शिवाजी कॉलेज, राजा गार्डन, रिंग रोड, नई दिल्ली – 110027
SHIVAJI COLLEGE, RAJA GARDEN, RING ROAD, NEW DELHI-110027

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नाम
NAME Aradhana Jha कक्षा CLASS BSc(H) Zoology सेमेस्टर SEMESTER II

रोल नं.
ROLL NO. 23/22005 विषय SUBJECT Fundamentals of Biomolecules पेपर नं. PAPER NO.

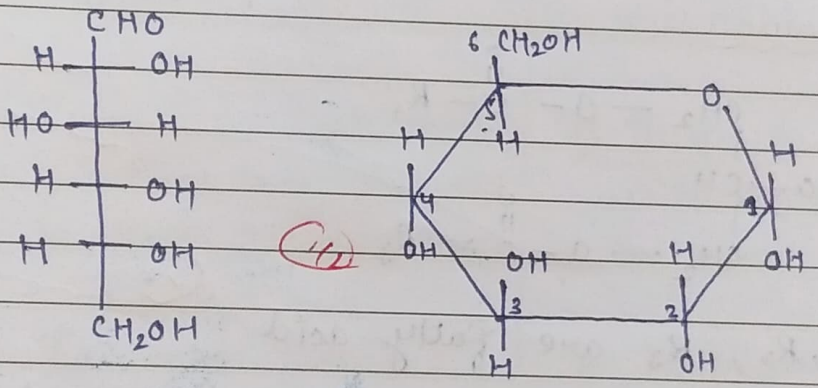
*अतिरिक्त प्रयुक्त उत्तर पुस्तिकाओं की संख्या
No. of continuation books used

