### 12.03-03.04

# ТЕМИ, ЯКІ ВИНОСЯТЬСЯ НА САМОСТІЙНЕ ОПРАЦЮВАННЯ ПІД ЧАС КАРАНТИНУ

Домашні завдання з дисципліни «Іноземна мова за професійним спрямуванням (англійська)» для студентів ІІ курсу медичного факультету № 1

## 1. Домашнє завдання до заняття № 8 «Діабет»

**підручник** English for Professional Purposes: Medicine: textbook (IV a. l.) / O.O. Pisotska, I.V. Znamenska, V.G. Kostenko, O.M. Bieliaieva = Англійська мова за професійним спрямуванням: Медицина

Lesson 8, p. 139 - 140.

## **VOCABULARY**

## 1. Read Vocabulary and memorize new words

diabetes mellitus ["dalq'bl:tl:z 'mɛlltqs] цукровий діабет respond [rls'pOnd] реагувати pancreatic ["рхМкгl'хtlk] що стосується підшлункової залози, панкреатичний juvenile (-onset) ['Gu:vlnall] юнацький, ювенільний adult-onset diabetes ['xdAlt, q'dAlt] діабет дорослих diminish [dl'mlnls] зменшуватися, знижуватися

thirst [Tq:st] спрага
consequence ['kOnslkwons] наслідок, результат
adipose ['xdlpqus] адипозний, жировий
target ['ta:glt] мішень
readily ['rodlll] легко, без напруги
sheep [Sl:p] вівця
Langerhans islet ['la:Ngqha:ns 'alllt]
панкреатичний острівець, острівець
Лангерганса
confusion [kqn'fjuZ(q)n] розгубленість,
порушення орієнтації

## 4. Put the sentences negative and interrogative as in a model.

#### MODEL:

You should shake the bottle before use. You shouldn't shake the bottle before use. Should I shake the bottle before use?

heredity [hl'redltl] спадковість

1. You should take the drug after meals. 2. You should take the drug on an empty stomach. 3. You should keep this medicine in the fridge. 4. You should rub this ointment into the skin. 5. You should eat high-calorie food with limited liquid and salt. 6. You should chew these tablets before swallowing. 7. You should try to do these exercises three times a day, preferably on an empty stomach.

#### 7. Read the text.

# **DIABETES MELLITUS**

Scientists consider the diabetes mellitus to occur as a result of inadequate secretion of insulin or the inability of tissues to respond to insulin. Thus, when body's cells are unable to use the glucose in the bloodstream because of a lack of insulin activity, diabetes mellitus occurs. Insulin hyposecretion is usually caused by degeneration of the beta cells in the pancreatic islets. There are two types of diabetes mellitus: insulin-dependent diabetes mellitus (IDDM) and non-insulin-dependent diabetes mellitus (NIDDM). **Insulin-dependent** diabetes mellitus is also known as type I, juvenile or juvenile-onset diabetes. Terms used for **NIDDM** include adult-onset, stable, and type II diabetes. Juvenile-onset diabetes usually develops in young people. It is caused by diminished insulin secretion. It is not clear if heredity plays a major role in its onset, but viral infection of the pancreatic islets may be involved. NIDDM develops in older people and often does not result from a lack of insulin but from the inability of the tissues to respond insulin.

The **symptoms** associated with diabetes mellitus are increased thirst, increased urination, fatigue, nausea, vomiting, skin infections, and bladder infections. These symptoms are the consequence of the abnormal metabolism of nutrients, which is caused by diminished insulin secretion or a decreased number of insulin receptors. In patients with diabetes mellitus nutrients are absorbed from the intestine after a meal, but without insulin skeletal muscle, adipose tissue, the liver and other target tissues do not readily take glucose into their cells. Consequently, blood level of glucose increases dramatically.

