

# 國立宜蘭高商 104 學年度英文科教師甄試試題卷

## I. Reading comprehension 20% (@2)

### (I)

Recent Hollywood films like *Interstellar* and *Pacific Rim* have served as a reminder that we are entering a new age in which robots will play a big part. Although there is interest in robots all over the world, the Japanese are pioneers in this field. Japan's robotic market currently generates about US\$8.4 billion a year in sales, and several of the nation's top corporations are working on innovative robots. This year, the Japanese company Softbank plans to unveil Pepper, a robot that can read human emotions. It uses artificial intelligence that analyzes a person's voice tones, gestures, and expressions to determine an appropriate reaction. This may lead to a stronger emotional bonding between humans and robots.

Robots are also doing their part by bettering service at public attractions. In June 2014, three lifelike robots were sent to work as guides at the National Museum of Emerging Science and Innovation in Tokyo. One robot, Kodonoroid, looks like a girl in her early 20s and functions like an RSS reader by reciting important news to visitors. Another, Ontonaroid, resembles a more mature woman and can answer questions from visitors as they browse exhibits. Finally, there's Telenoid, the baby of the bunch. It is a huggable robot designed to be a companion for children and elderly people.

There are many reasons why robotics is booming in Japan. For starters, a large percentage of the Japanese population is shy and actually prefers to communicate with robots instead of humans. In addition, Japan has an aging population and a declining birth rate. The elderly desperately need companionship and help with household tasks, two functions that robots can provide. Robots can also be employed in factories to boost production and help Japan improve its sluggish economy. With people's increasing reliance on robots, perhaps these helpful machines are destined to be as common as any other household appliances in the near

future.

**C1.**What does the article suggest about robots?

- (A)They will soon make most of our decisions for us.
- (B)They will be impossible to control in the future.
- (C)They will have a big impact on the world very soon.
- (D)Their popularity has already started to decline.

**B2.**How does the robot “Pepper” operate?

- (A)It reads books to make decisions for people.
- (B)It observes people’s behaviors to predict their feelings.
- (C)It gathers data and then copies the way a person speaks.
- (D)It confuses people so it can create a stronger emotional bond.

**B3.**Which of the following is **NOT** a reason why robotics is booming in Japan?

- (A)Many Japanese are uncomfortable around other people.
- (B)The number of elderly people in Japan is declining.
- (C)The Japanese economy hasn’t done well lately.
- (D)People want to use robots to complete household chores.

(II)

In 2014, the Noble Prize for Physics was awarded to the three Japanese scientists who invented blue LEDs some 20 years ago. By doing so, they helped to truly revolutionize illumination technology. Prior to their invention, red and green LEDs had existed for nearly a third of a century. However, early researchers were unable to bring blue LEDs into the fold until the Japanese scientists came up with their

monumental breakthrough.

Having access to blue LEDs was extremely vital, because red, green, and blue LEDs are combined in order to produce the white light that is required to illuminate our world. The invention of blue LEDs made it inevitable that the 21<sup>st</sup> century would be lit up by LED lamps. The term LED is short for light-emitting diode and refers to devices that emit light when electric currents pass through them. The first LED was created by American engineer Nick Holonyak in 1962, but it was only able to emit a low-intensity red light. Over years, LED technology evolved and has enabled electronic manufactures to use these lights in devices such as cellphones, watches, flashlights, and display screens.

Compared with ordinary light bulbs, LEDs have several benefits. They help to reduce power costs because they are more energy efficient. Also, LEDs have the ability to last thousands of hours longer than traditional lighting sources. Unlike fluorescent bulbs, LEDs contain no mercury, a substance that can be hazardous to people's health. The only major disadvantage concerning LEDs is that they are still more expensive to purchase than older lighting technologies. However, when you factor in the total cost of ownership, LED lights are actually cheaper due to their longevity. So the next time you flick on an LED light, remember to appreciate this amazing technology that brightens up your day.

**B4.** What is this article mainly about?

- (A) A brief history of how the Nobel Prize came out.
- (B) Some background information on a useful invention.
- (C) An explanation of how light affects our ability to see things.
- (D) The reasons why people should frequently change light bulbs.

**C5.** Which of the following statement is not true?

- (A) The 2014 Nobel Prize for Physics went to Japanese scientists.
- (B) Blue was the most recent LED light color to be discovered.

(C) LED lights were first discovered 20 years ago in Japan.

(D) Many manufacturers now use LED lights in their devices.

**D6.** What advantage do ordinary light bulbs have over LED bulbs?

(A) They can shine much brighter than LED bulbs.

(B) They usually last much longer than LED bulbs.

(C) The ordinary bulbs are more energy efficient.

(D) The price you pay for them in stores is cheaper.

(III)

Meet the world's first bionic amputee pop star, Viktoria Modesta. She attracted people's attention in her music video, *Prototype*, which ran during the ad breaks for *The X Factor*'s final episode. It led to a staggering 10 million views of the video on Channel 4's website, the channel that funded the video and air time. Within the dazzling six minutes, Modesta demonstrated there was no question she was a talented pop star. Her prosthetic leg added to, not hindered, her performance. It took Modesta years of hard work to break down barriers, achieve her dreams, and be comfortable with her body before the video's release.

Victoria Modesta was born in Latvia in 1987 when it was still part of the USSR. When she was 12, her family moved to the United Kingdom. While there, she was relentlessly bullied by other students for her limp, and consequently left school at the age of 14. She took refuge in London's alternative club scene, finding her interests in fashion, music, and performance.

However, she felt held back by her left leg, which was injured when she was born. Due to negligent doctors at the time of her birth, she had to undergo 15 failed surgeries before voluntarily agreeing to the amputation of her leg at the age of 20. She describes her decision as finally severing something that was restricting her from building her own identity. Pop culture groups initially rejected her because of a

stigma toward people with disabilities. Nevertheless, Modesta has said she does not see herself as disabled, and it has only inspired her to challenge society's views. She hopes the video will spark a discussion about people with disabilities so that a handicap will no longer define a person's identity. Her message to everyone is: "Forget what anyone said you can't do. Only you know what you are capable of and only you know who you truly are. Stay honest and look for things and people that make you happy."

**B7.** How did Victoria Modesta attract people's attention?

- (A) She told everyone to watch her music video online through social media.
- (B) She released her music video during the ad breaks for *The X Factor's* final episode.
- (C) She was on Channel 4 news and told everyone the name of her song.
- (D) She appeared on the final episode of *The X Factor* as a judge.

**A8.** Why did Modesta leave school at the age of 14?

- (A) She was harassed by her classmates for being different.
- (B) She didn't like her teachers.
- (C) Her mom thought the school was not good enough.
- (D) Her classmates were getting bullied by her.

**D9.** How did Modesta feel when she got her leg amputated?

- (A) She felt sad about it because she liked her leg.
- (B) She was angry, and she did not want to cut her leg off.
- (C) She felt bored by the whole idea.
- (D) She felt she was removing something that was holding her back.

**A10.** What does Modesta hope that her video will do?

- (A) Ignite a discussion about why people should not be defined by their disabilities.
- (B) Show people how cool her prosthetic leg is.

(C) Make people want to be pop stars, too.

(D) Tell people about the future of bionics.