DAY 1

Massachusetts Pesticide Applicator (Core) Exam
Prep Notes - 2022

These notes loosely follow the introductory PP we will be viewing on day one. Every question on the exam, and all the content come directly from the Core Manual, the glossary of terms, facts in the Supplements (mostly the pages on IPM), Chapter 132B and 333CMR. These pages are for you to write on and scratch your own notes.

You will need the following materials to properly prepare for the License (Core) Exam:

1. Core Manual (**Edition Three)**
2. Core Supplements
3. Chapter 132B
4. 333 CMR

The Exam Process

everblue

Registering & Creating an Account at the *EEA ePass* portal

https://www.mass.gov/doc/how-to-create-your-eplace-account/download

Having an account allows you to …

Exam is a two-step process (fees) What do 60 days represent?

MDAR pesticide program web site https://www.mass.gov/orgs/pesticide-program

Pesticide Examination and Licensing

Pre-exam instructional video

Tutorial

The exam is available …

Identification

Exam requirements (hardware, browser, mouse, etc)

Artificial Intelligence

Exam integrity

Exam is timed

After completing the exam, what happens next?

THE EXAM

The exam questions fall into 5 general categories. They are:

1. Health & safety principles of handling and using pesticides
2. Label Questions
3. Massachusetts rules, regulations, FIFRA and other Federal programs
4. CFPA (Children and Families Protection Act) – 333 CMR 14.00
5. IPM (20%)

EXAM CONTENT (per MDAR)

◦ Basic Entomology
◦ Toxicology of pesticides-toxicity to humans and animals
◦ Risks of pesticides to humans
◦ Pesticide formulations
◦ Pesticide labels & labeling
◦ IPM (including from supplement)
◦ WPS (basics)
◦ 333 CMR (especially sections 10, 11, 13 & 14)

Learning Objectives

Farming and other non-structural pest control information

Pass or Fail

What are 125 and 87?

What is Chapter 132B

What is 333 CMR

What is the WPS

Questions dealing with IPM

Multiple choice vs essay questions

Some questions may offer answer choices: “All the above”, or “None of the above

Negatives as correct answers

When more than one answer looks correct

Guessing

Math and formula questions on the exam (Chapter 25)

When some questions and answers may sound silly and make no sense

The exam is machine graded – receiving results

Label questions and time management (zooming in)

Flagging questions for second look

Each individual exam is the same

Materials allowed when taking the exam

Traveling with a company vehicle before receiving your license

Receiving your exam results

What happens after you pass?

What happens if you fail?

Some Federal Acronyms

FIFRA
EPA
FD&CA
FDA
USDA
DOL
OSHA
MSDS (SDS)
RUP
SLN
REI

Some State Acronyms+

DAR (MDAR is the SLA)
MPCA (Chapter 132B)
CFPA
CMR (333 CMR)
CIB
YOP
VMP
Pesticide Board
Advisory Councils

Massachusetts Rules & Regulations
Practice Questions for the Core/License Exam

(NOTE – These are not the actual test questions, nor are they intended to be. These are practice questions that cover content the real questions are likely to ask about.)

1. In order to be a commercial pesticide applicator you have to be licensed or certified by:
   a. USEPA
   b. State of Massachusetts
   c. Occupational Safety & Health Administration (OSHA)

2. You become licensed, or certified by:
   a. taking the core exam
   b. taking the certification exam
   c. taking one or more exams

3. Becoming licensed or certified means you:
   a. are an expert and highly knowledgeable in pest control.
   b. can legally apply pesticides for hire
   c. are an expert on the subject of pesticides

4. What state agency runs the pesticide program and enforces regulations in Massachusetts?
   a. DAR
   b. DPH
   c. EPA

5. The statement, the label is the law means:
   a. you need legal justification to deviate from the label
   b. you need a certified person to give directions how to deviate from the label
   c. neither of the above

6. Annual pesticide use reports must be submitted to the regulatory agency:
   a. by the pest control business
   b. by the applicator's supervisor
   c. by the applicator

7. Certain information and records must be kept on each pesticide application. Which of the following are *not* required?
   a. weather
   b. applicator
   c. place of application

8. Pesticide use records must be kept for:
   a. One year
   b. Three years
   c. 5 Five years

9. The applicator's supervisor is responsible for:
   a. filling out the pesticide application records
   b. reviewing those records before filing
   c. neither of the above

10. FIFRA stands for
    a. Federal Integrated & Food Regulated Act
    b. Federal Insecticide Fungicide & Rodenticide Act
    c. Federal Implementation Fungicide & Rodenticide Act

11. After becoming licensed, the actual license document must be
    a. shown to an inspector on request
    b. shown to the public on request
    c. carried on your person

12. Once issued, applicator licenses are valid and good as long as:
    a. you are actively doing pest control
    b. you are following the label
    c. you have liability insurance

13. Pesticides must be registered:
    a. by the federal government and state of Massachusetts in order use them.
    b. and have labels written in English
    c. and approved by the Massachusetts Environmental Protection Agency

14. FIFRA Section 25B pesticides are exempt from
    a. registration
    b. being sold over the counter
    c. commercial use

15. Which category of licensure requires a minimum of two years' experience to sit for the applicator's exam?
    a. Licensure
    b. Certification
    c. Neither

16. The private certification category applies to:
    a. janitors
    b. farmers
    c. public health agents

17. How many credits (CEUs) are required to maintain a license over three years?
    a. three (3)
    b. six (6)
    c. twelve (12)

18. How many credits (CEUs) are required to maintain a certification over three years?
    a. three (3)
    b. six (6)
    c. twelve (12)

