



CPFM Advanced Study Guide & ServSafe Practice Exam

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INTRODUCTION

No matter which approved examination you take (ServSafe , National Registry of Food Safety Professionals or Prometric), this guide will help you prepare for the examination.

This Food Safety Manager Study Guide is based on the 2009 FDA Food Code. Be advised that your state may not have adopted the current code as of this printing so after your class/exam, please review you local & state requirements to make sure you are following all mandated guidelines.

Serve It Up Safe! does not provide regulatory or legal advice with regards to the FDA food code or food law. Please contact all local, county and state health department(s) on all matters pertaining to food safety in your operation and always consult competent legal counsel.

Topics covered herein include:

1. Providing Safe Food
2. Forms of Contamination
3. Safe Food Handling
4. The Flow of Food
5. HACCP
6. Sanitary Facilities & Design
7. Pest Management

GOVERNMENTAL AGENCIES we need to be familiar with:

- The **Food and Drug Administration (FDA)** inspects all food (except meat, poultry, and eggs). They regulate food transported across state lines, and the agency issues the *FDA Food Code*, which provides recommendations for food safety regulations.
- The **U.S. Department of Agriculture (USDA)** regulates and inspects all meat, poultry, and eggs. It also regulates food that crosses state boundaries or involves more than one state.
- The **Centers for Disease Control and Prevention (CDC)** conducts research into the causes of foodborne-illness outbreaks.
- The **Regulatory Authority** is your State health inspector, and they write/ adopt codes that regulates retail and foodservice operations.

PROVIDING SAFE FOOD

FOODBORNE ILLNESS is a disease carried or transmitted to people by food.

FOODBORNE ILLNESS OUTBREAK is when **two or more** people experience the same illness after eating the same food.

HIGHER RISK POPULATIONS INCLUDE: Infants, preschool age children, pregnant women, the elderly, people taking medications, and people who are seriously ill.

Although any type of food can become contaminated, some are better able to support the rapid growth of microorganisms than others.

These foods require **TEMPERATURE CONTROL FOR SAFETY (TCS)**.

TCS Foods must be kept out of the **Temperature Danger Zone (between 41° - 135°)** prevent the growth of microorganisms and the production of toxins.

TCS FOODS include

- 1) Anything that is an animal derivative
Ex: meats, seafood, dairy, etc
- 2) Heat treated plant foods
Ex: rice, beans, potatoes, etc
- 3) Most foods we slice open
Ex: cantaloupe, tomatoes, leafy greens

Includes Milk, Eggs, Shellfish, Fish, Meats, Meat Alternatives, Untreated Garlic & Oil Mixtures, Baked Potatoes, Raw Sprouts, Cooked Rice, Cut Tomatoes, Cut Melons and prepped foods.

THREE TYPES OF CONTAMINATIONS (Hazards)

- **BIOLOGICAL** – Bacteria, Virus, Parasites, Fungi, Natural Toxins, Saliva, Blood, etc
- **CHEMICAL** – Cleaners, Sanitizers, Toxic Metal from Non Food Service Grade Utensils and Cookware, Pesticides
- **PHYSICAL** – Foreign Objects – Hair, Glass, Staples, Metal Shavings, Seed Pits, etc

THE CENTER FOR DISEASE CONTROL (CDC) TOP FIVE DOCUMENTED REASONS FOR OUTBREAKS:

1. Purchasing food from unsafe sources
2. Failing to cook food adequately
3. Holding food at incorrect temperatures
4. Contaminated equipment
5. Poor personal hygiene

FOUR WAYS FOOD BECOMES CONTAMINATED

1. Time-Temperature Control -TCS foods are left in the danger zone for > 4 hours
2. Cross Contamination Contaminants cross to a food that is not going to be cooked any further

3. Poor Personal Hygiene Food handlers cause the foodborne illness
4. Poor Cleaning & Sanitizing

READY TO EAT FOODS ARE ITEMS THAT CAN BE CONSUMED WITHOUT FURTHER Preparation, Washing & Cooking

Ready-to-eat food includes:

- Cooked food
- Washed fruit and vegetables
- Deli meat
- Bakery items
- Sugar, spices, and seasonings

KEEPING FOOD SAFE

Focus on these measures

- Controlling time and temperature
- Preventing cross-contamination
- Practicing personal hygiene
- Purchasing from approved, reputable suppliers
- Cleaning and sanitizing

Provide Adequate Training

- Train staff to follow food safety procedures
- Provide initial and ongoing training
- Provide all staff with general food safety knowledge
- Provide job specific food safety training
- Retrain staff regularly
- Monitor staff to make sure they are following procedures
- Document training

FORMS OF CONAMINATION

HOW CONTAMINATION HAPPENS

- Contamination comes from a variety of places.
- Contaminants can cause foodborne illness or result in physical injury.
- Contaminants are found in the animals we use for food, the air, water, dirt, and occur naturally in food, such as bones in fish.
- Food can be contaminated on purpose.
- Most food is contaminated accidentally.
- Examples of accidental contamination include: foodhandlers who don't wash their hands after using the restroom, and then contaminate food and surfaces with feces from their finger; foodhandlers who pass contaminants through illness

FOODBORNE INFECTIONS can result when a person eats food-containing pathogens, which then grow in the intestines and cause illness.

Common Symptoms of Foodborne Illness

- Diarrhea
- Vomiting
- Fever
- Nausea
- Abdominal cramps
- Jaundice (yellowing of skin and eyes)

Onset times

- Depend upon the type of foodborne illness
- Can range from 30 minutes to 6 weeks

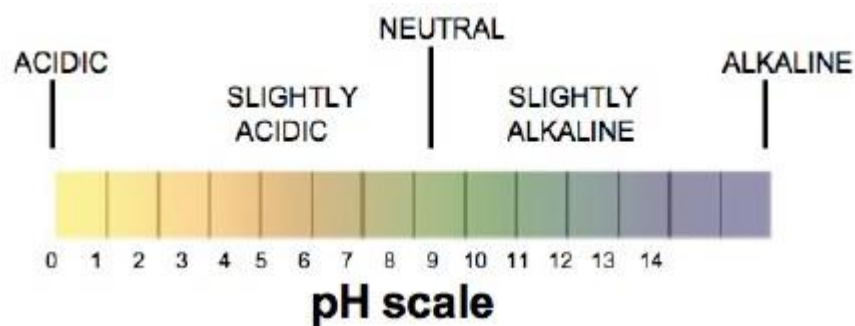
FOODBORNE INTOXICATIONS result when a person eats food-containing toxins (poison) produced by pathogens found on the food or which are results of chemical contamination. Typically symptoms appear quickly, within a few hours.

BACTERIA are of the greatest concern of the biological contaminants. Bacteria are found everywhere and under favorable conditions, they can reproduce very rapidly if FAT TOM conditions are right.

The acronym **FAT TOM** stands for:

Food - Most bacteria need nutrients to survive. TCS food supports the growth of bacteria better than other types of food.

Acidity - Bacteria grow best in food that contains little or no acid on a pH Scale that ranges from 0 to 14.0 acid to alkaline. Bacteria grown right in the middle more rapidly - 4.6pH - 7.5pH.



EXAMPLES OF acidic foods INCLUDE:	EXAMPLES OF neutral foods INCLUDE:	EXAMPLES OF alkaline foods INCLUDE:
CITRUS JUICES TOMATOES RHUBARB CRANBERRIES	MILK MEATS CHICKEN FISH	EGG WHITES SODA CRACKERS BLACK OLIVES

Temperature - Bacteria grow rapidly between 41°F and 135°F (5°C and 57°C). This range is known as the temperature danger zone. Bacteria growth is limited when food is held above or below the temperature danger zone.

Time - Bacteria need time to grow. The more time bacteria spend in the temperature danger zone, the greater chance they have to grow to unsafe levels. Bacteria doubles every 20 minutes in the TDZ.

Oxygen - Some bacteria need oxygen to grow, while others grow when oxygen isn't there (ROP).

Moisture - The amount of moisture available in food is called water activity (aw). The aw scale ranges from 0.0 to 1.0. The higher the value, the more available moisture in the food.

Time & Temperature controls are easily and readily controllable in your establishment!

MAJOR BACTERIA THAT CAUSES FOODBORNE ILLNESS

The FDA has identified three types of bacteria that cause severe illness and are highly contagious.

- **Salmonella Typhi**
 - Salmonella Typhi lives only in humans.
 - People with typhoid fever carry the bacteria in their bloodstream and intestinal tract.
 - Eating only a small amount of these bacteria can make a person sick.
 - The severity of symptoms depends on the health of the person and the amount of bacteria eaten. The bacteria are often in a person's feces for weeks after symptoms have ended.

