SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore – 35

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A+ Grade
Approved by AICTE , New Delhi and Affiliated to Anna University , Chennai.

DEPARTMENT OF FOOD TECHNOLOGY

19FTO302-FOOD NUTRITION

III – YEAR VI SEMESTER

UNIT-III Energy Value Determination

INTRODUCTION

What is Energy value detemination?

The energy or colorific value of food depends on amount of energy yielding factors in them. Classically the total energy content of a food was determined using a bomb calorimeter. The food was burned in a bomb colorimeter and the amount of energy released was measured. Major energy sources in foods are carbohydrates, fats and protein. In some other foods alcohols, organic acids and polios may be sources of energy.

Calorie determination
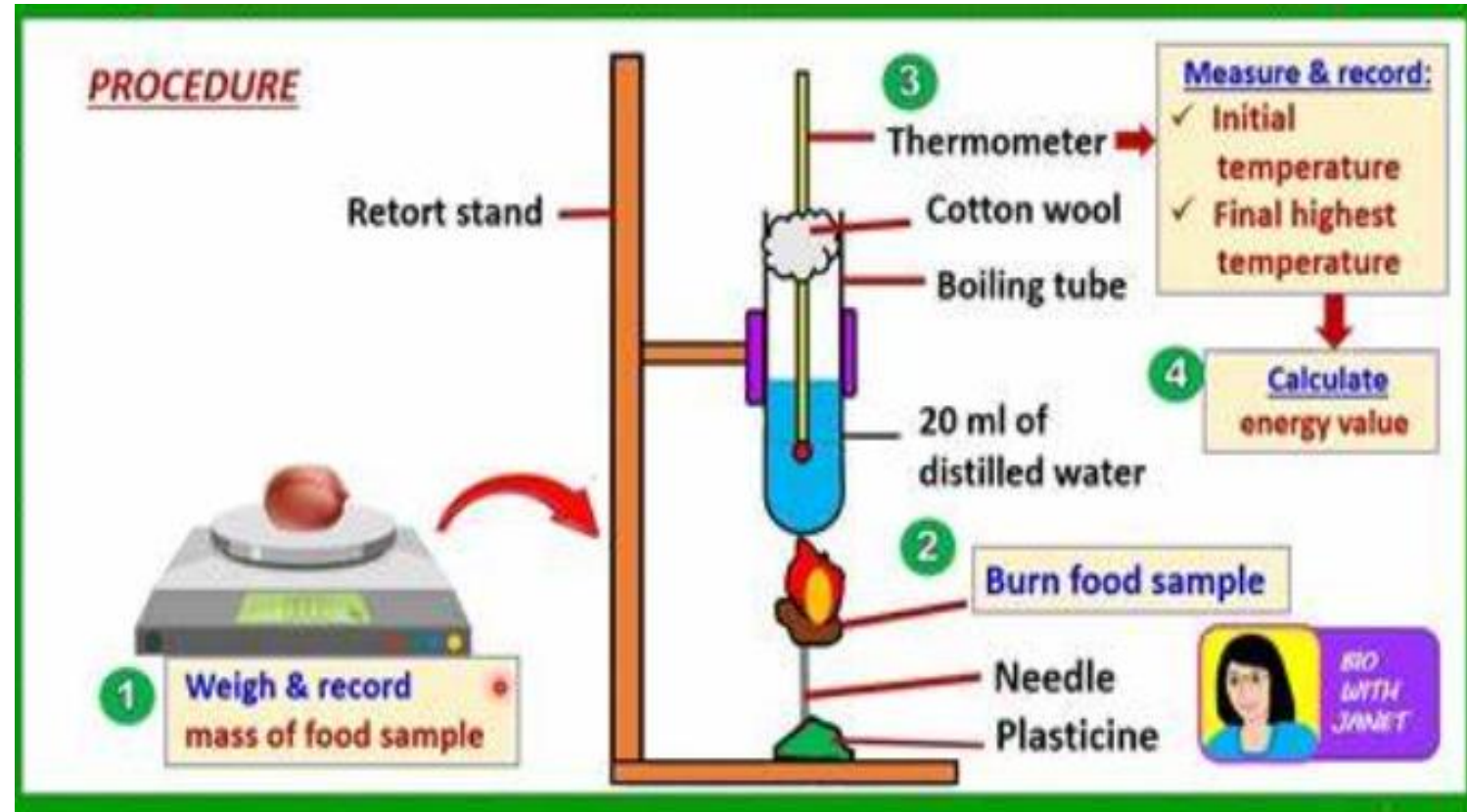
$$\text{Energy in J/g} = \frac{(\text{Final Temp} - \text{Start Temp}) \times 20(g) \times 4.2}{\text{Mass of food (g)}}$$

❖ 4.2 Joules of energy is required to raise temperature of 1 g of sample by 1 degree celusis
❖ 1 ml of water is equal to 1

Calorie values of macronutients

S.NO	MacroNutrients	Calorie Value
1	Carbohydrate	4
2	Protein	4
3	Fat	9
4	Alcohol	7

Consider a burger contains 50 g of carbohydrate, 42 g of fat, 27 g of protein. Calculated the Energy of the burger

Calculation

686 Calories

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THANK YOU