



SNS COLLEGE OF TECHNOLOGY

**An Autonomous Institution
Coimbatore - 35**

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A+ Grade
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

DEPARTMENT OF FOOD TECHNOLOGY

19FTO302-FOOD NUTRITION

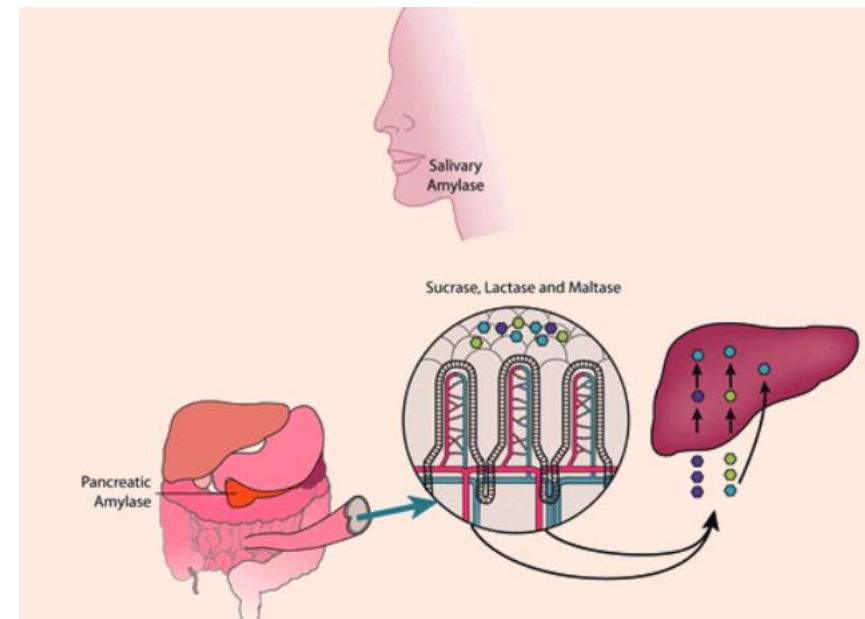
III – YEAR VI SEMESTER

UNIT-III Digestion of Carbohydrates, Lipids and Proteins



INTRODUCTION

What are Digestion & Absorption?



Digestion is the process of breaking large, insoluble food molecules into smaller molecules for absorption into the bloodstream. This process involves the use of many digestive fluids and enzymes such as saliva, mucus, bile and hydrochloric acid, among others.



Digestion



There are four primary stages of food digestion in the human body that include:

- ❖ After the intake of food through the mouth, it makes its way through the stomach into the small intestine, where it is digested.
- ❖ The nutrients from the digested food get absorbed into the bloodstream through small pores in the small intestine.
- ❖ The remaining undigested food is sent to the large intestine, where any unprocessed water or nutrients are reabsorbed into the body.
- ❖ The remaining waste food product is passed out of the body in the form of stools.

