* DPT# section (A)
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**Question no 1 :-**

Clinical differentiation between hypothyroidism and hyperthyroidism ?

Ans:-

The most common different between the two diseases relates to hormone levels .

* Hypothyroidism leads to a decrease in hormones .
* Hyperthyroidism leads to an increase in hormones production .

**Hypothyroidism :-**

* It indicate sign of slow metabolism
* Hashimoto’s disease is a common cause
* Characterized by cold intolerance
* TSH levels will be elevated
* Increase in weight
* Usually treated with levothyroxine

**Hyperthyroidism :-**

* It indicate signs of increased metabolism
* Grave’s disease in a common cause
* Loss of weight
* Characterize by heat intolerance
* TSH levels will bi normal or reduce
* Treated by surgical removal of thyroid gland

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**Question No :- 2**

Classify enzyme and their function in digestion ?

**Ans:-**

**Classification of enzyme :-**

According to the type of reaction that the enzymes are classified into following categories ;

* Oxidoreductases
* Transferases
* Hydrolases
* Lyases
* Isomerases
* Ligases
* Translocases oxidoreductase

Transferases and hydrolases are the most abundant forms of enzymes .

**Enzymes Function in digestion :-**

**Amylase :-**

* Breakdown starches and carbohydrates into sugar.

**Protease :-**

* Breakdown protein’s into amino acids .

**Lipase :-**

* Breakdown lipids which are fats and oil , into glycerol and fatty acids .

**The role of Enzymes in Digestion:-**

Role of enzymes in the digestive system.

* Chemical digestion could not take place without the help of digestive enzymes.
* An enzyme is a protein that speeds up chemical reaction in the body.
* Digestive enzymes speed up chemical reaction that breakdown large food molecules into small molecules.

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**Question No :-3**

Explain homeostatic mechanism regarding the control of calcium in the body with reference to parathyid hormone and calcitonin ?

**Ans :-**

* Calcium metabolism or calcium homeostasis is the mechanism by which the body maintain adequate calcium level….
* Calcium release from bone is regulated by parathyroid hormone.
* Calcitonin stimulates incorporation of calcium in bone….
* Calcium regulation: parathyroid hormone regulates the level of calcium in the blood.

**Calcitonin reduce calcium level in the blood by two main mechanism:-**

* It inhabits the activity of osteoclasts, which are the cells responsible for breaking down bone.

**Control of Calcium level in the body:-**

* Calcitonin is involved in helping to regulate level of calcium and phosphate in the blood opposing the action of parathyroid hormone…

**Parathyroid Hormone Maintain Homeostasis:-**

* Parathyroid hormone in maintaining blood calcium homeostasis.
* Parathyroid hormone increases blood calcium levels when they drop too low. Conversely, calcitonin, which is released from the thyroid gland, decreases blood calcium levels when they become too high.

**Reference to Parathyroid Hormone:-**

* Parathyroid hormone regulates calcium level in the blood, largely by increasing the levels when they are too low.
* It does this trough it’s action on the kidneys, bones and intestine:

**BONES :-**

* Parathyroid hormone stimulates the release of calcium from large calcium stores in the bones into the blood stream.

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