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## **CATEGORY D – VERTEBRATES OF PUBLIC HEALTH SIGNIFICANCE**

### **PRACTICE QUESTIONS**

1. Plague as it exists in rural or forested areas among wild rodents is called:
  - A. Epidemic plague.
  - B. Sylvatic plague.
  - C. Urban plague.
  - D. Reservoir plague.
  
2. Until recent years the Norway rat was the major reservoir host of murine typhus in California, where the disease was common in central Los Angeles. However, most murine typhus cases now occur in eastern Los Angeles and Orange Counties, where the principal reservoir is probably the:
  - A. Roof rat.
  - B. Skunk.
  - C. Opossum.
  - D. Wood rat.
  
3. Permanent rodent control is best achieved by:
  - A. Trapping.
  - B. Poisoning.
  - C. Preventing access to food and harborage.
  - D. Introducing predators.
  
4. Dense growth of ornamental or other plants, such as ivy and blackberry, are particularly favorable habitats for the:
  - A. Roof rat.
  - B. Norway rat.
  - C. House mouse.
  - D. House cat.
  
5. House mice can have up to \_\_\_\_\_ litters per year:
  - A. two.
  - B. four.
  - C. six.
  - D. eight.

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6. Which of these statements about domestic rodents is most true?
  - A. The Norway rat constructs subterranean burrows.
  - B. The house mouse prefers to live indoors.
  - C. The roof rat is omnivorous but prefers meat.
  - D. A and B only.
  
7. The easiest domestic rodents to trap, because they do not show new object reaction, are:
  - A. Roof rats.
  - B. House mice.
  - C. Norway rats.
  - D. Opossums.
  
8. Poisons, traps, and fumigants are methods of rodent:
  - A. Prevention.
  - B. Exclusion.
  - C. Suppression.
  - D. Environmental manipulation.
  
9. The domestic rodent with a head and body length of 7 ½ to 10 inches, a tail usually shorter than the head and body length, a heavy body, blunt muzzle, and relatively small, coarse, close-set ears is most likely the:
  - A. Norway rat.
  - B. Roof rat.
  - C. Wood rat.
  - D. House mouse.
  
10. Roof rats are associated with which disease and causative agent:
  - A. Chagas disease and *Trypanosoma cruzi*.
  - B. Salmonellosis and *Salmonella*.
  - C. Malaria and *Plasmodium*.
  - D. Lyme disease and *Borrelia burgdorferi*.

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11. The recommendations for a snake proof fence specify that it should be inserted 4-6 inches below the soil surface and extend:
  - A. At least 1 foot above the ground.
  - B. At least 2 feet above the ground.
  - C. At least 5 feet above the ground with an L-shaped section at the top.
  - D. In an L-shaped section 6 inches outward from the bottom.
  
12. The rodent disease transmitted by infected fleas feces, which are scratched in the skin is:
  - A. Leptospirosis.
  - B. Relapsing Fever.
  - C. Plague
  - D. Murine typhus.
  
13. The best form of rodent control:
  - A. Focuses on killing individual rodents.
  - B. Focuses on controlling an entire population.
  - C. Focuses on killing the queen rodent.
  - D. None of the above.
  
14. Which of the following is not accurate regarding a pesticide application to control rodents, when compared to implementation of sanitation and exclusion techniques:
  - A. Pesticides are sometimes less expensive.
  - B. Pesticides offer quick results.
  - C. Pesticides are easier to apply.
  - D. Pesticides offer longer control.
  
15. The most effective method of rattlesnake control is:
  - A. Organize snake hunts.
  - B. Fumigation of rodent burrows.
  - C. Removal of their food and shelter.
  - D. Use of chemical repellents. called:

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16. The tendency of rats to avoid a trap or bait when it is first set out in their environment is called:
  - A. Neophobic.
  - B. Murine avoidance.
  - C. The repellency effect.
  - D. Bait shyness.
  
17. Rodents continually gnaw items because:
  - A. They must keep their incisors a manageable length.
  - B. They crave salts and other minerals.
  - C. They tunnel from one location to another to find mates.
  - D. They are naturally curious.
  
18. The pesticides that prevent normal clotting of blood are called:
  - A. Surfactants.
  - B. Anticoagulants.
  - C. Acute poisons.
  - D. Stomach poisons.
  
19. A poison gas used to kill rodents is called a:
  - A. Residual.
  - B. Synergist.
  - C. Tracking powder.
  - D. Fumigant.
  
20. The rodent takes the poison in a tracking dust into its body by:
  - A. Eating the dust off the floor.
  - B. Licking its feet or fur.
  - C. Tracking the dust into its food.
  - D. Absorbing the dust through its feet.  
first:

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21. To increase the effectiveness of your poison baits for most rodent control, you should first:
- A. Set traps.
  - B. Exclude rodents.
  - C. Eliminate harborage.
  - D. Remove food and water.
22. Snap traps with expanded triggers are most effective:
- A. For recovery of ectoparasites.
  - B. When placed parallel to walls or objects.
  - C. Close to a feeding area.
  - D. On runways.
23. Rodent infestations in storage areas can be best minimized by:
- A. Stacking bulk foods in large piles with only the edges exposed.
  - B. Eliminating access to storage areas.
  - C. Providing improved harborage for rodents outdoors.
  - D. Placing materials to be protected a minimum of 1 foot above ground level.
24. Domestic rats can:
- A. Climb vertical pipes up to 6 inches in diameter.
  - B. Jump up to 6 feet horizontally.
  - C. Enter through openings larger than ½ inch.
  - D. Burrow to a depth of 6 feet in soil.
25. The California Ground Squirrel:
- A. Can be a pest in large numbers.
  - B. Is the most important wild rodent involved in California plague epizootics.
  - C. Prefers open meadows, pastures, and rocky ridges.
  - D. All of the above.

