

 Istanbul Bilgi Üniversitesi	Preparatory Program BİLET II READING TEXTS	SAMPLE
--	---	---------------

There are **2** texts and **14** questions in the Reading Section.

Please read the texts and answer the questions about them. Circle the correct option for each question.

There is **ONLY ONE** correct answer for each question.

TEXT 1: Artificial Neural Networks (ANNs)

- Starting in the mid-20th century, the Digital Revolution, which is the shift from mechanical and analogue electronic technologies to digital electronics, gave birth to the computer age. Since then, technology has constantly surprised human beings. In this age, each breakthrough has seemed too good to be true. In the dawn of the 21st century, these breakthroughs have brought us to an era when computers are able to imitate the human brain's workings. The concept known as Artificial Neural Networks (ANNs) is the technology behind this.
- Fundamentally, an artificial neural network is a computational model based on the neural connections within the human brain. An artificial neural network is a system that works in much the same way as neurons in the human brain perform tasks. Just as our brain consists of interconnected neurons that transmit and process information, ANNs include interconnected nodes, or "neurons". They are like the cells in our brains, which work together to perform complex tasks. These networks are designed to recognize patterns in the information given to them, learn from huge data sets, and make informed decisions accordingly.
- ANNs consist of layers that serve different purposes. The input layer receives data. The data is then processed through the sub layer. The final output is produced by the output layer. In other words, these particular layers of neurons get information, figure things out, and finally give an answer. Each connection between neurons has a value. The values of neurons determine the significance and strength of the input. These values are adjusted to enhance the network's performance over time, through training or experience, not from programming. In other words, it is these values that decide how important an input is. During training, the network practices with a lot of examples using the provided information. In accordance with the data provided during training, it adjusts the values to get better at its job. Just like practicing a sport makes you better, adjusting the values makes the network better at understanding things. It resembles teaching the network how to pay more attention to important things, and less to things that do not matter as much. This way, the network learns to make better decisions and understand things more accurately.
- ANNs have various applications that we already use in our daily lives. One of the most remarkable ones is image recognition. Social media platforms use the facial recognition feature of ANNs to tag users in photos. Self-driving cars utilize the same feature of ANNs to interpret images from cameras and sensors as this helps them navigate safely through traffic. In advertising and marketing research, ANNs analyze facial expressions to measure responses of people to advertisements, products, or experiences. This provides valuable insights for product development and advertising strategies. ANNs play a pivotal role in breaking down language barriers, too. Online translation services employ neural networks to accurately translate text and speech between different languages. Virtual assistants, such as Siri and Google Assistant, also rely on ANNs to understand and respond to human language. ANNs' most important contribution, however, is probably to the healthcare sector. They can analyze medical images, such as X-rays and MRIs, identifying anomalies that might be too challenging for the human eye to detect. This technology assists doctors in making more accurate and timely diagnoses, followed by relevant treatments proposed by doctors. Financial institutions also use ANNs to analyze vast amounts of data and predict market trends with minimum error. They help investors and traders in making decisions, and they can also help with detecting fraudulent or illegal, activities by flagging unusual transactions and patterns that could show criminal intent. Shortly, ANNs' ability to process and learn from massive datasets has brought about unprecedented speed, accuracy and efficiency. As technology advances, ANNs are expected to develop further, leaving no room for failures, and this will lead to breakthroughs in fields like medicine, robotics, and automation.

PLEASE TURN THE PAGE →

- 5 Despite the undeniable advancements in technology and the remarkable applications of artificial neural networks, debates over their impacts continue. Ethical concerns about privacy and data security arise due to the extensive data collection and sharing, which are required for training these networks. Criticisms also emerge about the potential job loss and displacement caused by automation by ANNs. This leads to discussions about the delicate balance between technological developments and workforce stability. Furthermore, the bias and fairness issues in artificial neural networks are among significant concerns. Like many other things, bias can be learned by the networks. As a result, it is suggested by some experts that these networks can also end up discriminating in various applications such as hiring or law enforcement. Addressing these biases, while ensuring the effectiveness of neural networks, remains a complex challenge. Additionally, neural networks are like “black boxes” in that their decision-making processes are not easily interpretable. This raises concerns about their reliability and transparency. These concerns are critical especially in applications in the sectors of healthcare and autonomous vehicles. That is, ANNs are systems which you can interact with, but you do not know exactly how it works inside. This makes people question whether they can trust these systems or not. As a consequence, finding the right balance between the benefits of AI in general and ANNs in particular, and addressing these ethical and practical challenges is a vital conversation that continues to shape the future of this field.
- 6 In conclusion, ANNs’ capabilities, ranging from identifying images to understanding languages, have found their way into numerous aspects of our daily routines. As we move forward, their improvement promises to shape a future where intelligent machines coexist harmoniously with humanity, transforming industries and enriching our experiences in ways we are only beginning to realize.