Diabetes mellitus often **is treated** by administration of insulin by injection. Insulin is extracted from sheep or pork pancreatic tissue. Genetic engineering currently is used to synthesize human insulin. In some cases diabetes mellitus can

be treated by administering drugs that stimulate beta cells to secrete more insulin. This treatment is effective only if an adequate number of functional beta cells is present in the islets of Langerhans.

Too much insulin or too little food intake after an injection of insulin by a diabetic patient causes insulin shock. The high level of insulin causes target tissues to take up glucose at a very high rate. As a result, blood glucose levels rapidly fall to a low level. Since the nervous system depends on glucose as its major source of energy, neurons malfunction because of a lack of metabolic energy. As the blood glucose level decreases, the concentration of fatty acids increases in the blood, resulting in a decrease in the blood pH, which also causes nerve cells to malfunction. The result is a series of nervous system malfunctions that include disorientation, confusion, and convulsions.

# 8. Give the English equivalents for the Ukrainian words and word-combinations without looking into the text.

Діабет дорослих; ювенільний діабет; цукровий діабет; інсулін(о)залежний діабет; зменшуватися, знижуватися; адипозний, жировий; спадковість; виникати; реагувати; панкреатичний острівець, острівець Лангерганса; спричинятися чимось; слабкість, тканина.

## 9. Insert the missing words.

1. Diabetes mellitus occurs as a result of inadequate secretion of 2. There are two
types of diabetes mellitus: insulin-dependent diabetes mellitus and diabetes mellitus. 3.
Insulin-dependent is also known as type I; and non-insulin-dependent diabetes mellitus is
known as type II. 4. Viral infection and play definite role in diabetes onset. 5. The
symptoms of diabetes mellitus are increased, increased urination, weight loss, fatigue,
nausea, vomiting, skin infections, and bladder infections. 6. Diabetes mellitus often is by
administration of insulin by injection.

- 10. Answer the questions in pairs. Add more of your own and practise them with your partner.
- 1. What is diabetes mellitus? 2. What are the causes of diabetes mellitus? 3. What types of diabetes mellitus do you know? 4. How is diabetes diagnosed? 5. What are the symptoms of diabetes mellitus? 6. How is diabetes mellitus treated?
- 12. Write out key words of the text "DIABETES MELLITUS". Compose detailed plan of this text. Speak on the diabetes mellitus according to your plan. Expressions below may be useful for you. Then make up a dialogue on diabetes mellitus and reproduce it in pairs.

1. Diabetes mellitus is
2. Its causes are
3. There are some types of dibetes mellitus. They are
4. The the signs and symptoms of diabetes mellitus are the following
5. Diabetes ellitus is treated by

# 15. Translate the sentences into English.

1. У разі недостатнього утворення інсуліну клітинами підшлункової залози або порушення його засвоєння в організмі відбувається підвищення кількості глюкози у крові й тканинах. 2. Це супроводжується порушенням обміну вуглеводів, через що розвивається цукровий діабет (цукрове сечовиснаження). 3. Крім збільшення рівня глюкози в крові й сечі (гіперглікемія), спостерігаються і її підвищені втрати під час посиленого сечовиділення (глікозурія) та нагромадження продуктів обміну речовин, які викликають ацидоз крові. 4. Для профілактики цукрового діабету слід вести здоровий спосіб життя, який передбачає не лише дотримання режиму праці та відпочинку, а й раціональне харчування, нормальну психологічну обстановку в сім'ї та колективі. 5. Гіперфункція панкреатичних острівців, а також введення в організм великих доз інсуліну призводять до значного зменшення концентрації глюкози в крові та викликають інсуліновий шок. 6. Явища шоку швидко знімаються введенням розчину глюкози.

# 1. Домашнє завдання до заняття № 9 «Нервова система»

підручник English for Professional Purposes: Medicine: textbook (IV a. l.) / O.O. Pisotska, I.V. Znamenska, V.G. Kostenko, O.M. Bieliaieva = Англійська мова за професійним спрямуванням: Медицина

Lesson 9, p. 147 – 148.