- **Shigella spp.**
 - Shigella spp. is found in the feces of humans with the illness.
 - Most illnesses occur when people eat or drink contaminated food or water.
 - Flies can also transfer the bacteria from feces to food.
 - Eating only a small amount of these bacteria can make a person sick.
 - High levels of the bacteria are often in a person's feces for weeks after symptoms have ended.

- **Enterohemorrhagic and shiga toxin-producing Escherichia coli**
 - Enterohemorrhagic and shiga toxin-producing E. coli can be found in the intestines of cattle.
 - It is also found in infected people.
 - The bacteria can contaminate meat during slaughtering.
 - Eating only a small amount of the bacteria can make a person sick.
 - Once eaten, it produces toxins in the intestines, which cause the illness.
 - The bacteria are often in a person's feces for weeks after symptoms have ended.

VIRUSES are the smallest of the microbial contaminants. While a virus cannot reproduce in the food, once consumed it will cause illness. Viruses are spread from PERSON TO PERSON, PERSON TO FOOD, AND PERSON TO FOOD CONTACT SURFACES. **Practicing good personal hygiene and minimizing bare hand contact with ready-to-eat food** can help defend against viral foodborne illnesses.

Location

- Carried by human beings and animals.
 - Require a living host to grow

- Do not grow in food
- Can be transferred through food and remain infectious in food

Sources

- Food, water, or any contaminated surface.
- Typically occur through fecal-oral routes.

Destruction

- Not destroyed by normal cooking temperatures.
- Good personal hygiene must be practiced when handling food and food-contact surfaces.
- Quick removal and cleanup of vomit is important

2 viruses that are highly contagious and can cause severe illness:

○ Hepatitis A

- Hepatitis A is mainly found in the feces of people infected with it.
- The virus can contaminate water and many types of food.
- It is commonly linked with ready-to-eat food. However, it has also been linked with shellfish from contaminated water.
- The virus is often transferred to food when infected food handlers touch food or equipment with fingers that have feces on them.
- Eating only a small amount of the virus can make a person sick.
- An infected person may not show symptoms for weeks but can be very infectious.
- Cooking does not destroy Hepatitis A.

○ Norovirus

- Like hepatitis A, Norovirus is commonly linked with ready-to-eat food.
- It has also been linked with contaminated water.
- Norovirus is often transferred to food when infected foodhandlers touch food or equipment with fingers that have feces on them.
- Eating only a small amount of Norovirus can make a person sick. It is also very contagious.
- People become contagious within a few hours after eating it.
- The virus is often in a person's feces for days after symptoms have ended.

➤ *Food handlers diagnosed with an illness from Hepatitis A or Norovirus must not work in an operation while they are sick.*

PARASITES are organisms that need a living host to survive. Proper cooking and freezing kills parasites.

They require a host to live and reproduce

Source

- Seafood, wild game, and food processed with contaminated water, such as produce

Prevention

- Purchase food from approved, reputable suppliers
- Cook food to required minimum internal temperatures
- Fish that will be served raw or undercooked, must be frozen correctly by the manufacturer

FUNGI, such as molds and yeast are generally responsible for spoiling food and rarely cause illness. They can grow in almost any condition but grow well in acidic foods. Some molds, however can produce harmful toxins. Yeasts can spoil food rapidly and will produce a smell or taste of alcohol. Foods spoiled by yeast should also be discarded.

Yeasts, molds, and mushrooms

- Some molds and mushrooms produce toxins
- Throw out moldy food, unless mold is a natural part of the food
- Purchase mushrooms from approved, reputable suppliers

BIOLOGICAL TOXINS

Origin

- Naturally occur in certain plants, mushrooms, and seafood

Seafood Toxins

- **SCOMBROID** – Histamine Toxin – Tuna, Mackerel, Bonito, Mahi Mahi that are time-temperature abused.
- **CIGUATERA** - Ciguatoxin, predatory reef fish (Barracuda, Grouper, Jacks, and Snapper) – marine algae.

Purchase fish from APPROVED SUPPLIERS - cooking or freezing cannot destroy these toxins.

Produce – All produce should be purchased from an approved supplier. This will prevent illnesses associated with wild mushrooms, and produce that has been contaminated with sewage or chemicals.

CHEMICAL CONTAMINANTS can come from a wide variety of substances including toxic metals, pesticides, cleaning products, sanitizers, lubricants, first aid and personal care products. To prevent contamination, such as lead in a pewter pitcher, use only approved food-grade utensils & equipment to prepare and store food. If carbonated-beverage dispensers are installed improperly, and carbonated water is allowed to flow back into the copper supply lines, it could leach copper from the line and contaminate the beverage. Only allow a licensed professional to apply pesticides.

Symptoms

- Vary depending on chemical consumed
- Most illnesses occur within minutes
- Vomiting and diarrhea are typical

Prevention

- Only use chemicals approved for use in foodservice operations.
- Purchase chemicals from approved reputable suppliers.
- Store chemicals away from prep areas, food-storage areas, and service areas.
 - Chemicals must be separated from food and food-contact surfaces by spacing and partitioning.
- Chemicals must never be stored above food or food-contact surfaces.
- Use chemicals for their intended use and follow manufacturer's directions.
- Only handle food with equipment and utensils approved for foodservice use.
- Make sure the manufacturer's labels on original chemical containers are readable
- Keep MSDS current, and make sure they are accessible to staff at all times.
- Follow the manufacturer's directions and local regulatory requirements when throwing out chemicals.

PHYSICAL CONTAMINATION can occur when **foreign objects** are accidentally introduced into food. Common physical contaminants include metal shavings from cans, staples, glass from broken light bulbs, fingernails, hair, Band-Aids, dirt, etc.

Symptoms

- Mild to fatal injuries are possible
- Cuts, mouth/oral injury or damage, and choking
- Bleeding and pain

Prevention

- Purchase food from approved, reputable suppliers
- Closely inspect food received
- Take steps to prevent physical contamination, including practicing good personal hygiene

FOOD SECURITY & CRISIS MANAGEMENT addresses the prevention or elimination of the deliberate contamination of food. The key to protecting food is to make it as difficult as possible for tampering to occur by addressing all potential HUMAN, INTERIOR and EXTERIOR elements in your operation.

To build a crisis-management team program:

- Create a crisis-management team
- Prepare for different types of crisis
- Tailored to your operation
- Test your plan and make sure it addresses – Preparation, Response and Recovery.

The new FDA Food Defense Tool – A.L.E.R.T.

Assure	Make sure products received are from safe sources
Look	Monitor the security of products in the facility
Employees	Know who is in your facility
Report	Keep information related to food defense accessible
Threat	Develop a plan for responding to suspicious activity or a threat to the operation

Responding to a Foodborne-Illness Outbreak

- Notify your regulatory authority/health inspector
- Train staff on food safety policies and procedures
- Isolate suspected product
- Document all information with a foodborne-illness incident report form and train staff to use it.
- Cooperate with authorities
- Review procedures and start training/re-training

FOOD ALLERGIES. An allergic reaction could include itching, tightening of the throat, wheezing, hives, swelling, diarrhea, vomiting, cramps, and loss of consciousness or even death. Managers and employees should be aware of the most common.

Common Food Allergens

1. Peanuts
2. Shellfish
3. Fish
4. Wheat
5. Soy

6. Tree nuts
7. Eggs
8. Milk

The PIC (Person In Charge) is also the DAM (Designated Allergen Manager) and you **MUST** be able to inform customers of these and other potential food allergens that may be included in food served in your establishment.

SAFE FOOD HANDLING

FOOD HANDLERS have the potential to contaminate food when they have been diagnosed with a foodborne illness, show symptoms of a gastrointestinal, have infected lesions, or touch anything that could contaminate their hands.

Managers must focus on the following:

- Creating personal hygiene policies
- Training food handlers on personal hygiene policies and retraining them regularly
- Modeling correct behavior at all times
- Supervising food safety practices
- Revising personal hygiene policies when laws or science change

PROPER HAND WASHING must always be practiced, because simple acts like nose picking, or touching ones hair can contaminate food. This is especially important before starting work, after using the restroom, after sneezing, coughing, smoking, eating, drinking, handling raw food, & handling garbage.

1. Use hot water - 100F minimum
2. Apply soap
3. Scrub hands & arms for 15 SECONDS.
4. Rinse
5. Dry with a single-use towel
6. If an establishment uses a hand antiseptic, it must be FDA approved as a food additive

HAND ANTISEPTICS

- Liquids or gels used to lower the number of pathogens on skin
- Must comply with the FDA standards
- Should be used only after hand washing
- Must never be used in place of hand washing
- Should be allowed to dry before touching food or equipment

HANDS: short & clean nails, cuts & wounds covered with clean bandages and gloves or a finger cot.

