**Mid-Term Assignment**

**Course Title: Human Physiology Instructor: Dr Sara Naeem Total Marks: 30**

1. Explain homeostatic mechanism regarding the control of calcium in the body with reference to parathyroid hormone and calcitonin.

**Answer Question No. 1:**

**Homeostasis:**

The main mechanisms of homeostasis are body temperature, body fluid composition blood sugar, gas concentrations and blood pressure. Three main machenisms of homeostatic are receptor, intergrating and effector. Calcium homeostasis is the mechanism which maintans the calcium levels. Calcium release from bone regulated by the parthayroid bornare.

* Calcitonin stimulates incorporation of calcium in bone.
* Calcium regulation.
* Parathyroid hormones actually regulates the levels of calcium in the blood.
* When blood calcium is low, the parathyroid gland secretes parathyroid hoemone.
* This hormone causes effector organ to respond .

1. Give clinical differentiation between hypothyroidism and hyperthyroidism.

**Answer Question No. 2:**

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| **Hypothyroidism:**  Hypothyroidism is a condition in which the hypothyroid gloand is not able to produce large amount of thyroid homone, The main purpose of thyroid hormone is to run the body’s metabolisim. The people whith this condition will have symptoms associated with a slow metabolism.  **Causes of hypothyroidism:**  One of the main cause of hypothyroid is to completely normal thyroid gland that is not making enough hormone because of a problem in the pitutalry gland. If the pituitary not produce the enough hormone then the thyroid simply does not have the “single” to make hormone.  **Symptoms:**  \* Fatigue.  \* Weakness  \* Weight gain or losing  \* Constipation. | **Hyperthyroidism:**  An overactive thyroid gland, production of thyroid gland. When the thyroid gland produces too much of the hormone thyroxine. Hyper thyroidism can accelerate your body’s metabolism.  **Causes:-**  \* Graves disease, autoimmune disorder is the most mommon cause of hyperthyroidism .  \* It causes the antibodies to stimulate the thyroid too much hormone secretion.  **Symptoms:**  \* Weakness  \* Nervousness  \* Difficulty sleeping |

1. Classify enzymes and their function in digestion.

**Answer Question No. 3:**

**Enzymes:**

A substance produce by a living organism which act as a catalyst to bring about a specific biochemical reaction. Enzymes are both proteins and biological catalyst. The enzymes converts the substrates into different molecules known as products:

* Amylas, produce in the mouth. It helps break down large starch molecules in to smaller sugar molecules.
* Pepsin, produces in the stomach .
* Trypsin, produces in the pancrease.
* Pancreatic lipase, produced in the pancrease.
* Deoxyribonuclease and ribonuclease, produce in the pancrease.
* Protease and peptidase split proteins into small peptidase and amino acids.