#### VOCABULARY

# 1. Read Vocabulary and memorize new words

neuron [ˈnjuqrqn] нейрон

branching ['brQnClN] розгалуження,

гілкування

**axon** ['xksOn] аксон, провідна частина нервової клітини, відросток нервової

клітини

dendrite ['dendralt] дендрит, відросток нервової клітини, що розгалуджується

synapse ['salnxps] синапс

spinal cord ['spalnq1 'kO:d] спинний мозок

meninges (sing. meninx) [ml'nlnGl:z]

мозкові оболонки

dura mater ['djuqrq 'mgltq] тверда мозкова

оболонка

arachnoid [qˈrxknOld] павутинна оболонка

(мозку)

pia mater ['palq 'mgltq] м'яка мозкова

оболонка

innermost ['Inqmqust] той, що знаходиться

глубоко усередині; внутрішній

relay [rl'lgl] передавати

afferent ['xfqrqnt] аферентний efferent ['gfqrqnt] еферентний,

відцентровий

**forth** ['fO:T] вперед, далі

**distribution** ["dlstrl'bju\$(q)n] розподіл

**brainstem** (**brain stem**) ['brglnstgm]

стовбур головного мозку

hypothalamus ["halpo'Txlqmqs]

гіпоталамус

blood supply ['blAd sq'plal]

кровопостачання

critical ['krltlk(q)1] важливий, суттєвий,

необхідний

signal [slgnl] сигнал

output ['autput] об'єм

consume [kqn'sju:m] вживати,

поглинати, споживати

action potential ['xkS(q)n pqu'tenS(q)1]

потенціал дії

viscera ['vlsqrq] внутрішні органи

# 3. Read and translate the following sentences paying attention to the verbal nouns:

1. **The reading** of this article is necessary. 2. **The using** of this method has been known for over 152 years. 3. What are **the readings** of this device? 4. **The bleeding** was severe. 5. **The remodeling** is responsible for the formation of new osteons in compact bone. 6. The prominent **openings** into the skull are orbits and the nasal cavity.

## 8. Read the following text:

#### **NERVOUS SYSTEM**

The nervous system is the human's information center and control system. The basic unit in the system is the nerve cell, called neuron. A neuron consists of a cell body, one major branching fiber (axon), and numerous smaller branching fibers (dendrites). Each neuron is connected to other neurons by synapses on the axons and dendrites. A neuron receives chemical signals from other neurons through the synapses. All of these incoming signals are combined as an electrical signal within the neuron, and it may or may not send an outgoing chemical signal down its axon to another set of synapses. The nervous system can be divided into central nervous system (CNS) and peripheral nervous system (PNS).

The CNS processes information, initiates responses, and integrates mental processes. The central nervous system consists of the brain and the spinal cord. The brain is protected by the skull, and

the spinal cord is protected by the vertebrae. Three connective tissue layers (the meninges) surround and protect the brain and spinal cord. They are dura mater (outermost), arachnoid (middle), and pia mater (innermost). In addition, a liquid called cerebrospinal fluid, between the arachnoid and pia mater, protects the brain and spinal cord from injury. The peripheral nervous system (PNS) consists of cranial part, consisting of 12 pairs of nerves, and spinal part, consisting of 31 pairs of nerves. The PNS collects information from numerous sources both inside and on the surface of the individual and relays it by way of afferent fibers to the central nervous system. Efferent fibers in the PNS relay information from the CNS to various parts of the body, primarily to muscles and glands. Peripheral nerves run from the spinal cord to all parts of the body. The parts of this system are named for the four spinal regions from which they branch: neck (cervical), chest (thoracic), lower back (lumbar), and pelvis (sacral). The spinal cord acts as a central communication network to transmit signals back and forth between the brain and peripheral nervous system. Two subdivisions comprise the PNS: the afferent, or sensory, division and the efferent, or motor, division. Afferent neurons carry action potentials from the periphery to the CNS, and efferent neurons carry action potentials from the CNS to the periphery. The efferent neurons belong to either the somatomotor (somatic) nervous system, which supplies skeletal muscles, or to the autonomic nervous system (ANS), which supplies smooth muscles, cardiac muscle, and glands. The ANS regulates the activities of viscera such as the heart, blood vessels, digestive organs and reproductive organs. This system controls distribution of blood flow, regulation of blood pressure, heartbeat, sweating, and body temperature.

