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***DEPARTMENT: BS(RAD)2ND SEM(A) Assignment:BIOCHEMISTRY***

***SUBMITTED TO. MAAM SANA KHAN***

***1)***

***Ans. ALT and AST***

 ***ALT is alanine amino transferase***

***AST is Aspartate aminotransferase***

* Both are enzyme
* The enzyme is a protein that help the cell of the body perform a specific chemical reaction
* Both are contained within cell
* The cell damage release ALT and into the blood stream
* Normal ALT is 0 to 55 IU/L and ALT is present mostly in liver ***cell***
* ***AST***  is 0 to 40 IU/L And AST is present in cell of liver, heart. Skeletal. Muscle. Kidney Pancreas. And brain
* Damage to cell causes elevated serum ALT and AST liver disease obesity
* ***Increase in***

***Liver*** damage from drugs

Alcoholic hepatitis

Cirrhosis

Acute hepatitis

Chronic hepatitis.

***2)***

***Ans: ALP is* alkaline phosphate :**

* **These are enzyme that help in break down of protein. This enzymes is mostly made in liver but same quantity are made in bone and intestine**
* **Normal value 25 to 100 U/L**
* **Liver disease like hepatitis gallstones cirrhosis or hepatocellular cancer bone disease. Heart attack**

**3)**

**Ans: LDH is lactate dehydrogenase**

**These are enzyme and almost found and all body tissues it play important role in cellular respiration and also important in making your body energy when these tissues damage heart lung kidney they release LDH into the bloodstream or other body fluids.**

***4)***

***Ans: CK creatine kinase is a dimer made up of 2 monomers occur in the tissue it consists of M.B subunits***

* ***Skeletal muscle contains M subunits brain contains B sub units***
* ***Each subunits has a molecular weight of 40000***
* ***Three iso-enzymes BB, MM, and MB***
* ***Normal value CK is 15- 100U/L for male and 10 to 80 U/L for female.***

***5)pancreatic lipase and amylase:***

***Ans: amylase and lipase are key digestive enzyme. Amylase help your body break down starches. Lipase help your body digest fats. The pancreas is glandular organ that sits behind the stomach and produce digestive juices that empty into the small intestine the pancreas also produces both amylase and lipase as well as many enzymes.***

***6)G6PD:***

***Ans This is very important enzymes or protein that regulate various biochemical reaction in the body G6PD is also responsible for keeping red blood cell healthy so the can function properly and live a normal life span this early destruction of red blood cell is know as hemolysis and it can eventually lead to hemolytic anemia***

* ***G6PD deficiency is a genetic abnormality hat result in an inadequate amount of glucose-6-phoshate dehydrogenase G6PD in the blood this is very important enzyme.***

***7)GGT:***

***Ans; GGT is gamma-glutamy transferase* is a type of enzymes that catalyzes the transfer of gamma glutamyl functional groups from molecules such as glutathinoe to an acceptor that may be an amino acid a peptide or water forming glutamate this is a path of synthesis and degradation of glutathione as well as drugs and xenobiotic detoxification other line of evidence .this transferase is found in many tissue the most notable one being the liver and has significtion in medicine as a diagnostic marker.**

**7) cholinesterase:**

**Ans: cholinesterase is a family of enzymes present in the central nervous system, particularly in nerves tissues muscle and red cells, which catalyze the hydrolysis of the neurotransmitter acetylcholine into choline and acetic acid reaction necessary to allow a cholinergic neuron to return to its resting state after activities.**