

TOPIC 18: ARTIFICIAL INTELLIGENCE

Exercise 1: Mark the letter A, B, C or D to indicate the word that differs from the other three in the position of primary stress in each of the following questions.

- Question 1:** A. machine B. robot C. human D. fiction
Question 2: A. applicable B. automation C. artificial D. evolution
Question 3: A. resurrect B. activate C. talented D. centralize
Question 4: A. navigation B. application C. incredible D. sympathetic
Question 5: A. hacker B. implant C. deplete D. connect

Exercise 2: Mark the letter A, B, C, or D indicate the word whose underlined part differs from the other three in pronunciation in each of the following questions.

- Question 6:** A. application B. combustion C. navigation D. recognition
Question 7: A. artificial B. remarkable C. smartphone D. carrot
Question 8: A. computer B. command C. complicated D. communication
Question 9: A. robot B. controller C. operator D. global
Question 10: A. advances B. diseases C. escape D. watches

Exercise 3: Mark the letter A, B, C, or D to indicate the correct answer to each of the following questions.

Question 11: Patients at highest _____ of complications can be detected based on artificial intelligence techniques.

A. danger B. risk C. chance D. threat

Question 12: For years, AI researchers had implied that a breakthrough was just _____ the corner.

A. at B. around C. in D. from

Question 13: Marvin Minsky said in 1967 that within a generation the problem of creating AI would be _____ solved.

A. utterly B. substantially C. extremely D. highly

Question 14: By the late 1980s, the term AI was being avoided by many researchers, who opted instead _____ themselves with specific sub-disciplines such as neural networks, agent technology, case-based reasoning.

A. aligning B. to align C. to aligning D. align

Question 15: They attributed the increase in workforce productivity _____ the adoption of AI technologies.

A. in B. to C. of D. for

Question 16: If _____ and artificial intelligence in the workplace become a reality, there will surely be an increasing need for skills that robots can't offer.

A. automatic B. automate C. automation D. automatically

Question 17: Artificial intelligence (AI) is the ability of a digital computer to perform tasks _____ associated with intelligent beings.

A. commonly B. popularly C. basically D. primarily

Question 18: At companies like Facebook, Amazon, Apple, Netflix and Google, they help to develop long-term plans and digital _____

A. interacts B. interactive C. interactional D. interactions

Question 19: Artificial intelligence is based on the _____ that the process of human thought can be mechanized.

A. evidence B. theory C. belief D. assumption

Question 20: An electronic brain refers to a large computing machine depending _____ electronic devices for its operation.

A. primarily B. immediately C. artificially D. naturally

Question 21: High intelligent machines can be automated to operate without human _____

A. intervene B. intervening
C. intervention D. interventionist

Question 22: According to futurist Ray Kurzweil human _____ will be unavoidably transformed in the year 2045 by an event that he call The Singularity.

A. civics B. civilization C. cavils D. civilians

Question 23: One of the popular _____ used in smartphones at present is voice recognition.

A. applicant B. applicable C. applications D. apply

Question 24: Due to advances in computer vision, artificial intelligence and cloud _____ robots are now capable of performing advanced tasks and operating in challenging environments.

A. computation B. computing C. computer D. computerize

Question 25: Most scientists believe that the day when robots become a part of our lives will come _____

- D.** later than never

Question 26: _____ will be one of the core drivers creating the next wave of technology.

- ### D. Robots

Question 27: FM is a method of _____ signals, especially in radio broadcasting.

- #### D. translating

Question 28: Researchers have _____ to the conclusion that your personality is affected by your genes.

- D. reached**

Question 29: It is likely that artificial intelligence might decide to_____an end to humanity simply because it surpasses human intelligence.

- D. take**

Question 30: Robots are also used in all _____ applications outside of manufacturing including warehousing, healthcare, agriculture, construction, security and public safety.

