EXPERIMENT No.15

AIM: To test the presence of carbohydrate in the given food sample.

PROCEDURE:

S.No	EXPERIMENT	OBSERVATION	INFERENCE
1	CONC H_2SO_4 TEST Food sample + conc. H_2SO_4. Heat	Charring occurs with smell of burnt sugar	Carbohydrate present.
2	MOLISCH'S TEST Food sample + Molisch's reagent (1% alcoholic solution of α naphthol) + conc. H_2SO_4 along the sides of the test tube.	A purple ring is obtained at the junction of the two layers.	Carbohydrate present.
3	BENEDICT'S / FEHLING'S TEST Food sample + Benedict's reagent/ Fehling's reagent (A mixture of equal amounts of Fehling's A and Fehling's B). Heat.	A red ppt. is obtained.	Carbohydrate present.
4	TOLLEN'S TEST Food sample + Tollen's reagent (amm. silver nitrate solution). Heat on water bath.	A silver mirror is obtained the walls of the test tube.	Carbohydrate present.

EQUATIONS: (ON BLANK SIDE USING A PENCIL)

1. $CHO(CHOH)_4CH_2OH + 2Cu^{2+} + 5OH^- \rightarrow COOH(CHOH)_4CH_2OH + Cu_2O + 3H_2O$
   Glucose — Gluconic acid
2. $CHO(CHOH)_4CH_2OH + 2[Ag(NH_3)_2]^+ + 3OH^- \rightarrow COOH(CHOH)_4CH_2OH + 4NH_3 + 2Ag\downarrow + 2H_2O$
   Glucose — (Gluconic acid)

RESULT: : *(ON RULED SIDE)* The food sample has been tested for carbohydrate.