

Weekly Free PDF for Food Safety Officer Exam – Set 1

Q.1

What could be the possible reason for the minimal use of MSG in preserved/ canned food items?

1. Reduction in spore formation
2. Increase in spore formation
3. Facilitating multiplication of bacteria
4. None of the above

Answer:

A

Sol:

• Mono sodium glutamate (MSG) contains glutamates which are a derivative of glutamic acid and hence this inhibits the development of spore formation which is required by the cell to survive better in adverse conditions.

Q.2

----- is a process which reduces the residual strain in the glass container that has been introduced in the forming process

1. Lacquering
2. Electroplating
3. Canning
4. Annealing

1. 2 only
2. 3 only
3. 1 only
4. 4 only

Answer:

D

Sol:

• Annealing
• In metallurgy and materials science, annealing is a heat treatment that alters the physical and sometimes chemical properties of a material to increase its ductility and reduce its hardness, making it more workable.
• It involves heating a material above its recrystallization temperature, maintaining a suitable temperature for an appropriate amount of time and then cooling.

Q.3

Betalains are group pigments found in

1. Apple
2. Carrot
3. Mango
4. Red beet

Answer:

A

Sol:

- Substantiated claims are prohibited.
 - Substantiated refers to a claim or statement that is supported by evidence, facts, or proof.
 - When something is substantiated, it means that there is sufficient and reliable information to validate its truthfulness or accuracy.
 - Substantiated claims are based on solid evidence, logical reasoning, or empirical data that can withstand scrutiny and skepticism.
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Q.9

What plan should we make to the disposal of solid waste?

1. Integrated waste management plan
2. Use of waste management plan
3. Reducing of waste management plan
4. Recycling of waste management plan

Answer:

A

Sol:

- The disposal of solid waste should be part of an integrated waste management plan.
 - This integrated solid waste management is the method of collection, processing, resource recovery and final disposal of solid waste.
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Q.10

Nancy works at a cheese processing unit. They subject the cheese to oxidation. Which of the following comments pertaining to the above scenario are correct?

1. Oxidation is necessary for products like cheese
2. Lipid Oxidation is otherwise a major concern for the food industry
3. Deterioration of fats and oils is called rancidity

1. 2 and 3
2. 1 and 2
3. 1 and 3
4. 1, 2 and 3

Answer:

D

Sol:

- First and foremost, oxidation of cheese is the process by which oxygen from air attacks fat molecules, proteins and vitamins.
 - Effectively, this sets in motion a chain reaction which can do a fair bit of damage.
 - This process is also known as lipid oxidation or photo oxidation.
 - Most cheeses are acidified to by bacteria, which turn milk sugars into lactic acid, then the addition of rennet completes the curdling.
-

Q.1

Which of the following food item has been exempted from labeling?

1. On the spot food like bakery items
2. Ready to eat food
3. Food served on plane/ vending machine
4. All of the above

Answer:

D

Sol:

- All of the mentioned food items have been exempted from food labeling.
- Food labeling is the most direct way in which producers communicate the identity and contents of their products to consumers.
- Food labels contain information about a particular food product.
- Aside from the ingredients, they also include preparation and/or cooking instructions, expiration dates, and nutritional values, just to name a few. Basically, everything printed on a box, can, or bottle bought in grocery stores, markets, and even restaurants is a food label.

Q.2

Which of these is added to the food label because people sometimes don't eat enough of this?

1. Fat
2. Calcium
3. Sodium
4. Cholesterol

Answer:

B

Sol:

- Calcium is a chemical element; it has symbol Ca and atomic number 20.
- As an alkaline earth metal, calcium is a reactive metal that forms a dark oxide-nitride layer when exposed to air.
- Its physical and chemical properties are most similar to its heavier homologues strontium and barium.
- It is the fifth most abundant element in Earth's crust, and the third most abundant metal, after iron and aluminum.
- The most common calcium compound on Earth is calcium carbonate, found in limestone and the fossilized remnants of early sea life; gypsum, anhydrite, fluorite, and apatite are also sources of calcium.
- The name derives from Latin calx "lime", which was obtained from heating limestone.

Q.3

What is the term for adding nutrients to food at levels that match those found in the original food?