- #### D. medicine

Question 31: Aerial, ground and marine robots are used in intelligence surveillance and reconnaissance (ISR) applications, bomb disposable and cargo_____

- #### D. transmission

Question 32: _____ vehicle traffic control systems for air, sea and ground will be an important element to widespread adoption of robotics that function without human supervision.

- #### D. Manned

Question 33: Similar _____ systems should also be in place for marine and ground based vehicles.

- #### D. tracking

Question 34: Artificial intelligence (AI) in healthcare is the use of algorithms and software to approximate human _____ in the analysis of complex medical data.

- #### D. contrition

Question 35: Discussions about Artificial Intelligence (AI) have _____ into the public eye over the past year, with several luminaries speaking publicly about the threat of AI to the future of humanity.

- D. rushed**

Question 36: Globally, the results show that a large _____ of people in the surveys have a positive attitude towards the idea of having intelligent service robots as small "domestic machines".

- #### D. scale

Question 37: These machines can be used to control and do mainly difficult and _____ household chores such as cleaning, ironing, and cooking.

- #### D. repetitive

Question 38: Robots may be equipped _____ the equivalent of human senses such as vision, touch, and the ability to sense temperature.

- D. for

Question 39: Researchers at the Institute for New Generation Computer Technology in Tokyo have used

PROLOG as the _____ for sophisticated logic programming languages.

- A. basis B. ground C. formation D. root

Question 40: The ability to reason logically is an important aspect of intelligence and has always been a major focus _____ AI research.

- A. on B. about C. of D. at

Exercise 4: Mark the letter A, B, C, or D on your answer sheet to indicate the word(s) CLOSEST in meaning to the underlined word(s) in each of the following questions.

Question 41: She touched the subcutaneous communications implant behind her right ear, thanks to which the communications net was made to start working.

- A. resurrected B. activated C. highlighted D. practiced

Question 42: The government ordered the military to design robots to access remote areas that are dangerous to the lives of militants.

- A. martyrs B. combatants C. soldier D. warriors

Question 43: It is unquestionable that the incorporation of artificial intelligence in computer revolution has brought about greater impacts into people's lives.

- A. beyond a shadow of a doubt B. under suspicion
C. neither fish nor fowl D. early days

Question 44: It is relatively easy to write computer programs that seem able to respond fluently in a human language to questions and statements.

- A. generally B. comparatively C. completely D. dramatically

Question 45: The earliest substantial work in the field of artificial intelligence was done in the mid-20th century by the British logician and computer pioneer Alan Mathison Turing.

- A. aspect B. place C. region D. location

Question 46: Internet search engines can help to predict the weather as well as traffic jams in a city.

- A. announce B. expect C. forecast D. reveal

Question 47: A.I. algorithms can also help to detect faces and other features in photo sent to social networking sites and automatically organize them.

- A. categorize B. connect C. recognize D. remind

Question 48: This type of artificial intelligence would not usurp human team members, but work with them as partners to tackle difficult challenges.

- A. take someone else's power B. criticize someone strongly
C. decide something officially D. determine other's behaviors

Question 49: While computers in the classroom certainly come with many benefits, there are also some disadvantages to keep in mind when incorporating this technology into lessons.

- A. have something in mind B. have something on our mind
C. bear in mind D. broaden the mind

Question 50: Do you really think humans will be exterminated when more and more intelligent machines are invented in the future?

- A. killed off B. got over C. released from D. wiped up

Exercise 5: Mark the letter A, B, C, or D on your answer sheet to indicate the word(s) OPPOSITE in meaning to the underlined word(s) in each of the following questions.

Question 51: An artificial heart is a prosthetic device that is implanted into the body to replace the original biological heart.

- A. transplanted B. inculcated C. inserted D. ablated

Question 52: Instead of replacing people, as some earlier industrial robots have, a collaborative robot, also known as a "cobot", is built to work alongside them.

- A. helping each other B. working together
C. individual D. befriending with each other

Question 53: Ray Kurzweil suggests that exponential technological development will lead to the inevitable rise of artificial intelligence.

