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***SUBJECT: Anatomy***

***DEPATMENT: HND***

***ANSWER THE FOLLOWING QUESTIONS***

***QUESTION:01***

Enlist 5 irregular bones in human body?

***ANSWER:***

Following are the names of irregular bones in human body

1. Coccyx
2. Temporal
3. Sphenoid
4. Maxilla
5. Mandible

***QUESTION:02***

Name the basic 11 systems in human body?

***ANSWER:***

Following are the basic 11systems in human body

1. Circulatory System
2. Digestive System
3. Renal System
4. Muscular system
5. Immune system
6. Exocrine system
7. Endocrine system
8. Nervous system
9. Reproductive system
10. Respiratory system
11. Skeletal system

***QUESTION:03***

Mention 5 differences between sympathetic and parasympathetic system.

***ANSWER:***

Following are the differences between sympathetic and parasympathetic systems

|  |  |
| --- | --- |
| ***PARASYMPATHETIC***1. The parasympathetic nervous system is one of the two main divisions of the autonomic nervous system (ANS). Its general function is to control homeostasis and the body's rest-and-digest response.

2.Control the body's response while at rest.3.Longer pathways, slower system4.Counterbalance; restores body to state of calm.5.Decreases heart rate6.Muscle relax  | ***SYMPATHETIC***The sympathetic nervous system (SNS) is one of two main divisions of the autonomic nervous system (ANS). Its general action is to mobilize the body's fight-or-flight response. Control the body's response while at rest.Very short neurons, faster systemBody speeds up, tenses up, becomes more alert. Functions not critical to survival shut down.Increase heart rateMuscle contract  |
|  |  |

***QUESTION:04***

Enumerate the 12 cranial nerves

***ANSWER:***

 Following are the 12 cranial nerves

***OLFACTORY NERVE:***

 The olfactory nerve transmits information to the brain regarding a person’s sense of smell.When a person inhales fragrant molecules, olfactory receptors within the nasal passage send the impulses to the cranial cavity, which then travel to the olfactory bulb.

***OPTIC NERVE:***

The optiv nerve transmits information to the brain regarding a person’s vision.

***OCULOMOTOR NERVE:***

The [oculomotor nerve](https://teachmeanatomy.info/head/cranial-nerves/oculomotor/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) helps control muscle movements of the eyes.The oculomotor nerve provides movement to most of the muscles that move the eyeball and upper eyelid, known as extraocular muscles.

***TROCHLEAR NERVE:***

The [trochlear nerve](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2801485/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) is also involved in eye movement.The trochlear nerve, like the oculomotor nerve, originates in the midbrain. It powers the contralateral superior oblique muscle that allows the eye to point downward and inward.

***TRIGEMINAL NERVE:***

The [trigeminal nerve](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2848459/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) is the largest cranial nerve and has both motor and sensory functions.Its motor functions help a person to chew and clench the teeth and gives sensation to muscles in the tympanic membrane of the ear.

***ABDUCENS NERVE:***

The [abducens nerve](https://teachmeanatomy.info/head/cranial-nerves/abducens-nerve/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) also helps control eye movements.It helps the lateral rectus muscle, which is one of the extraocular muscles, to turn the gaze outward.It helps the lateral rectus muscle, which is one of the extraocular muscles, to turn the gaze outward.The abducens nerve starts in the pons of the brainstem, enters an area called Dorello’s canal, travels through the cavernous sinus, and ends at the lateral rectus muscle within the bony orbit

***FACIAL NERVE:***

The [facial nerve](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2848459/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) also has both motor and sensory functions.The facial nerve is made up of four nuclei that serve different functions:

* movement of muscles that produce facial expression
* movement of the lacrimal, submaxillary, and submandibular glands
* the sensation of the external ear
* the sensation of taste

***VESTIBULOCOCHLEAR NERVE:***

The [vestibulocochlear nerve](https://teachmeanatomy.info/head/cranial-nerves/vestibulocochlear/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) is involved with a person’s hearing and balance.The vestibulocochlear nerve contains two components:

* The vestibular nerve helps the body sense changes in the position of the head with regard to gravity. The body uses this information to maintain balance.
* The cochlear nerve helps with hearing. Specialized inner hair cells and the basilar membrane vibrate in response to sounds and determine the frequency and magnitude of the sound.

***GLOSSOPHARYNGEAL NERVE:***

The [glossopharyngeal nerve](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2882282/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) possesses both motor and sensory functions.

* The sensory function receives information from the throat, tonsils, middle ear, and back of the tongue. It is also involved with the sensation of taste for the back of the tongue.
* The motor division provides movement to the stylopharyngeus, which is a muscle that allows the throat to shorten and widen.

***VAGUS NERVE:***

The [vagus nerve](https://teachmeanatomy.info/head/cranial-nerves/vagus-nerve-cn-x/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) has a range of functions, providing motor, sensory, and parasympathetic functions.

* The sensory part provides sensation to the outer part of the ear, the throat, the heart, abdominal organs. It also plays a role in taste sensation.
* The motor part provides movement to the throat and soft palate.
* The parasympathetic function regulates heart rhythm and innervates the smooth muscles in the airway, lungs, and gastrointestinal trac

***ACESSORY NERVE:***

The [accessory nerve](https://teachmeanatomy.info/head/cranial-nerves/accessory/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) provides motor function to some muscles in the neck:

It controls the sternocleidomastoid and trapezius muscles that allow a person to rotate, extend, and flex the neck and shoulders.

The accessory nerve separates into spinal and cranial parts.

***HYPOGLOSSAL NERVE:***

The [hypoglossal nerve](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2882282/%22%20%5Ct%20%22https%3A//www.medicalnewstoday.com/articles/_blank) is a motor nerve that supplies the tongue muscles.

The hypoglossal nerve originates in the medulla.

***QUESTION:05***

How insulin and glucagon controls blood glucose level?

***ANSWER:***

***INSULIN:***
The cells need glucose for energy. However, most of them are unable to use glucose without the help of insulin.

Insulin gives glucose access to the cells. It attaches to the insulin receptors on cells throughout the body, instructing the cells to open up and grant entry to glucose.

Low levels of insulin constantly circulate throughout the body. A spike in insulin signals to the liver that blood glucose is also high. The liver absorbs glucose then changes it into a storage molecule called glycogen.

When blood sugar levels drop, glucagon instructs the liver to convert the glycogen back to glucose, causing blood sugar levels to return to normal.

Insulin also supports healing after an injury by delivering amino acids to the muscles. Amino acids help build the protein that is present in muscle tissue, so when insulin levels are low, muscles may not heal properly.

***GLUCAGON:***

The liver stores glucose to power the cells during periods of low blood sugar. Skipping meals and poor [nutrition](https://www.medicalnewstoday.com/articles/160774.php%22%20%5Co%20%22What%20is%20nutrition%2C%20and%20why%20does%20it%20matter) can lower blood sugar. By storing glucose, the liver makes sure that blood glucose levels remain steady between meals and during sleep.

When blood glucose falls, cells in the pancreas secrete glucagon. Glucagon instructs the liver to convert glycogen to glucose, making glucose more available in the bloodstream.

**THE END**