# 11. Answer the following questions:

1. What is the nervous system of the human? 2. What is the major unit of this system? 3. What does a neuron consist of? 4. How is neuron connected to other neurons? 5. What is the function of a neuron? 6. What parts is the nervous system divided into? 7. What does the CNS consist of? 8. Where are the brain and spinal cord located? 9. What meninges do you know? 10. What is cerebrospinal fluid? 11. What parts is the PNS composed of? 12. What neurons does the PNS consist of? 13. What is the function of PNS? 14. What is the function of the spinal cord? 15. What is the major function of the ANS?

## 12. Insert the missing words:

1. The nervous system is the information center and \_ system. 2. The basic \_ is the neuron. 3. A neuron \_ a cell body, axon, and dendrites. 4. A neuron \_ chemical signals from other neurons through the \_. 5. Neuron sends an outgoing \_ signal to another synapses. 6. The nervous system is divided into \_ nervous system and \_ nervous system. 7. The central nervous system consists of the brain and the \_. 8. The meninges surround and \_ the brain and spinal cord. 9. They are dura mater, \_, and pia mater. 10. The peripheral nervous system \_ cranial part and spinal part. 11. It is composed of afferent and \_ neurons. 12. The peripheral nervous system collects information from numerous sources and \_ it to the central nervous system. 13. The autonomic nervous system \_ smooth muscle, cardiac muscle, and glands. 14. It regulates the \_ of the heart, blood vessels, digestive organs and reproductive organs. 15. The somatic nervous system transmits action potentials from \_ to skeletal muscles.

## 13. Try to organize the information of the text in table:

Parts	of	the	nervous	Structure	Function
system					
CNS					
PNS					

# 1. Домашнє завдання до заняття № 10-11 «Головний мозок»

**підручник** English for Professional Purposes: Medicine: textbook (IV a. l.) / O.O. Pisotska, I.V. Znamenska, V.G. Kostenko, O.M. Bieliaieva = Англійська мова за професійним спрямуванням: Медицина

Lesson 10-11, p. 154 – 155.

#### **VOCABULARY**

# 1. Read Vocabulary and memorize new words

brain [brgln] головний мозок
vault [vO:lt] склепіння
cerebrum ['sgrlbrqm] великий мозок
midbrain ['mldbrgln] середній мозок
pons [pOnz] міст
medulla oblongata [mg'dAlq "OblON'ggltq]
довгастий мозок
cerebellum ["sgrl'bglqm] мозочок
bit [blt] шматочок; частина, невелика
кількість

thalamus ['Txlqmqs] таламус affect [q'fgkt] впливати add up ['xd 'Ap] відповідати convey [kqn'vgl] передавати hemisphere ['hgmlsflq] півкуля conscious ['kOnSqs] свідомий linking ['IINkIN] зв'язок core [kO:] серцевина; ядро atop [q'tOp] поверх; над cerebral cortex ['kO:tgks] кора головного мозку

#### Ex. 3. Read and translate the following sentences:

1. We learned the brain was the part of the central nervous system. 2. She knew the surgeon had performed on the operation a day before. 3. They said the flow of stimuli came into the brain from the eyes, ears, and other sense organs. 4. The scientists determined the hypothalamus controlled blood pressure. 5. It was estimated the patient would restored his health by the end of June.