GLOVES & FINGER COTS should never be used in place of hand washing. Hands must be washed before putting on gloves and when changing to a new pair. Gloves used to handle food are for single-use and should never be washed or reused. They must be changed at least every **FOUR HOURS**, when they become soiled or torn, or when beginning a new task.

PERSONAL HYGIENE can be a sensitive subject with some people, but it must be addressed with every employee because it is vital to food safety. All employees must bath or shower before work and keep their hair clean. Prior to handling food, employees must put on clean clothing, appropriate shoes and a clean hair restraint or hat.

JEWELRY & APRONS - They must also remove jewelry from hands and arms. Only a plain wedding band should be allowed. Aprons should always be removed when the employee leaves food-preparation areas.

EATING, DRINKING, SMOKING, CHEWING GUM OR TOBACCO should not be allowed when preparing, serving or working in food-prep areas.

EMPLOYEE ILLNESS

- **RESTRICT** employees from working with or around food if they have a sore throat with a fever. • *If serving a high risk population – exclude with sore throat and fever*
- **EXCLUDE** employees with active JAUNDICE, DIARRHEA OR VOMITING • *must be symptom free for 24 hours before returning*
- **NOTIFY THE HEALTH DEPARTMENT AND EXCLUDE** if they are diagnosed with • *Salmonella, Shigella, E. Coli, Hepatitis A, or Norovirus.*

THE FLOW OF FOOD



AVOID TIME & TEMPATURE ABUSE

- Monitor time and temperature – Store 41°F (5°C) and below or 135°F (57°C) and above.
- Make sure the correct kinds of thermometers are available.
- Regularly record temperatures and the times they are taken
- Minimize the time that food spends in the temperature danger zone
- Take corrective actions if time-temperature standards are not met

THERMOMETERS are the most important tools managers have to prevent time-temperature abuse. Thermometers should be washed, rinsed and sanitized and air-dried before each use to prevent cross contamination. They should also be **calibrated before each shift** to ensure accuracy. When measuring the internal temperatures of food, the thermometer stem or probe should be inserted into the thickest part of the product.

- **BIMETALLIC-STEMMED**- the stem should be immersed in the product from the tip to the end of the sensing area. It should have an adjustable calibration nut, be easy-to-read, and accurate to within 2 degrees.
- **INFRARED** – measure surface temperatures and can NOT be used to take the internal temperatures
- **THERMOCOUPLE** are digital with different types of probes. • *Penetration Probes - internal temperature of food, Immersion Probes - liquids, Surface Probes - surface.*

How to calibrate a thermometer:

Ice Method

- Fill a large container with crushed ice and water and stir.
- Put the thermometer stem or probe into the water. Wait till the indicator stops.
- Adjust the thermometer so it reads 32°F (0°C).

Boiling Point Method

- Bring tap water to a boil.
- Put the thermometer stem or probe into the water.
- Adjust the thermometer to 212°F.

When using thermometers:

- Wash, rinse, sanitize, and air-dry thermometers before and after using them
- Calibrate them before each shift to ensure accuracy
- Make sure thermometers used to measure the temperature of food are accurate to +/- 2°F
- Only use glass thermometers if they are enclosed in a shatterproof casing.

PURCHASING & RECEIVING

APPROVED SUPPLIER – Has been inspected and meets all applicable local, state, and federal laws.

- Food must be purchased from approved, reputable suppliers. These suppliers have been inspected and can show you an inspection report. They also meet all applicable local, state, and federal laws. This applies to all suppliers in the supply chain. Your operation's chain can include growers, shippers, packers, manufacturers, distributors (trucking fleets and warehouses), and local markets.
- Develop a relationship with your suppliers, and get to know their food safety practices. Consider reviewing their most recent inspection reports. These reports can be from the U.S. Department of Agriculture (USDA), the Food and Drug Administration (FDA), or a third-party inspector. They should be based on Good Manufacturing Practices (GMP) or Good Agricultural Practices (GAP).

KEY DROP DELIVERIES - Some foodservice operations receive food after-hours when they are closed for business. This is often referred to as a key drop delivery. The supplier is given a key or other access to the operation to make the delivery. Products are then placed in coolers, freezers, and dry storage areas. The delivery must be inspected once you arrive at the operation and meet the criteria identified in the slide.

Deliveries must meet the following criteria.

- Be inspected upon arrival at the operation
- Be from an approved source
- Have been placed in the correct storage location to maintain the required temperature
- Have been protected from contamination in storage
- Is NOT contaminated
- Is honestly presented

RECEIVING - Operators must plan their delivery schedules so products can be handled promptly and correctly. Employees assigned to receive deliveries should be trained to inspect food properly as well as to distinguish between products that are acceptable and those that are not. Packaging should be clean and undamaged, use-by dates current, and show no signs of mishandling.

PRODUCTS MUST BE DELIVERED AT THE PROPER TEMPERATURES.

- Cold TCS Foods – 41°F or Lower
 - Checking the Temperature of Meat, Poultry, and Fish - Insert the thermometer stem or probe into the thickest part of the food (usually the center)
 - Checking the Temperature of ROP Food (MAP, vacuum-packed, and sous vide food)- Insert the thermometer stem or probe between 2 packages. As an alternative, fold packaging around the thermometer stem or probe
 - Checking the Temperature of Other Packaged Food - Open the package and insert the thermometer stem or probe into the food
- Live shellfish: Receive oysters, mussels, clams, and scallops at an air temperature of 45°F.
 - Once received, the shellfish must be cooled to 41°F or lower in four hours.
 - Shucked shellfish: Receive at 45°F or lower.
 - Cool the shellfish to 41°F or lower in four hours.
- Receive/deliver Hot TCS Foods 135°F or higher
- Frozen Foods at 0° or lower – **Frozen Solid** with no Fluid Stains or Large Ice Crystals

Harvested Seafood:

- Shellfish must be received with shell stock identification tags:
 - Tags indicate when and where the shellfish were harvested.
 - Must be kept on file for 90 days from the date the last shellfish was used from its delivery container.
- Fish that will be eaten raw or partially cooked
 - Documentation must show the fish was correctly frozen before being received.
 - Keep documents for 90 days from the sale of the fish.
- Farm raised fish
 - Must have documentation stating the fish was raised to FDA standards.
 - Keep documents for 90 days from the sale of the fish

Assessing Food Quality:

- Appearance: Reject food that is moldy or has an abnormal color.
- Texture: Reject meat, fish, or poultry if:
 - It is slimy, sticky, or dry
 - It has soft flesh that leaves an imprint when touched
- Odor: Reject food with an abnormal or unpleasant odor

Rejecting Deliveries

- Separate rejected items from accepted food, equipment and dry goods
- Tell the delivery person what is wrong with the item
- Get a signed adjustment or credit slip before giving the rejected item to the delivery person.
- Log the incident on the invoice or receiving document.

Recalls

- The manufacturer may sometimes recall food items you have received. This may happen when food contamination is confirmed or suspected. It can also occur when items have been mislabeled or misbranded. Often food is recalled when food allergens have not been identified on the label. Most vendors will notify you of the recall. However, you should also monitor recall notifications made by the FDA and the USDA. Follow the guidelines in the slide when notified of a recall.
- Identify the recalled food items by matching information from the recall notice to the item. This may include the manufacturer's ID, the time the item was manufactured, and the item's use-by date.
- Remove the item from inventory, and place it in a secure and appropriate location. That may be a cooler or dry-storage area.
- The recalled item must be stored separately from food, utensils, equipment, linens, and single-use items.
- Label the item in a way that will prevent it from being placed back in inventory. Some operations do this by including a Do Not Use and Do Not Discard label on recalled food items. Inform staff not to use the product.
- Refer to the vendor's notification or recall notice for what to do with the item. For example, you might be instructed to throw it out or return it to the vendor.

STORAGE REQUIREMENTS

Do not line refrigerator shelves, overload units, or open doors too often. These practices make units work harder to maintain the temperature inside. If possible, store raw meat, poultry, and fish separately from cooked or ready-to-eat foods to prevent cross contamination.

If not, then store these items below cooked or ready-to-eat food. Product temperatures should be checked regularly. **Internal and external thermometers must be maintained.**

- Storage shelves should be 6" inches off the floor and away from the wall for proper ventilation and cleaning.
- Store food in containers intended for food
- Use containers that are durable, leak proof, and able to be sealed or covered
- **NEVER** use empty food containers to store chemicals; **NEVER** put food in empty chemical containers
- Use FIFO (First In First Out) stock rotation should be followed. Store items with earlier use by dates in front, and use them first.
- Dry storage areas should be kept at the appropriate temperature, between 50F and 70F with a relative humidity of 50-70%.

