

KATHMANDU UNIVERSITY
End Semester Examination
July/August, 2024

Marks Scored:

Level : B.Sc.

Year : III

Course : ESEE 331

Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date : 30 JUL 2024

SECTION "A"

[10 Q. × 1 = 10 marks]

Choose and encircle in the most appropriate option from each set of choices

1. Mancozeb a broad-spectrum contact pesticide applied on fruit, vegetable, nut and field crops. The primary purpose of it is to control
 Bacteria Fungus Herbs Insects
2. Insects and their larva are the most important pests damaging crops and other materials. The damage is mainly due to their food behavior and they have different mouth types. The chewing mouth type is not found in
 Beetle Butterfly Catterpillar Grub
3. The scientific community understand the pesticides through their chemical name or chemical or molecular formula. The molecular formula $C_{14}H_9Cl_5$ refers to
 Aldrin BHC DDT Dieldrin
4. Intensive agricultural area in Nepal are using higher doses of pesticides especially in vegetables. The dose recorded till now is up to
 50kg/ha 15kg/ha 10kg/ha 1kg/ha
5. The use of modern pesticides in Nepal started during 1950s but the Pesticide Regulations and Pesticide Act of Nepal came into effect since
 1984 1994 2004 2014
6. Usually farmers are not using PPE during pesticide application. The exposure of pesticide causes short and long term effects but the most common symptom of pesticide exposure to human is
 Birth defects Cancer Death Vomits
7. During spraying of pesticides, one can get exposed through different body parts. However, almost all Nepalese farmers, who spray pesticides, get exposed through
 Eyes Lungs Mouth Skin
8. The pest *Helicoverpa armigera* damages many crops but in Nepal, it is one of the major pest of the crop
 Potato Rice Tomato Wheat
9. Different color codes are used in the packet or bottles of pesticides depending upon their toxicity levels. The bottles or packets of "Methyl parathion" is marked with a color code
 Blue Green Red Yellow

10. Traditionally Nepali farmers are using different plants and their parts to control pests. One of such plant, with pesticide properties, *Chrysanthemum*, is locally known as
[] Asuro [] Chiuri [] Godavari [] Timbur

SECTION "B"
[10 Q. × 1 = 10 marks]

Fill the gaps with appropriate word/s or value.

11. Defensive substances produced or accumulated by plants to resist pathogen invasion which are induced by pathogenic or non-pathogenic injury, or elicitors such as chitosan is _____
12. Rachel Louise Carson was a marine biologist, writer, and conservationist. Among her many books, a most popular book on environment and pesticides issue was _____
13. The mechanism of restricting transport or movement of people, animals, or exotic plant or their materials which is intended to prevent the spread of disease or pests from one place to another place _____
14. The pest density at which management action should be taken to prevent an increasing pest population from reaching the condition that will financially justify the cost of taking control measures _____
15. The scientific name of a gram positive bacteria used as biological pesticide on caterpillars such as hornworms and fruit worms _____
16. EC_{50} is a measure of the concentration of a drug, antibody or toxicant which induces a biological response between the baseline and maximum after a specified exposure time in _____ percent of the test population.
17. A highly lethal 4-hydroxycoumarin vitamin K antagonist anticoagulant poison, one of the world's most widely used pesticides, typically used to control all types of rodents ... _____
18. The trained personnel to monitor pest population and use control measures for pests on a regular basis _____
19. The pesticide that is effective against aphids, fruit worms, beetles, leafhoppers, moth larvae, and white flies on a wide variety of crops, which is also used in rivers and streams to catch fish in Nepal by some fisherman _____
20. _____, one of the form is Malaoxon, is a man-made organophosphate insecticide that is commonly used to control mosquitoes and a variety of insects that attack fruits, vegetables, landscaping plants, and shrubs.

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F. M. : 55

SECTION "C"

[3Q. × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. List the three major insects of wheat or rice with their names, properties of damage and control measures.
2. Why a biological pest control method is better than chemical control method? Write down the positive and negative aspects of these control methods.
3. Write the principles and importance of Integrated Pest Management in present agricultural practices of the globe.
4. Based on your field study, write in detail on the physical properties, toxicological effects, and environmental problems of one of the most used/sold pesticides among the ten listed pesticides.

SECTION "D"

[34 marks]

5. Write short notes on *ANY FOUR* [4 Q. × 4 = 16]
 - a. Prey and predator relationship
 - b. Misconception of chemical pesticides use in Nepal
 - c. Permaculture
 - d. Pesticide rules and regulations
 - e. Routes of pesticide exposure
6. Differentiate between [4 Q. × 3 = 12]
 - a. Unintentional and intentional poisoning
 - b. Lethal dose and acceptable daily intake
 - c. Biological and chemical pesticides
 - d. Systemic and non-systemic pesticides
7. Give reasons **WHY** [3 Q. × 2 = 6]
 - a. The cost of pesticide is likely to continuously increase
 - b. Climate smart agriculture is necessary
 - c. Work with, not against, nature

