1. **(The dipolar nature of amino acids gives them some unusual properties) explain?** (1.5 marks)

1. Amino acids have high melting points, generally over 200 °C.

2. Amino acids are more soluble in water than they are in ether, dichloromethane, and other common organic solvents.

3. Amino acids are less acidic than most carboxylic acids and less basic than most amines.

**B- Mention the catalyst used in the following reactions:** (2.5 marks)

1. Deamination.
   * L-amino acid oxidases which act on L-amino acids (FMN acts as coenzyme).
   * D-amino acid oxidases which act on D-amino acids (FAD acts as coenzyme).
2. Transamination.

* Transaminases (GOT & GPT) or aminotransferases(ALT &AST) with pyridoxal phosphate function as coenzyme.

1. Decarboxylation.

* Decarboxylases with pyridoxal phosphate function as coenzyme.