## Ex. 4. Translate the following sentences into English:

1. Лікар виявив, що у хворого високий кров'яний тиск. 2. Професор сказав, що кровоносні судини поділяються на артерії, вени і капіляри. 3. Лектор сказав, що м'язові волокна з'єднуються за допомогою сполучної тканини. 4. Ми дізналися, що мозок складається з 100 мільярдів нейронів.

# Ex. 7. Insert the missing letters:

Mi\_brain; med\_lla oblongata; co\_tex; brain ste\_; cereb\_um; hemis\_here; co\_e; t\_alamus; p\_ns; cerebell\_m.

## Ex. 10. Read the following text:

#### **BRAIN**

The brain is the part of the CNS located within the cranial vault. The major regions of the adult brain are the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum. The brain works to analyze bits of information before transmitting these messages throughout the body. These messages affect functions such as coordination, learning, memory, emotion, and thought.

The scientists determined the brain was composed of approximately 100 billion neurons, their connections, and supporting cells, which add up to approximately 3 pounds of tissue. This dense network of interconnected neurons is organized to convey all the control signals necessary for individual activities.

The brain is connected to the spinal cord by the brain stem, which is composed of the medulla, the pons, and midbrain. The brain stem controls many of the vital functions, such as breathing and circulation of blood. Cranial nerves exit from the brain stem to control muscles of the face, eyes, tongue, ears, and throat. They also convey sensations from these parts back to the brain.

The cerebrum consists of thick masses of nerve tissue. It is divided into two sides (cerebral hemispheres). Conscious functions such as speech, memory, and vision are controlled in the cerebral hemispheres. Specific areas within these hemispheres are responsible for certain functions, such as speech and the control of muscles in particular parts of the body. In general, control of the muscles of the right side of the body is in the left hemisphere of the brain, and muscles of the left side of the body are controlled by the right hemisphere of the brain. The linking of higher brain functions with cerebral areas is a very active field of research.

The other major portion of the brain, the cerebellum, is located beneath the cerebral hemispheres. It helps control the coordination. At the core of the brain, atop the brain stem, there are other key areas, including thalamus and hypothalamus. The hypothalamus is an endocrine regulatory center that affects sleep and appetite. The thalamus is a collection of nerve cells whose function is the transmission of many of the sensations. In addition, the centers under the cortex play critical roles in relaying messages between different areas of the brain.

### 13. Insert the missing words:

1. The \_ is the part of the CNS located within the cranial vault. 2. The major regions of the brain are the cerebrum, the thalamus and hypothalamus, \_ , pons, medulla oblongata, and cerebellum. 3. The brain is responsible for control of coordination, learning, memory, \_ , and thought. 4. The brain is composed of approximately 100 billion \_ . 5. The brain is connected to the spinal cord by the brain \_ . 6. Brain stem is composed of the \_, the pons, and midbrain. 7. The brain \_ controls breathing and circulation of blood. 8. Cranial nerves exit from the brain stem to \_ muscles of the face, eyes, tongue, ears, and throat.

## 14. Answer the following questions:

- 1. Where is the brain located? 2. What regions of the brain do you know? 3. What is the function of the brain? 4. What is the brain stem composed of? 5. What parts is the cerebrum divided into?
- 6. Where is the cerebellum located? 7. Where are thalamus and hypothalamus located?

# 17. Write out key words of the text "Brain".

# 16. Match the following words with their definitions:

1. Dura mater.	1. The outer layer over most of the cerebrum, the so-called "grey
	matter" of the brain.
2. Cerebrum.	2. The upper, main and the largest part of the brain consisting of two equal hemispheres and controlling conscious and voluntary
	processes.
3. Cerebral cortex.	3. The upper layer, the outmost of the three membranes, which surrounds the brain and spinal cord.
4. Cerebellum.	4. A piece of connecting tissue, the bridge of white matter at the base of the brain, containing neural connections between the cerebrum and cerebellum.
5. Pons.	5. Top of the section of the brain behind and below the cerebrum; it consists of two lateral lobes and a middle lobe and functions as the coordinating center for muscular movements and maintains balance.