7½/8

Ques-1) Draw the structure of the following:-

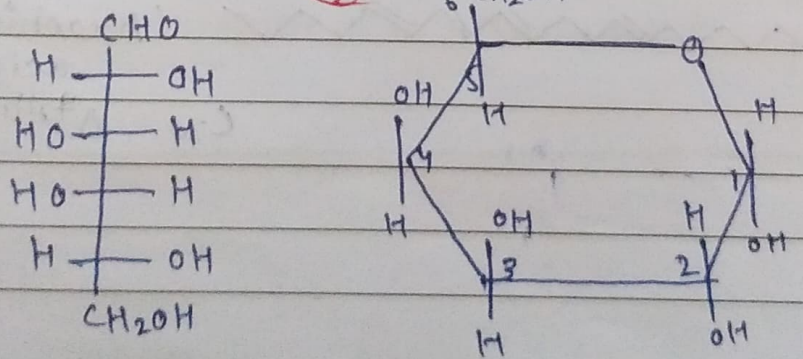
(a) Two monosaccharides

(i) Glucose



α-D-Glucose
cyclic structure

(ii) Galactose

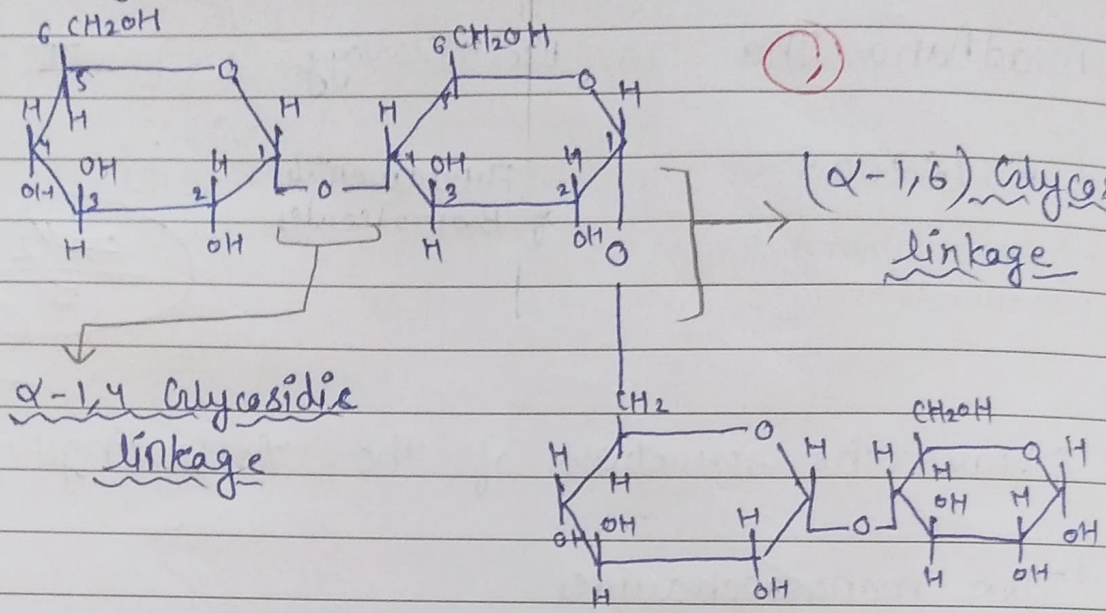


α-D-Galactose

(b) **Starch**

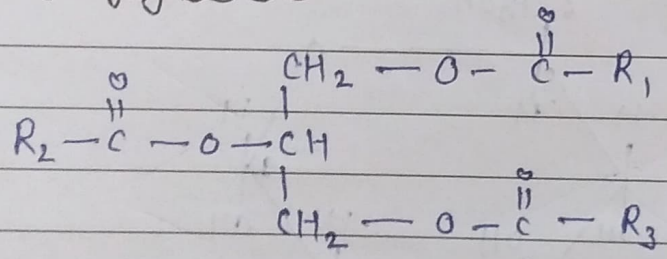
→ Starch is a polysaccharide containing several units of α-D-Glucose.

→ They have two bonds:-



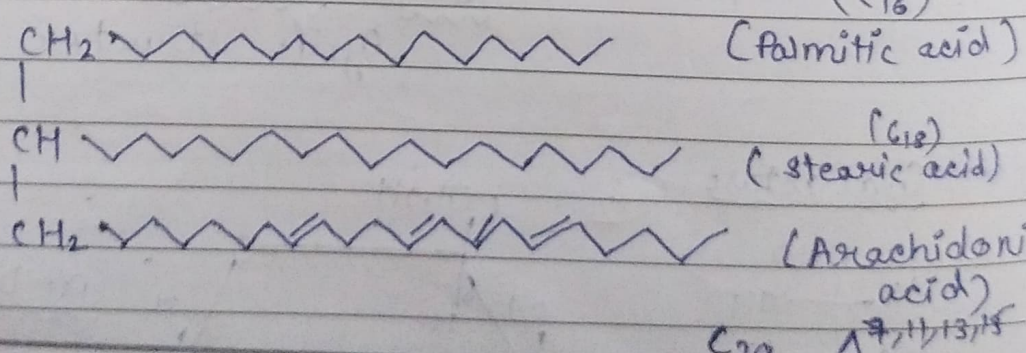
Starch

(c) **Triglyceride**



Here, R_1, R_2, R_3 are fatty acid

Ex:



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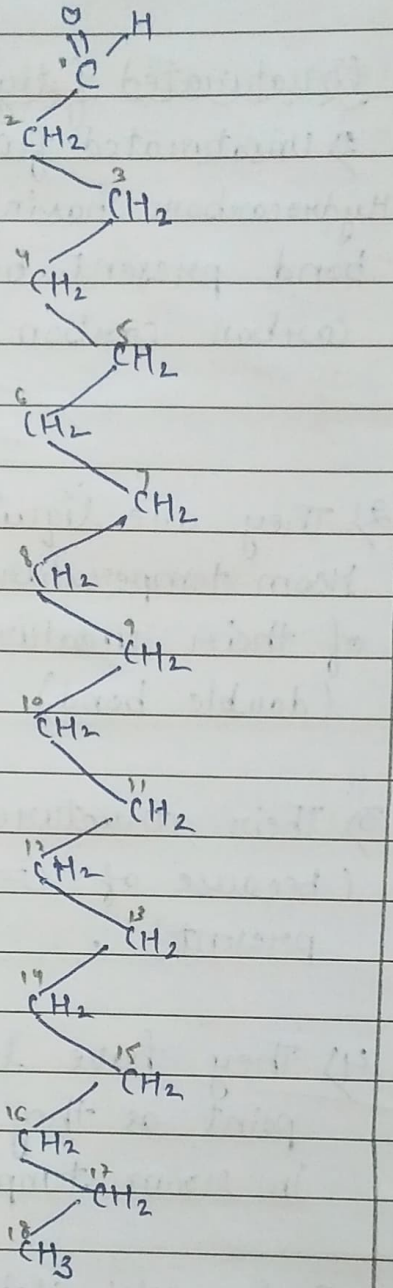
Ques-2) Distinguish between:-

(a)