Items should be stored in original packaging. If removed from its original packaging, wrap in clean moisture-proof material, or place it in a clean sanitized container with tight fitting lid. All packaging and containers should be labeled with the

- THE COMMON NAME OF THE FOOD
- DATE PREPARED
- DATE OF EXPIRATION

To prevent contamination, **NEVER** store food in these areas

- Locker rooms or dressing rooms
- Restrooms or garbage rooms
- Mechanical rooms
- Under unshielded sewer lines or leaking water lines
- Under stairwells

LABELING FOOD PACKAGED ON-SITE FOR RETAIL SALE

- Common name of the food or a statement clearly identifying it.
- Quantity of the food.
- If the item contains two or more ingredients, list the ingredients in descending order by weight.
- List of artificial colors and flavors in the food including chemical preservatives
- Name and place of business of the manufacturer, packer, or distributor.
- Source of each major food allergen contained in the food.

TCS FOODS PREPARED ON SITE must be labeled - name **of the food, the date it should be sold, consumed or discarded**. It can be stored a maximum of **SEVEN DAYS** at 41F or lower before it must be discarded.

THROW OUT ALL FOOD THAT HAS PASSED THE MANUFACTURERS EXPIRATION DATE.

REFRIGERATORS must be set at 39° or lower and thermometer placed in the warmest area. With food stored in the following order from top to bottom to prevent cross contamination:

1. Ready-to-eat food (RTE)
2. Seafood
3. Whole cuts of beef and pork
4. Ground meat and ground fish
5. Poultry/Turkey

This storage order is based on the minimum internal cooking temperature of each food.

PREPARATION

PREPPING FOOD:

- Only remove as much food from the cooler as you can prep in a short period of time.
 - This limits time-temperature abuse
- Return prepped food to the cooler or cook it as quickly as possible.
- Make sure workstations, cutting boards, and utensils are clean and sanitized.

Food and color additives - Only use additives approved by your local regulatory authority

- **NEVER** use more additives than are allowed by law
- **NEVER** use additives to alter the appearance of food
- Do **NOT** sell produce treated with sulfites before it was received in the operation
- **NEVER** add sulfites to produce that will be eaten raw.
- Food not presented honestly must be thrown out

Four Methods for Thawing Food

- Thaw food in a cooler, keeping its temperature at 41°F or lower
- Submerge food under cool running water - 75°F +/-
 - Never let the temperature of the food go above 41°F or lower for longer than four hours
- Thaw food in a microwave only if cooked immediately afterwards
- Thaw it as part of the cooking process

Produce

- Make sure produce does not touch surfaces exposed to raw meat, seafood, or poultry.
- Wash it thoroughly under running water before:

- Cutting
- Cooking
- Combining with other ingredients
- Produce can be washed in water containing ozone to sanitize it
 - Check with your local regulatory authority
- When soaking or storing produce in standing water or an ice-water slurry, do NOT mix
 - Different items
 - Multiple batches of the same item
- Refrigerate and hold sliced melons, cut tomatoes, and cut leafy greens at 41°F (5°C) or lower
- Do NOT serve raw seed sprouts if primarily serving a high-risk population

Eggs and egg mixtures

- Handle pooled eggs with care:
 - Cook promptly after mixing or store at 41°F or lower
 - Clean and sanitize containers between batches
- Use pasteurized shell eggs or egg products when prepping dishes that need little or no cooking
- Eggs, Juice and Milk must all be pasteurized.

Ice:

- **NEVER** use ice as an ingredient if it was used to keep food cold
- Transfer ice using clean and sanitized containers and scoops
- **NEVER** hold ice in containers that held chemicals or raw meat, seafood, or poultry
- Store ice scoops outside ice machines in a clean and sanitary container
- **NEVER** use a glass to scoop ice or touch ice with bare hands.

SAFE TIME AND INTERNALTEMPATURE REQUIRMENTS

If any of these items are cooked below the suggested internal cooking temperature you need to have on the menu a disclaimer noted to let the guest know they are consuming under cooked foods.

PRODUCT	TIME AND TEMPERATURE REQUIREMENTS
All types of poultry, including ground poultry Stuffed meats, poultry, pasta, fish Stuffing that contains PHFs	165°F for 15 seconds
Microwaved raw animal foods/eggs	165°F, allow cooked food to stand for at least 2 minutes.
Reheated leftovers	165°F for 15 seconds within two hours
Ground, minced, and chopped meats and fish Mechanically tenderized meats, flavor injected meats, brined ham Eggs hot---held for service	155°F for 15 seconds
Whole roasts of beef, pork, veal, and lamb	145°F for four minutes
Beef, veal, pork, and lamb chops All types of seafood, including fillets and shellfish Shell eggs made to order	145°F for 15 seconds

Hot held commercially processed, ready-to-eat foods Vegetables, beans, grains, and fruits	135°F
Rare roast beef and corned beef	130°F for 112 minutes

Partial Cooking During Preparation - If partially cooking meat, seafood, poultry, or eggs or dishes containing these items:

- A. Never cook the food longer than 60 minutes during initial cooking.
- B. Cool the food immediately after initial cooking.
- C. Freeze or refrigerate the food after cooling it.
- D. Heat the food to at least 165°F (74°C) for 15 seconds before selling or serving it.
- E. Cool the food if it will not be served immediately or held for service.

COOLING TCS FOODS - Never place hot food in refrigerators, which could raise the temperature inside. You have a total of 6 Hours to cool food.

Step 1 - Cool food from 135°F and above to 70°F in the first two hours

Step 2 – Cool food from 70°F to 41°F in 4 hours

When cooling hot foods:

- Cut larger items into smaller pieces
- Divide large containers of food into smaller containers or shallow pans
- Place food in an ice-water bath
- Stir it with an ice paddle
- Place it in a blast chiller

Food Reheated for Immediate Service

- Can be reheated to any temperature if it was cooked and cooled correctly

Food Reheated for Hot-Holding

- Must be reheated to an internal temperature of 165°F for 15 seconds within 2 hours

SERVICE

Guidelines for Holding Food

- Cover food and install sneeze guards to protect food from contaminants. Covers protect food from contamination and help maintain food temperatures.
- Hold TCS food at the right temperature
 - Hot food: 135°F or higher
 - Cold food: 41°F or lower
- Check temperatures at least every 4 hours
 - Throw out food not at 41°F or lower
 - Check temperatures every 2 hours to leave time for corrective action

- **NEVER** use hot-holding equipment to reheat food unless it's designed for it
 - Reheat food correctly, and then move it into a holding unit

Holding Food Without Temperature Control (time controls, or TILT)

Cold food can be held without temperature control for up to 6 hours

- If your operation displays or holds TCS food without temperature control, it must do so under certain conditions. The conditions for holding cold food are different from those for holding hot food. Before using time as a method of control, check with your local regulatory authority for specific requirements.
- For cold food, label the food with the time you removed it from refrigeration and the time you must throw it out. The discard time on the label must be six hours from the time you removed the food from refrigeration.
- For example, if you remove potato salad from refrigeration at 3:00 p.m. to serve at a picnic, the discard time on the label should be 9:00 p.m. This equals six hours from the time you removed it from refrigeration.

Hot food can be held without temperature control for up to 4 hours (TILT)

- Before using time as a method of control, check with your local regulatory authority for specific requirements.
- For hot food, the discard time on the label must be four hours from the time you removed the food from temperature control.

Serving Food

- Store serving utensils correctly between uses
 - On a clean and sanitized food-contact surface
 - In the food with the handle extended above the container rim
- Store serving utensils correctly between uses
 - On a clean and sanitized food-contact surface
 - In the food with the handle extended above the container rim

GLASSWARE AND DISHES should be held at the base or from underneath, and not be stacked when serving.

FLATWARE AND UTENSILS should be stored handles up and in the same direction in a drawer or storage container.

RESERVING – Only un-opened individually packaged condiments are okay to re-serve. Plate garnish, breads or open dishes of condiments can never be served to a new guest.

NEVER re-serve:

- Food returned by one customer to another customer
- Uncovered condiments
- Uneaten bread
- Plate garnishes

Generally, only unopened, prepackaged food in good condition can be re-served:

- Condiment packets
- Wrapped crackers or breadsticks

SELF SERVICE AREAS - Never allow customers to re-use dishes/plates. Protect food in food bars and buffets with sneeze guards and make sure equipment can hold food at the proper temperature. Keep raw foods away from ready-to-eat or cooked foods and label all food items.

