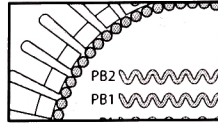
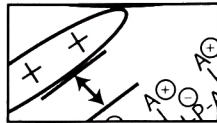
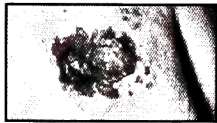


Looking for something to do? Have you *really* been “meducated”? Try the following multiple choice questions and submit your answers online at [www.meducator.org](http://www.meducator.org). Participants with the highest scores will automatically be entered into a draw for the Meducator prize.



### Brent Mollon - Revisiting Smallpox

1. The form of smallpox infection that is known for a 30% human fatality rate is associated with what virus?

- a) Cowpox
- b) Vaccinia
- c) Variola minor
- d) Variola major
- e) Monkeypox

2. The Center for Disease Control plans to take which actions in the event of a smallpox outbreak?

- a) Vaccinate high-risk individuals
- b) Utilize ring-vaccination to contain the spread of the virus
- c) Vaccinate the entire population of a state distant from the site of outbreak
- d) All of the above
- e) A and B only

### Elena Igwe – Synthesizing AMPs

3. How do AMPs kill bacteria?

- a) Through enzymatic breakdown of the bacterial plasmid
- b) By disrupting the integrity of the bacterial cell membrane
- c) By inhibiting binary fission among bacterial cells
- d) By inserting into a membrane protein to induce cell lysis

4. Select the true statement.

- a) AMPs are in the same class as defensins and interferons.
- b) AMPs are anionic, hydrophobic and globular
- c) Overuse of AMPs can lead to bacterial resistance, similar to antibiotics
- d) AMPs are easy to synthesize but the process is costly

### Joseph Catapano – West Nile Virus

5. The groups at greatest risk for developing fatal symptoms as a result of WMV infection are:

- a) Elderly and newborns
- b) Newborns and pregnant women
- c) Immunocompromised and newborns
- d) Elderly and immunocompromised

6. Select the false statement.

- a) Immunoglobulins are capable of destroying the WNV
- b) WMV symptoms include nausea, headache, and rashes
- c) The incubation period for WNV before an infected individual shows symptoms is around or 24 hours
- d) WNV has been spreading south with the help of birds migrating in the winter

### Jaron Chong - Avian Flu H5N1

7. What are the three prerequisites for a viral pandemic?

- I. Origination in host population.
- II. Novel introduction to target population.
- III. Evasion of immunological responses.
- IV. Contagious spread within target population.
- V. Virulence and high rate of case-fatality.

- a) I, II, III
- b) I, IV, V
- c) II, III, V
- d) II, IV, V
- e) III, IV V

8. Does infection with H5N1 necessarily result in a high probability of fatality?

- a) Yes. Previous human cases have demonstrated a high case-fatality rate.
- b) Yes. H5N1 can result in 100% fatality in poultry populations.
- c) No. The apparent high case-fatality rate may be an artifact of sub-clinical cases of H5N1 not being detected.
- d) A and B.
- e) None of the above

### Romy Cho – Avian Influenza Pandemic

9. Select the true statements regarding vaccinations.

- I. In hopes of producing a viable vaccine, reverse transcriptase might be able to create a non-lethal copy of the viral genome.
- II. Vaccine research can be conducted using a genetically modified seed strain of the H5N1 virus.
- III. Vaccines can be produced quickly upon higher demand.
- IV. The main difficulty with producing an Avian Flu vaccine is because its complex structure.
- V. Vaccines for the virus will be outdated quickly due to the rate at which the virus is able to confer resistance.

- a) I, III, IV
- b) I, II, V
- c) I, II, III
- d) I, II

10. The current drug, Tamiflu, used to treat the Avian Flu:

- a) Binds and dismantles the viral capsid
- b) Binds to the active neuraminidase site on the targeted host cell
- c) Binds to the active neuraminidase site on the surface of the virus
- d) Binds to all receptors on the host cells to block the virus