19. 333 CMR refers to:
    a. our pesticide law
    b. our pesticide regulations
    c. our commercial moderating rules

20. Which of the following areas do not have CIB's?
    a. schools & lawns
    b. airports and cruise terminals
    c. Indoor spaces & trees

21. Licensed applicators must attend department approved training sessions over a _____ year period in order to keep their license for another cycle or retake the core exam.
    a. three (3)
    b. four (4)
    c. five(5)

22. As a condition to obtain or renew an applicator's license the individual must:
    a. have property and liability insurance
    b. have vehicle insurance
    c. have error and omission insurance

Section 10.14 Record Keeping Requirements

23. Which of the following do *not* meet the definition of pesticide use?
    a. mixing and loading of application equipment
    b. transporting pesticides
    c. reading a pesticide label

24. How long must pesticide application records be maintained?
    a. at least three years (3)
    b. at least 5 years (5)
    c. Neither choice is correct

25. Which of the following are **NOT** required as part of the record keeping requirements?
    a. place of application (check off all that apply)
    b. date of application
    c. time (clock time) application was made
    d. weather conditions
    e. pesticide brand name
    f. EPA reg. #
    g. amount applied
    h. method of application
    i. purpose of application
    j. applicator name
    k. accidents or incidents resulting from an application
    l. illnesses or injuries caused by, or suspected from a chemical application

Section 11.00 Rights of Way Management

26. A vernal pool is a depression in the ground that holds water for a minimum of two consecutive months and is free of adult fish.
    a. True
    b. False
    c. Neither

27. The initials YOP represent:
    a. a certain time of the year
    b. an annual plan
    c. an annual report

28. The initials VMP represent:
    a. a value moderating pesticides used for weed control
    b. a five year plan of intended herbicide use
    c. the types of herbicides to be used

29. The VMP is a ___ term plan for right-of-ways over a ___ year period.
    a. long - five
    b. decades – 10
    c. short – 1

30. The YOP:
    a. is a one year operational plan described in detail for the current calendar year that is designed to be consistent with the VMP.
    b. is a one year operational plan covering area-wide pesticide use in and around bodies of water
    c. a one year herbicide use description intended to cover rights-of-way and protect public water supplies

31. Zone A, Zone I and Zone II areas of concern spell out which of the following?
    a. The type of applicator license one needs to apply herbicides
    b. Areas where lawn care (residential turf) herbicides can and cannot be applied
    c. Specific distances around which weed killers can and cannot be applied

32. Which two Massachusetts departments are involved one way or another with the Right-of Way Program?
    a. Agricultural Resources & Environmental Protection
    d. Conservation and Recreation & Fish and Wildlife
    e. Agricultural Resources & Public Health

33. Which of the following would most likely not be considered a public right-of-way?
    a. roadway & railroad track beds
    b. sidewalks, bike paths & powerlines
    c. residential and commercial driveways

Section 13.00 Standards of Application

Section 13.01 Definitions

34. Public nuisance pests include:
    a. honey bees, wasps and yellow jackets
    b. gypsy moths, Japanese beetles and elm leaf beetles
    c. bed bugs, mosquitoes and ticks

Section 13.02 General Provisions

35. Pesticide application or mixing equipment designed, sold or intended for use in Massachusetts that draws water from pipes or fixtures that carry potable water, or draws from surface waters shall:
    a. be manufactured from brass and/or stainless steel
    b. only be used under 60 pounds per square inch (psi) pressure.
    c. have an effective anti-siphon device.

36. All persons who use pesticides shall do so in a manner that:
    a. effectively kills the targeted pest.
    b. maximizes the use of low toxicity pesticides
    c. causes no unreasonable adverse effect on the non-target environment

Section 13.03 Exclusions from Pesticide Applications

37. This section deals with exclusions from:
    a. wide-area applications for ticks.
    b. crack & crevice, and spot pesticide applications.
    c. wide-area mosquito applications

Section 13.04 Application by Aircraft

38. Persons who want to apply pesticides from aircraft must:
    a. be appropriately certified by DAR.
    b. be licensed small air-craft pilots.
    c. Only used fixed-wing aircraft

Section 13.05 Termite Control Regulations

39. Only people certified in category 43, or those working under the direct supervision of the appropriately certified person may apply liquid, subsurface termiticides.
    a. True
    b. False
    c. Sometimes

40. Termiticides may not be applied under concrete slab floors with intra or sub-slab heating ducts or water lines.
    a. True
    b. False
    c. Sometimes

41. Foundations with holes, cracks or voids may not be treated with liquid termiticides unless:
    a. applied by a properly licensed person
    b. certain steps have been taken
    c. mixed outside in special mix tanks

42. Prior to a termite treatment what information must be provided to the contracting entity?
    a. service agreement (contract) describing the treatment
    b. copy of the pesticide applicator's license
    c. termite CIB

Section 13.06 Lawn Care Regulations

43. Lawn treating regulations require a treatment notice be posted after each pesticide application. The lawn sign must remain posted no less than 24 hours and no more than 3 days. Who removes the sign?
    a. the applicator
    b. the applicator's supervisor
    c. the homeowner

44. After each lawn application the pesticide applicator must leave written information reporting certain treatment information. Which of the following do not need to be reported.
    a. pesticide applied and EPA #
    b. application equipment used
    c. label described post application post application requirements

Section 13.07 Protection of Honey Bees

45. This section deals with the use of
    a. methyl parathion.
    b. plants while in bloom.
    c. providing notice to apiary owners

