



**VECTOR-BORNE
DISEASE SECTION**
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

These questions are meant primarily to give an idea of the exam questions, and may not accurately reflect current reference materials or emphasis of exams

**CATEGORY C – ARTHROPODS OF PUBLIC HEALTH SIGNIFICANCE
IN CALIFORNIA**

PRACTICE QUESTIONS

1. The most important urban fly sources are:
 - A. Snails.
 - B. Garbage cans.
 - C. Pet droppings.
 - D. Compost piles.

2. Pet droppings are extremely important as:
 - A. Fly attractants.
 - B. Hornet attractants.
 - C. Yellow jacket attractants.
 - D. Ant attractants.

3. Kissing bugs are external parasites of
 - A. Cattle and sheep.
 - B. Birds.
 - C. Wood rats.
 - D. Deer.

4. Kissing bugs vector which disease:
 - A. Rocky Mountain spotted fever.
 - B. Lyme disease.
 - C. Malaria.
 - D. Chagas disease.

5. Domestic fly eggs are susceptible to:
 - A. Predation.
 - B. Ovicides.
 - C. Drying.
 - D. All of the above.

6. House fly larvae (*Musca domestica*) are not found in:
 - A. Feces.
 - B. Rotting vegetables.
 - C. Rotting fruit.
 - D. Carrion.

7. Fly larvae feeding on the tissue of a living vertebrate is a condition called:
 - A. Giardiasis.
 - B. Myiasis.
 - C. Scabies.
 - D. Ascariasis.

8. Important sources for the black blow fly are:
 - A. Vegetables and cannery wastes.
 - B. Manure and fresh cattle droppings.
 - C. Grass clippings and fresh cut alfalfa.
 - D. Carcasses and garbage dumps.

9. Important sources for the stable fly are:
 - A. Vegetable and cannery wastes.
 - B. Poultry and cattle manure.
 - C. Fresh cattle droppings.
 - D. Decaying plant material and animal manure.

10. The most effective tool to control nuisance flies is:
 - A. Chemical control.
 - B. Sterile male release.
 - C. Source reduction.
 - D. Exclusion.

11. Screened, fly tight poultry houses may develop:
 - A. Daily manure removal problems.
 - B. Residual fly larvae.
 - C. Maintenance problems with the screens.
 - D. Secondary pest problems, mainly rats.

12. The best source for fly control information and literature is the:
 - A. Prevention and Community Corrections Board.
 - B. Environmental Protection Agency.
 - C. Local hardware store.
 - D. UC Cooperative Extension Service.

13. Coned chicken manure provides habitat for:
- A. Face fly larvae.
 - B. Fly predators and parasites.
 - C. Muskrats.
 - D. None of the above.
14. Fly production can be reduced or eliminated in poultry manure when the manure is:
- A. Placed in fly-tight storage.
 - B. Composted properly.
 - C. Quick dried.
 - D. All of the above.
15. When chicken manure is covered with a black plastic tarp, the edges of the tarp should be covered with:
- A. Dirt.
 - B. Cement.
 - C. Bricks.
 - D. Chicken manure.
16. Culled fruit to be disposed of should be:
- A. Spot dumped where cattle can feed on it.
 - B. Spread thinly, dried, and disked under.
 - C. Made into wine.
 - D. None of the above.
17. Manure used as fertilizer:
- A. Never produces flies.
 - B. Can be a source of flies.
 - C. Must be composted first.
 - D. Is of little value.
18. Feed troughs in beef feed lots should have bottoms that are:
- A. Square.
 - B. "V" shaped.
 - C. Oval shaped.
 - D. Corrugated.

19. Exclusion for fly relief would include:
- A. Trapping.
 - B. Space sprays.
 - C. Field disking.
 - D. Screening.
20. The most common cockroach species found in homes and restaurants in the United States is the:
- A. Brownbanded cockroach (*Supella longipalpa*).
 - B. American cockroach (*Periplaneta americana*).
 - C. German cockroach (*Blatella germanica*).
 - D. Oriental cockroach (*Blatta orientalis*).
21. A large cockroach (1 to 2 inches long), colored reddish brown with a pale yellowish band around the margin of the pronotum is the:
- A. Brownbanded cockroach (*Supella longipalpa*).
 - B. American cockroach (*Periplaneta americana*).
 - C. German cockroach (*Blatella germanica*).
 - D. Oriental cockroach (*Blatta orientalis*).
22. If you see a cockroach which cannot climb a smooth vertical surface such as smooth paint or stainless steel, it is probably:
- A. A brownbanded cockroach (*Supella longipalpa*).
 - B. An American cockroach (*Periplaneta americana*).
 - C. A German cockroach (*Blatella germanica*).
 - D. An oriental cockroach (*Blatta orientalis*).
23. Cockroaches in the immature stages between the egg and adult stages are called:
- A. Larvae.
 - B. Oothecae.
 - C. Pronotums.
 - D. Nymphs.
24. Of the following diseases, the one most likely to be transmitted by cockroaches is:
- A. Flu.
 - B. Hantavirus.
 - C. Food poisoning.
 - D. Hemorrhagic fever.