Prevent time-temperature abuse and contamination continued

- Keep hot food at 135°F or higher
- Keep cold food at 41°F or lower
- Keep raw meat, fish, and poultry separate from ready-to-eat food
- Do **NOT** let customers refill soiled plates or use soiled utensils at self-service areas
- Stock food displays with the correct utensils for dispensing food.
- Do **NOT** use ice as an ingredient if it was used to keep food or beverages cold

Labeling Bulk Food in Self-Service Areas

- Make sure the label is in plain view of the customer
- Include the manufacturer or processor label provided with the food
- As an alternative provide the information using a card, sign, or other labeling method

OFF- SITE SERVICE

- Use insulated, food-grade containers designed to stop food from mixing, leaking, or spilling
- Clean the inside of delivery vehicles regularly
- Check internal food temperatures
- Label food with a use-by date and time, and reheating and service instructions
- Make sure the service site has the correct utilities
 - Safe water for cooking, dishwashing, and hand washing
 - Garbage containers stored away from food-prep, storage, and serving areas
 - Store raw meat, poultry, and seafood, and ready-to-eat items separately

HACCP

ACTIVE MANAGERIAL CONTROL. This approach focuses on controlling the five most common risk factors responsible for foodborne illness identified by the CDC. These include purchasing from unsafe sources, failing to cook adequately, holding food at improper temperatures, using contaminated equipment, and practicing poor personal hygiene.

1. First you must consider the five risk factors as they apply throughout the flow of food
2. *Identify any issues in your operation that could impact food safety*
3. Develop policies and procedures that address any issues that were identified
4. *Monitoring to determine if your new policies are being followed*
5. Verify that the policies and procedures you have established are actually working

HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP) system focuses on identifying specific points where it is essential to prevent eliminate or reduce biological, chemical, or physical hazards to safe levels.

Hazard analysis and critical control points, or HACCP .is a systematic preventive approach to food safety that addresses physical, chemical, and biological hazards as a means of prevention. HACCP is used in the food industry to identify potential food safety hazards, so that key actions can be taken to reduce or eliminate the risk of the hazards that exist. The system is used at all stages of food production and preparation processes including packaging, distribution, etc. The Food and Drug Administration (FDA) and the United States Department of Agriculture (USDA) say that their mandatory HACCP programs for juice and meat are an effective approach to food safety and protecting public health. Meat HACCP systems are regulated by the USDA, while seafood and juice are regulated by the FDA. The use of HACCP is currently voluntary in other food industries.

7 Steps of HACCP

1. Conduct a Hazard Analysis
2. *Determine the critical control points where the hazards can be prevented, eliminated or reduced to safe levels*
3. Determine and establish maximum and minimum limits that must be met for each Critical Control Point (CCP)
4. *Determine and establish monitoring procedures*
5. Identify what corrective actions will be taken when critical limits have not been met
6. *Verify that your plan is working*
7. Establish procedures for record keeping and documentation

SANITARY FACILITIES & EQUIPMENT

FLOORING should be strong, durable and easy to clean. It should also be non-absorbent, resist wear and help prevent slips especially in walk-ins, food prep areas, dishwashing areas, restrooms and others areas subject to moisture or spray cleaning. Carpeting is not recommended in high- soil areas but is popular in dining rooms because it absorbs sounds.

- **COVING** is a curved, sealed edge placed between the floor and the wall and is used to eliminate sharp corners or gaps or cracks between the floor and the wall that would make it impossible to clean.

RESTROOMS / HANDWASHING STATIONS: Restrooms should be cleaned regularly and have a fully equipped hand washing station with **hot & cold water**, soap, a means to dry hands, a waste container, signage indicating employees hand washing requirements before returning to work. Hand washing stations should be accessible and convenient to make hand washing easy.

FOOD SERVICE GRADE EQUIPMENT is important to purchase equipment that has been designed with sanitation in mind and acceptable for use in a restaurant such as **NSF International and Underwriters Laboratories (UL)**.

STATIONARY EQUIPMENT must be mounted on legs at least **six (6) inches off the floor, or it must be sealed to a masonry base**. Stationary tabletop equipment should be mounted on legs with a clearance of four (4) inches between the tabletop and the equipment or it should be sealed to the tabletop.

POTABLE WATER-water safe to drink-is vital in an establishment. Sources include public water mains, private water sources that are tested at least once a year, and bottled drinking water. In a water emergency, an establishment might be allowed to remain open if certain precautions are followed. These could include boiling water or purchasing water, boiling water for hand washing and essential tasks.

PLUMBING - Only licensed plumbers should install and maintain plumbing systems. The greatest challenge to water safety comes from cross-connections-a physical link through which contaminants from drains, sewers, and other wastewater sources can flow into the potable-water supply. **Vacuum breakers and air gaps can be used to prevent backflow.**

LIGHTING

- At least **10 foot candles:** Walk-in refrigerators, Dry food storage areas, Other rooms and areas during cleaning
- At least **20 foot candles:** Self- service displays such as buffets and salad bars, Fresh produce displays, Inside equipment such as reach-in and under-counter refrigerators, handwashing, warewashing, and equipment/utensil storing areas, Bathrooms
- At least **50 foot candles:** All food preparation area

SHATTER-RESISTANT BULBS AND PROTECTIVE COVERS prevent broken glass from contaminating food.

ADEQUATE VENTILATION improves the indoor air quality by removing smoke, grease, steam and heat. **If there is adequate ventilation, there will be no buildup of grease and condensation on walls and ceilings.** Ventilation must be designed so hoods, fans, guards, and ductwork do not drip onto food or equipment. Hood filters and grease extractors must be cleaned regularly by a licensed and bonded professional.

GARBAGE CONTAINERS must be leak proof, water proof, pest proof, easy to clean, and durable. They must have tight-fitting lids and must be kept covered when not in use. All garbage containers should be frequently cleaned thoroughly both inside and out. Garbage should be removed from food-preparation areas as soon as possible, and **must not be carried across a food-preparation area.**

CLEANING AND SANITIZING

- **CLEANING** is the process of removing food and other types of soil from a surface. To properly clean you must use a soap and water solution.
- **SANITIZING** is the process of reducing the number of harmful microorganisms from a clean surface to safe levels. You must clean and rinse a surface before you sanitize. Chemical sanitizers are influenced by contact time, concentration of the sanitizer, and temperature of the solution. Test the solution regularly with a sanitizer test kit.

	Chlorine	Iodine	Quats
Water temperature	≥ 75°F	75°F	≥ 75°F
Water pH	≤ 10	≤ 5 or as per manufacturer's recommendation	manufacturer's recommendation
Sanitizer concentration range	50 ppm	12.5 ppm	200 ppm
Sanitizer contact time	≥ 30 sec	≥ 30 sec	≥ 30 sec

- All surfaces must be cleaned and rinsed. This includes walls, storage shelves, and garbage containers. However, any surface that touches food, such as knives, stockpots, cutting boards, or prep tables, must be cleaned and sanitized.

5 Step Process

1. **Pre-scrape** or remove food from the surfaces. Use the correct cleaning tool such as a nylon brush or pad, or a cloth towel.
2. **Wash** surfaces. Prepare the cleaning solution with an approved detergent and hot water. Wash the surface with the correct cleaning tool such as a cloth towel.
3. **Rinse** the surface. Use clean water. Rinse the surface with the correct cleaning tool such as a cloth towel.
4. **Sanitize** the surface. Use the correct sanitizing solution. Prepare the concentration per manufacturer requirements. Use the correct tool, such as a cloth towel, to sanitize the surface. Make sure the entire surface has come in contact with the sanitizing solution- usually 30 seconds.
5. **Air-dry** everything.

DISHWASHING MACHINES - Follow manufacturer's guidelines and make sure your machine is clean and in good working condition. Check the temperature and pressure of wash and rinse cycles daily. Information should be posted on the machine regarding proper water temperature, conveyor speed, water pressure and chemical concentration.

High-Temperature Machines

- Final sanitizing rinse must be at least 180°F
- 165°F for stationary rack, single-temperature machines

Chemical-Sanitizing Machines

- Clean and sanitize at much lower temperatures
- Follow the temperature guidelines provided by the manufacturer

THREE-COMPARTMENT SINK - Items cleaned in the three compartment sink should be pre-soaked or scrapped clean, washed in detergent with 110°F water, rinsed in clean water, and sanitized in either **hot water at least 171°F or a chemical-sanitizing solution**. All items should be **air-dried inverted/up-side down**.

CLEANING TOOLS AND CHEMICALS should be placed in a storage area away from food and food-preparation areas. Make sure chemicals are clearly labeled if removed from the original container. Keep **Safety Data Sheets (SDS)** for each chemical in a location to all employees on the job (formerly called MSDS). These sheets have important first aid information, and information about safe use. Dispose of chemicals according to the instructions on the label and local regulations. It is the employee's rights to know what they are working with and around.

MASTER CLEANING SCHEDULE lists all cleaning tasks, as well as when and how tasks should be completed. Assign responsibility to each task by job title. Create employee support by including their input into the program design and rewarding good performance. Monitor the cleaning program to keep it effective.