Section 13.08 Application of Pesticides to Indoor settings

46. Outdoor rodent bait stations are required to have certain information on them, per the indoor pesticide use regulations. That information includes:
    a. name and phone number of the company making the application
    b. date of application, product name and EPA registration number
    c. none of the above

47. Interested persons who want to know when pesticides are going to be applied in their works spaces must be given that information:
    a. on a routine, monthly basis
    b. only when pesticide are going to be applied
    c. on request

48. Individuals occupying a room or area to be treated at the time of application must:
    a. be informed of the procedure.
    b. should be asked to leave the space
    c. can choose to stay if they wish

49. Rodenticides placed in generally accessible areas must be placed in tamper-resistant bait stations and must be secured to prevent:
    a. water from getting into the station
    b. lifting or removal
    c. bait from spilling out onto the ground

50. A CIB must be given to contracting entities:
    a. when starting a new general, indoor pest service agreement
    b. each month prior to service
    c. on an annual basis (once each year)

51. Before making each chemical application indoors a notice must be posted. These notices:
    a. may be removed the applicator immediately after the application is completed.
    b. may be removed by the applicator after 72 hours
    c. must be left in place by the applicator

52. Pre-notification to occupants of indoor areas to be treated must be made:
    a. for routine, regularly scheduled service visits.
    b. for emergency service visits.
    c. If requested.

53. If treating residential buildings where the contracting entity does not live in the unit to be treated the pest control service must:
    a. schedule the treatment during day time hours
    b. provide a department approved CIB prior to the treatment
    c. make sure no pets will be present

54. The use of insecticide baits are:
    a. exempt from the indoor pesticide use regulations
    b. low risk and safe to use indoors
    c. placed in tamper-resistant bait stations

55. Pre-notification may be waived for pesticide applications in emergency situations indoors if:
    a. the customer/consumer insists they cannot/will not wait
    b. there is an immediate threat to public health or safety
    c. the use is allowed by the property manager or owner

56. Pre-notification waivers:
    a. must have various elements documented in writing
    b. must be submitted to the Department
    c. may only be used once per month

Section 14:00 Protection of Children and Families From Harmful Pesticides

57. All schools, day care centers and school age child care programs must have written IPM plans before any registered pesticide are:
    a. applied
    b. approved
    c. allowed

58. Certain types of pesticides are permitted by these school regulations. The permitted classes of products included include:
    a. rodenticides, dusts, gels & powders
    b. crack and crevice aerosols
    c. pesticides available from retail stores like supermarkets and hardware stores

59. Every school must:
    a. have an IPM coordinator, IPM Committee and IPM policy.
    b. a list of pesticides in use at the school
    c. hire a licensed exterminator on contract

60. Section 25B pesticides are:
    a. not registered for use in Massachusetts
    b. the essential plant oils
    c. exempt from the rules in section 14:00

61. An indoor pesticide application also includes one where the applicator is standing outside the facility:
    a. and treating insects that may be entering the building
    b. and applying an indoor product against the outside of the building
    c. and making the application towards the interior of the building

62. A standard written notification must:
    a. be given before any indoor pesticide applications are made
    b. be made if notification has been requested by the school principal
    c. be made before outdoor listed pesticides are used

63. Application of rodenticides or avicides on a continuing year round basis outside:
    a. are exempt from the standard written notification requirement.
    b. may meet the notification requirement by a single annual notification
    c. neither of the above

64. Certain elements of school IPM plans must be maintained on site at the school. Which of the following are not required?
    a. Printed copy of the indoor and outdoor IPM plans
    b. Labels, SDSs, application records and applicator licenses
    c. Service vehicle license plate and evidence of liability insurance

65. How long must school pesticide application records be kept?
    a. One Year
    b. Three years
    c. Five years

66. Emergency exemptions are allowed from the standard written notification requirement for outside application if:
    a. the school principal determines that there is an imminent threat to human health
    b. the school principal determines there is no viable alternative to the use of a pesticide.
    c. the local health department declares an emergency situation

67. There are specific requirements of pesticide applicators performing work at schools. Which of the following are not required?
    a. View the IPM plan and apply pesticides no closer than 150 feet from students present outdoors
    b. Determine if a school is located at the treatment site and post signs if treating outside
    c. Use only exempt 25B pesticides

68. Who is responsible for preparing the school's IPM plan?
    a. The local health department
    b. The servicing pest control company
    c. The school

Federal Worker Protection Standard

69. The Federal Worker Protection Standard is a *state* regulation intended to protect agricultural workers and pesticide handlers, other than commercial applicators.
    a. True
    b. False
    c. Protects both

70. REI stands for:
    a. Registered Employee Instruction
    b. Re-Entry Interval
    c. Reported Emergency Instruction

71. The WPS requires signs be posted just before applications begin. Where must the signs be located?
    a. In a central location where every worker can see the postings
    b. Outside lunchrooms and bathrooms
    c. Entrances to treated areas

END

333 CMR 14:00 PROTECTION OF CHILDREN AND FAMILIES FROM HARMFUL PESTICIDES

Practice Questions for the Core/License Exam

(NOTE – These are not the actual test questions, nor are they intended to be. These are practice questions that cover content the real questions are likely to ask about.)