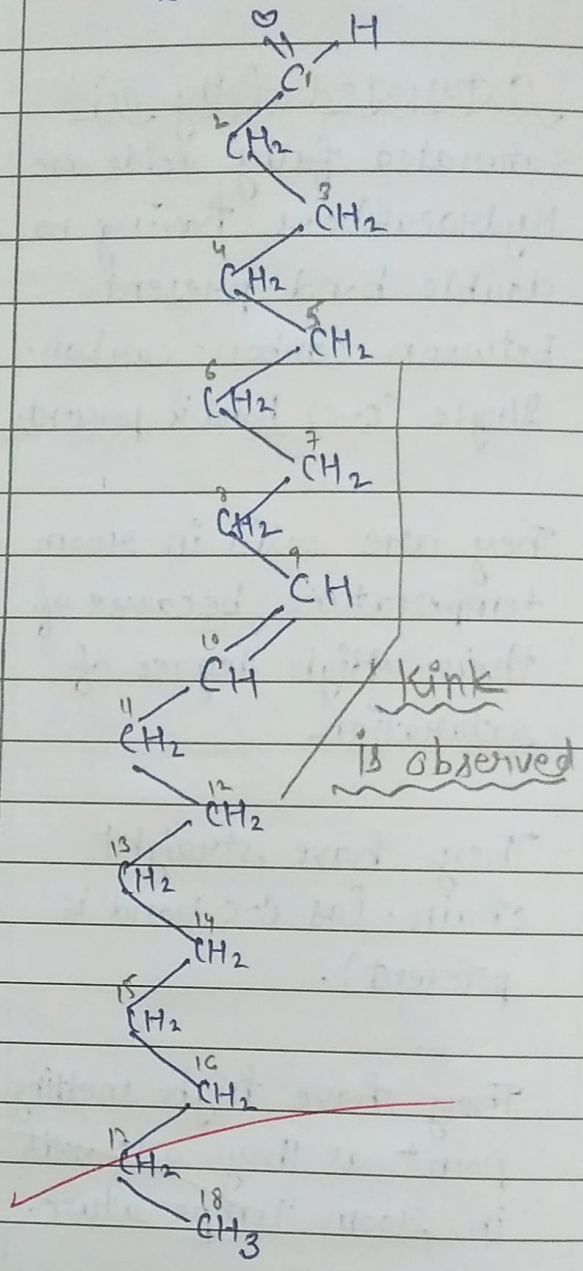
Saturated fatty acid	Unsaturated fatty acid
1) Saturated fatty acids are Hydrocarbons having no double bond present between carbon-carbon. Single (C-C) bond is present.	1) Unsaturated fatty acids are Hydrocarbons having double bond present between carbon carbon chain.
2) They are solid in room temperature because of their high degree of saturation	2) They are liquid in ~~nature~~ room temperature because of their unsaturation (double bond)
3) They have straight chain. (as C-C bond is present).	3) Their structure is kink (because of C=C is present).
4) They have high melting point as they are solid in room temperature.	4) They have low melting point as they are liquid in room temperature.
5) Examples: Palmitic acid, Stearic acid etc.	5) Example: Oleic acid, Linolic acid, linolenic acid etc.

Structure is on next page.

* Stearic acid (C_{18})



* Oleic acid ($C_{18}\ \Delta^9$)



single bond is present.

Double bond is present at carbon no. 9.

(b)	Fats	Oils
1)	Physical appearance	1) Physical appearance
→	They are solid in room temperature as they are saturated	→ They are liquid in room temperature as they are unsaturated.
2) →	They are obtained from animal meat	2) → They are obtained from plants.
3) →	They have high melting point as they are solid in nature and saturated.	3) → They have low melting point as they are liquid in room temperature and unsaturated.
4) →	They increase LDL (Low density lipids) level in our body. Bad for body.	4) → They increases HDL (High Density Lipid) level in our body. Good for body.
5) →	Increases risk of cardiovascular diseases as cholestrol level increases. (LDL ↑)	5) → Decreases ~~Increases~~ risk of cardiovascular diseases as cholestrol level decreases as HDL ↑.
6)	Examples: Ghee, Animal meat, Chicken etc.	6) Examples: Oils:- Olive oil, vegetable oil, Castor oil etc.

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Clues-3) MCQ:

(a) Which membrane lipid contains an amide bond:-

(i) Cholestrol (ii) Phosphotide acid
(iii) Phosphatidylserin (iv) Sphingomyelin.

(b) Which compound is found in all the sphingolipids:

(i) A carbohydrate (ii) A positive charge
(iii) A phosphate group (iv) An amino acid.