INTEGRATED PEST MANAGEMENT (IPM)

Must address these issues to be an effective IPM program

- DENY PEST ACCESS
- MAINTAIN A CLEAN KITCHEN
- DENY PESTS SHELTER AND WATER
- WORK WITH A LICENSED PEST CONTROL OPERATOR (PCO) to eliminate any pests that enter.

ROACHES like dark, warm moist places. Check for a strong oily smell, **droppings look like grains of black pepper**, and capsule egg cases.

RODENTS are also a serious health hazard. A building can be infested with both rats and mice at the same time. Look for droppings, signs of gnawing, tracks, nesting materials and holes.

FLIES can carry Shigellosis and typhoid fever. Install an air curtain on the back door.

PESTICIDES are hazardous materials. Anytime they are used or stored on your premises, you **must have a corresponding SDS**. To minimize the hazard to people, have your PCO use pesticides when you are closed and your employees are not on site. Be sure to wash rinse and sanitize food contact surfaces after a treatment.

Practice Test and Answer Key

Practice Test



- 1 Which group of individuals has a higher risk of foodborne illness?**
 - A Teenagers
 - B Elderly people
 - C Women
 - D Vegetarians

- 2 Parasites are commonly associated with**
 - A seafood.
 - B eggs.
 - C potatoes.
 - D ready-to-eat food.

- 3 Ciguatera toxin is commonly found in**
 - A amberjack.
 - B pollock.
 - C tuna.
 - D cod.

- 4 Which is a TCS food?**
 - A Saltines
 - B Bananas
 - C Baked potato
 - D Coffee

- 5 What type of toxin is ciguatera toxin?**
 - A Biological
 - B Physical
 - C Bacterial
 - D Microbial

- 6 What should foodservice operators do to prevent the spread of hepatitis A?**
 - A Cook food to minimum internal temperatures
 - B Freeze fish for 36 hours before serving
 - C Exclude staff with jaundice from the operation
 - D Purchase mushrooms from approved, reputable suppliers

- 7 To wash hands correctly, a food handler must first**
- A apply soap.
 - B wet hands and arms.
 - C scrub hands and arms vigorously.
 - D use a single-use paper towel to dry hands.
- 8 What should foodservice operators do to prevent customer illness from *Shigella* spp.?**
- A Freeze food at temperatures below 0°
 - B Exclude food handlers diagnosed with jaundice
 - C Purchase shellfish from approved suppliers
 - D Control flies inside and outside the operation
- 9 What must a food handler with a hand wound do to safely work with food?**
- A Bandage the wound with an impermeable cover and wear a single-use glove
 - B Bandage the wound and avoid contact with food for the rest of the shift
 - C Wash the wound and wear a single-use glove
 - D Apply iodine solution and a permeable bandage
- 10 What item is considered acceptable work attire for a food handler?**
- A False eyelashes
 - B Nail polish
 - C Plain-band ring
 - D Antimicrobial plastic watch band
- 11 What task requires food handlers to wash their hands before and after doing it?**
- A Taking out garbage
 - B Touching clothing or aprons
 - C Handling raw meat, poultry, or seafood
 - D Using chemicals that might affect food safety
- 12 Which action requires a food handler to change gloves?**
- A The food handler is working with raw seafood at temperatures above 41°F (5°C)
 - B The food handler is prepping raw chicken on a yellow cutting board
 - C The food handler has been working with raw ground beef for an hour
 - D The food handler is wearing gloves that have been torn
- 13 How should the temperature of a shipment of cottage cheese be taken when it arrives at an operation?**
- A Use an air probe to check the temperature of the delivery truck
 - B Hold an infrared thermometer to the outside of the case or carton
 - C Place the thermometer stem between shipping boxes for a reading
 - D Place the thermometer stem into an opened container

14 When should a shipment of fresh chicken be rejected?

- A The flesh of the chicken appears moist.
- B Shellstock identification tags are not attached to the container.
- C The flesh of the chicken is firm and springs back when touched.
- D The receiving temperature is 50°F (10°C).

15 Where should ground fish be stored in a cooler?

- A Above shellfish
- B Below ground poultry
- C Above ready-to-eat food
- D Below pork roasts

16 What is the maximum number of days that ready-to-eat food prepared on-site can be stored if held at 41°F (5°C)?

- A 3 days
- B 5 days
- C 7 days
- D 10 days

17 In top-to-bottom order, how should a fresh beef roast, fresh halibut, lettuce, and a pan of ground chicken be stored in a cooler?

- A Lettuce, fresh beef roast, ground chicken, fresh halibut
- B Lettuce, fresh halibut, fresh beef roast, ground chicken
- C Fresh halibut, lettuce, ground chicken, fresh beef roast
- D Fresh halibut, fresh beef roast, ground chicken, lettuce

18 What organization requires Material Safety Data Sheets?

- A Food and Drug Administration
- B Occupational Safety and Health Administration
- C Environmental Protection Agency
- D National Restaurant Association

19 What is the minimum internal cooking temperature for rice that is hot-held for service?

- A 165°F (74°C)
- B 155°F (68°C)
- C 145°F (63°C)
- D 135°F (57°C)

20 What food item does the Food and Drug Administration advise against offering on a children's menu?

- A Rare cheeseburgers
- B Egg salad
- C Peanut butter and jelly sandwiches
- D Fried shrimp

21 TCS food reheated for hot-holding must reach what temperature?

- A 135° (57°C) for 15 seconds
- B 145° (63°C) for 15 seconds
- C 155° (68°C) for 15 seconds
- D 165° (74°C) for 15 seconds

22 What method should never be used to thaw food?

- A Place the item in a cooler
- B Place the item on a prep counter
- C Microwave the item
- D Cook the item

23 Food that is partially cooked and then finished just before service must be heated to what temperature?

- A 165°F (74°C) for 15 seconds
- B 155°F (68°C) for 15 seconds
- C 145°F (63°C) for 15 seconds
- D 135°F (57°C) for 15 seconds

24 Food held at 41°F (5°C) or lower before being removed from refrigeration can be held without temperature control for up to how many hours?

- A 2
- B 4
- C 6
- D 8

25 Hot TCS food can be held without temperature control for a maximum of

- A 2 hours.
- B 4 hours.
- C 6 hours.
- D 8 hours.

26 Which food may be re-served to customers?

- A Unused, uncovered condiments
- B Uneaten bread
- C Unopened pre-packaged food
- D Unused whole fruit garnish

27 What is the purpose of setting critical limits in a HACCP plan?

- A To identify potential hazards
- B To identify where hazards can be eliminated
- C To reduce hazards to safe levels
- D To determine if the HACCP plan is working

- 28 What is the minimum water temperature required when using hot water to sanitize objects?**
- A 171°F (77°C)
 - B 173°F (78°C)
 - C 176°F (80°C)
 - D 179°F (81°C)
- 29 What HACCP principle is being practiced when food handlers rewash melons that have surface dirt?**
- A Monitoring
 - B Corrective action
 - C Critical limit
 - D Critical control point
- 30 What is the final step in cleaning and sanitizing a prep table?**
- A Sanitizing the surface
 - B Allowing the surface to air-dry
 - C Washing the surface
 - D Rinsing the surface
- 31 What is the minimum time an iodine sanitizer solution must be in contact with the object being sanitized?**
- A 15 seconds
 - B 30 seconds
 - C 45 seconds
 - D 60 seconds
- 32 If a food-contact surface is in constant use, how often should it be cleaned and sanitized?**
- A Every 2 hours
 - B Every 4 hours
 - C Every 6 hours
 - D Every 8 hours
- 33 What is the third step in cleaning and sanitizing items in a three-compartment sink?**
- A Sanitizing
 - B Air-drying
 - C Rinsing
 - D Washing
- 34 What type of thermocouple probe should be used to check the internal temperature of a beef roast?**
- A Air
 - B Surface
 - C Immersion
 - D Penetration

35 What food safety practice can prevent cross-contact?

- A Using only food-grade equipment
- B Washing, rinsing, and sanitizing utensils before each use
- C Keeping food frozen until use
- D Purchasing food from approved, reputable suppliers

36 What is the most likely cause of wheezing and hives?

- A Food allergies
- B Norovirus
- C *Shigella* spp.
- D Hepatitis A

37 What is a basic characteristic of a virus?

- A Destroyed by cooking
- B Grows in food
- C Requires a living host to grow
- D Commonly found in cattle intestines

38 Where should staff members eat, drink, smoke, or chew gum?

- A Where customers eat
- B In dishwashing areas
- C Outside the kitchen door
- D In designated areas

39 When can a food handler with a sore throat and a fever return to work with or around food?

- A The fever is gone for 24 hours.
- B The sore throat is gone.
- C A written medical release is provided.
- D No symptoms are experienced for 24 hours.

