Quiz Date: 28th February 2020

Directions (1-8): **Read the following passage carefully and answer the questions given below it. Certain words are given in bold to help you locate them while answering some of the questions.**

Talk of gene-edited foods seems to be going mainstream. It's an intriguing concept for some but perhaps a scary one for others and it's a tossup right now whether Canadian consumers will want to eat gene-edited food. Meanwhile, there's a lot of excitement in agriculture about the introduction of gene-edited food products into the Canadian food system over the next few years, but a lot of apprehension as well.

Simply put, gene editing is about tweaking a plant's genome by turning off certain genetic traits. By using a technology called CRISPR (clustered regularly interspaced short palindromic repeat), almost anyone with some molecular biology training can cut and paste certain genes of a plant, without going through a cost-prohibitive process.

For example, a tomato grower can gene-edit plants in order to get shorter stems, so the tomatoes become more clustered. Mushrooms that don't turn brown, which in turn can extend shelf life and reduce waste, would be another example. Some gene-edited, low-gluten and high-fibre wheat has already been developed in the United States. Gene-edited soybeans, which can be cooked at high temperatures without producing trans fats, have already been planted.

Gene-editing experts claim that the technology has the potential to make some foods more nutritious without increasing costs and can also reduce food waste. Unlike GMOs, which involve crossing species that would not normally cross in nature, gene editing is about fine tuning what nature has given us. Glyphosate-tolerant canola, for example, is a GMO and was entirely created by humans. Gene editing, on the other hand, does not add anything to the genome. As it stands, public oversight for gene editing would be minimal, if not inexistent. If the process does not introduce any novel traits to the plant's genome, Health Canada does not require safety testing for new products. In other words, certification or approvals would likely not be necessary. Therefore, monitoring and traceability of gene-edited crops will be challenging. Furthermore, as with genetically modified content in foods, there are no plans to require mandatory labelling of gene-edited foods, either. This is truly a recipe for another risk communication disaster.

Genetically modified crops took the world by storm in the early '90s without anyone knowing about it - other than farmers and the biotechnology industry of course. Today, almost 90 per cent of the corn, soybeans and canola grown in Canada comes from genetically modified seeds, and almost 80 per cent of all processed foods in any given grocery store in Canada today will contain at least one genetically modified ingredient. Since GMO labelling is not mandatory in Canada, most consumers are grossly unaware of their presence in food products.

Most major health authorities from around the world, including our very own Health Canada, have concluded that consuming GMO ingredients in food does not pose either short- or long-term health risks. But most of this doesn't matter in the eyes of the average consumer. The food industry's last venture into genetic engineering, more than 30 years ago, was a commercial success for agriculture. Global agriculture has benefited from the technology, which has made crop growing more efficient without a doubt. But it also became a risk communication disaster over the years when consumers started to fear what was happening to their food, without

knowing about genetic engineering. “Frankenfoods” was one well-used label to describe GMOs and reflects how misunderstood the technology was.
The biotechnology sector never bothered connecting with the public as it was promoting their newly crafted products to farmers. So, it’s difficult to blame consumers for being fearful about what’s happening out there in our farmers’ fields. The political opposition from interest groups was **fierce**. Vocalizing concerns has made the biotechnology industry mindful of how social licensing is critical to the nature of their business. What biotechnology companies are doing is important, but it remains exceptionally misunderstood. Most Canadians know of the existence of GMOs but cannot accurately explain what they are. In order to allow Canadians to befriend the science, mandatory labelling for genetically modified and edited content would be a logical starting point.

Gene editing is now a reality, and it’s only a matter of time before the technology reaches grocery store shelves. Our food systems are evolving, as we try to figure out a way to feed our growing population. Gene-edited crops can help farmers produce safe and affordable food, feed, fibres, and energy in the 21st century, but the technology needs to make a legitimate case to consumers themselves.

Given the GMO risk-communications **fiasco** we have all witnessed over the last 30 years, let’s hope the agri-food business can learn from past mistakes by making sure consumers are onboard with this. Regrettably though, the effort to educate the public is close to non-existent at this stage, which suggests that we have not learned a darn thing.