1. Food enrichment
2. Food supplementation
3. Over nutrition
4. Food fortification

Answer:

A

Sol:

- Food enrichment is the practice of adding micronutrients back to a food product that were lost during processing, while fortification adds additional micronutrients not present (or present in small amounts) prior to processing.
- Food fortification, or enrichment, is a common practice to improve the nutritional value of food.
- To fortify the food, ingredients considered as bioactive are added to product formulations, namely, prebiotics.
- Prebiotics have been incorporated in a variety of different food products, mostly as sugars and fat substitutes.

- For example, sugar has been partially replaced by prebiotics into bakery products formulations, dairy products, and fruit beverages; and fat has been partially replaced by prebiotics in meat processed products.

Q.4

Color of maple sugar is due to:

1. Tannins
2. Chlorophyll
3. Caramelization
4. Carotene

Answer:

C

Sol:

- Caramelization or caramelisation (see spelling differences) is the oxidation of sugar, a process used extensively in cooking for the resulting nutty flavor and brown color.
- Caramelization is a type of non-enzymatic browning reaction. As the process occurs, volatile chemicals are released producing the characteristic caramel flavor.

Q.5

Which of the following is true about death time curve method to sterilize canned food?

1. It tells us the time and temperature to sterilize canned food
2. t tells us about the heat penetration of the container
3. It tells us about the heat conductivity of the container

1. I and II
2. II and III
3. I, II and III
4. None of these

Answer:

C

Sol:

- It tells us the time and temperature to sterilize canned food
- t tells us about the heat penetration of the container
- It tells us about the heat conductivity of the container
- All of the mentioned points are correct with respect to death time curve method used for sterilized canned food.

Q.6

Which of the following help in predicting the shelf life of ghee

1. Polenske number
2. Kirschner value
3. Saponification number
4. Induction period for oxygen absorption

Answer:

D

Sol:

- A simple method independent of oxygen absorption measurements was developed for estimating the induction period of the oxidation of polymers.
- The principle of this method is the estimation of the time in which a sample oxidized at constant temperature

exhibits a temperature rise as a consequence of the exothermal effect of the oxidation reaction.

- The temperature rise is measured as the temperature difference between the sample and a reference material.
 - Results of measurements of induction periods of the oxidation of polymeric substrates inhibited by various antioxidants, obtained both from oxygen absorption measurements and by the new method, are discussed.
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Q.7

Of the listed below products, which contains no dairy ingredients?

1. Sorbet
2. Gelato
3. Custard
4. Sherbet

1. 4 only
2. 1 only
3. 3 only
4. 1, 2, 3 and 4

Answer:

B

Sol:

- Sorbet
 - Gelato, sherbet, and custard all three have dairy ingredients in them.
 - Sorbet on the other hand lacks any dairy ingredient in it.
 - Sorbet is a frozen dessert made using ice combined with fruit juice, fruit purée, or other ingredients, such as wine, liqueur, or honey.
 - Generally, sorbets do not contain dairy products.
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Q.8

Which of the following is not one of the duties of the bulk milk hauler, who plays a critical role in milk handling?

1. Making sure equipment has been cleaned correctly
2. Examining milk to determine appearance
3. Collecting a representative sample to be used for tests
4. Checking milk temperature

Answer:

A

Sol:

- Milk hauler is responsible for checking the milk temperature.
 - He is also held responsible for examining milk to determine the appearance and collecting a representative sample to be used for the test.
-

Q.9

Paneer manufactured using citric acid as coagulant give

1. Good flavor
2. Higher guminess
3. Higher chewiness
4. Maximum hardness

Answer:

D

How many acres of land is required for medium -sized abattoir?

1. 1-2acres
2. 2-4 acres
3. 4-5 acres
4. 5-8 acres

Answer:

B

Sol:

A medium-sized abattoir, which typically handles 50,000 units or more per year, generally requires about 2-4 acres of land. This space accommodates the necessary buildings, traffic circulation, and other infrastructure to ensure efficient and humane operations.

Q.3

What is the yearly capacity of a small abattoir?