TEXT 2: Obsessive-Compulsive Disorder (OCD)

- 1 Obsessive-compulsive disorder (OCD) is a chronic mental health condition, but it can be treated. Obsessions are persistent and unwanted thoughts that cause significant anxiety or distress. Common obsessions are generally about cleanliness, safety or symmetry. When these obsessions are followed by repetitive and unstoppable behaviors, they are called compulsions. Compulsions, on the other hand, are repetitive actions that individuals with OCD perform to reduce the anxiety caused by obsessive thoughts. Males are more likely to experience OCD before puberty period which generally starts at the age of 9 for boys. They are also more at risk if they have a family member with OCD or Tourette Syndrome. Females are more likely to develop OCD in adolescence and in their 20s. People who have perfectionist tendencies seem to label themselves obsessive compulsive. However, they are not OCD because, simply stated, they are not informed about what OCD really is. In order for a diagnosis of OCD to be made, this cycle of obsessions and compulsions must be extreme.
- 2 The disorder may restrict individuals’ ability to engage in activities they enjoy, pursue personal goals, or experience a sense of freedom. The reason for this is that some individuals with OCD may have to seek ways to get away from situations, places, or people that trigger their obsessions or make it difficult to perform their compulsions. This avoidance behavior can lead to social isolation, limited opportunities for personal growth, and a narrower life experience. Yet, people with OCD experience the challenges of their condition firsthand, and this makes them more considerate, tolerant and understanding towards people facing mental health issues. They may use their personal experiences to encourage and aid people with OCD or other mental health issues.
- 3 Although OCD can consume a significant amount of time and energy due to the need to perform rituals or engage in mental acts that may take hours each day, sufferers often show a strong attention to detail. This quality can be of assistance in some professions, including project management, inventory management, or even personal organization. People with OCD can use their careful nature to make the processes more efficient. This can be valuable in professions in which one must be absolutely accurate, such as engineering, research, programming, or quality control. Their ability to notice even the smallest details can be a great plus in these fields. Still, the constant need to repeat actions or thoughts can be exhausting and disrupt normal functioning.
- 4 It is important to note that OCD is a treatable condition. Psychotherapy and medicines are commonly used to manage OCD symptoms and help patients regain control over their lives and improve their overall well-being. However, some patients do not experience relief from these treatment options and are offered surgery. In addition to the risks and necessary recovery period following, it should be stated that studies examining these techniques are normally based on open trials involving a limited number of patients. As a result, their efficacy among the general OCD treatment has yet to be confirmed.



Answer questions 1-8 according to the information in TEXT 1: Artificial Neural Networks (ANNs)

1. What is a significant similarity between human brain and ANNs?
 - a. Using brain cells to notice patterns
 - b. Using a neural system to process data
 - c. Acting instinctively to make a decision
 - d. Having the ability to work without any data
2. We can understand from Paragraph 3 that _____.
 - a. ANNs use a three-stage system to process the information provided
 - b. one training session is enough for ANN to learn how to process information
 - c. an extensive training is necessary to understand the operation of ANNs
 - d. the layers of ANNs can perform the functions of other layers with no difference
3. Image recognition of ANNs contributes to all of the following **EXCEPT** _____.
 - a. increasing the safety of self-driving cars
 - b. accessing target customers more easily
 - c. making social media use more practical
 - d. supporting psychological problems
4. Which of the following is **NOT** mentioned as a benefit of ANNs in Paragraph 4?
 - a. Being really fast in their operation
 - b. Providing correct and reliable results
 - c. Performing complex medical surgeries
 - d. Using a huge number of sources of information
5. In the finance sector, ANNs _____.
 - a. support equal distribution of financial resources and investments
 - b. enhance employment opportunities due to their successful analyses
 - c. secure financial operations by detecting and preventing suspicious ones
 - d. are able to make predictions about the trends in the market without any mistakes
6. The use of ANNs might put some groups of people at disadvantage since ANNs _____.
 - a. lack vast amount of expert data
 - b. learn attitudes such as prejudice
 - c. are criticized harshly by these groups
 - d. are off-limits for these people to use

PLEASE TURN THE PAGE →

7. The author voices concern about the use of ANNs in making important decisions because _____.
a. its internal workings are hidden or not readily understood
b. using ANNs costs much more than using human work power
c. people who enter data into these systems may make mistakes
d. training experts to use these systems is difficult and impractical
8. According to the author of the text, _____.
a. ANNs threaten humanity's future since it will ruin harmony in the world
b. restricting the use of ANNs in some areas is inevitable for people's well-being
c. ANNs should be improved to have a place and importance in people's daily lives
d. people are mostly unaware of the effects ANNs have and will have on the future lives

Answer questions 9-14 according to the information in TEXT 2: Obsessive-Compulsive Disorder (OCD)

9. Obsessions _____.
a. are thoughts
b. are behaviors
c. cannot be cured
d. can stop compulsions
10. Males are much more likely to exhibit early symptoms of OCD during _____.
a. young adulthood
b. adolescence
c. adulthood
d. childhood
11. Some people falsely believe that they have OCD due to _____.
a. family members
b. anxiety problems
c. lack of information
d. wrong diagnosis by doctors
12. Which of the following is **NOT** a result of compulsions?
a. a limited sense of freedom
b. the avoidance of socialization
c. restricted personal development
d. the loss of empathy towards others
13. Individuals with OCD make use of their qualities in certain professions by _____.
a. focusing on the whole rather than details
b. increasing accuracy and efficiency at work
c. treating repetitive behaviors and mental acts
d. receiving relevant trainings from professionals
14. Which one is **TRUE** about the treatment for OCD?
a. Surgery is a required option for the treatment of OCD.
b. Treatments used in OCD cases are based on vast research.
c. Medicines may be insufficient to treat people suffering from OCD.
d. Surgery has been proven to be more effective than psychotherapy.

ANSWER KEY

1. B
2. A
3. D
4. C
5. C
6. B
7. A
8. D
9. A
10. D
11. C
12. D
13. B
14. C