- A. inapplicable B. avoidable C. unrecognizable D. invisible

Question 54: Advanced technologies may make humanity insignificant both in life and work.

- A. future B. radical C. sophisticated D. conventional

Question 55: A.I. techniques help medical doctors to discover subtle interactions between medications that put patients in jeopardy because of their serious side effect.

- A. safe and sound B. in reality
C. under control D. under pressure

Question 56: The critical issue is whether genuine artificial intelligence can ever be truly realized.

- A. authentic B. fake C. unpretentious D. true

Question 57: Smart robots have replaced humans in stressful and hazardous jobs and in assembly lines.

- A. dangerous B. risky C. safe D. perilous

Question 58: The Litter-Robot addresses one of the downsides of owning a cat: cleaning its litter box. The device sifts through kitty litter, removing clumps automatically and storing them in a bag.

- A. benefits B. interests C. concerns D. disadvantages

Question 59: To cope with the bewildering complexity of the real world, scientists often ignore less relevant details.

- A. complication B. difficulty C. simplicity D. complexion

Question 60: Professor Stephen Hawking thinks the primitive forms of A.I. which have been developed so far have already proved very useful.

- A. basic B. modern C. original D. recent

Exercise 6: Read the following passage and mark the letter A, B, C, or D on your answer sheet to indicate the correct word or phrase that best fits each of the numbered blanks from 61 to 65.

The first Industrial Revolution was about harnessing steam power so that muscle could be replaced by machines. The second was driven by electricity and a cluster of inventions from the late 19th century onwards - including the internal combustion engine, the aeroplane and moving pictures. A third revolution began in the 1960s and was based on digital technology, personal computing and the development of the Internet. Industrial Revolution 4.0 will be shaped by a fresh wave of innovation in

areas such as driverless cars, smart robotics, materials that are lighter and tougher, and a manufacturing process built around 3D printing.

There are some myths about Industrial Revolution 4.0. The first is that it won't really have as big an impact as the previous periods of change, most especially the breakthroughs associated with the second industrial revolution. In the past, it has always taken time to feel the full effects of technological change and many of today's advances are in their infancy. It is far too early to say that the car or air travel will prove to be less important than the sequencing of the human genome or synthetic biology. The second myth is that the process will be trouble free provided everything is left to the market. It is a fantasy to believe that the wealth created by the fourth Industrial Revolution will cascade down from rich to poor, and that those displaced will just walk into another job that pays just as well.

Indeed, all the evidence so far is that the benefits of the coming change will be concentrated among a relatively small elite, thus **exacerbating** the current trend towards greater levels of inequality. This was a point stressed by the Swiss bank UBS in a report launched in Davos. It notes that there will be a "polarization of the labor force as low-skill jobs continue to be automated and this trend increasingly spreads to middle class jobs."

(Adapted from <https://www.theguardian.com/business/>)

Question 61: The best title for this passage could be _____

- A. Four Industrial Revolutions in human history
- B. Some myths about four Industrial Revolutions
- C. The benefits of the fourth Industrial Revolution
- D. The greatest inventions in human history

Question 62: Which statement about four Industrial Revolutions is **FALSE** according to the passage?

- A. The first Industrial Revolution brought about steam power machines.
- B. A third revolution began in the 1970 and led to the development of the Internet.
- C. The second was driven by electricity and a cluster of inventions from the late 19th century onwards.
- D. Driverless cars, smart robotics can be said to be products of Industrial Revolution 4.0

Question 63: The word "**it**" in paragraph 2 refers to _____?

- A. myths
- B. Industrial Revolution 1.0
- C. Industrial Revolution 3.0
- D. Industrial Revolution 4.0

Question 64: In paragraph 2, the writer suggests that _____

- A. Industrial Revolution 4.0 will really have as big an impact as the previous periods of change.
- B. Many of today's advances resemble those in the past.
- C. It is far too early to say that the sequencing of the human genome or synthetic biology will prove to be more significant than the car or air travel.
- D. The fourth Industrial Revolution will cascade down from rich to poor.