Q1. Which of the following is true about gene editing as described in the passage?
(a) Gene Editing is altering genome of a plant and disabling some of the genetic traits
(b) Only people with molecular biology knowledge can do the gene editing
(c) An expert cuts and pastes specific genes of a plant
(d) The process of gene editing is costly and complex
(e) Gene editing requires rigorous experience of years

Q2. What are the advantages of gene editing as mentioned in the passage?
(a) It can bring more nutrition to the food
(b) It reduces food wastage
(c) There is no additional cost
(d) It doesn’t alter the genome of a plant
(e) All of the above

Q3. What does author of the passage refer to with *'another risk communication disaster'?*
(a) Non-mandatory labeling of genetically modified foods
(b) New products will not be tested for safety
(c) No noticeable traits to the genome of the plant
(d) No need of approvals or certification
(e) All of the above

Q4. What was the fear among the customers in the lack of proper information regarding GMOs?
(a) The benefits of genetic engineering were not in their favour
(b) They were uninformed about what was going on with their food
(c) There was no information about genetic engineering
(d) Both (b) and (c)
(e) Only (a)

Q5. Why consumers shouldn't be blamed for the fear about genetically modified crops?
(a) Biotechnology didn't connect with public while introducing new technologies to farmers.
(b) Consumers are unaware about what happens in the farmers' field.
(c) The gene editing is restricted to only some specific crops
(d) The technology of gene modification is quite understandable
(e) All of the above

Q6. What should be the steps to familiarize Canadians with the science?
(a) Realizing the necessity of social licensing for biotechnology industry
(b) Labelling of genetically modified content
(c) Befriending Canadians with existence of GMOs through advertisements
(d) Both (a) and (c)
(e) None of these

Q7. Which of the word is most similar in meaning with FIERCE as highlighted in the passage?
(a) Gentle
(b) Taming
(c) Mildness
(d)Vicious
(e) None of these

Q8. Which of the word most opposite in meaning with FIASCO is as highlighted in the passage?
(a) Wreck
(b) Mess
(c) Blunder
(d) Success
(e) Disaster

Directions (9-15): Each of the sentences given below contains a blank. Identify the most suitable alternative among the five given that fits into the blank to make the sentence logical and meaningful.

Q9. The politics of resentment plays out in extreme ways that damage institutions and cause _____ harm to the intellectual ecosystem.
(a) Confident
(b) Irreparable
(c) Stingy
(d) Enlarge
(e) Dormancy

Q10. India is ill-prepared to deal with the new _____ of coronavirus (SARS-CoV-2) that is causing worldwide panic.
(a) Uncover
(b) Defend
(c) Network
(d) Strain
(e) Disarray

Q11. Any high-level visit, particularly that of a U.S. President to India, is as much about the _____ as it is about the outcomes.
(a) Optics
(b) Mobilized
(c) Distinction
(d) Anguish
(e) Imbalance

Q12. The ART Bill has seen a fitting revival, egged on by legislators who _____ the passage of the Surrogacy Bill in the Rajya Sabha.
(a) Celebrated
(b)Abandoned
(c) Extremism
(d) Elation
(e) Facilitated

Q13. A _____ of welfare policies initiated by the government in its previous term secured the party's victory in the 2020 election.
(a) Mature
(b) Respectable
(c) Faulty
(d) Slew
(e) Dismiss

Q14. The recently-concluded elections were the 45th Assembly polls since the _____ of the 'None of the above' (NOTA) option in 2013.
(a) Starting
(b) Established
(c) Inception
(d) Opening
(e) Initial

Q15. The first thing to note is that as citizens, there exists a wide range of duties that _____ us in everyday life.
(a) Restriction
(b) Bind
(c) Assemble
(d) Protract
(e) Inhibit

Solutions

S1. Ans. (a)
Sol. Refer to the lines of second paragraph, the hint can be drawn from the lines, ***Simply put, gene editing is about tweaking a plant's genome by turning off certain genetic traits. By using a technology called CRISPR (clustered regularly interspaced short palindromic repeat), almost anyone with some molecular biology training can cut and paste certain genes of a plant, without going through a cost-prohibitive process.***
Here, only **option (a)** justifies the above lines. Hence, **option (a)** is the right answer choice.