1. up to 45,000 units
2. up to 40,000 units
3. up to 30,000 units
4. up to 35,000 units

Answer:

C

Sol:

A small abattoir typically has a yearly capacity of up to 30,000 units. This can include a mix of cattle, sheep, goats, and pigs, depending on the facility's design and operational focus². The area required for such an abattoir is usually about **1-2 acres**

Q.4

Which of the following is not a method of stunning mentioned?

1. Thermal
2. Chemical
3. Electrical
4. Mechanical

Answer:

A

Sol:

Thermal stunning is not a commonly mentioned method because it involves using heat, which isn't practical or humane for quickly rendering animals unconscious before slaughter. The primary methods—**electrical**, **mechanical (captive bolt)**, and **chemical (CO₂)**—are preferred because they are effective, humane, and ensure the animal loses consciousness rapidly with minimal stress and pain.

Q.5

What must be the maximum residual concentration of oxygen be in the chemical method of stunning?

1. 12 % by volume
2. 2% by volume
3. 7% by volume
4. 21% by volume

Answer:

2. The process of slaughtering animals
3. A place in a slaughter house where animals are rested before slaughter
4. None of these

Answer:

C

Sol:

A **lairage** is a designated area in an abattoir (slaughterhouse) where animals are kept temporarily before being slaughtered. The lairage serves several important purposes:

1. **Rest and Recovery:** Animals are given time to rest and recover from the stress of transportation, which can help improve meat quality.
2. **Inspection and Sorting:** Animals are inspected for health issues and sorted according to size, weight, and species.
3. **Feeding and Watering:** Animals are provided with food and water to ensure they are not dehydrated or malnourished before slaughter.
4. **Stress Reduction:** Proper management of the lairage helps reduce animal stress, which is crucial for maintaining meat quality and animal welfare.
5. **Preparation for Slaughter:** It allows for an organized and efficient flow of animals to the slaughtering process.

Q.10

What is an abattoir?

1. A place where animals are raised for milk
2. A place where animals are slaughtered for human consumption
3. A type of meat preservation process
4. None of these

Answer:

B

Sol:

An **abattoir** is another term for a **slaughterhouse**, a facility where animals are slaughtered for food production.

Q.1

Staphylococcus aureus is a -----

1. Thermophile
2. Mesophile
3. Psychrophiles
4. Thermoacidophiles

Answer:

B

Sol:

- The temperature range this organism grows at is moderate and hence, the organism is a mesophile.
- It operates under a temperature range of 280-321 K.
- The optimum growth temperature for these organisms is 37 °C (about 99 °F).
- The term is mainly applied to microorganisms.
- Organisms that prefer extreme environments are known as extremophiles.

- Mesophiles have diverse classifications, belonging to two domains: Bacteria, Archaea, and to kingdom Fungi of domain Eucarya. Mesophiles belonging to the domain Bacteria can either be gram-positive or gram-negative.
 - Oxygen requirements for mesophiles can be aerobic or anaerobic. There are three basic shapes of mesophiles: coccus, bacillus, and spiral.
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Q.2

Ergotism is also called _____

1. St. Xavier's fire
2. St. Anthony's fire
3. St. Paul's fire
4. St. Matthew's fire

Answer:

B

Sol:

- Ergotism was called St. Anthony's fire as the Monks of the Order of St. Anthony were successful in curing this disease when it was rampant in the Middle Ages.
 - An antigen is a protein on the virus' surface that host antibodies can recognize and attack.
 - Changes in the antigenic characteristics of the agent make it easier for the changed virus to spread throughout a previously immune population.
 - There are two natural mechanisms for change - antigenic drift and antigenic shift.
-

Q.3

Brucellosis is an infection caused by several species of Brucellae bacteria. Which of the following is one of the main ways brucellosis is contracted?

1. From bites of infected ticks
2. From contact with an infected person
3. From contact with infected farm animals
4. From insufficiently sterilized medical equipment

Answer:

C

Sol:

- Brucellosis is most often contracted from contact with infected farm animals or from consuming unpasteurized contaminated milk or other dairy products or undercooked contaminated meat.
 - Thus, people whose work brings them into contact with farm animals are most at risk
-

Q.4

What are the types of fermentation?

