

For Teachers: Please have the students read the sentences one at a time and correct their pronunciation of each sentence then have them repeat after you. Wait until after they read the sentence (use the number in place of the missing word) to have the students choose the correct answer to fill in the blank. When the students finish the article, move on to the further questions.

4[B] – Robot Manners

11.1(4B)A2E

- As robot ^{科学技術(かがくぎじゆつ)} technology ^{よくなる} improves, robots are becoming an ^{ますます} increasingly ^{大切(たいせつ)な} important part of our ^{毎日(まいにち)の} daily ^{生活(せいかつ)} lives .
- Robots, ^{もちろん} of course, have many ^{利点(りてん)} advantages over ^{人類(じんるい)} human beings. They work hard, ^{一度(いちど)も~ない} never ^{休(やす)み} need to rest , do not ^{不満(ふまん)を言う} complain , and do not need to be ^{払(はら)う} paid .
- Moreover, by ^{実行(じっこう)する} performing ^{仕事(しごと)} simple tasks , they make it ^{可能(かのう)な} possible for human workers to ^{集中(しゆうちゆう)する} focus on ^{~を必要(ひつよう)する} jobs that ^{require} more skill. Yet as more robots enter the work ^{製作者(せいさくしゃ) ~に直面(ちよくめん)する} place, their ^{~の仕方(しかた)} creators ^{face} a new problem— ^{~するために} how to ^{うまくやっていく} design them so that human beings can get along with them.

Further Questions&A *Ask student to answer the question on their own at first. If the student can't answer correctly, have him look at the last page and read the "example answer" for the question. Have the student try to memorize the answer, if it's too long or difficult, you should divide the sentence into 2 or 3 parts to make it easier to remember. Once they have memorized the answer, the teacher should ask the question one last time so that the student can practice answering. Also if you find any mistakes, please mark the page and let me know ASAP.

- 1) What are some ^{利点(りてん)} advantages of using robot workers over human workers?
- 人間の労働者を超えてロボットを使う利点は何ですか。
- Robots will work harder, do not need to rest and do not need to be paid.*
- A ^{典型的(てんけいてき)な} typical robot today is TUG, which is now used in ^{~以上(いじょう)} more than 50 ^{病院(びょういん)} hospitals in the United States.
- TUG is a box-like robot ^{車輪(しゃりん)} on wheels that ^{~することができる} is able to ^{運(はこ)ぶ} carry things, ^{おす} push carts, and ^{届(とど)ける} deliver messages. TUG is programmed to remember ^{覚(おぼ)える} all ^{すべての} the ^{場所(ばしょ)} places in a hospital.
- When a nurse ^{願(ねが)う} wishes to send something to another nurse, ^{他(ほか)の} for example, ^{例(たと)えば} instead of ^{~の代(か)わりに} having to ^{無駄(むだ)な} waste time carrying it, he or she puts it on TUG, ^{選(えら)ぶ} selects the ^{目的地(もくてきち)} destination, and the robot goes there on its own.
- Hospital managers like TUG because it ^{許(ゆる)す} allows ^{労働者(ろうどうしゃ)} hospital workers to ^{全力(ぜんりょく)を注(そそ)ぐ} concentrate on ^{本来(ほんらい)} the jobs they were originally trained to do.

Further Questions&A

- 2) What is TUG? ^{なん} TUGは何ですか。
- TUG is a robot designed for bringing items from one place to another in a building so that people can concentrate on their own jobs.*
- 3) What kind of things does TUG do? TUGはどのような事をしますか。
- TUG can carry items, push carts and deliver messages and remember how to find its way through the building.*
- 4) How does a person use TUG? ^{つか}どのように TUG を使いますか。

16. *They put the item on the robot and select where they want it to go.*

17. 残念(ざんねん)なことに 専門家(せんもんか) in
Unfortunately, not all hospital workers like TUG. Bilge Mutlu, a specialist in
作用(さよう)
human-robot interactions at the University of Wisconsin—Madison, studied the
反応(はんのう)
reaction of workers to TUG in one hospital. He 見(み)つけた
嫌(きら)う
found that many people disliked
不足(ふそく)
the robot's lack of manners.

18. For example, when a 人類(じんるい) 伝(つた)える
human being delivers a message to someone 誰(だれ)か
who is talking on
the telephone, he または
or she will いつも
usually wait until the person on the phone is free.

19. TUG 簡単(かんたん)に 中断(ちゅうだん)する
simply interrupts the call and 大声(おおごえ)で 知(し)らせる
loudly announces, "TUG has arrived."

Further Questions&A

20. 5) Why do workers feel that TUG is 無礼(ぶれい)な
impolite? なぜ労働者(ろうどうしゃ)はTUGを無礼(ぶれい)と感(かん)じるのですか。

21. *TUG will interrupt them when they are on the phone and used to continue to be just as loud at night as during the day.*

22. 会社(かいしゃ)
Aethon, the company that makes TUG, is taking Mutlu's research 认真地(まじめに)
seriously.

23. Aethon すでに
already programmed TUG to speak より 落(お)ち着(つ)いて
more quietly at night. However, it
is very difficult to program a robot to be 礼儀(れいぎ)正(ただ)しい
polite.