Question 65: The word "**exacerbating**" in paragraph 3 means _____

- A. worsening
- B. lessening
- C. minimizing
- D. changing

Exercise 7: Read the following passage and mark the letter A, B, C, or D on your answer sheet to indicate the correct answer to each of the questions from 66 to 73.

Robots are useful for exploring and working in space. In particular, many robots have been sent to explore Mars. Such robots have usually looked like a box with wheels. Though these robots are useful, by their very nature they are unreliable, extremely expensive, and they break easily. Also, they cannot do very many tasks. Because of these problems, scientists have been developing a new and unusual kind of robot. These new robots move like snakes, so they have been given the name "snakebots."

The way a snake is shaped lets it get into very small spaces, like cracks in rocks. It can also push its way below the ground or climb up different kinds of objects, like high rocks and trees. Such abilities account for the usefulness of a robot designed like a snake. A snakebot would be able to do these things, too, making it much more effective than regular robots with wheels, which easily get stuck or fall over. Since they can carry tools, snakebots would be able to work in space, as well. They could, for example, help repair the International Space Station.

But how can such a robot shape be made? A snakebot is built like a chain made of about thirty parts, or modules. Each module is basically the same in that they all have a small computer and a wheel to aid movement. The large computer in the "head" of the snake makes all of the modules in a snakebot work together.

The modular design of the snakebot has many advantages. If one module fails, another can be added easily. Snakebot modules can also carry different kinds of tools, as well as cameras. Since each module is actually a robot in itself, one module can work apart from the rest if necessary. That is, all the modules can **separate** and move on their own, and then later, reconnect back into a larger robot. Researchers are also trying to develop snakebots made of a special kind of plastic that can change its shape using electricity, almost like animal muscles. Snakebots made with this plastic will be very strong and hard to break.

Overall, the snakebot design is much simpler than that of common robots. Thus, snakebots will be much less expensive to build. For example, a robot recently sent to Mars cost over a hundred million dollars, whereas snakebots can cost as little as a few hundred dollars. With their **versatility** and affordability, snakebots seem to be the wave of the future, at least as far as space robots are concerned.

(Adapted from Reading Challenge 3 by Casey Malarcher and Andrea Janzen)

Question 66: What topic does the passage mainly focus on?

- A. The differences between the old robots and the new ones.
- B. The reasons for the appearance of the snakebots.
- C. The composition and abilities of the snakebots.
- D. The physical appearance and problems of the snakebots.

Question 67: According to paragraph 1, the following are disadvantages of the common robots which have been on Mars, **EXCEPT** _____

- | | |
|----------------|----------------------------|
| A. uselessness | B. high manufacturing cost |
| C. fragility | D. difficulty in moving |

Question 68: What does the word "**they**" in the second paragraph refer to?

- A. wheels B. regular robots C. these things D. snakebots

Question 69: According to the passage, which of the following is **TRUE** about the snakebots?

- A. They can move through myriad difficult terrains.
- B. They are easier to get stuck or fall over than other kinds of robots.
- C. They are unable to work in space like a regular robot.
- D. They are made of over thirty different modules.

Question 70: The author implied in paragraph 4 that a snakebot only completely stops working when_

-
- A. the head of the snake has something wrong.
 - B. all the modules cannot reconnect with each other.
 - C. the whole parts of the snake are broken down.
 - D. the energy battery in the snakebot runs out of.

Question 71: The word "**separate**" in paragraph 4 mostly means _____

- A. join together
- B. divide into many different parts
- C. control others to work in the way you want
- D. have effects on others and the way they develop.

Question 72: The word "**versatility**" in the last paragraph is closest in meaning to _____

- A. flexibility B. rigidity C. firmness D. ability

Question 73: Which of the following best describes the attitude of the author toward the new kind of robot?

- A. criticize B. admire C. appreciate D. disapprove