_\_\_.
12. We ought to **fertilize** this garden; let's buy some good organic \_\_\_\_\_.
13. Cary does not take **care**; he is very \_\_\_\_\_.
14. The horse's front **leg** is broken; bandage his \_\_\_\_\_.
15. Bert is a born **critic**; he likes to \_\_\_\_\_.

## II. Reading Comprehension

Read the poem below then write the letters of your answers to the questions that follow.

### THE BLADES OF GRASS

<p><sup>1</sup> In heaven</p> <p><sup>2</sup> Some little blades of grass</p> <p><sup>3</sup> Stood before God,</p> <p><sup>4</sup> "What did you do?"</p> <p><sup>5</sup> Then all save one of the little blades</p> <p><sup>6</sup> Began eagerly to relate</p> <p><sup>7</sup> The merits of their lives</p> <p><sup>8</sup> This one stayed a small way behind,</p> <p><sup>9</sup> Ashamed</p> <p><sup>10</sup> Presently God said</p>	<p><sup>11</sup> "And what did you do?"</p> <p><sup>12</sup> The little blade answered,</p> <p><sup>13</sup> "Oh, my Lord,</p> <p><sup>14</sup> Memory is bitter to me,</p> <p><sup>15</sup> For if I did good deeds</p> <p><sup>16</sup> I know not of them</p> <p><sup>17</sup> Then God, in all His splendor</p> <p><sup>18</sup> Arose from His throne.</p> <p><sup>19</sup> "Oh, best little blade of grass!"</p> <p><sup>20</sup> He said.</p>
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16. Who stood before God?
- a. Angels.
  - b. Saints.
  - c. Blades of grass.
  - d. Children of God.
17. What did God want to know from them?
- a. Their deeds.
  - b. Their dreams.
  - c. Their desires.
  - d. Their memories.
18. To what word does you in line 4 refer?
- a. God.
  - b. Poet.
  - c. Heaven.
  - d. Grass.
19. What does line 5 mean?
- a. Only one of the little blades.
  - b. All of the little blades.
  - c. Not one of the little blades.
  - d. All except one of the little blades.
20. Why was one blade of grass shy to face God?
- a. He did not know what good he had done.
  - b. He could not talk as fluently as the other blades.
  - c. He was not as good looking as the others.
  - d. He did not understand what God was talking about.
21. How did the other blades of grass feel as they talked before God?
- a. Timid.
  - b. Envious.
  - c. Proud.
  - d. Nervous.
22. What does line 14 mean?
- a. I forgot the good things I did.
  - b. I remember only the bitter things.
  - c. I didn't do any good at all.
  - d. I cannot remember anything at all.
23. To what sense does line 17 and 18 appeal?
- a. Feeling.
  - b. Sight.
  - c. Smell.
  - d. Hearing.
24. Why did God call the last blade of grass the best?
- a. He was very quiet.
  - b. He was very polite.
  - c. He was very religious.
  - d. He was very humble.
25. What feeling is expressed in line 19?
- a. Surprise.
  - b. Pity.
  - c. Admiration.
  - d. Contentment.
26. What do the blades of grass represent?
- a. Angels.
  - b. People.
  - c. Animals.
  - d. Plants.

27. What figure of speech is used in the poem?  
 a. Irony.                      b. Metaphor.                      c. Simile.                      d. Personification.
28. Why is “blades of grass” used, instead of other plants to put across the message of the poem?  
 a. Because grass is found everywhere.  
 b. Because grass grows easily.  
 c. Because grass is a lowly plant.  
 d. Because grass is a flexible plant.

### III. Grammar. Parallelism

The following sentences do not observe parallelism. Write the unparallel structure in your notebook and correct it.

29. The manager promised me the position and to pay me the minimum wage.  
 30. I agreed to accept the position and that I would begin work next week.  
 31. Father agreed to let me go to college and paying a part of my expenses.  
 32. To find the key and getting into the house required some time.  
 33. I had a choice of two trips this summer to accompany my parents to Palawan or I could go with my friends to Boracay.  
 34. I expected her to be angry and that she would scold me.  
 35. His father has promised him a trip and to give him a car.  
 36. For the outing, I agreed to use my car and that they would buy the gasoline.  
 37. The car salesman agreed that we test drive the car, that he gives us a discount and to work on the car’s registration.  
 38. Sunsets over Manila Bay are unusually colorful, extremely delightful and has a very soothing effect on the beholders.

### Self-check



Let’s find out how much you have learned from this module. Check your answers against those that follow.

#### I. Vocabulary. Using Affixes

- |                 |                 |                |
|-----------------|-----------------|----------------|
| 1. worthy       | 6. preschool    | 11. unlock     |
| 2. inconsistent | 7. affectionate | 12. fertilizer |
| 3. rehearsal    | 8. legalize     | 13. careless   |
| 4. frightful    | 9. tricycle     | 14. foreleg    |
| 5. assignment   | 10. dramatist   | 15. criticize  |

## II. Reading Comprehension

- |       |       |       |
|-------|-------|-------|
| 16. c | 21. c | 26. b |
| 17. a | 22. a | 27. d |
| 18. b | 23. b | 28. c |
| 19. d | 24. d |       |
| 20. a | 25. c |       |

## III. Grammar. Parallelism. Score each number 2 points.

29. to pay me the minimum wage – a minimum wage
30. that would begin work next week – to start next week
31. paying a part of my expenses – to pay a part of my expenses
32. getting into the house – to get into the house
33. I could go with my friends to Boracay – to go with my friends to Boracay
34. that she would scold me – to scold me
35. to give him a car – a car
36. to use my car - that we would use my car
37. to work on the car's registration – that he works on the car's registration
38. has a very soothing effect on the beholders – very soothing to the beholders



Perfect score is 48. Perfect ? Excellent! You have used this module to the optimum. It is a pleasure working with you.

Did you score between 36 – 47? Very good! Keep up the good work.




Is your score between 24 – 35? Good, but you could have done better had you tried harder.

Is your score 23 or lower? I suggest you study the portion of the module where you are weakest before proceeding to the next module. Please put in more time and diligence in your studies. Don't be content to be a tail-ender for I believe you have the potentials to do better and succeed. Please try!

Pat your shoulder. You're now ready for the next module. We hope that you were able to gain insights on Creating New Applications which you can use in your everyday life.

Before you put aside this module, spend some time reflecting on what you have learned from it. Use this format in your reflective journal. Check the column that best describes your feeling about the activities you did. For the last column, give your reason.

*What I think of the activities in this module*

<i>Things I Did</i>	<i>How I liked them</i>		
	 <i>(Very much)</i>	 <i>(Just fine)</i>	 <i>(Not so much because)</i>
<i>What I liked best</i>			