24. One 可能(かのう)な
possible answer, being 発展(はってん)した
developed by 科学者(かがくしゃ)
scientists at the University of
Washington, in Seattle, is a program that 許(ゆる)す
allows robots to 分析(ぶんせき)する
analyze and まねる
imitate
ふるまい
human behavior.

25. This will only work, however, if the human beings that the robots copy are themselves
ふるまう
behaving 礼儀(れいぎ)正(ただ)しく
politely.

Further Questions&A

26. 6) What is the 目標(もくひょう)
goal of the team of scientists at the University of Washington
言及(げんきゅう)した
mentioned in this 記事(きじ)
article? この記事(きじ)を言及(げんきゅう)したワシントン大学の科学者(かがくしゃ)のチームの目標(もくひょう)は何(なに)ですか。

27. *They want robots to be able to learn human behavior and copy it.*

28. 7) What would you do with a robot if you had one? もしあなたがロボットを 持(も)って 何(なに)がしたいですか。

29. *I would want a robot that would do the 食料品料(しょくりょうひんりょう)
grocery shopping for me and do
cooking for me.*

30. 8) What is a rule you could teach to a robot to help it be more polite?

31. あなたがロボットにもっと 礼儀(れいぎ)正(ただ)しくなるよう 教(おし)えることができる 法則(ほうそく)は何(なに)ですか。

32. *Call people by their own names and recognize people's 見分(みわ)ける
moods and respond to them
答(こた)える
differently 各(お)うじて
accordingly.*

33. (37) What will robot designers need to do from now on?

34. 1 Pay robots for performing simple tasks.

35. 防(ふせ)ぐ 入(い)れ替(か)え 人類(じんるい)
Prevent robots from replacing human beings.

36. 2 Build robots that can concentrate on highly 熟練(じゅくれん)した
skilled jobs.

37. 3 Build robots that can concentrate on highly skilled jobs.

38. **4** Create robots that people feel ^{付(つ)き合(あ)いやすい} comfortable working with.
39. **(38)** Why do people who run hospitals like TUG?
40. **1** It can ^{なぜ} guess what task it should do next.
41. **2** It can move easily from one hospital to another.
42. **3** It can stop workers from ^{推測(すいそく)する} wasting time on simple jobs.
43. **4** It can help new nurse finds their way around the hospital.
44. **(39)** Bilge Mutlu discovered that people in one hospital
45. **1** felt that the way TUG ^{行動(こうどう)した} acted as impolite.
46. **2** disliked it when TUG came too close to them.
47. **3** refused to listen to TUG's messages.
48. **4** thought that TUG worked too hard.
49. **(40)** What are some scientists trying to do?
50. **1** Use robots to teach people how to be more polite to each other.
51. **2** Program robots to ^{振(ふる)る舞(ま)う} behave ^{~のように} more like human beings.
52. **3** Analyze ^{分析(ぶんせき)する} the reasons why robots sometimes ^{時々(ときどき)} stop working.
53. **4** Design robots that do more work at night ^{~より} than they do in the day.

Review Questions

54. **1)** What are some advantages of using robot workers over human workers?
55. *Robots will work harder, do not need to rest and do not need to be paid.*
56. **2)** What is TUG?
57. *TUG is a robot designed for bringing items from one place to another in a building so that people can concentrate on their own jobs.*
58. **3)** What kind of things does TUG do?
59. *TUG can carry items, push carts and deliver messages and remember how to find its way through the building.*
60. **4)** How does a person use TUG?
61. *They put the item on the robot and select where they want it to go.*
62. **5)** Why do workers feel that TUG is impolite?
63. *TUG will interrupt them when they are on the phone and used to continue to be just as loud at night as during the day.*
64. **6)** What is the goal of the team of scientists at the University of Washington mentioned in this article?
65. *They want robots to be able to learn human behavior and copy it.*
66. **7)** What would you do with a robot if you had one?
67. *I would want a robot that would do the grocery shopping for me and do cooking for me.*
68. **8)** What is a rule you could teach to a robot to help it be more polite?
69. *Call people by their own names and recognize people's moods and respond to them differently accordingly.*

70. 解答(37)4(38)3(39)1(40)2

196	たいき、ふんいき、 名)大気、雰囲気、	atmosphere					アトマ スフィア
197	めいかく、かくしん 形)明確な、確信 している	positive					パゼティ ヴ
198	にんげん 形)人間の	human					ヒュー マン
199	ねつぼう 形)熱望して いる	ambitious					アンビ シャス
200	けいこく、 動)警告する、 ちゅうこく 忠告する	warn					ウオン
201	うけとる 動)~を受け取る 、うけいれる 、受け入れる	accept					アクセ プト
202	よぶん、ついか 形)余分の、追加 の	extra					エクスト ラ
203	まか 動)...を負かす はいぼく、だとう 名)敗北、打倒	defeat					ディフィ ット
204	いっとき 形)一時の いちじてき 副)一時的に	temporarily					テンプレ リ
205	ほんたい 動)~に反対 する	oppose					アポズ
206	名)ゴム	rub					ラブ
207	しゃざい 名)謝罪、わび	apology					アポラジ ー
208	きふ 動)寄付する、 こうけん 貢献する	contribute					カントリ ビュウト
209	きょうかい、れんごう 名)協会、連合	association					アソシエ ーション
210	きえる 動)消える、 なくなる	vanish					ヴァニ ッシュ