25. Cockroaches transmit disease such as diarrhea and dysentery by:
- A. Biting people in their sleep.
 - B. Walking across or defecating on food and utensils.
 - C. Inhalation of cockroach contaminated dust.
 - D. Depositing vomit or feces in an open wound.
26. The cockroach most likely to be found living outdoors in dumps, trash piles, or ivy is the:
- A. Brownbanded cockroach (*Supella longipalpa*).
 - B. American cockroach (*Periplaneta americana*).
 - C. German cockroach (*Blatella germanica*).
 - D. Oriental cockroach (*Blatta orientalis*).
27. When a pesticide label permits spot treatments, the pesticide must be:
- A. Placed only into cracks and crevices.
 - B. Sprayed in large enough quantities to leave visible spots on surfaces which can be avoided by workers.
 - C. Applied to broad expanses of surfaces such as walls, floors, and ceilings.
 - D. Applied to areas on which insects are likely to occur.
28. When compared with general or spot treatments, an advantage of crack and crevice treatments for cockroach control is that they:
- A. Put the pesticide into places where cockroaches spend the most time.
 - B. Place the pesticides on surface where they can easily be washed off later.
 - C. Allow the use of greater quantities of pesticide.
 - D. Applied to areas on which cockroaches can easily avoid.
29. In addition to the careful use of insecticides, effective cockroach control depends heavily on:
- A. Structural repairs.
 - B. Good sanitation.
 - C. Inspecting incoming boxes and furniture.
 - D. All of the above.
30. The number of cockroaches a habitat can support, determined by the amount of food, water, and harborage available, is called the:
- A. Infestation rate.
 - B. Carrying capacity.
 - C. Environmental resistance.
 - D. Biological potential.

31. The human flea, *Pulex irritans*, lives on:
- A. People and a variety of animals.
 - B. Chipmunks.
 - C. Dogs and cats.
 - D. People only.
32. Sometimes cat flea infestations are found on the premises:
- A. When the householder has neither cats nor dogs.
 - B. When a stray cat has had kittens under the house of basement.
 - C. When pets have been removed, leaving fleas to develop and to seek hosts.
 - D. All of the above.
33. In some areas, of California, wild rodent fleas have been controlled because of the danger of:
- A. West Nile virus.
 - B. Rat bite fever.
 - C. Tularemia.
 - D. Bubonic plague.
34. To achieve good bed bug control, insecticides must be applied:
- A. Inside hollow bed frames.
 - B. Under loose wallpaper.
 - C. To cracks and crevices.
 - D. To all hiding places.
35. The life cycle of bed bugs is:
- A. Egg, nymph, adult.
 - B. Egg, larvae, adult.
 - C. Egg, larvae, pupae, adult.
 - D. Egg, larvae, cocoon, adult.
36. Common tarantula spiders that are found in the western United States:
- A. Have a very toxic venom and should be avoided.
 - B. Are not especially dangerous to man.
 - C. Are venomous only during the spring mating season.
 - D. Are short-lived.

37. The web of the black widow spider is best described as:
- A. Circular, with radiating lines.
 - B. Weakly constructed, with sticky silk.
 - C. Irregular.
 - D. None of the above.
38. The Hymenoptera that are most likely to leave their sting apparatus at the sting site are:
- A. Yellowjackets.
 - B. Mud daubers.
 - C. Hornets.
 - D. Honeybees.
39. When a heavy acarid mite infestation occurs:
- A. Such infestation is restricted to retail food outlets only.
 - B. Such infestation is restricted to homes only.
 - C. Small rolls of dust composed of mites and their shed skins appear near the source.
 - D. It is usually because of the lack of moisture in the stored food.
40. Adult American cockroaches (*Periplaneta americana*) are:
- A. The smallest house-infesting species in the United States.
 - B. Almost yellow in color.
 - C. Best when stir-fried with ginger and garlic.
 - D. The largest house-infesting species in the United States.
41. Mites have a lifecycle consisting of:
- A. Egg, larva, pupa, adult.
 - B. Egg, nymphal stages, adult.
 - C. Egg, larva, nymphal stages, adult.
 - D. Egg, prelarva, larva, protonymph, deutonymph, tritonymph, adult.
42. Lice have a lifecycle consisting of:
- A. Egg, larva, pupa, adult.
 - B. Egg, nymphal stages, adult.
 - C. Egg, larva, nymphal stages, adult.
 - D. Egg, prelarva, larva, protonymph, deutonymph, tritonymph, adult.