1. Acetic acid fermentation, ethanol fermentation
2. Ethanol fermentation, lactic acid fermentation
3. Acetic acid fermentation, lactic acid fermentation
4. Acetic acid fermentation, ethanol fermentation, lactic acid fermentation

1. IV only
2. II only
3. III only
4. I only

Answer:

A

Sol:

- Acetic acid fermentation, ethanol fermentation, lactic acid fermentation.
 - They are 3 types of fermentation.
 - In lactic acid fermentation the yeast strains and bacteria convert starches or sugars into lactic acid.
 - It does not require heat.
 - In ethanol fermentation or alcohol fermentation, ethyl alcohol and carbon dioxide are the end products.
 - In acetic acid fermentation, the end products are acetic acid.
-

Q.5

What is a physical contaminant?

1. A chemical that is toxic or not usually found in the food
2. A microscopic living substance that accidentally gets into food
3. An item that accidentally gets into food
4. None of the above

Answer:

C

Sol:

- Physical contamination can cause serious harm to the consumer, including broken teeth or choking.
 - Types of physical contamination that can be found in food include jewellery, hair, plastic, bones, stones, pest bodies and cloth.
 - Chemical contaminant means a chemical that is toxic or not usually found in the food.
 - Biological contaminant means a microscopic living substance that accidentally gets into food.
-

Q.6

Condition where two batch female flower and two batch of female flowers are separated temporally this condition is known as

1. Dichogamy
2. Protandry
3. Due dichogamy
4. Herkogamy
5. chasm gamy

1. 1 and 2
2. 1 only
3. 3 and 4
4. 4 only

Answer:

B

Sol:

- Sequential hermaphroditism (called dichogamy in botany) is one of the two types of hermaphroditism, the other type being simultaneous hermaphroditism.
 - It occurs when the organism's sex changes at some point in its life.
 - A sequential hermaphrodite produces eggs (female gametes) and sperm (male gametes) at different stages in life.
 - Sequential hermaphroditism occurs in many fish, gastropods, and plants.
 - Species that can undergo these changes do so as a normal event within their reproductive cycle, usually cued by either social structure or the achievement of a certain age or size.
 - In some species of fish, sequential hermaphroditism is much more common than simultaneous hermaphroditism.
-

Q.7

What is pathological breakdown?

1. Caused by microbes
2. Caused by rodents
3. Caused by birds
4. Caused by insects

Answer:

A

Sol:

- One of the most obvious symptoms of deterioration is growth of pathogens.
 - Healthy fruit are mostly resistant to pathogens, but senesced and damaged fruit become susceptible to infection.
 - Infection by pathogens became a very serious problem in postharvest handling in recent years.
-

Q.8

Which of the following are contradictory plume?

1. Lofting and fumigating
2. Looping and coning
3. Neutral and lofting
4. Fumigating and trapping

Answer:

A

Sol:

- In lofting plume, the super adiabatic lapse rate occurs above the stack, whereas, in fumigating plume, it occurs below the stack.
 - Plumes are invisible columns of pollutants that disperse in the atmosphere due to various sources such as industrial processes, volcanic eruptions, wildfires, or even everyday activities like vehicle exhaust.
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Q.9

What are the ways to minimize the water loss after harvesting?

1. Low temperatures
2. Low vacuum
3. Low relative humidity
4. Low temperatures, low vacuum and low relative humidity

Answer:

A

Sol:

- There are many ways to reduce water loss after harvest.
 - Low temperatures and high relative humidity can be used for storing the products.
 - Prevent surface injuries and other bruises especially during transportation.
 - Application of waxes or other coatings on the product reduces water loss.
-

Q.10

What are the advantages of proper postharvest management?

1. Food safety and food security
2. Food safety and high profits

3. Food security and high profits

4. Food safety, food security and high profits

1. I only
2. III only
3. IV only
4. II only

Answer:

A

Sol:

- Food safety and food security
- Proper management of post-harvest systems can serve as a major help in resolving various social and economic issues.
- A significant decrease in post-harvest loss can improve food security all over the world.
- At the same time, food safety can be ensured by protecting commodities from microbes and contamination.

Q.1

What is the scientific name of coca plant ?

