

FIRST MIDTERM EXAMINATION
(60 total points)

1. With respect to the causative agent, what are two essential properties of a foodborne infection? (4 pts)
 - (i) **Agent must be viable (infectious) in the food when ingested.**
 - (ii) **Agent must be able to multiply in the host's body to cause disease.**
2. Name a genus of pathogen that has been known to colonize a processing establishment and contaminate food. (2 pts)
Listeria, Salmonella
3. What is the name of the national system, operated by CDC, that compares "fingerprints" of foodborne bacterial pathogens? (2 pts)
PulseNet
4. Based on reports received at CDC from the states for 1998–2002, what is the leading cause of foodborne illnesses in the US? (2 pts)
noroviruses
5. What food or food component protects *Salmonella* from heat and from stomach acid? (3 pts)
Chocolate, fat, (peanut butter)
6. What is a frequent reservoir for *Salmonella*? (2 pts)
Chickens, poultry, (reptiles)
7. Why does *Campylobacter* usually not multiply in foods? (3 pts)
Temperature <30°C
8. What organism is now thought to cause gastric and pyloric ulcers? (2 pts)
Helicobacter (pylori)
9. What is the reservoir of *Shigella* spp.? (2 pts)
humans
10. *Yersinia enterocolitica* can grow in the refrigerator. What is the technical term for this kind of organism? (2 pts)
psychrotroph
11. What is the nature of the toxin that causes *Clostridium perfringens* food poisoning? (3 pts)
Protein associated with sporulation
12. What is the significance of "heat shock" of *Clostridium perfringens* in food? (2 pts)

Encourages germination of spores and growth of vegetative cells.

13. CDC now lists *Escherichia coli* O157 as “STEC O157.” What does “ST” stand for? (2 pts)
shigatoxigenic
14. What is the principal reservoir of *Escherichia coli* O157? (2 pts)
cattle
15. What was the vehicle in the most-publicized outbreak of hemorrhagic colitis last fall? (2 pts)
Baby spinach
16. What are common consequences of *Listeria monocytogenes* infection during a woman’s third trimester of pregnancy? (3 pts)
Premature delivery, abortion, stillbirth (fetal death)
17. What kind of salad was the vehicle in the first recorded outbreak of *Listeria monocytogenes* foodborne disease? (2 pts)
Coleslaw
18. Which pathogen, often associated with shellfish, is not present as a result of fecal contamination of their growing water? (2 pts)
Vibrio parahaemolyticus
19. What agent is most likely to cause “rice-water stool”? (2 pts)
Vibrio cholerae
20. Which bacterium, seldom foodborne, is the basis for the specifications of low-temperature, long-time pasteurization of milk? (2 pts)
Coxiella burnetii
21. Under what circumstances is human infection with *Mycobacterium bovis* likely to produce a different clinical illness than *Mycobacterium tuberculosis*? (2 pts)
If *Mycobacterium bovis* is ingested (with raw milk).
22. Which virus disease, which may be transmitted to humans via food and water, can be prevented by vaccination? (2 pts)
Hepatitis A
23. What was the vehicle by which BSE was apparently transmitted among cattle in the UK and then to cattle in other countries? (2 pts)
MBM (meat-and-bone meal)
24. What was the agent in the largest outbreak of waterborne disease ever recorded in the US? (2 pts)

Cryptosporidium (hominis)

25. Which agent, sometimes foodborne, has cats as its definitive host? (2 pts)

Toxoplasma gondii

26. What parasites are associated with marine fish? (2 pts)

Anisakids (*Anisakis simplex*, *Pseudoterranova decipiens*)

27. What is the definitive host of *Taenia solium*? (2 pts)

humans