40 What should a foodservice operator do when responding to a foodborne-illness outbreak?

- A Notify the media
- B Segregate the product
- C Close the operation for the day
- D Ask customers for proof of their symptoms

Practice Test Answer Key

Practice Test Answer Key



- | | |
|------|------|
| 1 B | 21 D |
| 2 A | 22 B |
| 3 A | 23 A |
| 4 C | 24 C |
| 5 A | 25 B |
| 6 C | 26 C |
| 7 B | 27 C |
| 8 D | 28 A |
| 9 A | 29 B |
| 10 C | 30 B |
| 11 C | 31 B |
| 12 D | 32 B |
| 13 D | 33 C |
| 14 D | 34 D |
| 15 D | 35 B |
| 16 C | 36 A |
| 17 B | 37 C |
| 18 B | 38 D |
| 19 D | 39 C |
| 20 A | 40 B |

Practice Examination

Diagnostic Exam (answer key not provided)



Circle the best answer to each question below. Be sure to answer all 80 questions.

- 1 Which food item has been associated with *Salmonella* Typhi?**
 - A Beverages
 - B Produce
 - C Shellfish from contaminated water
 - D Undercooked ground beef

- 2 What symptom requires a food handler to be excluded from the operation?**
 - A Sore throat
 - B Jaundice
 - C Coughing
 - D Stomach cramps

- 3 Which is an example of physical contamination?**
 - A Sneezing on food
 - B Touching dirty food-contact surfaces
 - C Bones in fish
 - D Cooking tomato sauce in a copper pan

- 4 What practice is useful for preventing Norovirus from causing foodborne illness?**
 - A Cooking food to minimum internal temperature
 - B Excluding staff with vomiting from the operation
 - C Cooling food rapidly
 - D Encouraging staff to get flu shots

- 5 What condition promotes the growth of bacteria?**
 - A High acidity
 - B Low levels of moisture
 - C Food held between 70°F and 125°F (21°C and 52°C)
 - D Food with a pH that is highly alkaline

- 6 Parasites are commonly associated with what food?**
 - A Mushrooms
 - B Wild game
 - C Whole wheat
 - D Dairy products

Practice Tests Diagnostic Test

7 What practice should be used to prevent seafood toxins from causing a foodborne illness?

- A Cooking food to correct internal temperatures
- B Handwashing throughout the day
- C Purchasing food from approved, reputable suppliers
- D Microwaving fish to be served raw for 15 seconds

8 How should chemicals be stored?

- A Above food
- B Away from prep areas
- C In food storage areas
- D With kitchenware

9 What does the L stand for in the FDA's ALERT tool?

- A Listen
- B Leave
- C Limit
- D Look

10 What practice can help prevent allergic reactions?

- A Cooking different food types in the same oil
- B Telling customers how an item is prepared
- C Using parchment paper when baking cookies
- D Providing home delivery service

11 What symptom can indicate a customer is having an allergic reaction?

- A Wheezing or shortness of breath
- B Left arm pain
- C Appetite loss
- D Coughing blood

12 Where should a food handler wash his or her hands after prepping food?

- A Three-compartment sink
- B Utility sink
- C Designated sink for handwashing
- D Food prep sink

13 When should a food handler with a sore throat and fever be excluded from the operation?

- A When the customers served are primarily a high-risk population
- B When the food handler's fever is over 100°F (38°C)
- C After the food handler has a sore throat that has lasted for more than 5 days
- D Before the regulatory authority is notified

14 A food handler comes to work with diarrhea. What should the manager tell the food handler to do?

- A Do not work with food
- B Go home
- C Clean the restroom after each use
- D Only bus tables

15 What should a food handler do to make gloves easier to put on?

- A Sprinkle flour in the gloves
- B Blow into gloves
- C Select the correct size gloves
- D Roll the gloves up

16 When can a food handler diagnosed with jaundice return to work?

- A After 1 week
- B When his or her skin returns to a natural color
- C Seven days after the last symptom is observed
- D When approved by the regulatory authority

17 Which item is a potential physical contaminant?

- A Sanitizer
- B Jewelry
- C Sweat
- D Hand sanitizer

18 What is the purpose of hand antiseptic?

- A Eliminate the need for handwashing
- B Increase the use of sanitizing solutions
- C Lower the number of pathogens on the skin
- D Eliminate the need for use of gloves

19 Single-use gloves are not required when

- A the food handler has a latex sensitivity.
- B prepping ready-to-eat food.
- C washing produce.
- D handling cooked food.

20 What should food handlers do after leaving and returning to the prep area?

- A Put on gloves
- B Remove their apron
- C Wash hands
- D Apply hand antiseptic

Practice Tests Diagnostic Test

21 What type of eggs must be used when preparing raw or undercooked dishes for high-risk populations?

- A Pasteurized
- B Pooled
- C Hard-boiled
- D Shelled

22 What causes preschool-age children to be at risk for foodborne illness?

- A Their immune systems are not strong.
- B They have not received all of their immunizations.
- C They only eat ready-to-eat food.
- D They have hidden allergies.

23 Which organization includes inspecting food as one of its primary responsibilities?

- A U.S. Public Health Service
- B Centers for Disease Control
- C U.S. Department of Agriculture
- D Occupational Safety and Health Administration

24 What should a server do after clearing a table?

- A Apply hand antiseptic
- B Wash hands
- C Put disposable gloves back on
- D Rinse hands in warm water

25 What strategy can prevent cross-contamination?

- A Buy food that does not require prepping
- B Prep food on both sides of a cutting board
- C Prep raw food and ready-to-eat food at the same time
- D Avoid time-temperature abuse

26 What temperatures do infrared thermometers measure?

- A Internal food
- B Air
- C Surface
- D Oven

27 When can glass thermometers be used?

- A When candy is being made
- B When checking liquids
- C When enclosed in a shatterproof casing
- D When hanging in a cooler

28 Why should food temperatures be taken in two different locations?

- A To ensure the thermometer is calibrated correctly
- B It is required by the manufacturer
- C To ensure the thermometer is accurate to +/-2°F or +/-1°C
- D Temperature may vary in the food

29 A food handler is prepping a seafood dish on April 4, using shrimp and scallops. The shrimp has a use-by date of April 8, and the scallops have a use-by date of April 10. What is the use-by date for the seafood dish?

- A April 4
- B April 8
- C April 10
- D April 12

30 What information must be included on the label of food packaged on-site for retail sale?

- A Pack date
- B List of ingredients
- C Storage guidelines
- D Serving size

31 How should an item that has been recalled by its manufacturer be stored in an operation?

- A Together with food that will be served
- B Separately from food that will be served
- C In vacuum-packed bags
- D In self-draining containers

32 A food handler has just finished storing a dry food delivery. Which step was done correctly?

- A Stored food away from the wall
- B Stored food 4 inches off the floor
- C Stored food underneath a stairwell
- D Stored food in an empty chemical container

33 Which item should be rejected?

- A Bags of organic cookies in torn packaging
- B Bottled milk at 41°F (5°C)
- C Shell eggs at an air temperature of 45°F (7°C)
- D Live oysters at 50°F (10°C)

34 Ready-to-eat TCS food prepped in-house must be date marked if it is held for more than how many hours?

- A 12 hours
- B 24 hours
- C 48 hours
- D 72 hours

- 35 A local nursing home has a yearly barbecue for its residents. Which food item should not be served?**
- A Deviled eggs
 - B Potato salad
 - C Raw carrots
 - D Rare hamburgers
- 36 When transporting food off-site, how should information such as a use-by date and time be communicated to the off-site staff?**
- A Telephone
 - B Text or email message
 - C Labels on food
 - D Verbal instructions
- 37 What is the minimum internal cooking temperature for a veal chop?**
- A 135°F (57°C)
 - B 145°F (63°C)
 - C 155°F (68°C)
 - D 165°F (74°C)
- 38 How many hours can cold food be held without refrigeration before it must be sold, served, or thrown out?**
- A 2 hours
 - B 4 hours
 - C 6 hours
 - D 8 hours
- 39 Lasagna was removed from hot holding for service at 11:00 am. By what time must it be served or thrown out?**
- A 12:00 p.m.
 - B 2:00 p.m.
 - C 3:00 p.m.
 - D 4:00 p.m.
- 40 What should be done with preset, unwrapped utensils that appear to be unused after guests have left the table?**
- A Wrap the utensils with a clean napkin
 - B Leave the utensils for the next guest
 - C Clean and sanitize the utensils
 - D Wipe off the utensils and reuse
- 41 What rule for serving bread should food handlers practice?**
- A Do not re-serve uneaten bread
 - B Reheat uneaten bread before serving to other customers
 - C Recycle unused, uncovered butter for use in other food items
 - D Clean and sanitize bread baskets between each customer

42 In a self-service area, bulk unpackaged food does not need a label if the product

- A makes a claim about health or nutrient content.
- B does not make a claim about health or nutrient content.
- C has been prepared at an unregulated processing plant.
- D has been prepared at a vendor's processing plant.