43. Flies have a lifecycle consisting of:
- A. Egg, larva, pupa, adult.
 - B. Egg, nymphal stages, adult.
 - C. Egg, larva, nymphal stages, adult.
 - D. Egg, prelarva, larva, protonymph, deutonymph, tritonymph, adult.
44. Fleas have a lifecycle consisting of:
- A. Egg, larva, pupa, adult.
 - B. Egg, nymphal stages, adult.
 - C. Egg, larva, nymphal stages, adult.
 - D. Egg, larva, protonymph, deutonymph, tritonymph, adult.
45. A fly similar in appearance to the house fly but is capable of biting humans is the:
- A. False stable fly.
 - B. Black blow fly.
 - C. Red-tailed flesh fly.
 - D. Lesser house fly.
46. Mite and tick larvae have:
- A. Three pairs of legs.
 - B. Four pairs of legs.
 - C. No legs.
 - D. Two pairs of legs.
47. The fly that deposits larvae, not eggs is the:
- A. Flesh fly.
 - B. House fly.
 - C. Black blow fly.
 - D. False stable fly.
48. Relapsing fever, Rocky Mountain spotted fever, and Lyme disease are all vectored by:
- A. Ticks.
 - B. Lice.
 - C. Fleas.
 - D. Flies.

49. Immature cockroaches do not have:
- A. Long antennae.
 - B. Wings.
 - C. Six legs.
 - D. Cerci.
50. Head lice are usually acquired by:
- A. Toilet seats.
 - B. Sharing combs, hats, etc.
 - C. Pure chance.
 - D. Adults.
51. Insecticide dust treatments for rodents and rodent burrows are useful for controlling:
- A. Fleas and other ectoparasites found in the rodent nests.
 - B. Cockroaches.
 - C. Flies.
 - D. Rats.
52. Kissing bugs have a lifecycle consisting of:
- A. Egg, nymphal stages, adult.
 - B. Egg, larva, pupa, adult.
 - C. Egg, larva, nymphal stages, adult.
 - D. Egg, prelarva, larva, protonymph, deutonymph, tritonymph, adult.
53. Scabies is caused by:
- A. Lice.
 - B. Mites.
 - C. Ants.
 - D. Cockroaches.
54. Adult female fleas need _____ to develop eggs.
- A. A nectar feeding.
 - B. A male flea.
 - C. High temperature.
 - D. A blood meal.

55. A roach that is light brown in color and has two light yellowish V-shaped bands, one on the base of the thorax and the other at the tip of the wings, and is overall slightly smaller than the German cockroach (*Blattella germanica*) is:
- A. Brownbanded cockroach (*Supella longipalpa*).
 - B. American cockroach (*Periplaneta americana*).
 - C. Smoky-brown cockroach (*Periplaneta fuliginosa*).
 - D. Oriental cockroach (*Blatta orientalis*).
56. A dark brown fly larva having a flattened body shape with many spines and usually found in poultry manure, but also in grass clippings, garbage, and carrion is the:
- A. Little house fly.
 - B. House fly.
 - C. False stable fly.
 - D. Black blow fly.
57. Oriental cockroaches are dark brown in color. The female is about 1 ¼ inches long, and:
- A. Flies readily.
 - B. Has short, non-functional wings.
 - C. Has short antennae.
 - D. Produces only one egg at monthly intervals.
58. Immature fleas feed on:
- A. Shed hair.
 - B. Leftover dog food.
 - C. Dried blood and other bits of detritus found in the nest or bedding of the host.
 - D. The host along with the adult flea (i.e., they bite too).
59. Oriental rat fleas are the most important:
- A. Pests on commercial rat farms in China.
 - B. Vectors of tularemia in Canada.
 - C. Pests on cattle.
 - D. Vectors of bubonic plague.
60. An infestation of lice is called:
- A. Pediculosis.
 - B. Acariasis.
 - C. Dermatological syndrome.
 - D. Scabies.

