

Answer Key:

1.

Study Design	Outcome	Benefit of Design	Weakness of Design
Cross Sectional Study	B	A	B
Cohort Study	C	B	A
Case control study	A	C	C

9 points, one point per answer

2. A. Random Error B. Confounding C. Systemic Error, 1 pt per answer

3. Portals of entry _____ 5
Reservoir _____ 2
Modes of transmission _____ 4
Infectious agent _____ 1
Susceptible host _____ 6
Portals of exit _____ 3
6 points total, 1 point each

- A. Infectious agent: _____
a. Examples: Bacteria, virus, fungus, parasite, prion
B. Reservoir: _____
a. Examples: People, water, food, animals, dirt
C. Portals of exit: _____
a. Examples: blood, secretions, excretions, skin
D. Mode of transmission: _____
a. Examples: contact, droplet, airborne, waterborne
E. Portal of Entry: _____
a. Examples: mucous membrane, respiratory tract, GI, broken skin
F. Susceptible Host: _____
a. Examples: immunocompromised, burns, age, surgery

12 points total, 1 point per correct listed answer

4. Morbidity _____ H
Zoonosis _____ M
Endemic Disease _____ B
Fomite _____ D
Latent Period _____ G
Epidemic _____ C
Cluster _____ A

Incubation Period _____ E

Pandemic _____ K

Index Case _____ F

Vector _____ L

Mortality _____ I

Outbreak _____ J

13 points total, 1 point each

5.

Bacteria _____ D _____

Viruses _____ E _____

Parasites _____ C _____

Natural Toxins _____ B _____

Prions _____ A _____

1 point each

6. a 1pt

7. 2 people at the same restaurant are sick. 1pt

8. **No.** There needs greater than expected number of cases. The patient with chronic illness may be excluded, leaving 4 cases. Given a baseline of 2-3 cases, 4 is insufficient to confirm an outbreak at this time. +1 point for 'no' and + 1 point for explanation at least partially consistent with what is listed above.

9. b and d +1 point for each correct answer, -1/2 point for each listed incorrect answer

10. a and c +1 point for each correct answer, -1/2 point for each listed incorrect answer

11. Anyone who ate at this **restaurant**, on **Thanksgiving**, who presents with **nausea, vomiting, and stomach cramps**. 3 points, one for each bold element, no points deducted for incorrect elements

12. d, 1 point

13. $50/150 = 0.33$ 1 point for correct answer, 1 point for correct math.

14. Cream puffs. The attack rate among those who ate puffs was highest, and it was very low among those that did not eat puffs. +1 for cream puffs, +1 for explanation above.

15. People may have chosen one dessert over the other. People who ate pie did not eat cream puffs. 1 point, as long as answer is reasonably consistent with above. Incorrect answers: random chance, pie protects from illness.

16. People may have forgotten what they ate, they may have had some other form of illness, another dish (cheesy potatoes) may have a milder amount of toxin and made a few people ill. 1 point for any of the listed explanations (or similar), 1 point for noting cheesy potatoes.

17. b. The patients are likely not infected, so they likely cannot spread it either in person or through utensils. However, if one of the staff is a carrier and does not take precautions, a second outbreak could occur. 1 point

18. A case includes anyone **at this restaurant**, on **Thanksgiving**, who ate **Cream puffs**, who present with **nausea, vomiting, and stomach cramps** consistent with **S. aureus** that set in between **1 and 6 hours of eating** and lasted **up to 1-2 days**. 1 pt for each bold element.

Tie break questions: If tied, break on total points gained in question 1. If still tied, break with total points on question 4. If still tied, break on total points of question 18. If still tied, break on 16, presence or absence of cheesy potatoes in the answer.