



FINAL EXAM FOR ACADEMIC YEAR 2019/2020
S-1 PROGRAM

Exams : Integrated Forest Pest and Disease Control Name :
Day/Date : Tuesday, 10 December 2019 NIM. :
Time : 08.00-10.00 WIB No absence :
Room : RK. Audit 1 and RK. 2-3 audits prog. Study: S1

Attention !

Read the du'a before the exam! Write your name, NIM, and absent number! Please fill in the answers on the question paper directly and please return the questions! Answers are neatly written, legible and clear! Before writing the answer, first read all the questions carefully!

QUESTION: Prof.Dr.Ir. Ahmad, MS

A. Choose one of the most appropriate answers by crossing the correct answer (Score 20)

1. The principles of integrated pest control (IPM) are **(LO-6)**:
 - A. Healthy plant cultivation
 - B. Genetic engineering
 - C. Conservation of natural enemies
 - D. Answers A and C

2. In nature, without human intervention, actually all kinds of living things are always under pressure from other living things and environmental factors. It is usually referred to as..... because humans do not play an active role in controlling it **(LO-6)**
 - A. Biological control
 - B. biological control
 - C. Natural control
 - D. Technical culture control

3. Sterilization by utilizing temperature (hot water, frying) and soil solarization, is one way of controlling **(LO-6)**:
 - A. mechanic
 - B. Eradication
 - C. Physique
 - D. Technical culture

4. Biological control is **(LO-6)**:
 - A. The use of any living creature (natural enemy or antagonist) manipulated by humans to suppress pests and pathogens
 - B. Regulation of the population density of organisms by their natural enemies, so that the average density of these organisms is lower than that which is not regulated by their natural enemies.
 - C. Utilization of all biological components in the context of integrated disease control
 - D. all right

5. Pest and disease control that does not include biology-based tactics or technology is control **(LO-6)**
 - A. Biological
 - B. Experience
 - C. With sex pheromones
 - D. With microbial pesticides

6. To increase the work of local natural enemies, it can be done by means of habitat manipulation, changing practices.... **(LO-6)**
 - A. Cultivation, and changes in pesticide application practices
 - B. Cultivation, and introduction of natural enemies from outside
 - C. Application of pesticides, the introduction of natural enemies from the outside
 - D. Cultivation, and use of pheromones

7. Natural enemies that work by laying eggs on the body of the target animal, then after hatching the larvae suck the body fluids of the target animal to death, are called: **(LO-6)**
 - A. Predator
 - B. Antagonist agent
 - C. Parasitoids
 - D. Entomopathogenic

8. All of the following are ways to conserve natural enemies, except: **(LO-6)**
 - A. Conservation of natural enemies
 - B. Protect various types of plants, especially flowering plants
 - C. Do not use chemical pesticides
 - D. Relying on one control component

9. The fungus *Beauveria bassiana* attacks many types of insects, including beetles, moths, caterpillars, ladybugs and grasshoppers. This mushroom is known as **(LO-6)**
 - A. Entomopathogenic
 - B. Hyperparasite
 - C. obligate parasite
 - D. Antibiotic microbes

10. The inhibition or destruction of an organism by toxic metabolic compounds produced by other organisms is called **(LO-6)**
 - A. Antibiosis
 - B. Competition
 - C. Predation
 - D. Parasitoids

11. Control through cultivation techniques **(LO-6)**
 - A. Sanitation method
 - B. Trap plant
 - C. Polycultural practice
 - D. all right

12. Chemical compounds used by insects as a means of communication between individuals **(LO-6)**
 - A. Semiochemical compounds
 - B. Allechemicals
 - C. Includes pheromones
 - D. all right

13. Cleaning all nuisance plants (weeds) or other materials (plant remains, rotten fruit) that can become breeding grounds for pests and diseases is called **(LO-6)**
 - A. Physical control
 - B. Technical culture
 - C. Mechanical control
 - D. Sanitation

