

MSc.Zo-08:Toxicology of Insecticides

Section A:

- 1.How the insect reduce the crop yield?
- 2.What is LD-50?
- 3.What is KD-50?
- 4.What is ED-50?
- 5.How the carbamate insecticides are developed?
- 6.What was the era when pyrethrum was used for mice control in Persia?
- 7.Pyrethrin I, Cinerin I, Jasmolin I are the components of which synthetic insecticides.
- 8.What is the pH for for stability of Fipronil?
- 9.What are insect chemosterilants?
- 10.Give two names of sex pheromones of recent period used on *Bombyx mori*?
- 11.What is an antifeedant?
- 12.Name some insect growth regulators.
- 13.What act as a stabilizer to convert aldrin into dieldrin?
- 14.Write down the statement whether it is correct or not:
 - a.The photolysis of carbamates results in hydrolysis to phenols.
 - b.Carbaryl in water are photolyzed by UV radiation.
 - c.The natural esters are non persistent insecticide chemical because of their ease of photodecomposition.
 - d.Under UV light irradiation the pyrethins degrades faster than cinerins.
- 15.What are synergists?
- 16.....have a high affinity for estrases(carbamates).
- 17.....may be degraded to both and monoacids(Malathion).
- 18.....enzymes have been demonstrated in insect preparation(Pyrethroid hydrolyzing)

19. What do you understand by insecticide resistant?
20. Describe natural mutation caused because of insecticidal implementation.
21. What is IPM?
22. Define pesticide residues.
23. Define half life of pesticides.
24. Define acceptable Daily intake?
25. Define Maximum Residue Limit (MRL) on a produce.
26. What are the weight units of residue analysis?
27. Define bio-accumulation of pollutants in a trophic level.

Section B:

1. Write down the basics of insecticide formulation?
2. Name five inorganic insecticides.
3. What do you know about insecticidal absorption into the human body?
4. Name some primary precaution to be adopted against the toxicity of insecticide.
5. What do you understand by provit analysis?
6. How do the action potential propagates in a neuro axon.
7. How the organophosphates & carbamates interfere with cholinergic synaptic transmission?
8. Write down the treatment of poisoning caused due to organophosphates in human.
9. Describe mode of action of carbamates inhibitors in insects.
10. Note down the names of enzymes involved in pyrethroid degradation.
11. How the pyrethroids get metabolized in insects?
12. Describe mode of action of chlorfenapyr.
13. Write down the mode of action of the benzoyl phenyl urea upon cuticle of insects.
14. How the ecdysis of insects is disrupted by the benzoyl phenyl Urea.
15. What are attractants ? Give chemical formulation of two of them.

16. Name the sex pheromones of sugarcane borer *Chilo saccharifagus*.
17. Write down the utilities of sex pheromones.
18. Write briefly about the neem products as an insect repellent.
19. Formulate the quantum yield of photochemical process.
20. What is Beer-Lambert law?
21. How does electron transfer sensitize pesticide photodecomposition?
22. How do carbamates act upon insect pests?
23. What are the compounds formed from Rotenone photodecomposition.
24. Give summary of catalytic cycle of cytochrome P450.
25. Name some mono-oxygenase enzymes.
26. Brief the factors which affect the activity of mono-oxygenase.
27. Explain the epoxidases.
28. Write about Knock Down Resistance (KDR).
29. How is preparation of susceptible genes made during IPM.
30. List the steps to be implemented on Pesticide Residue Analysis.
31. Draw a schematic diagram of High Performance Liquid Chromatography (HPLC).
32. Draw a schematic diagram of Flame Photometric Detector (FPD).

Section C:

1. Explain the advantages and disadvantages of fumigation.
2. Draw a dose response curve for LD-50 versus percentage response.
3. Name the factors that determine the cuticular penetration of pesticides.
4. Explain the role of acetyl-choline as chemical transmitter for nicotine or muscarine.
5. Write down the effects of nicotine on neuro muscular transmission of humans.
6. Differentiate the toxicity between the insects, mammals for pyrethrins and azadirachtin.
7. Give chemical formulations of phosphamidon, Diazinon, chlorpyrifos, profenofos.

8. What are carbamate insecticides. Explain their basic structure.
9. Explain the effect of pyrethrins on insect.
10. Explain the effect of neonicotinoids on insects.
11. Explain the toxicity of formamidines.
12. Describe the action of pymetrozinie.
13. What are the factors considered important for the success of insect male sterile techniques?
14. How the insect growth regulators are more effective than conventional insecticides?
15. How the addition of certain compounds accelerates the efficiencies of sex pheromones?
16. What is mode of action of microsomal oxygenases?
17. How the photochemistry helps in insecticidal studies?
18. Write the mechanism of cytochrome P-450
19. How the photochemistry helps in insecticidal studies.
20. List the functions of microsomal cytochrome P-450 dependent mono-oxygenase system.
21. List five factors