1. Which of the following are not covered by this section?
   a. Colleges and universities
   b. Daycare center in an office/manufacturing building
   c. Child play school/progressive school

2. Which of the following are covered by this section?
   a. Family home daycare
   b. Progressive needs programs with children younger than 21
   c. Religious school programs during religious services

3. Standard written notifications are given to employees, pupils, parents and guardians at least two working days before pesticides are to be sprayed, released or deposited:
   a. indoors at a school, daycare center or school age child care program
   b. outdoors at a school, daycare center or school age child care program
   c. when children are present on the regulated property

4. Emergency waivers may allow pesticide applications be made _____ without issuing the standard written notification.
   a. …for multiple applications for recurring pest issues…
   b. …for a single use…
   c. …on an annual basis…

5. Every regulated site must have:
   a. only indoor, controlled pesticide applications by a state licensed applicator
   b. an IPM committee, IPM coordinator, IPM plan and IPM policy
   c. an IPM pest prevention and management program

6. Outdoor play areas and athletic fields are regulated sites if:
   a. operated and maintained by the school or school district
   b. maintained by the town's park and recreation department
   c. maintained by the town's public works department

7. The standard written notification does not include which of the following?
   a. Purpose and approximate date of an outdoor application
   b. Specific application site, pesticide to be used, fact sheet and CIB
   c. Name of the actual applicator and pest control company making the application

8. The standard written notification is not required:
   a. when exempt (FIFRA Section 25b) are to be used
   b. for agricultural or vocational-technical or agricultural schools using/instructing on pesticides as part of their program
   c. when class activities are not taking place at the school for 15 or more consecutive days after the application is to take place

9. No pesticides may be applied outside a regulated site:
   a. unless the facility has a written outdoor IPM plan
   b. unless the facility is using a properly licensed company and licensed applicators
   c. unless the local school principal/superintendent approves the use

10. Pesticides may not be applied to a school property unless:
    a. the pest present has been identified
    b. a pest or its biological evidence is present
    c. a treatment plan has been put in place and approved by the school

11. Which of the following pesticides are not approved for indoor use?
    a. Rodenticides & termiticides
    b. RTU insecticide dusts, powders and gels
    c. Crack and crevice aerosols

12. Pesticides permitted for use on outdoor school properties:
    a. are limited to those listed on the indoor IPM plan
    b. are limited to those listed on the outdoor plan
    c. are those limited to low toxicity (signal word CAUTION) pesticides

13. Who is responsible for writing the school IPM plans?
    a. School
    b. Pest control company
    c. Massachusetts School & Education Department

14. Copy of the school's IPM plan must be on-site at the school. Other documents must be maintained on-site with the written IPM plan. Which of the following do not need to be maintained with the IPM plan on-site?
    a. Pesticide labels and application records
    b. Pest siting log book
    c. Applicator liability insurance information and company license

15. Every standard written notification shall include:
    a. Company license, applicator license & liability insurance evidence
    b. Standard written notification form, school CIB and chemical fact sheet
    c. Department of Education school certification, principals name & address

16. Schools shall maintain the IPM plan and related records for _____ years.
    a. 3
    b. 5
    c. 7

17. May pesticides be applied for purely aesthetic reasons on outdoor grounds of a school?
    a. Yes
    b. No
    c. Without justification

18. Standard written notification for outdoor pesticide applications must be issued to parents and employees no less than _____ working days and nor more than _____ days prior to making an outdoor pesticide application, or indoor termiticide treatment.
    a. 2 & 7
    b. 2 & 5
    c. 2 & 3

19. If an outdoor pesticide application is to take place while students are present for school sponsored activities the _____ shall take effective measures to keep students off the treated areas for at least _____ hour(s).
    a. School office - 1
    b. School – 8
    c. Pest control company – 3

20. Which of the following are not requirements of pesticide applicator's servicing a school or daycare facility?
    a. Check the IPM plan (s)
    b. Determine if a school is located at non-traditional site(s) to be serviced
    c. If outside treatment is for aesthetic purposes obtain copy of the written consent form
    d. Prior to making outside treatment(s) provide standard written notification to the school
    e. Schedule treatment when school is closed
    f. Post signs

21. When making an outdoor application, the applicator may not apply pesticides when students are present within _____ feet of the treatment site.
    a. 100
    b. 150
    c. 200

22. Emergency waivers are approved and authorized by:
    a. MDAR or the local health department
    b. School principal or district superintendent
    c. Pesticide applicator or servicing firm manager

END

Revised February 2022

Key IPM Definitions For Core Exam

Economic Injury – is the number of pests which cause damage that is equal to the cost required to control that pest. (damage, such as loss of yield or product quality)

Economic Threshold – is the highest point a pest population can reach without risk of its reaching the economic injury level. *It's the pest population density at which control measures are needed to prevent reaching the economic injury level.*

Action Threshold – is the highest tolerable level of pests. In agriculture, that number is based on the estimated value of the crop and the cost to control that pest. *It's the pest level at which control is warranted for reasons other than economic. Below this level control measures are not needed.*

In public health and urban settings the action threshold is rarely more than ZERO. No action thresholds exist in hospitals, food service, food manufacturing, research and retail.

Agriculture can tolerate a certain amount of crop damage, pest presence and activity. No level of pests, or contamination are acceptable in residential and urban settings.

MASSACHUSETTS APPLICATOR EXAM PRACTICE IPM QUESTIONS

The following training questions are based on the State IPM supplement in the Massachusetts Core Supplement that was revised in November 2000 and the Core Manual Chapter 13. Mark the correct answer for each question. There is only one correct answer for each question.

(NOTE – The following are not the actual test questions, nor are they intended to be. These are practice questions that cover content the real questions are likely to ask about.)