## 1. Домашнє завдання до заняття № 12 -13 «Органи чуття»

**підручник** English for Professional Purposes: Medicine: textbook (IV a. l.) / O.O. Pisotska, I.V. Znamenska, V.G. Kostenko, O.M. Bieliaieva = Англійська мова за професійним спрямуванням: Медицина

Lesson 12-13, p. 171 – 178.

#### VOCABULARY

# 4. Read the VOCABULARY and memorize new words. Compose 3-4 sentences using these words (in writing).

appreciation [əˈpriːʃɪˈeɪʃ(ə)n] розуміння (чого-небудь); правильне сприйняття **audition** [э:'dɪʃ(ə)n] слух, відчуття слуху awareness [ə'weənis] обізнаність, інформованість cognition [kɔgˈniʃ(ə)n] знання; пізнання; пізнавальна здатність conscious ['kən[əs] свідомість; свідома психічна діяльність equilibrium [i:kwi'libriəm] рівновага exaggeration [ig,zædʒəˈreiʃ(ə)n] погіршення, перебільшення hunger ['hʌŋgə] голод, відчуття голоду impression [im'pref(ə)n] уявлення; відчуття; сприйняття; itching ['itf] свербіж

gravity ['græviti] сила тяжіння; тяжіння; вага gustation [ge'steiʃ(ə)n] смак (відчуття) modality [məu'dæliti] спосіб, можливість olfaction [ɔlˈfækʃ(ə)n] нюх **perception** [pə'sepʃ(ə)n] сприйняття; відчуття; здатність сприйняття response [ri'spons] відповідь, реакція; реагування sensation [sen'seif(ə)n] відчуття, почуття sense [sens] почуття; відчуття scatter ['skætə] розкидати, розсипати; розсіювати tingle ['tINgl] відчувати поколювання (у занімілих частинах тіла); пощипування **umami** [u'ma:mi] юмамі (смак глутамату натрію, характерний для страв японської та китайської кухні)

# 5. Read the words or word-combinations and translate them into Ukrainian. Make up 4 sentences of your own.

recept: receptor, receptor neuron, receptibility, reception, speech reception, receptive.

**response:** to respond, automatic response, in response to, to be responsible for, to be responsible to, irresponsible.

**conscious:** to be unconscious of, to be unconscious, conscious awareness, consciousness, to lose consciousness, loss of consciousness.

**sense:** sensory, sensation, to dull the senses, sensor, sensomotor coordination, numbing sensation.

# 7. Read the text, divide it into meaningful parts and entitle each of them. SENSORY SYSTEM

Without the sensory system, you would know nothing about the world around you. The sensory system is our network for detecting stimuli from internal and external environments. By detecting environmental changes, the sensory system provides humans with mechanisms for experiencing the world. The sensory system is also needed to maintain homeostasis, provide us with pleasure, and protect us from harm.

A sense is a physiological capacity of organisms that provides data forperception. Sensation may be classified into categories by various methods dependent on anatomic or functional criteria. An anatomic classification divides sensory function into special (vision, audition, gustatory and olfactory sensations) subgroups, and into somatic and visceral components within general group, e.g. pain, pressure, temperature, vibration. These senses involve receptors associated with the skin, muscles, joints, and visceral organs, and are called as somatic ones.

Humans have a **multitude of senses**. Sight (ophthalmoception), hearing (audioception), taste (gustaoception), smell (olfacception), and touch (tactioception) are the five traditionally recognized senses. Humans also receive impressions of warmth, softness, pressure, and pain through the sensory system. Another important perceptions provided by the sensory system include the sense of temperature (thermoception), awareness of your body position (proprioception), kinesthetic sense (proprioception), pain (nociception), vibration (mechanoreception). Perceptions of these senses may involve the coordinated use of multiple sensory organs. There are some more examples of internal senses also known as interoceptions: hunger, lightness and heaviness, itching, tingling.