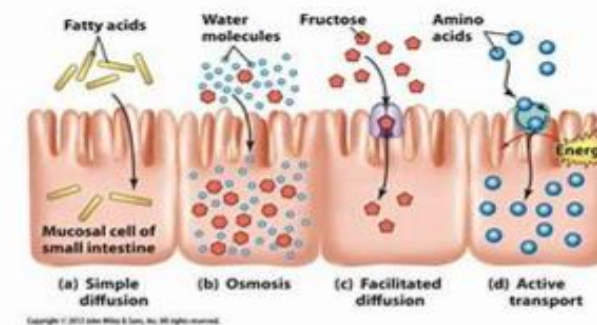


Absorption



Nutrient Absorption

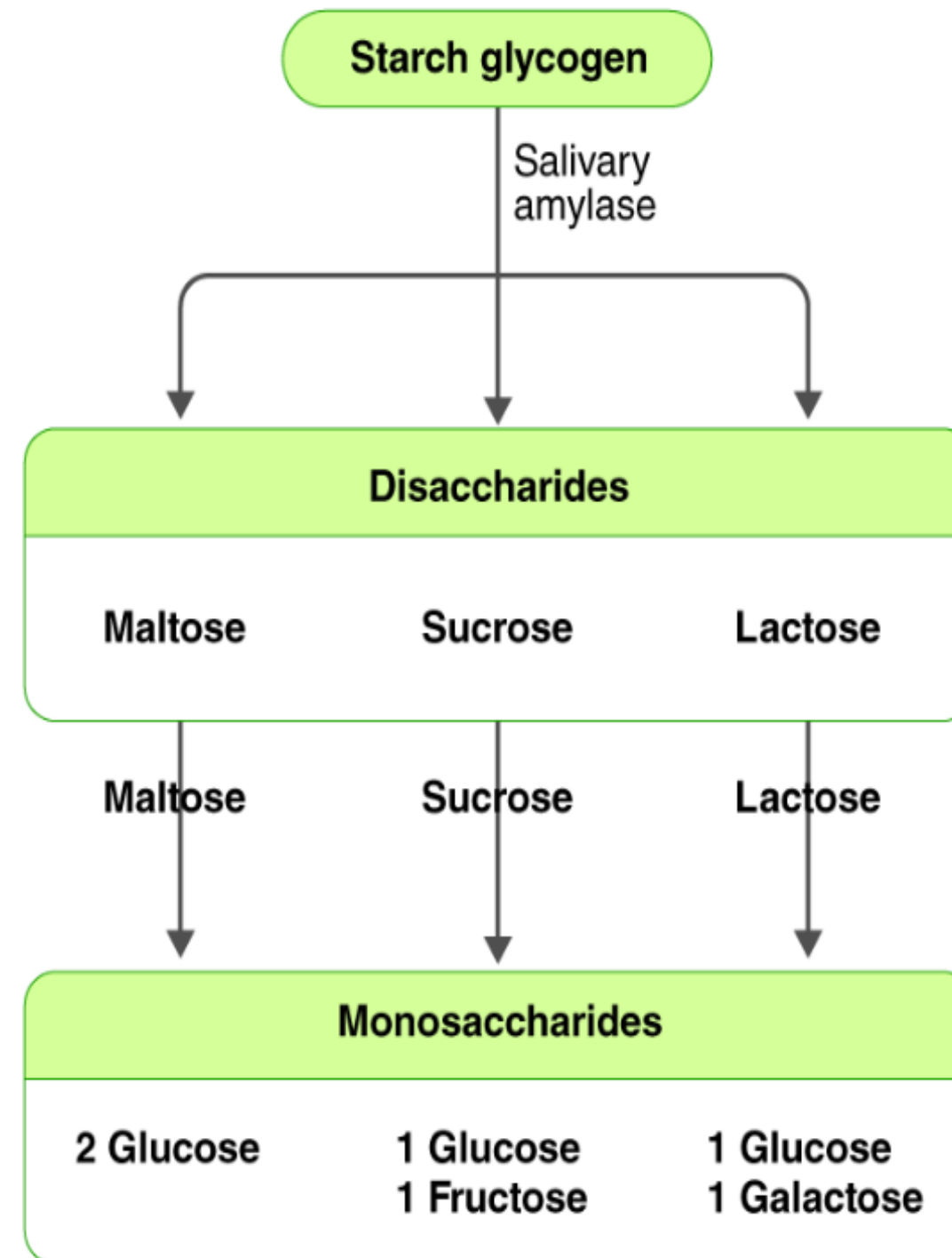
- Most absorption happens in the small intestine



Absorption is the process of the absorbing or assimilating substances into the cells or across the tissues and organs through the process of diffusion or osmosis.