1. What does the acronym IPM mean?
   (a) Instant Personal Motor
   (b) Irrational Pest Meter
   (c) Inspectional Pest Management
   (d) Integrated Pest Management
   (e) Improved Profit Margin

2. What aspects are integrated into Integrated Pest Management?
   (a) Inspection
   (b) Control tools applied
   (c) Monitoring
   (d) Preventative measures
   (e) All the above

3. How many questions pertaining to IPM will be on the Massachusetts Core Licensing and category exams?
   (a) Approximately 10
   (b) Approximately 25
   (c) Approximately 50
   (d) Approximately 100

4. According to the Massachusetts Pesticide Control Act (MPCA), IPM is:
   "A comprehensive strategy of pest control combining multiple control measures which address conditions that support pests and may include the use of monitoring to determine immediate and ongoing needs for pest control, cultural controls, sanitation, physical barriers, biological pesticides and chemical pesticides (preferably low risk)."
   True ____ False ____

5. Benefits of IPM include:
   (a) Use more pesticides
   (b) Spend more for less pesticide
   (c) Reduce chemical pesticide reliance and use
   (d) Make customers impatient
   (e) None of the above

6. Which of the following would *not* be considered damage in the urban pest management environment?
    (a) Consumers upset from having pests in their home.
    (b) Support beams of a structure that have been eaten by insects
    (c) Specks of fecal material on a wall
    (d) Flies landing on food prep surfaces
    (e) None of the above

7. What does the expression "action threshold" mean for IPM?
    (a) The first step on the floor as one enters the doorway.
    (b) The level at which economic damage outweighs the cost to apply chemical pesticides and take other measures.
    (c) The insect population level below which is acceptable.
    (d) The pest level triggering corrective action using pesticides.
    (e) All the above

8. What does "economic threshold" means for IPM?
    (a) The first step on the floor as one enters the doorway
    (b) The level at which economic damages outweigh the cost to apply chemical pesticides and take other corrective measures.
    (c) The insect population level which is desired.
    (d) The pest level which is necessary to justify control measures.
    (e) The pest level below which, no damage will occur.

9. Which of the following considerations may not be involved in IPM?
    (a) Public Relations & communication
    (b) Biological
    (c) Chemical
    (d) Perceptual
    (e) Cultural
    (f) Mechanical/physical

10. Which statement is a major component in an IPM program?
    (a) Taking preventative measures to prevent pest buildup
    (b) Monitoring and assessing current pest populations
    (c) Determining the best action for control and prevention
    (d) Continued assessment of control and results
    (e) All the above

11. When there are many factors to consider when controlling pests following IPM principles, can there be more than one acceptable control method?
    YES ____ NO____

12. Controlling pests using parasites, predators, or pathogens is called:
    (a) Chemical control
    (b) Cultural control
    (c) Biological control
    (d) Pheromone control

13. A "harborage" is defined as:
    (a) A salt water vegetative area
    (b) Site where pests can live and survive
    (c) Site where pests can not live and survive
    (d) Uninspectable areas
    (e) None of the above

14. Which threshold reference includes the key element of cost as a factor to consider when controlling pests?
    (a) Elemental threshold
    (b) Action threshold
    (c) Economic threshold
    (d) Biologic threshold
    (e) All the above

15. Which threshold reference includes the key element of cost to control pests *perceived* to be lower than damage actually caused by pests.
    (a) Elemental threshold
    (b) Action threshold
    (c) Economic threshold
    (d) Biologic threshold

16. What is *forecasting*?
    (a) An application technique for granular pesticides
    (b) An application technique for biological pesticides
    (c) Use of past data (weather, seasonal, sanitation conditions, etc) to assess if conditions are favorable for pest development
    (d) A technique useful for pesticide application
    (e) None of the above

17. What is a plant called that is less susceptible to pests and diseases?
    (a) A strong cultivar
    (b) Pest resistant plant variety
    (c) A weed
    (d) An endophyte
    (e) Phytotoxic

18. What are pesticides called that are naturally occurring substances that can be used to control pests by mechanisms nontoxic to mammals?
    (a) Biochemical pesticides
    (b) Parasites
    (c) Pheromones
    (d) Synthetic Pyrethroids
    (e) Enzymes

19. Which of the following substances is a biochemical pesticide?
    (a) Soaps
    (b) Oils
    (c) Petroleum Derivative
    (d) Plant Growth Regulators
    (e) Repellents

20. Which of the following is not an active ingredient in microbial pesticides according to the State of Massachusetts?
    (a) H_20 (water)
    (b) Bacteria
    (c) Fungi
    (d) Viruses
    (e) All the above

21. Monitoring is used in IPM programs:
    (a) to determine what pest is present
    (b) to determine how many pests may be present
    (c) to confirm what pests may not be present
    (d) to assess the effectiveness of the controls applied
    (e) All the above

22. What is a predator or parasite that attacks pests called?
    (a) Beneficial
    (b) Expensive
    (c) Secondary pest
    (d) Biological pesticide
    (e) Insect resistant variety

23. Which of the following organisms are not known to develop resistance?
    (a) Bacteria
    (b) Viruses
    (c) Insects
    (d) Plants
    (e) None of the above

24. What steps can be taken to prevent pest resistance to chemical pesticides?
    (a) Rotate chemicals used
    (b) Use pest preventive measures
    (c) Use pesticides only when necessary
    (d) Use the smallest dose and least toxic product necessary to do the job
    (e) All the above

25. A *refuge* is:
    (a) An area without pesticides
    (b) Similar to a harborage area for pests
    (c) An area allowed to sustain a certain amount of pest damage
    (d) A protected area for beneficial insects
    (e) All the above

26. Sticky traps are?
    (a) A monitoring tool
    (b) Used to confirm pest presence and identity
    (c) Need to be inspected regularly
    (d) Used to locate a source of pest infestation
    (e) All the above

27. IPM strategies are influenced by the pests' :
    (a) immediate and surrounding environment
    (b) proximity to people and pets
    (c) population

