

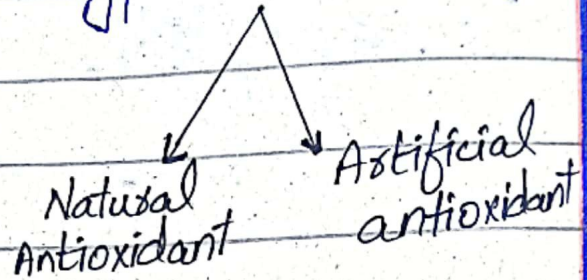
Q#1 - Differentiate between Preservatives & Antioxidants.

Preservatives	Antioxidants
<h2><u>Definition</u></h2>	
→ The chemical substances which are added to the foods to prevent spoilage, improve appearance and maintain food's nutritional quality are called preservatives.	→ The substances which protect cells from damage caused by free radicals (unstable molecules produced by oxidation during normal metabolism) are called antioxidants.
<h2><u>Usage</u></h2>	
→ They are used to prevent spoilage caused by bacteria, yeast, mold, fungus etc.	→ They are used to prevent food from "farm to plate" and militate against oxidative deterioration on storage and processing.
→ They are also used to keep food safer for long period of time, extending its shelf-life.	

Types

⇒ They have no specific types.

⇒ They are of two types.



⇒ Natural antioxidants are obtained from natural sources.

Artificial antioxidants are obtained from chemical processes.

Examples

⇒ Common salt

⇒ Benzoic acid

⇒ Sorbic acid

⇒ Propyl Gallate (PG)
(Artificial antioxidant)

⇒ Butylated Hydroxytoluene (BHT)

(Natural antioxidant)

Q #2 - What are Food Additives?
Give some causes of Food Deterioration.

1) Definition of food additives:-

"Substances that are intentionally added to foods during processing or storage are called food additives."

2) Brief introduction of food additives:-

They have little or no nutritional value. According to the **European Union**, all food additives are identified by E-numbers, where E stands for **Europe**.

3) Types of food additives:-

Antioxidants

Preservatives

Coloring Agents

Flavoring Agents

Stabilisers

Thickening Agents

4) Definition of Food Deterioration:-

“A process or change which renders a product undesirable/unacceptable for consumption is called food deterioration.”

5) Causes of food deterioration:-

- i) Physical stress
 - ii) Reaction with O_2
 - iii) Moisture/dryness
 - iv) Light
 - v) Inappropriate temperature
 - vi) Time
 - vii) Infestation by insects, parasites, rodents
 - viii) Growth/activities of micro-organisms
 - ix) Activities of natural food enzymes
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