



| Test for                                   | Method  | Observation  | Conclusion  |
|--|---|--|---|
| <b>Reducing sugar</b><br>(Benedict's test) | <ul style="list-style-type: none"> <li>Add 2 cm<sup>3</sup> of <b>Benedict's solution</b> to 2 cm<sup>3</sup> of _____ in a test tube.</li> <li>Shake test tube to mix well.</li> <li>Place the test tube in the <b>boiling water bath</b> for 5 minutes.</li> </ul>  | <i>Positive result:</i> <ul style="list-style-type: none"> <li>A <b>blue-green/ yellow/ orange/ brown/ red/ brick-red precipitate</b> was formed.</li> </ul> <i>Negative result:</i> <ul style="list-style-type: none"> <li>The mixture remained <b>blue</b> in colour.</li> </ul>   | <ul style="list-style-type: none"> <li>Reducing sugar is <u>present</u>.</li> <li>Reducing sugar is <u>absent</u>.</li> </ul> |
| <b>Starch</b><br>(Iodine test)             | <ul style="list-style-type: none"> <li>Add 2-3 drops of <b>iodine solution</b> to _____.</li> </ul>   | <i>Positive result:</i> <ul style="list-style-type: none"> <li>A <b>blue-black</b> colour was observed.</li> </ul> <i>Negative result:</i> <ul style="list-style-type: none"> <li>The <b>brown colour</b> of iodine solution remained.</li> </ul>  | <ul style="list-style-type: none"> <li>Starch is <u>present</u>.</li> <li>Starch is <u>absent</u>.</li> </ul>                 |
| <b>Proteins</b><br>(Biuret test)           | <ul style="list-style-type: none"> <li>Add 2 cm<sup>3</sup> of <b>sodium hydroxide (NaOH)</b> to 2 cm<sup>3</sup> of _____ in a test tube.</li> <li>Shake test tube to mix well.</li> <li>Add 1% <b>copper sulphate</b> solution (CuSO<sub>4</sub>) <b>dropwise, shaking</b> the tube after every drop.</li> </ul>  | <i>Positive result:</i> <ul style="list-style-type: none"> <li>The mixture turned from <b>light blue to violet</b> in colour.</li> </ul> <i>Negative result:</i> <ul style="list-style-type: none"> <li>The mixture remained light blue in colour.</li> </ul>  | <ul style="list-style-type: none"> <li>Protein is <u>present</u>.</li> <li>Protein is <u>absent</u>.</li> </ul>               |
| <b>Fats</b><br>(Ethanol emulsion test)     | <p><i>For liquid sample:</i></p> <ul style="list-style-type: none"> <li>Add 2 cm<sup>3</sup> of <b>ethanol</b> to 2 cm<sup>3</sup> of _____ in a test tube and shake to mix well.</li> <li>Add 2 cm<sup>3</sup> of <b>water</b> to the mixture and shake to mix well.</li> </ul> <p><i>For solid particles:</i></p> <ul style="list-style-type: none"> <li><b>Cut/crush</b> the solid into small pieces and add 2 cm<sup>3</sup> of ethanol in a test tube.</li> <li><b>Decant</b> the ethanol into another test tube and add 2 cm<sup>3</sup> of water. Mix well.</li> </ul> | <i>Positive result:</i> <ul style="list-style-type: none"> <li><b>Homogeneous</b> (clear) solution was formed with ethanol.</li> <li>A <b>white/cloudy emulsion</b> was formed upon mixing with water.</li> </ul> <i>Negative result:</i> <ul style="list-style-type: none"> <li>Homogeneous (clear) solution was formed with ethanol.</li> <li>The solution remained clear upon mixing with water.</li> </ul> | <ul style="list-style-type: none"> <li>Fat is <u>present</u>.</li> <li>Fat is <u>absent</u>.</li> </ul>                       |

This is the standard format for answering questions on the food test. Please MEMORISE and have them at your fingertips! 😊