28. Which department(s) were involved in writing the Massachusetts Core Manual IPM Supplement?
    (a) UMass Department of Entomology
    (b) UMass Extension Pesticide Education Program
    (c) UMass Integrated Pest Management Program
    (d) Massachusetts Department of Food and Agriculture, Pesticide Bureau
    (e) All the above

29. When was the start date that required all Massachusetts schools have IPM programs for their premises?
    (a) July 1, 1999
    (b) November 1, 2000
    (c) January 1, 2001
    (d) July1, 2001
    (e) November 1, 2001

30. *Pest resurgence* is:
    (a) The odor generated from pests
    (b) The fecal material from pests
    (c) A pest population increase that requires control after initial control measures were applied
    (d) The increase in a pest population when using pheromones
    (e) The flight of pest from an area

31. A secondary pest outbreak is:
    (a) a multiple pest problem
    (b) an additional pest problem due to unintended control of a natural enemy
    (c) pests that have indirect (secondary) damage consequences
    (d) pest belonging to the secondary classification
    (e) all the above

32. Which of the following insects can be considered beneficial?
    (a) German cockroaches
    (b) American cockroaches
    (c) Parasitic wasps (nonstinging)
    (d) Carpet beetles
    (e) Termites

33. IPM can be cost effective:
    (a) by avoiding chemical application to hundreds of acres
    (b) by increasing crop quality by better timing of application using forecasting
    (c) when costs related to perceived pesticide contamination are avoided
    (d) by using controls that are effective the first time (such as chemical control) save on the costs of implementing other control measures
    (e) all the above

34. Which structures **require** IPM plans according to **Massachusetts State** law?
    (a) Preschools and Kindergartens
    (b) High schools
    (c) Elementary schools
    (d) Daycare Centers
    (e) All the above

35. Which of the following best describes the damage caused by pests that is equal to, or greater than the cost of controlling that pest?
    (a) Cost point
    (b) Economic benefit of control efforts
    (c) Economic injury level
    (d) Economic threshold
    (e) All the above

36. What are manmade changes in the environment that make survival of the pest less likely called?
    (a) Managed control
    (b) Cultural control
    (c) Mechanical control
    (d) Biological control
    (e) None of the above

37. Which of the following terms refer to methods of application for biological control?
    (a) Sanitation
    (b) Introduction
    (c) Augmentation
    (d) Conservation
    (e) b & c

38. The application method used when native natural enemies are released for pest control is called:
    (a) Conservation
    (b) Environation
    (c) Biolation
    (d) Augmentation
    (e) None of the above

39. The term which refers to the release of foreign natural enemies released for pest control purposes is:
    (a) Introduction
    (b) Adding
    (c) Complimenting

40. The term that describes releasing small numbers of pests released to control other organisms is:
    (a) Removing
    (b) Innoculative
    (c) Targeted

41. The term that describes releasing large number of beneficial organisms loose in the environment is:
    (a.) Overwhelming
    (b.) Superlative
    (c.) Innundative

42. Which of the following pests is *not* an introduced animal from outside the United States?
    (a) Gypsy moth
    (b) Starling
    (c) European corn borer
    (d) Japanese beetle
    (e) Carpenter ant

43. Which of the following consideration(s) are involved in assessing a chemical pesticide's risk?
    (a) Re-entry Interval
    (b) Potential exposure after application
    (c) Toxicity of product
    (d) Solubility
    (e) All the above

44. Using a chemical pesticide application to bring a pest problem under control before irreparable damage can occur:
    (a) is inconsistent with the IPM philosophy and approach
    (b) is consistent with the IPM philosophy and approach
    (c) is rarely used to avoid unnecessary environmental harm and damage

45. What factors can promote resistance in a pest population?
    (a) High reproductive capability
    (b) Short life cycle
    (c) Unchanging, single chemistry control tactics
    (d) Having many broods and offspring
    (e) All the above

46. Which of the following is a drawback of using a pest specific pesticide, such as roach baits?
    (a) They work well on only one specie, or group of insects.
    (b) It affects only that pest and not other pests that may be present.
    (c) Resistance may come on sooner
    (d) The environmental conditions may not always be appropriate for that pesticide
    (e) All the above

47. Which of the following is not an advantage of using a broad-spectrum pesticide?
    (a) They are effective on multiple pests
    (b) Fewer pesticide applications are needed
    (c) One pesticide can be used in many situations
    (d) None of the above

48. A chemical pesticide may be toxic to insects and:
    (a) minimally toxic to mammals (i.e. humans)
    (b) is often highly toxic to people
    (c) more hazardous to rodents and non-vertebrate species

49. Which of the following are *not* involved in IPM?
    (a) Communication
    (b) Written Records
    (c) Education
    (d) Recommendations
    (e) None of the above

50. When considering urban IPM programs, urban habitats are biologically ____ diverse than agricultural ones.
    (a.) more
    (b.) less
    (c.) Similarly

51. When considering urban IPM programs, urban habitats have _____ options available for the IPM approach.
    (a,) more
    (b) fewer
    (c.) limited

52. When considering urban IPM programs, urban habitats usually have _____ action thresholds.
    (a) much higher
    (b) lower
    (c) moderate

53. Larger amounts of chemical pesticides tend to be applied to an agricultural setting versus an urban setting.
    (a) True
    (b) False
    (c) Neither

54. Which of the following aspects are *not* important and do *not* need consideration in determining the best course of action for control in IPM?
    (a) Most cost effective in the short and long term
    (b) Least hazardous to human health
    (c) Least damaging to the general environment
    (d) Most likely to result in permanent pest reduction
    (e) Least disruptive to natural enemies
    (f) None of the above

