



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35

Accredited by NBA-AICTE and Accredited by NAAC – UGC with A+ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



19GET277 / Biology For Engineers IV YEAR / VII SEMESTER UNIT-I: INTRODUCTION TO LIFE

Nucleic acids vitamins and enzymes-genes and chromosome



POLYSACCHARIDES

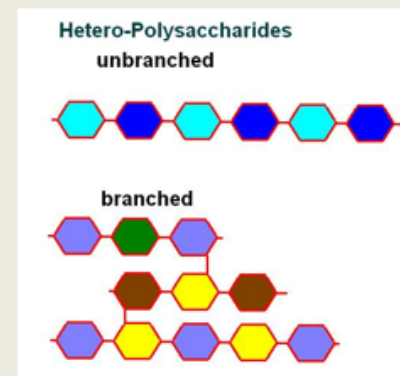
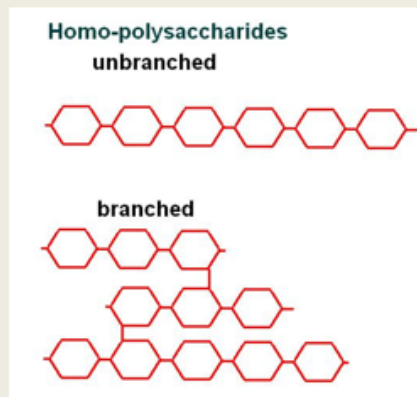
- ✓ KNOWN AS GLYCANS
- ✓ REPEATING MONOSACCHARIDE UNITS CONNECTED BY GLYCOSIDIC BONDS
- ✓ ALMOST INSOLUBLE
- ✓ NOT SWEET
- ✓ IDEAL STORAGE AND STRUCTURAL COMPONENTS
- ✓ 2 TYPES –

a) **HOMOPOLYSACCHARIDES**
(ONLY ONE TYPE OF MONOSACCHARIDE MONOMERS)

STARCH, GLYCOGEN, CELLULOSE

b) **HETAROPOLYSACCHARIDES**
(CONDENSATION OF 2 OR MORE TYPES OF MONOSACCHARIDES)

PEPTIDOGLYCAN, HYALURONIC ACID, AGAR, CHITIN

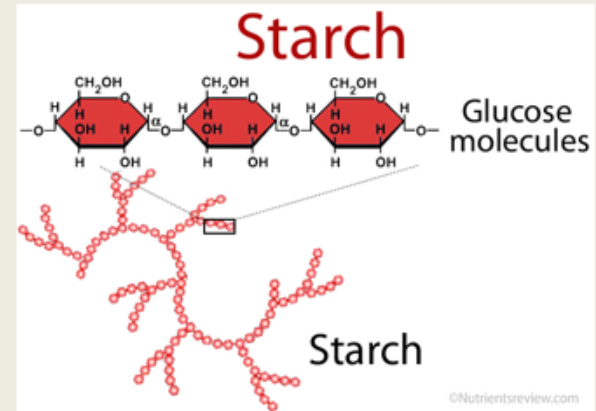




STORAGE POLYSACCHARIDES

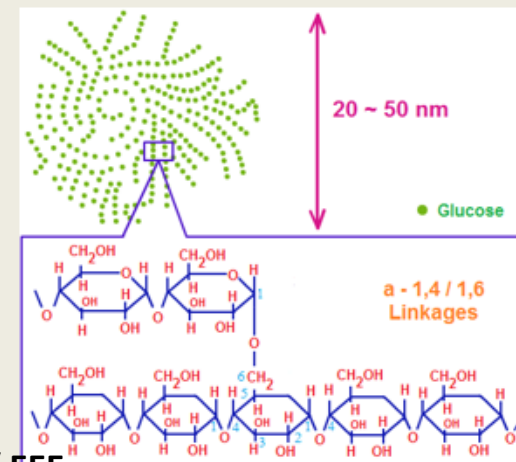
STARCH = AMYLOSE + AMYLOPECTIN

- CARBOHYDRATE RESERVE OF PLANTS
- IMPORTANT DIETARY SOURCE FOR ANIMAL
- HOOPOLYMER OF GLUCOSE : GLUCAN



GLYCOGEN

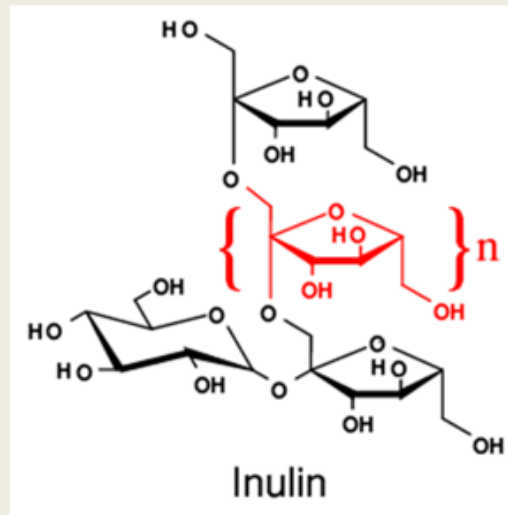
- CARBOHYDRATE RESERVE IN ANIMAL : ANIMAL STARCH
- HIGH CONCENTRATION IN LIVER, MUSCLE , BRAIN
- MADE UP OF GLUCOSE UNIT





INULIN

- POLYMER OF FRUCTOSE : FRUCTOSAN
- FOUND IN DAHLIA, GARLIC, ONION etc
- NOT REDAILY METABOLISED IN HUMAN BODY
- READILY FILTERED THROUGH THE KIDNEY; USED FOR KIDNEY FUNCTION TEST

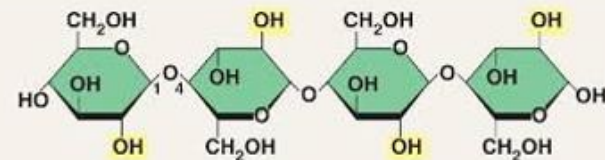




STRUCTURAL POLYSACCHARIDES

CELLULOSE

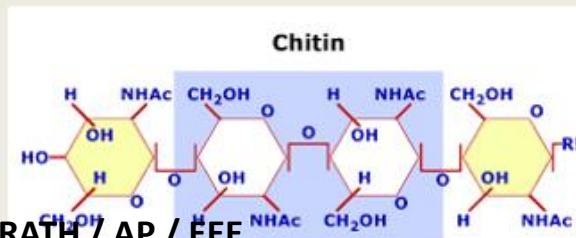
- MOST ABUNDANT ORGANIC SUBSTANCE IN PLANT KINGDOM
- PREDOMINANT CONSTITUENT OF PLANT CELL WALL
- TOTALLY ABSENT IN ANIMALS



Cellulose: 1-4 linkage of β glucose monomers

CHITIN

- SECOND MOST ABUNDANT ORGANIC SUBSTANCE
- COMPLEX CARBOHYDRATE OF HETAROPOLYSACCHARIDE
- FOUND IN INSECTS ,PROVIDE STRENGTH AND ELASTICITY





RECAP....



...THANK YOU