ServSafe Exam Study Guide

Introduction:
According to Centers for Disease Control and Prevention (CDC), each year:
- Over 76 million people become sick due to foodborne illness
- Over 325,000 people are hospitalized
- Over 5,000 people die
- Each incident cost the food service industry an average of $74,000

TCS - Time & Temperature Control for Safety
1. FAT TOM
   i. Food
   ii. Acid (4.6 - 7.0)
   iii. Time (double every 20 min)
   iv. Temperature
   v. Oxygen
   vi. Moisture (Aw) 0.8 - 1.0
2. 5 most common risk factors
   i. Improper hot/cold holding temperatures of TCS food.
   ii. Improper cooking temperatures of food.
   iii. Dirty and/or contaminated utensils and equipment.
   iv. Poor employee health and hygiene.
   v. Food from unsafe sources.

Cooking Temperature
1. 135F - fruits and veggies
2. 145F - Solid cuts of meat
3. 145F - Fish
4. 145F - Eggs for immediate consumption
5. 155F - Eggs for later consumption (buffet)
6. 155F - Ground beef or pork
7. 165F - Poultry (whole or ground)
8. 165F - Stuffed fish

Proper Personal Hygiene
1. Wear hair restraints (tuck in long hair)
2. FDA approved hand sanitizer (not a substitute)
3. HESSSN - 6 highly infectious illness
   i. Hepatitis A (Hand Washing)
   ii. E Coli (Beef)
   iii. Salmonella Typhoid (Fever)
   iv. Shigella (Fecal)
   v. Salmonella NT (Non-typhoical)
   vi. Norovirus (Cruise ship)
4. Exclusion: call health dept, 24 hours medical clearance.
5. Restriction: avoid preparing food, working on other tasks instead.
6. Symptoms - vomiting, diarrhea, jaundice

Created by Tony Wei (ServSafe instructor #4021299) for training purposes.
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Contaminants to Food

1. SDS - require by OSHA, first-aid info
2. Chemical - Sanitizer, cleaning agents should locked up, separated
   i. Only Certified Pesticide Operator (CPO) can apply pesticide on premises.
   ii. Copper, Brass, Tin (CBT) should not mix with acidic food.
   iii. Clay pot should be free of lead (sweetness)
3. Physical Threats - visible, if you can see it
   i. Bone, wood, plastic
4. Cross-Contamination - Meat to veggie (cutting board, towel)

Bacteria, Parasites, Viruses, Mold, Toxins

1. Bacteria - low temperature does not kill
   i. E. Coli (Beef)
   ii. Salmonella (Poultry)
   iii. Clostridium Botulinum (Canned food)
   iv. Listeria (37F in refrigerator)
   v. Shigella (Human feces, not washing hands)
   vi. Staphylococcus (Sneezing, coughing, nose, skin)

2. Viruses - spread by poor personal hygiene
   i. Norovirus (Human intestinal tract)
   ii. Hepatitis A (Poor hand washing)

3. Parasites - Freeze at -4F for 7 days or cook well
   i. Trichinella (Pork and wild game)
   ii. Anisakis (Fish, sushi)
   iii. Giardia (contaminated water)

4. Mold - Aflatoxins
   i. Corn, grains
   ii. Peanuts

5. Toxins - Seafood
   i. Scombroid (Mahi-Mahi and tuna from time/temp abuse)
   ii. Ciguatera (Algae that contain ciguatoxin)

Purcasing, Receiving, Storing

1. Ice crystals - reject the shipment
2. FIFO - First in first out
3. Dairy - Grade A & Pasteurized
4. Poultry - dark wing tips, soft, sticky flesh
5. Fresh fish - Bright skin, red moist gills
6. Fresh shellfish - Keep Shell-stock IF tags for 90 Days
7. Refrigerated food receiving temperature - 41F
8. Frozen food receiving temperature - 0F
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9. Milk, egg, shellfish receiving temperature - 45F
10. Storage safe food order
   i. Poultry at bottom, ground meat above poultry, pork above ground beef
   ii. Store RTE (Ready-to-eat) foods away from or above raw foods
   iii. Prevent food overload
   iv. Use lid to cover all food

Temperature Control
1. Holding with No Temperature Control:
   i. Cold food start at 40F, not higher than 70F, max for 6 hours
   ii. Hot food start at 135F, not lower than 70F, max for 4 hours
2. Thermometer = Thermocouple / Thermistor
3. Thermometer Calibration: +/-2F for Food, +/-3F for Air temperature
   i. Cold method (best) - 32F with 50% ice & 50% water
   ii. Hot Method - 212F with boiling water
4. 2 Stage Cooling - FDA Food Code
   i. 130F to 70F within 2 hours
   ii. 70F to 41F within 4 extra hours
5. Cooling foods - 3S's and 3I's
   i. Small, Shallow, Stir
   ii. Ice bath, Ice wand, Ice directly
6. Thawing methods - CROW
   i. Cook, Refrigerate, Oven, Water (running)

Equipment & Facility
1. Cross connection - mixing of potable and non-potable water supply
   i. Backflow - When pressure in the potable water supply drops below the non-potable water supply (siphon)
   ii. Vacuum breaker - Prevent backsiphonage
   iii. Airgap - Must be at least 1 inch or twice faucet diameter
2. Buffet Station
   i. No re-use dirty plates
   ii. UL or NSF (Approved by ANSI)
3. Floor Mounted
   i. 6 inches from floor
4. Table-Top equipment
   i. 4 inches from surface

Pest Control
1. Mice, rats, roaches
   i. Mice & Rats have droppings like black pellets, oily brush marks
   ii. Roaches lay brown egg cases, dropping like grains of black pepper
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Cleaning and Sanitizing

1. Cleaning - removal of food particles from surface in contact with food
   i. Washing + Rinsing = Cleaning
2. Sanitizing - reduced number of pathogens on surfaces
3. Types of cleaners - 3DA
   i. Detergent - general purpose, dirt and grime
   ii. Delimers - mineral deposits
   iii. Degreaser - fats, oils
   iv. Abrasive - Baked on debris
4. 3 Types of sanitizers - ICQ
   i. Iodine - 12.5ppm for 30 sec
   ii. Chlorine - 50ppm (bleach) for 7 sec
   iii. Quatermary ammonium (Quats) - 200ppm for 30 sec
5. 5 Steps to proper manual washing - SWRSA
   i. Scrap / soak
   ii. Wash
   iii. Rinse
   iv. Sanitize
   v. Air dry
6. Machine dishwashers
   i. High Temperature - 180F but not above 195F
   ii. Low Temperature - 120F
7. Frequency - every 4 hours

Foodborne Illness and Allergies

1. High Risk Population Group
   i. Young Children
   ii. Elderly
   iii. People with weak Immune system
2. Allergies - 8 major allergens (Avoid cross-contact)
   i. Wheat
   ii. Soy
   iii. Egg
   iv. Milk
   v. Fish
   vi. Shellfish
   vii. Nut
   viii. Treenut
3. HACCP - Hazard Analysis Critical Control Point
   i. Prevention-base system develop by NASA
   ii. 7 Steps - HA, CCP, CL, Monitor, CA, Verify, Record Keeping
   iii. Procedures require HACCP - Packaged food, unpasterized juice, undercook shellfish, live fish display, smoking BBQ, food additive, curing food.