

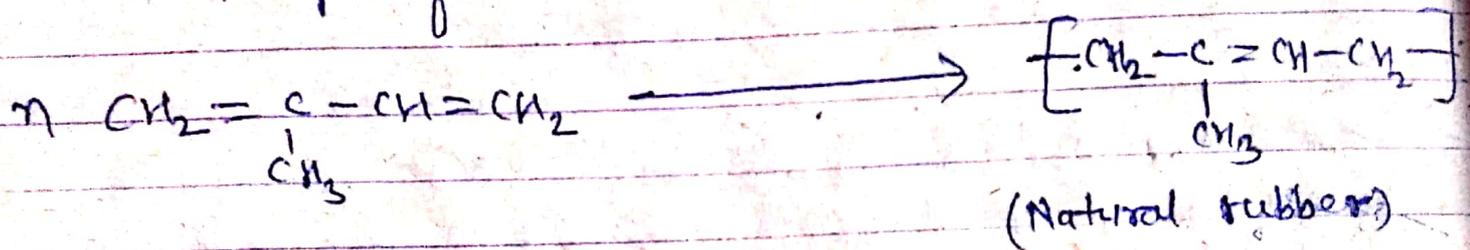
Topic: - Rubbers

B.Sc. Part-I, Paper-I(C)

1. Natural Rubber \rightarrow Rubber is a naturally

occurring polymer. It is obtained as latex from rubber trees. Rubber latex is a colloidal suspension of rubber in water.

Natural rubber is a hydrocarbon polymer built up from the monomer isoprene.



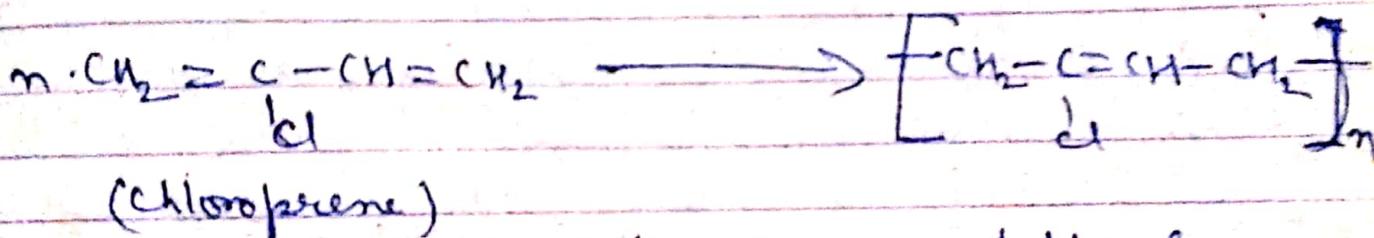
Natural rubber is a thermoplastic. There are no cross links between the polymer chains. It becomes soft & sticky when heated. It is not hard & tough. The properties of natural rubber can be modified & improved by the process of vulcanization.

The process of heating natural rubber with sulphur to improve its properties is called vulcanization. During vulcanization, sulphur cross links are formed. The formation of cross links makes rubber hard, tough with greater tensile strength.

2. Synthetic rubber \rightarrow The synthetic rubber is obtained by polymerising certain organic compounds which may have properties similar to rubber & some additional desirable properties.

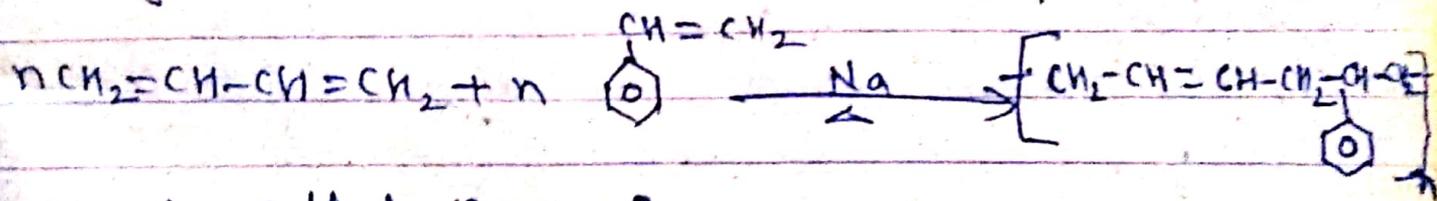
Examples \rightarrow

i) Neoprene Rubber \rightarrow It is prepared by polymerisation of chloroprene (2-chlorobuta-1,3-diene)



It is used as insulator, making conveyor belts & printing rollers.

ii) Styrene butadiene rubber (SBR) \rightarrow It is obtained by the polymerisation of buta-1,3-diene & styrene in the ratio of 3:1 in the presence of Na



It is also called Buna-S

It is used for making automobile tyres & foot wear

iii) Nitrile rubber \rightarrow (Buna-N) It is obtained by polymerisation of 1,3-butadiene & acrylonitrile

It is used for making oil seals, manufacture of hoses & tank linings

