

Z00502-MIDTERM SOLVED

1- Function of olfactory epithelium?

The olfactory epithelium is a specialized epithelial tissue inside the nasal cavity that is involved in smell. In humans, it measures about 1 square centimetre (on each side) and lies on the roof of the nasal cavity about 7 cm above and behind the nostrils. The olfactory epithelium is the part of the olfactory system directly responsible for detecting odors.

2- Hormones for salt and water maintenance?

Mineralocorticoids • Mineralocorticoids have effects on mineral metabolism. They act principally in maintaining salt and water balance in the body. The primary mineralocorticoid hormone is aldosterone **(PPTS)**

Three major hormones are involved in regulating sodium and water balance in the body at the level of the kidney. (1) ADH (antidiuretic hormone) from the posterior pituitary acts on the kidney to promote water reabsorption, thus preventing its loss in the urine.

3- Stigma and ocelli?

Stigma: Eyespot or Stigma • Simplest photoreceptive structure. • Found in some protozoa e.g. euglena. • It is a bright red colored organelle & has carotenoid pigments. • It gives a sense of light and dark. • Helps in phototaxis.

Ocelli: Eyecups or Ocelli • Multicellular photo-receptive structures that consist of a cuplike depression containing photoreceptor cells. • Found in cnidarians and flatworms e.g. Planaria. • Cannot form image. • Provide the animal a sense of direction only.

4 -Function of estrogen during pregnancy?

During pregnancy, estrogens exert mainly a proliferative function on reproductive and associated organs of the mother.

5- Androgen secreted from adrenal cortex?

Hormones of Adrenal Cortex • Adrenal cortex also secretes small amounts of sex hormones, especially androgenic hormones. • These androgens exhibit about the same effects in the body as the male sex hormone testosterone.

6- Role of Fibers of Zonula and Ciliary Muscles?

• Fibers of zonula held the lens in place. • They change the shape of lens by exerting an outward tension on perimeter. • Attached with fibers of zonula are the ciliary muscles • They contract to pull fibers of zonula, which flatten the lens. This focuses distant objects on retina. • When they relax, lens becomes rounded and near objects are focused.

7- Sensory receptor?

A sensory receptor is a structure that reacts to a physical stimulus in the environment, whether internal or external. It is a sensory nerve ending that receives information and conducts a process of generating nerve impulses to be transmitted to the brain for interpretation and perception.

8- cGMP and cAMP difference?

Production of cGMP is catalyzed by guanylate cyclase enzyme from GTP. • Guanylate cyclase occurs in two forms: one bound to the membrane and one free in cytoplasm. In contrast, adenylate cyclase is always bound to the membrane. Guanylate cyclase becomes active as the Ca^{2+} concentration is increased within the cell, while adenylate cyclase activity is increased when Ca^{2+} conc. is low. cGMP activates a specific protein kinase G instead of protein kinase A.

9- Sacrvomer note?

10- Glandular cell and hormones of adenopathy?

Somatotropes—produce growth hormone (GH) 2.Corticotropes—produce adrenocorticotrophic hormone (ACTH) 3.Thyrotropes—produce thyroid-stimulating hormone (TSH) 4.Gonadotropes—produce gonadotropic hormones (luteinizing hormone, LH and follicle stimulating hormone, FSH) 5.Lactotropes—produce prolactin (PRL) **(PPTS)**

There is another type of gland called an exocrine gland (e.g. sweat glands, lymph nodes). These are not considered part of the endocrine system as they do not produce hormones and they release their product through a duct. ... These hormones affect many parts of the human body.

11- Coding line? Line Coding? Lable Line Coding?

Each receptor subtype for taste sensations is connected to a particular set of axons in the nerve. • In such an arrangement, information about one taste e.g. "sweetness" would be carried by some specific subset of axons. • Such a pattern is called labeled line coding.

Negative Feed Back?

Negative feedback is a reaction that causes a decrease in function. It occurs in response to some kind of stimulus. Often it causes the output of a system to be lessened; so, the feedback tends to stabilize the system. This can be referred to as homeostatis, as in biology, or equilibrium, as in mechanics. **(Internet)**

Sensory transduction?

Definition: The physical or chemical energy of stimulus is converted into electrical signals i.e nerve impulse by sensory receptor cells. This conversion is called sensory transduction. All sensory transduction systems contain related molecules and operate through similar cellular mechanisms. • They perform three basic functions: • Detection of stimulus • Amplification of stimulus • Encoding of stimulus

Color blindness?

The three types of opsins in color pigments are encoded by three genes. • Gene encoding the opsin in blue-cone pigment is located on an autosomal chromosome. • The genes for red and green-cone pigments are closely linked on the X chromosome. Color blindness is caused due to a mutation in one of the cone opsin genes that results in the absence of one type of pigmented cones. • A person missing a single type of color receptive cones is unable to distinguish some colors.

Name of Two stimuli?

External stimuli Stimuli of odor, touch, light, sound and gravitation • **Internal stimuli** Stimuli of pain, homeostatic imbalances and blood pressure

Gland and Secretion?

Exocrine **glands secrete** substances out of the body and Endocrine **glands secrete** substances into capillaries and blood vessels. **(Jo muji samjh aaya)**

Photoreceptor?

A **photoreceptor** cell is a specialized type of neuroepithelial cell found in the retina that is capable of visual phototransduction. The great biological importance of **photoreceptors** is that they convert light (visible electromagnetic radiation) into signals that can stimulate biological processes. **(Internet)**

Function of LH in male and Female?

In **females**, an acute rise of **LH** ("LH surge") triggers ovulation and development of the corpus luteum. In **males**, where **LH** had also been called interstitial cell–stimulating hormone (ICSH), it stimulates Leydig cell production of testosterone. It acts synergistically with FSH. **(Internet)**

Type of hair cilia?

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Structure of Sarcoplasmic reticulum?

The **sarcoplasmic reticulum** (SR) is a membrane-bound **structure** found within muscle cells that is similar to the endoplasmic **reticulum** in other cells.....Therefore, it is vital that calcium ion levels are controlled tightly, and can be released into the cell when necessary and then removed from the cell. **(Internet)**