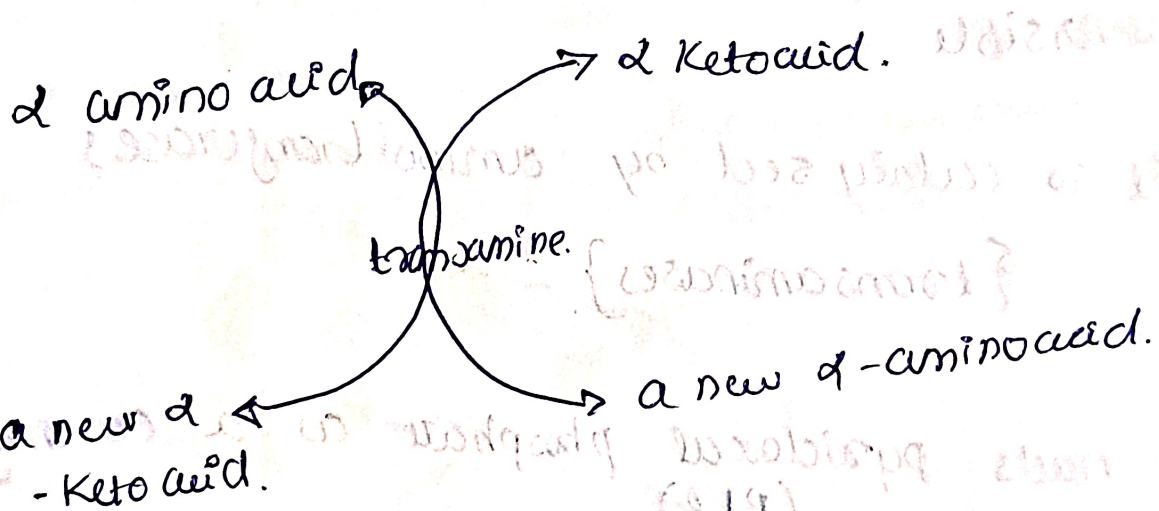


## 5. Transamination (8 mark) (part of essay).

Transamination means transfer of amino group from  $\alpha$  amino acid to  $\alpha$ -Keto acid with formation of a new  $\alpha$ -amino acid and a new  $\alpha$ -Keto acid.



alanine  $\rightarrow$  pyruvic acid.

key mark of urea cycle essay.

$\hookrightarrow$  transamination  
deamination

(2) The liver is the main site for transamination.

(3) All amino acids can be transaminated except lysine, threonine, proline and hydroxy proline.

(4) All transamination reactions are reversible.

(5) It is catalysed by amino transferases.  
{ transaminases }.

(6) It needs pyridoxal phosphate as a co-enzyme.  
(PLP).

(7) Transamination provides a route for redistribution of amino acid nitrogen.

Two Important Enzymes in the clinical diagnosis.

serum glutamate oxaloacetate transaminase.  
SGOT: (AST) Aspartate transaminase  
oxaloacetate + Glutamate.



aspartate +  
d-Ketoglutarate.

SGPT → (AST).

• SGPT (ALT)

• Glutamate +  
pyruvate.



d-Ketoglutarate +  
Alanine.

## Biological Significance of Transamination

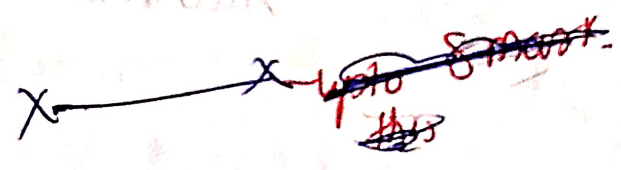
(1) First step of catabolism



(2) Synthesis of Non-essential amino acid.



(3) Interconversion of amino acid



## Clinical Significance of Transamination

- AST & ALT are induced by glucocorticoids, which favour gluconeogenesis.
- AST and ALT are marker of liver diseases. AST also increased in myocardial infarction.