END

CimeXa™
insecticide dust

For Control of: Ants, Cockroaches, Firebrats, Silverfish, Spiders, Mites, Bed Bugs, Lice, Fleas, Ticks, Stored Product/Pantry/Fabric/Clothes Beetles and Moths & Drywood Termites

Kills Bed Bug Adults & Nymphs

Kills Bed Bug Nymphs Hatched from Dusted Eggs

Kills Pyrethroid-Resistant Bed Bugs

Lasts Up to Ten Years When Undisturbed

Provides Fast Control

Odorless • Non-Staining

KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals: CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
First Aid
If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

EPA Reg. No.: 73079-12
EPA Est. No.: 73079-MO-1

Net Contents: 4 oz, 5 lbs

Active Ingredient: Silicon Dioxide as Amorphous Silica.....92.1%
Other Ingredients.....7.9%
Total:.....100.0%

green zone brand™

DIRECTIONS FOR USE
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Use Restrictions: In edible product areas of food handling establishments, restaurants or other areas where food is commercially prepared or processed, or in serving areas when food is exposed, this product may only be applied as a crack and crevice treatment. Any product remaining outside of cracks and crevices must be cleaned up and removed.

Application Directions
Use Sites: In and around residential, multi-family, commercial, industrial, institutional, municipal, agricultural, research, daycare, health care, educational, recreational, and office buildings, hotels, motels, garages, transport vehicles, warehouses, theaters, and other manmade structures, and food handling and food processing establishments.

General Information: CimeXa™ is a desiccant dust that has no odor and will not stain. When pests contact CimeXa™, the product clings to their exoskeleton and absorbs the waxy coating, causing death from dehydration.

Application Rates and Methods: Apply at a rate of 2 ounces per 100 square feet. In attics and crawlspaces, apply at a rate of 1 lb per 1000 square feet. Use a handheld bellows, bulb or puffer bottle type duster to apply a light, visible film. A craft or paint brush is useful for pushing dust into cracks and crevices, and into tufts and folds of mattresses and cushions. A power duster may also be used. **Power duster use is limited to cracks, crevices, voids, attics and crawlspaces to insure containment of dust particles. Liquid Application:** The product may be used as a spray, paint on application, or foam. Combine up to 1 lb of product with 1 gallon of clean water. Apply approximately 1 quart of product/water slurry per 250 square feet of area to be treated. The product does not dissolve in water and will be left behind and visible after evaporation. For injection treatment, add the appropriate amount of foaming agent to the product/water slurry and inject directly into galleries and voids.

General Pest (Ants, Cockroaches, Firebrats, Silverfish, Spiders, Mites) Treatment: Treat attics, crawl spaces, trash closets, utility closets, behind baseboards, around the perimeter of dropped ceilings, in hollow furniture legs; under and behind bedding, appliances and vending machines; in wall voids and voids under and behind cabinets, sinks and tubs; in drawer wells, garbage chutes, pipe chases, weep holes in brick or siding, elevator pits, around drains, around electrical conduits and in cracks and crevices where insects may harbor. Focus application in areas where insects or their signs are seen.

Application tips for certain use sites follow:
1. In attics, be sure to get dust near the eaves and vent pipes where insects often first enter, as well as around any pipes or potential access points between the attic and the main structure.
2. When treating cabinetry areas, if there is no gap between the lower cabinets and the kickplate, then small holes can be drilled to access the voids. Escutcheon plates around pipes can also be pulled back to allow access to voids.
3. The bottom drawers in kitchen and bathroom cabinets can be removed and dust applied into drawer wells. No dust should be left exposed when drawers are replaced.
4. Electrical switch plate covers can be removed to allow access to voids, but dust shouldn't be applied directly in electrical boxes.
5. If there are cracks between baseboards, cabinets, doorframes, hinges, counters or trim, and walls, these cracks can be lightly dusted with product. If practical, these areas can be sealed once insect problems have been eliminated, to help prevent future problems.
6. Insects need moisture, so kitchen and bath areas and areas immediately surrounding them, and any other damp areas should be carefully inspected and treated if necessary.

Bed Bug Treatment: Remove bedding and take the bed apart. Treat the interior framework, joints and cracks in the bed frame. Treat the mattress and box spring, paying particular attention to tufts, folds and edges, and the interior framework of the box spring. Remove wall-mounted head boards and treat the back side. Treat picture frames, moldings, hollow furniture legs, cracks and crevices, along baseboards, and any areas with visible signs of infestation, including rugs and carpet. Treat upholstered furniture by removing or lifting (if possible) the cushions and treating the undersurface. Treat the interior framework, cracks and joints of the furniture, and the folds, tufts and edges of cushions and other upholstered areas. Do not treat toys and stuffed animals with product. Treat wall voids by removing electrical switch plate covers to allow access, but don't apply dust directly in electrical boxes. Apply about ¼ oz of dust to each accessible void.

Flea, Lice and Tick Treatment: Treat kennels, pet bedding/rest areas, floor and floor coverings, cracks behind molding and baseboards and other areas where pests may harbor.

Stored Product (Pantry and Fabric/Clothes) Beetles and Moths: Treat cracks, crevices and along the edges of cupboards, closets, pantries, shelving units and storage. Treat voids beneath drawer units by removing the lower drawers and treating the well. Treat the voids beneath shelving units or cabinets by removing the kickplate or drilling small access holes in the kickplate. Treat under rugs and along the edges of carpets and baseboards and other infested areas to control carpet beetles.

