Key (Terms in parentheses are optional)

Parts 1 - 8: Total: 141 points

Part 1 (+2pt for each correct term) (Total: 32 pts)   POINTS _____/32

1. (Public Health) Surveillance
2. Vector
3. Pandemic
4. Antigen
5. Natality
6. Endemic
7. Incubation (Incubatory Period)
8. Herd Immunity
9. Fomite
10. Prion
11. Innate Immunity
12. Agent
13. Interpolation
14. Zoonosis
15. Reservoir
16. Outbreak

Part 2 (+2pt for each correct identification) (Total: 22 pts)   POINTS _____/22

1. Viral
2. Bacterial
3. Parasite
4. Bacteria
5. Viral
6. Prion
7. Virus
8. Bacteria
9. Bacteria
10. Parasite
11. Bacteria

Part 3 (+2pt for each correct answer) (Total: 20 pts)   POINTS _____/20

1. a
2. g
3. d
4. f
5. j
6. i
7. e
8. b
9. h
10. c

Part 4 (Total: 7 pts) (+1pt for each correct term, + an additional point if all 6 are included)   POINTS _____/7

Infectious agent

Susceptible host

Reservoirs

Portal of entry

Portal of exit

Means of transmission
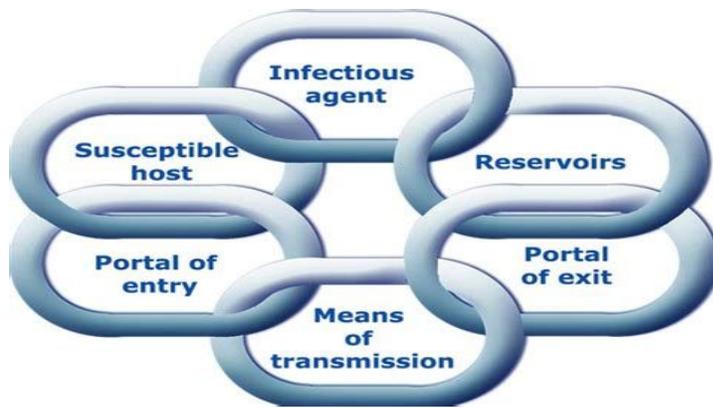
Part 5 (Total: 34 pts)   POINTS _____/34

1. Case Definition (answers in any order)
   a. Clinical Info +2 point
   b. Person   +2 point
   c. Place   +2 point
   d. Time   +2 point
   e. Various answers will be accepted. 1 point for each of the 4 components above included.

2. Bradford Hill Criteria (in any order) (+1 point for each term, +1 point for each short definition or explanation)
   a. **Strength** (effect size)(of association): A small association does not mean that there is not a causal effect. The larger the association, the more likely that it is causal. The relationship is clearer, and risk estimate is high.
   b. **Consistency** (reproducibility): Observation of consistent findings by different persons in different places in different populations at different times with different samples.
   c. **Specificity**: A single cause produces a single, specific effect, and there is likely no other explanation. The more specific an association between a factor and an effect is, the bigger the probability of a causal relationship.
   d. **Temporality**: The cause or exposure must precede the presence of the effect, and if there is an expected delay between the cause and effect, then the effect must occur after the delay.

e. **Biological gradient (**or Dose-response relationship): Increasing exposure increases rate of incidence.

f. (**Biological) Plausibility**: The association agrees with or is supported by current biological and pathological processes. (There is a plausible mechanism, which is limited by current knowledge)

g. **Coherence**: Coherence between epidemiological and laboratory findings increases the likelihood of an effect. (Lack of evidence does not provide evidence of a lacking.) Association is agreeable in both epidemiological cases/studies and controlled laboratory situations.

h. **Experiment**: "Occasionally it is possible to appeal to experimental evidence". (Condition can be altered, prevented or accelerated by experimental processes.)

i. **Analogy**/Alternative explanations: Consideration of other explanations or factors should occur. More than one hypothesis may be considered before making conclusions.

3. **Specificity**: How accurate a test is at determining whether someone does not have a disease. A completely specific test will indicate that all people who don't have the disease don't have it. +1 point (There will be no false positives: +1 point)

Sensitivity: How accurate a test is at determining whether an individual has a disease. A completely sensitive test will detect all cases of a disease in a given tested population. +1 point (There will be no false negatives. +1 point)

Part 6 (any order acceptable) (Total : 9 pts)   POINTS _____/9

1. Agent, Host, Environment
2. Person, Place, Time
3. Agent, Vector/Fomite, Host

Part 7 (Total : 7 pts)   POINTS _____/7

1. (According to the WHO,) it is the **continuous/ongoing, systematic collection, analysis and interpretation of health data** (needed for public health practice). (+2 points)

2. Steps (in any order) (+1 pt for mentioning each one; multiple answers may be combined into one line)
   a. Assessing risks, prioritizing public health threats, assessing existing systems
   b. Develop strategic plan of action
   c. Plan implementation
   d. Monitoring progress
   e. Evaluating outcomes and impact

Part 8 (Total: 10 points)   POINTS _____/10
1. The graph should have
   a. A title (+1 pt)
   b. X and Y axes are both labeled (+1 pt)
   c. X and Y axes have scales (for example, the dashes appropriate for 5, 10, and onwards, with said numbers present) (+1 pt)
   d. Correct graph (see below) (+4 point, -1pt for each error)
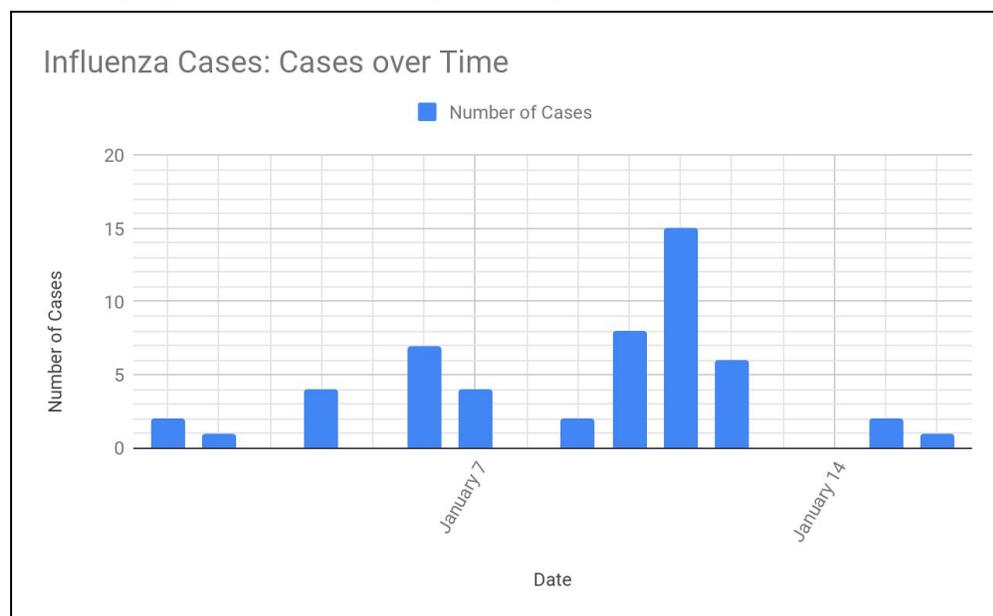
   e.

2. (Various Answers Accepted, 3 pts) It is a propagated epi-curve. Those infected with the case earlier on continue to spread the disease throughout the population, with increasing peaks reflective of the incubation period, until a herd immunity develops or the chain of transmission is broken.