61. American cockroaches (*Periplaneta americana*) may survive for as long as:
- A. 3 ½ years.
 - B. 6 years.
 - C. 9 years.
 - D. 12 years.
62. Head lice vector which disease:
- A. Typhus.
 - B. Trench fever.
 - C. Morgellons disease.
 - D. Head lice do not vector disease.
63. Continued control of ectoparasites (fleas and mites) should be considered after populations of rodents have been reduced because:
- A. The ectoparasites may migrate into adjacent buildings and cause severe problems to residents.
 - B. It is not humane to let them starve.
 - C. They could affect fish populations.
 - D. They will be there when the rodent population builds up again.
64. An infestation of roaches can be detected by noting the presence of:
- A. Fecal droppings.
 - B. Oothecae.
 - C. Stained walls or other areas where roaches may congregate.
 - D. All of the above.
65. The flea responsible for most complaints is the:
- A. Cat flea.
 - B. Rat flea.
 - C. Human flea.
 - D. Rodent flea.
66. A small cockroach about ½ - ¾ inches long as an adult with two dark longitudinal bands on the pronotum and an overall pale brown color is:
- A. Brownbanded cockroach (*Supella longipalpa*).
 - B. German cockroach (*Blatella germanica*).
 - C. Smoky-brown cockroach (*Periplaneta fuliginosa*).
 - D. Oriental cockroach (*Blatta orientalis*).

67. German cockroaches (*Blatella germanica*) are most likely to be found:
- A. In warm moist areas near food and water.
 - B. In dry areas scattered throughout the house.
 - C. In sewers.
 - D. Outdoors, under tree bark and in ivy.
68. The cockroach most likely to be found in sewers is the:
- A. Brownbanded cockroach (*Supella longipalpa*).
 - B. American cockroach (*Periplaneta americana*).
 - C. Smoky-brown cockroach (*Periplaneta fuliginosa*).
 - D. Oriental cockroach (*Blatta orientalis*).
69. Tick paralysis:
- A. Is caused by bites of male ticks.
 - B. Is caused by a neurotoxic substance in tick excreta.
 - C. Disappears rapidly when the tick that caused it has been removed.
 - D. Is more severe in adults than in children.
70. The brown dog tick:
- A. Can complete its life cycle indoors.
 - B. Is a pest of dog kennels.
 - C. Is a common species of soft tick.
 - D. A and B only.
71. Which of the following would give the least protection from ticks?
- A. Buttoned-up and tucked in clothing.
 - B. Using DEET on clothing and exposed skin.
 - C. Clearing brush, weeds, etc., along paths.
 - D. Screening of doors and windows.
72. Which of the following correctly summarizes current opinion on tick repellents?
- A. There are many effective repellents for ticks.
 - B. Repellents applied to exposed skin are most effective.
 - C. Repellents should be applied to the entire body prior to entering infested areas.
 - D. DEET should be applied to exposed skin and permethrin applied to clothing before being worn.
73. "Flagging" is most useful in tick surveys to:
- A. Collect tick larvae.
 - B. Collect engorged female ticks.
 - C. Collect nymphs and adult ticks.
 - D. To collect tick eggs.

74. Which of the following ants is a one-segmented-waist ant?
- A. Thief Ant.
 - B. Pharaoh Ant.
 - C. Argentine Ant.
 - D. Red Imported Fire Ant.
75. Which of the following is not considered a good bait to use on Red Imported Fire Ants?
- A. Fried potato chips.
 - B. Canned meats.
 - C. Oily pet foods.
 - D. Raw vegetables.
76. Which of the following yellowjacket species is often confused with *Paravespula vulgaris*, and is often found in the high Sierras?
- A. *Paravespula germanica*.
 - B. *Paravespula sulphurea*.
 - C. *Dolichovespula maculata*.
 - D. *Paravespula atropilosa*.
77. The most effective form of control for Africanized honey bees that would not affect European honey bees is:
- A. To use diazinon.
 - B. To use a barrier treatment application by ground application.
 - C. To use a barrier treatment application by aerial application.
 - D. There is currently no effective way to control Africanized honey bees.
78. Which of the following is false about Africanized honey bees (AHBs)?
- A. AHBs will follow a "marked" individual half a mile.
 - B. AHBs tend to become more easily disturbed at nesting sites than European honey bees.
 - C. AHBs will react more quickly to a disturbance than European honey bees.
 - D. AHBs can swarm up to six times a year.
79. Which is a condition that mites can give to humans?
- A. West Nile virus.
 - B. Lyme disease.
 - C. Scabies.
 - D. Plague.