14. Neem plants contain bioactive compounds including: **(LO-6)**
- | | |
|-----------------|---------------|
| A. Azadirachtin | C. Eugenol |
| B. Viridin | D. Citronella |
15. *Arachis pintoii* It is a type of ground cover plant. Here are the benefits of ground cover plants **(LO-6)**
- | | |
|------------------------|--------------------------|
| A. Source of nitrogen | C. Natural enemy habitat |
| B. Resist soil erosion | D. all right |
16. Disadvantages of controlling with botanical pesticides, except **(LO-6)**
- | | |
|----------------------------------|---------------------------------------|
| A. Relatively slow working power | C. The application needs to be redone |
| B. Relatively not durable stored | D. Not flexible to use |
17. Quarantine is carried out on import, export and trade activities between areas. Quarantine activities are carried out in **(LO-7)**
- Airport, sea port
 - Post office, sea port/ crossing
 - Sea port, cross-border post
 - Airport, sea port, cross border post, post office
18. Pest resurgence means.... **(LO-6)**
- The pest population is very abundant because the pests become resistant to insecticides
 - The pest population is more abundant because natural enemies are eliminated due to insecticide treatment
 - The emergence of new pest explosions because natural enemies are no longer able to control them due to the application of insecticides
 - The emergence of pest explosions because their reproduction is higher due to the application of insecticides
19. Some of the reasons why synthetic organic pesticides are so popular and widely used are because: **(LO-6)**
- Very effective, that is one product can control several types pest and different
 - Requires few people to apply
 - The result is predictable
 - All correct answers
20. In chemical control methods sex pheromones are used to... **(LO-6)**
- Repel male pests so they can't mate and produce offspring
 - Confuses male pests so they can't mate and produce offspring
 - Killing male pests so they can't mate and produce offspring
 - Irritating to male pests so they can't mate and produce offspring

B. Circle B if the statement is true and S if the statement is false! (Score 10)

1. B - S The basic philosophy of IPM is that not all insects are pests that must be killed with insecticides **(LO-6)**
2. B - S The difference between biological control and natural control lies in the active role of humans using natural enemies **(LO-6)**
3. B - S In nature, disease epidemics are rare, unless the insect population is very large or the environmental conditions are very suitable for the growth of the pathogen **(LO-6)**
4. B - S The practice of planting with polyculture techniques causes pest resistance **(LO-6)**
5. B - S Based on the target they attack, parasitoids can be divided into egg parasitoids, larval parasitoids, and pupae parasitoids **(LO-6)**
6. B - S The use of antagonistic microbes, especially for pests and pathogens whose presence is difficult to reach by synthetic chemical agents **(LO-6)**
7. B - S *Metarhizium anisopliae* saprophyte in some insects and parasitic in the soil by surviving on plant debris **(LO-6)**
8. B - S One of the missions of agricultural quarantine is to protect animal and plant natural resources **(LO-7)**
9. B - S The interaction between species that forms the basis for biological control is exploitation **(LO-6)**
10. B - S Pesticides containing plant bioactive compounds can leave residues that are harmful to plants and the environment

C. Pair the appropriate statement A and Statement B, write the pair code in the answer column provided! (Score 10)

No.	Answer	Statement A		Statement B	
1.		The IPM approach is very comprehensive and based on the principles.....	A.	Conservation	(LO-6)
2.		All organisms that can damage, interfere with life, or cause the death of plants	B.	<i>Trichoderma</i> sp.	(LO-6)
3.		Pest control methods that are the first priority in integrated pest control are.....	C	Economics and Ecology	(LO-6)
4.		Commercial microbial formulations that control pests by transmitting disease to insect pests or being competitors for pathogenic microbes that attack plants	D.	Natural enemies	(LO-6)
5.		Mushrooms that have the ability as decomposers in the manufacture of organic fertilizers	E.	Genetic manipulation	(LO-6)
6.		Hormones secreted by insects and serve as a means of communication with each other	F.	Use of resistant plants	(LO-6)
7.		Insects that lay their eggs on the surface or inside the body of another insect that is a host and when hatched the larvae eat the tissues of the host's body are called....	G.	Plant Destruction Organisms (OPT)	(LO-6)
8.		Insect biological control is the control of insect pest populations by using...	H.	Microbial pesticides	(LO-6)

9.		An effort to defend and conserve natural enemies that already exist in a place or ecosystem and make them more effective in their functions	I.	Parasitoids	(LO-6)
10.		The release of sterilized male individuals to mate with female populations in nature so as to prevent the production of offspring.	J.	pheromones	(LO-6)

D. Please answer this question briefly and clearly (at least 50 words)! (Score 60)

1. What are the negative impacts of using chemical pesticides? (LO-6)
2. What do you know about soil plants? (LO-6)
3. Describe one of the management of plant pest organisms that you know! Give an example!(LO-6)
4. What do you know about plant quarantine? (LO-7)