In order to be aware of information from the world, a person must have the following: receptors to receive a stimulus; nerve routes to carry the stimulus to the brain, and centres in the brain to interpret the stimulus.

The **nervous system** has a specific sensory system or organ, which is equipped with certain types of receptors dedicated to each sense. The organs of the sensory system are the eyes, ears, tongue, nose, and skin. Sensory receptors are also found in many parts of the body including skeletal muscles, bones and joints, internal organs.

**Internal stimuli** include our thoughts, feelings, emotions and states of mind. We will find our thoughts, feelings, emotions and states of mind are a mix of bodily sensations and mental cognition. Being aware of our bodily sensations, we become aware of its interconnectedness with our mind.

## **8.** Answer the questions.

5. Hypoalgesia

1. What are the major functions of the sensory system? 2. Explain how a sensation occurs. 3. Define *sense*. 4. Distinguish between somatic and special senses. 5. What senses may involve the coordinated use of multiple sensory organs? 6. What organs of human body can be described as organs of sensory system? 7. Do senses impact our thoughts, feelings, emotions and states of mind?

# 12. Define each of the following terms (write the appropriate letter to the left of each number).

moer).	
ctile or touch sensation (thigmesthesia)	
Anesthesia	
Hyperesthesia	
Hypoesthesia	
absence of touch appreciation; b) decrease of touch appreciation; c) exaggeration of to	ouch
nsation, which is often unpleasant	
in sensation (algesia)	
Analgesia	

6. Hyperalgesia _	
d) exaggeration of	pain appreciation, which is often unpleasant; e) absence of pain appreciation;
f) decrease of pain	appreciation.
Temperature sens	ation, both hot and cold (thermesthesia)
7. Thermhyperesth	esia
8. Thermanalgesia	
9. Thermhyposthes	ia
g) absence of temp	perature appreciation; h) decrease of temperature appreciation; i) exaggeration
of temperature sens	sation, which is often unpleasant.
Sensory perversio	ns
10. Paresthesia	
11. Dysgeusia	
12. Dysesthesia	

j) condition characterized by alterations of the sense of taste which may range from mild to severe, including gross distortions of taste quality; k) abnormal sensations perceived without specific stimulation. They may be tactile, thermal or painful; episodic or constant; l) painful sensations elicited by a nonpainful cutaneous stimulus such as a light touch or gentle stroking over affected areas of the body, sometimes referred to as hyperpathia or hyperalgesia. Often perceived as an intense burning, dyesthesias may outlast the stimulus by several seconds.

#### 13. Translate the sentences into Ukrainian.

1. Однією з основних властивостей живих істот є здатність сприймати інформацію про навколишній світ і стан внутрішнього середовища. 2. Інформацію про зовнішнє і внутрішнє середовище організму людина отримує за допомогою сенсорних систем. 3. Сенсорна система — це частина нервової системи, яка складається з групи клітин (рецепторів), що забезпечують сприйняття інформації, трансформують її в нервовий імпульс і передають в центральну нервову систему. 4. Зовнішні рецептори, наприклад, слуховий, зоровий, смаковий, дотиковий, сприймають інформацію з навколишнього середовища. 5. Внутрішні рецептори, до яких належать рецептори внутрішніх органів, опорно-рухового апарату, сприймають інформацію від внутрішніх органів. 6. Сенсорні системи людини забезпечують формування відчуттів і сприйняття діючих стимулів, контроль довільних рухів, контроль діяльності внутрішніх органів. 7. Фоторецептори сприймають світло певної інтенсивності і довжини хвиль (кольору). 8. Терморецептори — клітини, що реагують на температуру, знаходяться в шкірі (теплові та холодові), гіпоталамусі, деяких судинах кровоносної системи.

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