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26. Chipmunks are:
- A. Important indicators of plague.
  - B. Important indicators of hantavirus
  - C. Vectors of Chagas disease.
  - D. Vectors of Rocky Mountain spotted fever.
27. The coyote is
- A. An important sentinel species for hantavirus.
  - B. An important sentinel species for plague surveillance programs.
  - C. An important sentinel species for West Nile virus.
  - D. An important sentinel species for psittacosis.
28. Opossums are:
- A. Omnivores.
  - B. Large rodents.
  - C. Mainly plant feeders.
  - D. Rarely found in suburban areas.
29. Opossums have been implicated in the transmission of:
- A. Plague.
  - B. Rabies.
  - C. Relapsing fever.
  - D. Murine typhus.
30. In California, skunks are an important reservoir of:
- A. Rabies.
  - B. Histoplasmosis.
  - C. Plague.
  - D. Murine typhus.
31. Raccoons are:
- A. Diurnal.
  - B. Omnivores.
  - C. Reservoirs of *Baylisascaris*.
  - D. B and C only.

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32. Removing nesting places for rodents, such as snags, stumps, old logs, and improperly stacked firewood, from around a house or cabin is one way to prevent exposure to the vector of:
- A. Chagas disease.
  - B. Murine typhus.
  - C. Relapsing fever.
  - D. Dutch elm disease.
33. In California, skunks are commonly found in:
- A. Suburban areas.
  - B. The Central Valley and surrounding foothills.
  - C. The desert and woodlands.
  - D. All of the above.
34. Mountain lions are important as:
- A. Biocontrol for coyotes.
  - B. An important sentinel species for plague surveillance programs.
  - C. Game animals that can be hunted by anyone at any time.
  - D. An important sentinel species for Histoplasmosis.
35. Bobcats are important sentinel species for:
- A. *Baylisascaris*.
  - B. Hantavirus.
  - C. Psittacosis.
  - D. None of the above.
36. Except for one rare species, all California bats feed on:
- A. Nectar.
  - B. Insects.
  - C. Fruits and seeds.
  - D. Small mammals and birds.

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37. To exclude bats, what sized hole should be sealed?
- A. Larger than  $\frac{1}{4}$  inch by 1 inch.
  - B. Larger than  $\frac{1}{2}$  inch by 1 inch.
  - C. Larger than 1 inch by 1 inch.
  - D. None of the above. Bats will widen existing holes with their front incisors.
38. Bat exclusion should be done what time of year?
- A. Anytime.
  - B. Summer only.
  - C. Late fall or winter.
  - D. Spring and summer.
39. For exclusion of bats what size mesh should be used?
- A.  $\frac{1}{4}$  or  $\frac{1}{2}$  inch.
  - B.  $\frac{3}{4}$  or 1 inch.
  - C. 1 or  $1 \frac{1}{4}$  inch.
  - D.  $1 \frac{1}{2}$  or  $1 \frac{3}{4}$  inch.
40. A typical symptom exhibited by a rabid bat is:
- A. Foaming at the mouth.
  - B. Aggressive attacks on humans.
  - C. Beginning its flight at dusk.
  - D. Helpless flopping on the ground.
41. The most effective chemical(s) to control bats is:
- A. Chlorpyrifos.
  - B. DDT.
  - C. Poisons and chemicals are illegal and ineffective against bats.
  - D. A and B only.
42. The most satisfactory method of removing a bat colony in a building is:
- A. Repellents.
  - B. Bat proofing.
  - C. Fumigation.
  - D. Residual pesticide dusts.

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43. Which of the following diseases can bats transmit?
- A. Rabies.
  - B. Chagas Disease.
  - C. Plague.
  - D. All of the above.
44. The following host and vector are important in the suburban California cycle of murine typhus:
- A. Wood rat and conenose bugs.
  - B. Ground squirrel and soft ticks.
  - C. Opossum and cat fleas.
  - D. Deer and the Pajahuello ticks.
45. Pigeons may serve as reservoirs of:
- A. Murine typhus.
  - B. Encephalitis and psittacosis (ornithosis).
  - C. Plague and relapsing fever.
  - D. Rabies and leptospirosis.
46. Pigeon control workers can best protect themselves from fungal spores by:
- A. Wearing approved respirators.
  - B. Using insect repellents.
  - C. Spraying ectoparasites.
  - D. Working upwind from the problem.
47. Bird control:
- A. Can best be done by a combination of habitat modification, use of repellents and removal of problem birds.
  - B. Should never be attempted because of state and federal laws.
  - C. Involves sealing holes in buildings.
  - D. Requires you to trap individuals and release them in outlying areas.

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48. Crows are:
- A. Solitary birds.
  - B. Recognized as reservoirs of Lyme disease.
  - C. Commonly infected with *Trypanosoma cruzi*, the causative agent of Chagas Disease.
  - D. An important sentinel species for surveillance of West Nile virus.
49. Rattlesnakes are likely to be most abundant:
- A. On hot bare ground.
  - B. Where cover allows them to hide from predators and hunt for prey.
  - C. In the vicinity of elevated wood piles.
  - D. In redwood forests.
50. Rattlesnakes are:
- A. Most active during the cold months.
  - B. Stopped in their movements by water obstacles.
  - C. Live-bearing animals.
  - D. Unable to inflict a venomous bite when very young.
51. The facial pits of the rattlesnake:
- A. Increase their sense of smell.
  - B. Detect vibrations in the air.
  - C. Are used by the snakes to identify their mates.
  - D. Detect warm-blooded animals by their temperature.