1. Theobroma Cocoa
2. Theobroma Cacao
3. Theobroma Plantus
4. Theobroma Plantus

Answer:

B

Sol:

The scientific name of coca plant is Theobroma Cacao

It is in the family **Malvaceae**

Q.2

Where is the Cocoa plant native to?

1. South America
2. South Africa
3. Brazil
4. None of the above

Answer:

A

Sol:

The cocoa plant, also known as Theobroma cacao, is native to the tropical regions of Central and South America, particularly the Amazon and Orinoco river basins.

Q.3

Which of the following countries is not a chief coca producing country?

1. India
2. Peru
3. Bolivia
4. Colombia.

Answer:

A

Sol:

The chief coca-producing country is Colombia. According to the United Nations Office on Drugs and Crime (UNODC), Colombia was responsible for almost two-thirds of the total coca cultivation area in 2022. Peru and Bolivia follow as the next largest producers.

Q.4

The coca tree has the unusual habit of bearing its flowers and pods on:

1. Roots
2. The main trunk and branches
3. Leaves
4. None of these

Answer:

B

Sol:

The coca tree has the unusual habit of bearing its flowers and pods directly on its trunk and main branches, a phenomenon known as **cauliflory**. This characteristic allows the flowers and pods to grow in clusters right on the main stems of the tree, rather than on the outer branches.

Q.5

What color are mature coca pods in some varieties?

1. Green/White
2. Yellow /red
3. Blue/ purple
4. None of these

Answer:

B

Sol:

Mature coca pods can vary in color depending on the specific variety. In some varieties, mature coca pods turn yellow, while in others, they may become red or orange. This colorful display is quite distinctive and helps in identifying the ripeness of the pods.

Q.6

What is the principal source of cocoa powder and chocolate?

1. Flowers
2. Leaves
3. Roots
4. Seeds

Answer:

D

Sol:

The principal source of cocoa powder and chocolate is the **cocoa bean(seed)**. These beans are harvested from the **cacao tree** (*Theobroma cacao*) and undergo several processing steps to become the delicious products we enjoy:

1. **Harvesting:** Cocoa pods are harvested from the cacao tree.
 2. **Fermentation:** The beans are removed from the pods and fermented to develop flavor.
 3. **Drying:** The fermented beans are dried to reduce moisture content.
 4. **Roasting:** The dried beans are roasted to enhance flavor.
 5. **Winnowing:** The outer shells of the roasted beans are removed, leaving behind the cocoa nibs.
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6. **Grinding:** The nibs are ground into cocoa mass, which can be further processed into cocoa powder and cocoa butter.
 7. **Processing:** Cocoa mass is processed into various products, including chocolate and cocoa powder.
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Q.7
How long does the fermentation of coca beans typically take?

1. 1-2 days
2. 5-15 days
3. 5-7 days
4. 12-15 days

Answer:

C

Sol:
The fermentation of cocoa beans typically takes **5 to 7 / 10 days**. During this period, the beans are piled or placed in boxes, covered with banana leaves or other materials to maintain warmth. This process is crucial as it helps develop the beans' flavor and color, making them ready for the next steps in cocoa processing.

Q.8
What is the first step after drying the coca beans?

1. Sorting
2. Fermentation
3. Grinding
4. None of these

Answer:

A

Sol:
The first step after drying cocoa beans is sorting. This process involves removing any debris, damaged or inferior beans, and foreign materials to ensure only the best quality beans proceed to the next stages. Sorting helps maintain the quality and consistency of the final cocoa products.
After sorting, the beans are typically roasted, winnowed to remove the shells, and then ground to produce cocoa mass, which can be further processed into chocolate or other cocoa products.

Q.9
What are cocoa cotyledons known as after breaking the shells?

1. Shells
2. Pulp
3. Nibs
4. None of these

Answer:

C

Sol:
After breaking the shells, cocoa cotyledons are known as cocoa nibs. These nibs are the essence of the cocoa bean and contain the flavorful components that make chocolate. Cocoa nibs can be further processed to produce cocoa mass, cocoa butter, and cocoa powder, which are essential ingredients in making chocolate.

Q.10
What process neutralizes the acid in cocoa during processing?