S2. Ans. (e)

Sol. Refer to the third paragraph of the given passage, the hint can be drawn from the lines, *Gene-editing experts claim that the technology has the potential to make some foods more nutritious without increasing costs and can also reduce food waste. Unlike GMOs, which involve crossing species that would not normally cross in nature, gene editing is about fine tuning what nature has given us. Glyphosate-tolerant canola, for example, is a GMO and was entirely created by humans. Gene editing, on the other hand, does not add anything to the genome.*
Here, all the options (a), (b), (c) and (d) are justified with the above lines. Hence, option (e)[all of the above] is the right answer choice.

S3. Ans. (e)
Sol. Refer to the second paragraph, the hint can be drawn from the lines, *As it stands, public oversight for gene editing would be minimal, if not inexistent. If the process does not introduce any novel traits to the plant's genome, Health Canada does not require safety testing for new products. In other words, certification or approvals would likely not be necessary. Therefore, monitoring and traceability of gene-edited crops will be challenging. Furthermore, as with genetically modified content in foods, there are no plans to require mandatory labelling of gene-edited foods, either. This is truly a recipe for another risk communication disaster.*
Here, all the options (a), (b), (c), and (d) justify the above lines and explain the reasons about which the author referred to as another risk communication disaster. Hence, option (e) [All of the above] is the right answer choice.

S4. Ans. (d)
Sol. Refer to the lines of fifth paragraph, the hint can be drawn from the lines, *The food industry's last venture into genetic engineering, more than 30 years ago, was a commercial success for agriculture. Global agriculture has benefited from the technology, which has made crop growing more efficient without a doubt. But it also became a risk communication disaster over the years when consumers started to fear what was happening to their food, without knowing about genetic engineering. "Franken foods" was one well-used label to describe GMOs and reflects how misunderstood the technology was.*
Option (b) and option (c) justify the above lines. Hence, option (d)[Both (b) and (c)]is the right answer choice.

S5. Ans. (a)
Sol. Refer to the sixth paragraph, the hint can be drawn from the lines, *The biotechnology sector never bothered connecting with the public as it was promoting their newly crafted products to farmers. So, it's difficult to blame consumers for being fearful about what's happening out there in our farmers' fields. The political opposition from interest groups was fierce.*
Here, only option (a) justifies above lines. Hence, option (a) is the right answer choice.

S6. Ans. (b)
Sol. Refer to the sixth paragraph, the hint can be drawn from the lines, *Vocalizing concerns has made the biotechnology industry mindful of how social licensing is critical to the nature of their business. What biotechnology companies are doing is important, but it remains exceptionally misunderstood. Most Canadians know of the existence of GMOs but cannot accurately explain*

what they are. In order to allow Canadians to befriend the science, mandatory labeling for genetically modified and edited content would be a logical starting point.
Option (b) justifies the above lines. Hence, option (b) is the right answer choice.

S7. Ans. (d)
Sol. fierce means having or displaying an intense or ferocious aggressiveness which is most similar in meaning with Vicious. Hence, option (d) is the right answer choice.

S8. Ans. (d)
Sol. Fiasco means a complete failure, especially a ludicrous or humiliating one which is most opposite in meaning with Success. Hence, option (d) is the right answer choice.

S9. Ans. (b)
Sol. Irreparable fits into the blank to make the sentence logical and meaningful. Hence, option (b) is the right answer choice.

S10. Ans. (d)
Sol. Strain fits into the blank to make the sentence logical and meaningful. Hence, option (d) is the right answer choice.

S11. Ans. (a)
Sol. Optics fits into the blank to make the sentence logical and meaningful. Hence, option (a) is the right answer choice.

S12. Ans. (e)
Sol. Facilitated fits into the blank to make the sentence logical and meaningful. Hence, option (e) is the right answer choice.

S13. Ans. (d)
Sol. Slew fits into the blank to make the sentence logical and meaningful. Hence, option (d) is the right answer choice.

S14. Ans. (c)
Sol. Inception fits into the blank to make the sentence logical and meaningful. Hence, option (c) is the right answer choice.

S15. Ans. (b)

Sol. Bind fits into the blank to make the sentence logical and meaningful. Hence, option (b) is the right answer choice.