Digestion and Absorption of Carbohydrates



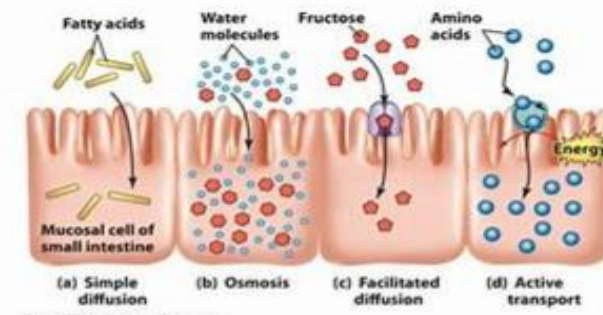


Digestion and Absorption of Carbohydrates



Nutrient Absorption

- Most absorption happens in the small intestine

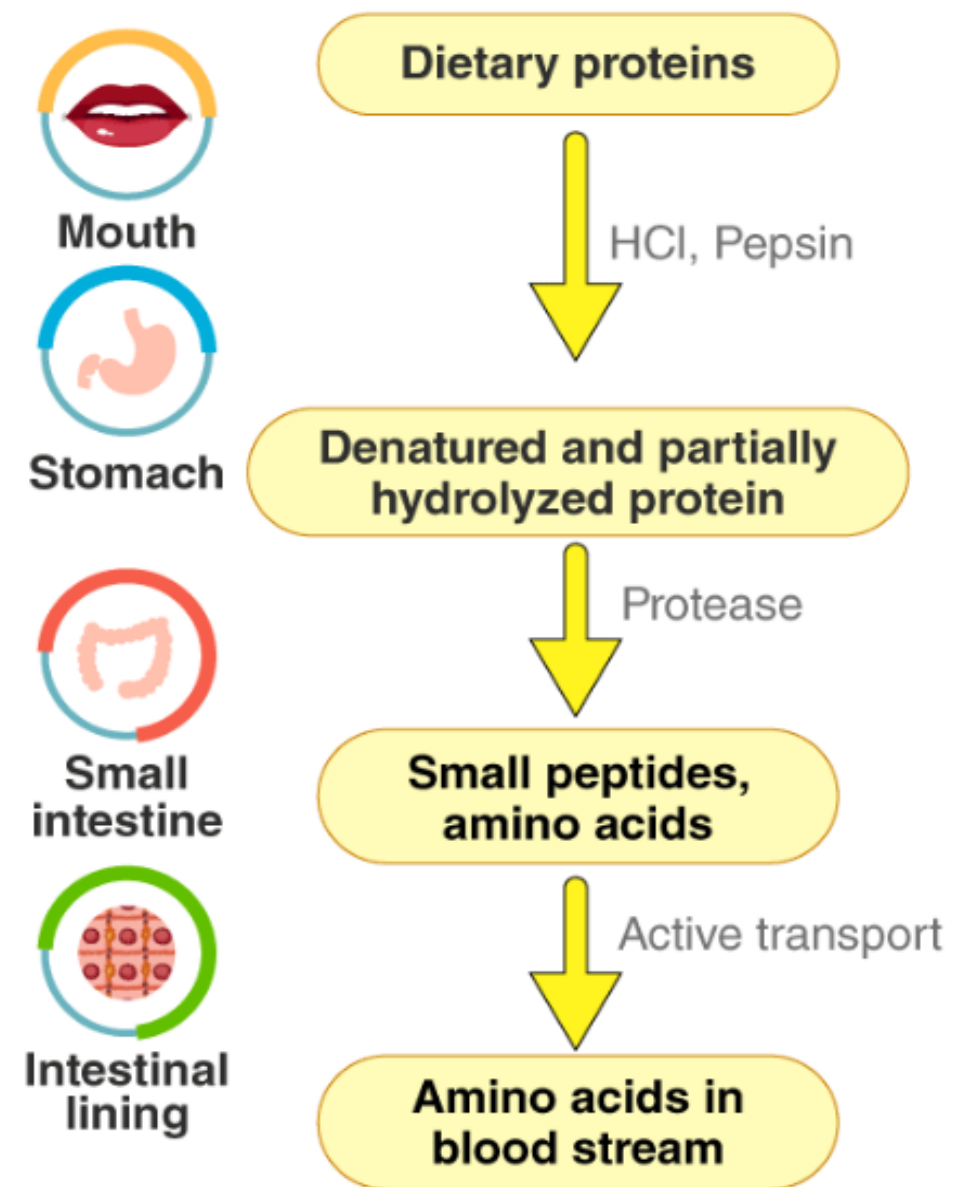


Carbohydrates are one of the essential nutrients in the human diet. There are two types of carbohydrates that can be digested by the human digestive system— sugar and starch.

- ❑ Sugar is broken down in the gastrointestinal tract by the small intestine and three enzymes present in the mouth, namely, Lactase, Sucrase, and Maltase.
- ❑ In the same way, starch is broken down with the help of the Amylase enzymes which are present in the mouth and the stomach. After digestion, carbohydrates are absorbed in the small intestine with the help of minute finger-shaped projections known as Villi.



Digestion and Absorption of Protein



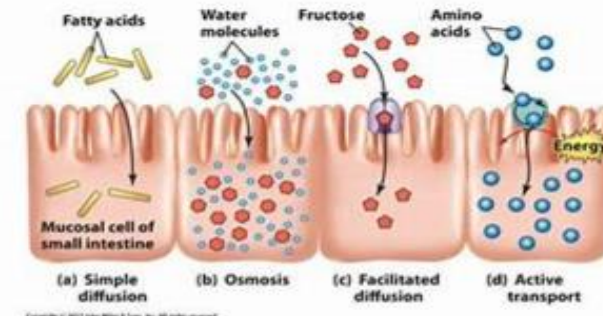


Digestion and Absorption of Protein



Nutrient Absorption

- Most absorption happens in the small intestine



Proteins play a vital role in the growth and replenishment of body cells and tissues. The digestion of proteins takes place in the stomach with the help of protease and pepsin enzymes, which breaks down the proteins into amino acids. The process is facilitated by the hydrochloric acid present in the stomach. Amino acids are tiny elements which get absorbed into the blood system through the wall of the small intestine.



THANK YOU