

CATEGORY B – THE BIOLOGY AND CONTROL OF MOSQUITOES

PRACTICE QUESTIONS

1. The genus of mosquitoes which lay their eggs in rafts on water surface is:
 - A. *Anopheles*.
 - B. *Aedes*.
 - C. *Culex*.
 - D. *Psorophora*.

2. Environmental conditions favoring long-term survival of adult mosquitoes include:
 - A. Heavy rainfall and strong winds.
 - B. Moderate temperatures and high humidity.
 - C. Hot temperatures and low humidity.
 - D. Short days and snowfall.

3. Mosquito larvae with no siphons are in the genus:
 - A. *Anopheles*.
 - B. *Aedes*.
 - C. *Culex*.
 - D. *Psorophora*.

4. A control technician identifying a problem mosquito as *Aedes sirriensis* should consider inspecting and treating which sources?
 - A. Snow-melt pools and river overflows.
 - B. Saltwater and freshwater marshes.
 - C. Treeholes and man-made containers.
 - D. Agricultural irrigation ponds.

5. The blood meal sources of most *Culex* mosquito species include:
 - A. Large and small mammals.
 - B. Cattle and humans.
 - C. Birds and small mammals.
 - D. None of the above.

6. The Western malaria mosquito is scientifically known as:
- A. *Anopheles freeborni*
 - B. *Aedes aegypti*.
 - C. *Culex tarsalis*.
 - D. *Psorophora columbiae*.
7. A female mosquito with a blunt abdomen, short palpi, and R and M wing veins in line is in the genus:
- A. *Anopheles*.
 - B. *Culiseta*.
 - C. *Culex*.
 - D. *Psorophora*.
8. Which species is not recognized as a malaria vector in California?
- A. *Anopheles franciscanus*.
 - B. *Anopheles freeborni*.
 - C. *Anopheles hermsi*.
 - D. *Anopheles punctipennis*.
9. Saltwater marsh breeding mosquitoes in California include:
- A. *Aedes ventrovittis* and *Aedes tahoensis*.
 - B. *Aedes melanimon* and *Aedes nigromaculis*.
 - C. *Aedes dorsalis* and *Aedes squamiger*
 - D. *Aedes sirriensis*.
10. *Culex erythrothorax* larvae are usually associated with:
- A. Organic pollutants.
 - B. Swiftly moving water.
 - C. Treeholes.
 - D. Tule and Cattail plants.

11. Water conditions generally conducive to mosquito development include:
- A. Standing, clean water.
 - B. Swiftly moving water.
 - C. Standing, organically polluted water.
 - D. Water standing for very short times
12. Categories of mosquito sources include:
- A. Residential sources.
 - B. Community of industrial sources.
 - C. Agricultural sources.
 - D. All of the above.
13. Community or industrial mosquito sources include:
- A. Sewage plants, channels, and street gutters.
 - B. Lakes, streams, and snow-melt pools.
 - C. Wading pools, bird baths, and fish ponds.
 - D. Saltwater marshes and treeholes.
14. Transmission of human malaria involves female mosquitoes of the genus:
- A. *Aedes*.
 - B. *Anopheles*.
 - C. *Culex*.
 - D. *Coquillettidia*.
15. The primary vector of arboviral encephalitides in California is:
- A. *Culiseta incidens*.
 - B. *Culex stigmatosoma*
 - C. *Culex tarsalis*.
 - D. *Culiseta inornata*.
16. In a typical disease transmission cycle, the disease causing organism is known as a:
- A. Pathogen.
 - B. Vector.
 - C. Host.
 - D. Reservoir.

17. A method of reducing the risk of developing insecticide resistance in target mosquito populations is to:
- A. Rotate use of different pesticide classes.
 - B. Apply larger pesticide dosages.
 - C. Apply smaller pesticide doses more often.
 - D. Treat the source more often.
18. Another term for physical control is:
- A. Environmental manipulation.
 - B. Regulatory mechanisms.
 - C. Civic responsibilities.
 - D. Integrated management.
19. The scientifically planned control of mosquito populations through timely use of a variety of control strategies and methods is called:
- A. Biological mosquito control.
 - B. Chemical mosquito control.
 - C. Physical mosquito control.
 - D. Integrated pest management.
20. An essential element for successful adulticiding operations is the presence of:
- A. Hot temperatures.
 - B. A slight wind of 12 mph or more.
 - C. A thermal inversion layer.
 - D. All of the above.
21. In vector control, the term IPM stands for:
- A. Integrated Pest Management.
 - B. Insect Population Monitoring.
 - C. Insecticides, Pesticides, and Mosquitocides.
 - D. International Pesticide Machinery.

22. The primary mosquito problem associated with agricultural areas results from:
- A. Sources created by overflowing streams.
 - B. Sources associated with crop irrigation.
 - C. Ponding of rainfall.
 - D. Residential sources around farm buildings.
23. Physical control of mosquitoes in large lakes may be enhanced by:
- A. Creating numerous small islands.
 - B. Keeping shoreline depths shallow.
 - C. Removing emergent vegetation.
 - D. All of the above.
24. The objectives of good physical control practices for mosquito control are to:
- A. Prevent accumulation of water.
 - B. Prevent homeowner misuse of water.
 - C. Provide natural predators in salt marshes.
 - D. Use the least amount of pesticides.
25. The system of physical control most favored for mosquito control in coastal salt marshes where it can be used is:
- A. Drainage.
 - B. Filling.
 - C. Circulation of tidewater.
 - D. Impoundment of water.
26. Good physical control practices for mosquito control around residential areas include:
- A. Overturning all water holding containers.
 - B. Cleaning gutters, bird baths, and fountains.
 - C. Filling all tree holes with sand or cement.
 - D. All of the above.
27. A good agricultural practice contributing to physical control of mosquitoes in rice fields is:
- A. Circulation of tidewater.
 - B. Stocking with mosquitofish.
 - C. Good water-tight and weed-free levees.
 - D. Drainage to prevent standing water of more than 3 days in duration.

28. Possible advantages of chemically controlling mosquitoes include:
- A. The need for repeated dosages over time.
 - B. Rapid control of mosquito populations.
 - C. Development of insecticide resistance.
 - D. No adverse environmental hazards.
29. Insecticides ready to use as supplied by the manufacturer without further dilution or mixing include:
- A. Granules.
 - B. Emulsions.
 - C. Solutions.
 - D. Wettable powders.
30. The movement of insecticides to non-target areas is known as:
- A. Insecticide application.
 - B. Spraying.
 - C. Drift.
 - D. Overspray.
31. Examples of biorational insecticides include:
- A. Diflubenzuron.
 - B. Methoprene.
 - C. *Bacillus thuringiensis var israelensis*.
 - D. All of the above.
32. Insecticide resistance is defined as:
- A. Ability to withstand desiccation.
 - B. inability to undergo normal development.
 - C. Ability to withstand poisons lethal to earlier populations.
 - D. Ability to exhibit great variability.
33. Pyrethrins and Pyrethroids are:
- A. Non-selective and very costly to use.
 - B. Derived from botanical origins.
 - C. Quick acting and somewhat residual.
 - D. All of the above.

34. A fumigant sometimes used to control adult mosquitoes in enclosed areas is:
- A. Fenthion.
 - B. Dichlorvos.
 - C. Propoxur.
 - D. Piperonyl butoxide.
35. The ultimate goal of a mosquito control public relations program is:
- A. Creating public awareness of your work.
 - B. Providing information people want.
 - C. Changing people's behavior.
 - D. Changing people's attitudes and opinions.