43 The temperature of duck breast is checked during cooking. According to the operation's policy, the duck breast must be cooked for 16 minutes to allow the internal temperature to reach 165°F (74°C). What HACCP principle is addressed by cooking the duck breast to 165°F (74°C)?

- A Hazard Analysis
- B Verification
- C Monitoring
- D Critical limit

44 What must a food handler with an infected hand wound do to work safely with food?

- A Cover the wound with an impermeable cover and wear a single-use glove
- B Avoid working with raw food until the wound is completely dry
- C Place a bandage on the wound
- D Apply hand sanitizer to the wound

45 Which of these food processes does not require a variance from a regulatory authority?

- A Smoking food as a method to preserve it
- B Buying bean sprouts from a reputable supplier
- C Curing food
- D Pasteurizing juice on-site

46 What is a cross-connection?

- A Backflow of clean water into dirty water
- B Physical link between safe water and dirty water
- C Water transport vehicle
- D Approved public water main

47 What information must be posted on a dishwasher?

- A Manufacturer phone number
- B Correct settings
- C Recommended sanitizing amounts
- D Schedule for cleaning

48 What scenario can lead to pest infestation?

- A Storing recyclables in paper bags
- B Cleaning up spills around garbage containers
- C Rotating products using the FIFO method
- D Installing air curtains above doors

49 What is the first step in developing a HACCP plan?

- A Identify corrective actions
- B Conduct a hazard analysis
- C Establish monitoring procedures
- D Determine critical control points

50 What factors influence the effectiveness of a chemical sanitizer?

- A Concentration, temperature, contact time, pH, and water hardness
- B Concentration, absorbency, moisture, alkalinity, salinity
- C Concentration, protein, acidity, air temperature, strength
- D Concentration, water activity, reactivity, pressure, density

51 What is the first step of cleaning and sanitizing stationary equipment?

- A Take off removable parts
- B Unplug the unit
- C Spray the surface with cleanser
- D Wash the equipment surface using hot water

52 What temperature should the water be for manual dishwashing?

- A Must be at least 70°F (21°C)
- B Must be at least 90°F (32°C)
- C Must be at least 100°F (37°C)
- D Must be at least 110°F (43°C)

53 What organization requires a Material Safety Data Sheet (MSDS) to be included with hazardous chemicals?

- A Environmental Protection Agency
- B Occupational Safety and Health Administration
- C People for the Ethical Treatment of Animals
- D National Restaurant Association

54 What must staff members do when transferring chemicals to a new container?

- A Label the container
- B Complete an MSDS request
- C Log the transfer in the MSDS
- D Store the chemical in a locked cabinet

55 What temperature must a high-temperature dishwasher's final sanitizing rinse be?

- A At least 150°F (65°C)
- B At least 160°F (71°C)
- C At least 170°F (76°C)
- D At least 180°F (82°C)

- 56 What must food handlers do when handling ready-to-eat food?**
- A Wear single-use gloves
 - B Sanitize their hands
 - C Wear an apron
 - D Use bare hands
- 57 Why are people who take certain medications at risk for foodborne illness?**
- A Their immune systems are compromised
 - B They have not built up strong immune systems
 - C They only eat TCS food
 - D They have hidden allergies
- 58 What should be done with a package of flour that is received with signs of dampness on the bag?**
- A Reject the flour and return it to the supplier
 - B Accept the flour and place in dry storage
 - C Dry the bag thoroughly before use
 - D Store the bag in a cooler at 41°F (5°C) or lower
- 59 Which responsibility is included in the Food and Drug Administration's role?**
- A Inspecting meat, poultry, and eggs
 - B Issuing licenses and permits
 - C Regulating food transported across state lines
 - D Approving HACCP plans
- 60 What is the minimum internal temperature hot food must be held at to prevent pathogens from growing?**
- A 115°F (46°C)
 - B 125°F (51°C)
 - C 135°F (57°C)
 - D 145°F (62°C)
- 61 What should staff do when receiving a delivery of food and supplies?**
- A Inspect non-food items first
 - B Store it immediately and inspect it later
 - C Visually inspect all food items
 - D Stack the delivery neatly and inspect it within 12 hours
- 62 How should staff make sure the chemical sanitizer being used on a food-prep surface is at the correct strength?**
- A Rinse it from the surface and then apply it a second time
 - B Test the surface first to confirm that there are no pathogens
 - C Use a test kit to check the sanitizer's concentration when mixing it
 - D Heat it to the temperature recommended by the manufacturer

63 A tuna salad is removed from the cooler at 9:00 a.m. and put out for a buffet at 11:00 a.m. By what time must the tuna salad be served or thrown out?

- A 12:00 p.m.
- B 2:00 p.m.
- C 3:00 p.m.
- D 4:00 p.m.

64 When can raw, unpackaged meat be offered for self-service?

- A At organic food stands
- B At Mongolian barbeques
- C When the meat is high quality
- D When the meat is frozen

65 What rule for serving condiments should be practiced?

- A Serve condiments in original containers
- B Serve condiments in antimicrobial containers
- C Combine bowls of leftover condiments with fresh ones
- D Serve bottle condiments that remain open between uses

66 Bulk unpackaged food in self-service areas must be labeled when

- A the food is prepared on the premises.
- B the manufacturer claims the food is healthy.
- C the food is prepared by another manufacturer.
- D the food supports pathogen growth.

67 The temperature of clam chowder is checked during holding. According to the operation's policy, the chowder must be thrown out. What HACCP principle is being practiced by throwing out the soup?

- A Hazard analysis
- B Verification
- C Monitoring
- D Corrective action

68 Which process requires a variance from the regulatory authority?

- A Smoking food to enhance flavor
- B Serving wild game
- C Serving imported cheese
- D Sprouting seeds or beans

- 69 What information must be included on the label of a container of ready-to-eat TCS food prepped on-site for retail sale?**
- A Quality of the food
 - B Potential allergens
 - C Reheating instructions
 - D Storage requirements
- 70 What should be done with food that has been handled by a food handler who has been restricted or excluded from the operation due to illness?**
- A Heat the food to destroy pathogens
 - B Throw it out
 - C Recondition the food
 - D Make sure food has not been time-temperature abused
- 71 What should a food handler do with food after it is thawed in the microwave?**
- A Cook it using conventional cooking equipment
 - B Cover the food to prevent it from drying out
 - C Check the temperature in at least 2 places
 - D Let the food stand for 2 minutes before cooking
- 72 What must an operation do before packaging fresh juice on-site for later sale?**
- A Obtain a variance
 - B Freeze the juice
 - C Hold produce at 41°F (5°C) or lower
 - D Contact OSHA
- 73 What temperature must stuffed lobster be cooked to?**
- A 135°F (57°C) for 4 minutes
 - B 145°F (63°C) for 4 minutes
 - C 155°F (68°C) for 15 seconds
 - D 165°F (74°C) for 15 seconds
- 74 What temperature must cooked vegetables reach to be safely hot-held for service?**
- A 135°F (57°C)
 - B 145°F (63°C)
 - C 155°F (68°C)
 - D 165°F (74°C)

- 75 Nursing home cafeteria staff are creating new menu items for a breakfast for residents and their family members. What item is not safe to serve?**
- A Pancakes
 - B Soft boiled eggs
 - C Corned beef hash
 - D Mayonnaise
- 76 When must a food handler change gloves?**
- A After 1 hour of constant use
 - B As soon as they become dirty or torn
 - C At the end of the shift
 - D Every 6 hours
- 77 A food handler has cooled a container of chili to 70°F (21°C) in 1 hour. How much time is left to cool the chili to 41°F (5°C)?**
- A 2 hours
 - B 3 hours
 - C 4 hours
 - D 5 hours
- 78 What should a server do when taking a food order from customers who have concerns about food allergies?**
- A Describe each menu item to customers who ask, including any “secret” ingredients
 - B Explain the symptoms of an allergic reaction to customers before they order
 - C When customers arrive, tell them the food may cause allergic reactions
 - D Tell customers with food allergies they will not be able to receive service
- 79 What is the minimum internal cooking temperature for chicken breast?**
- A 135°F (57°C) for 4 minutes
 - B 145°F (63°C) for 4 minutes
 - C 155°F (68°C) for 15 seconds
 - D 165°F (74°C) for 15 seconds
- 80 What thermometer is best suited to checking a dishwashing machine’s final rinse temperature?**
- A Time-temperature indicator
 - B Infrared thermometer
 - C Maximum registering thermometer
 - D Immersion probe