Drywood Termite Treatment: For existing infestations of drywood termites, use a drill or probe to locate and access galleries and inject product directly into galleries. An electric or pneumatic duster which produces a pressure of at least 30 psi and no more than 175 psi should be used to force dust throughout galleries. Any holes left in framing covering must be closed and sealed.

Drywood Termite Prevention: Apply at a rate of 1 lb per 1000 square feet in attics and crawlspaces so that the product coats wood members. Drill periodic access holes into wall and ceiling voids and inject the dust at a rate of 1 lb per 1000 square feet of surface area. Insure sufficient holes are drilled to cover interior framing in voids. The working pressure range of electric or pneumatic dusters should be from 30 to 175 psi and the air supply should be dried if the relative humidity is higher than 50%.

Food Processing and Handling Establishment Application, including Federally-Inspected Meat and Poultry Plants: In food areas, only apply dusts in cracks, crevices, and other inaccessible areas. Avoid contamination of food and feedstuffs. Avoid introducing the product into the air. Never apply powder directly to a surface where food is stored, prepared or served. Any dust that is left visible after treatment should be removed and the exposed surface washed. Food areas include: processing areas, including enclosed systems such as syrup and oil plants, dairies, and mills; packing areas, including bottling, canning, wrapping and boxing; receiving areas; storage areas, including edible waste storage; and serving areas, such as dining rooms. In these areas, dust sparingly into cracks and crevices, such as along baseboards and between construction elements. Do not apply in serving areas when facility is in operation or when food is exposed. Do not treat surfaces likely to be contacted by food.

Storage and Disposal
Do not contaminate water, food or feed by storage or disposal.
Storage: Store in a dry place. Do not store where children or animals may gain access.
Disposal: If Empty: Non-refillable container. Do not reuse this container. Place in trash or offer for recycling if available. **If Partly Filled:** Call your local solid waste agency or 1-800-CLEANUP which is managed as a public-private partnership.

Manufactured By:

Rockwell Labs Ltd
creating the future of pest control
1257 Bedford Ave
North Kansas City, MO 64116
816-283-3167
www.rockwelllabs.com

04187 - 4 oz *V.0618-060116 - 5 lb*

Label/Review Practice Exercise
Cimexa Insecticide Dust

INSTRUCTIONS - The label is the law! Pesticide products must be applied as directed by the label. There is a wealth of information on the label. Part of the licensed applicator's responsibility is being able to read and interpret pesticide labels. You will have label questions to answer on the exam. Answer the following label questions on the above product. You must have a copy of the label in front of you in order to complete this exercise. The purpose of this exercise is to get you familiar with reading labels and answering questions on the core exam. This is not the label from the exam.

1. The EPA Reg. no. for Cimexa dust is:
   a. 73079-MO-1 b. 73079-12 c. v.0117-060116

2. Cimexa is classified as a _____ toxic pesticide product.
   a. moderately b. low c. highly

3. The percent active ingredient in Cimexa is _____.
   a. 100% b. 7.9% c. 92.1%

4. Cimexa may be applied as a _____ application in restaurants and cafeterias.
   a. spot b. space c. crack & crevice

5. Which of the following ppe must be worn when applying Cimexa?
   a. gloves c. goggles c. neither are required

6. Cimexa is _____ .
   a. flammable b. a bait formulation c. neither

7. Cimexa may be applied as a _____
   a. dry dust b. liquid spray c. dust or liquid spray

8. Cimexa will last up to _____ if left undisturbed.
   a. 6 months b. 1 year c. 10 years

9. Cimexa's mode of action works as a _____
   a. nerve poison b. stomach poison c. desiccant

10. Cimexa is effective against _____.
    a. gypsy moths and Japanese beetles b. flies and stinging insects
    c. roaches, bed bugs and moths

11. Cimexa may be used to kill _____.
    a. carpenter ants b. juvenile mice c. subterranean termites

12. Cimexa comes in a _____.
    a. refillable container b. non-refillable container c. reusable container

13. Cimexa may be applied _____.
    a. in hospitals and research facilities
    b. during the night when facilities are unoccupied
    c. after occupied spaces are evacuated

14. Cimexa is a _____ use product.
    a. general b. restricted c. state restricted

15. Cimexa has _____ .
    a. a mild, pleasant floral odor
    b. the ability to stick to insect exoskeletons
    c. a short residual life

16. Cimexa may be applied _____
    a. using a powder duster onto horizontal and vertical surfaces where the poswder will stick.
    b. as a bait for bed bugs and lice
    c. as a dry dust or liquid spray

17. Cimexa dust may be applied with _____
    a. a paint brush
    b. an aerosol
    c. fogging piece of equipment

18. After applying Cimexa as a liquid spray _____
    a. the REI is 90 minutes (1 ½ hrs)
    b. a visible deposit will be visible after surfaces dry out
    c. exposes surfaces must be washed and cleaned

19. Cimexa will kill _____
    a. bed bug adults, nymphs and eggs
    b. bed bug larvae and pupae
    c. bed bug nymphs hatched from dusted eggs

20. How much material would be applied treating a 1500 square foot attic for silverfish?
    a. two ounces
    b. 1 ½ pounds
    c. 0 pounds

END

DAY 2

Mass Applicator License/Core Exam Practice Questions

(NOTE – These are not the actual test questions, nor are they intended to be. These are practice questions that cover content the real questions are likely to ask about.)

1. The terms label and labeling:
   a. mean the same thing
   b. mean different things to different people
   c. describe different documents

2. The definition of a pest:
   a. includes species people don't like
   b. includes species in places they don't belong
   c. never includes beneficial species

3. Nematodes are small worm-like organisms that may infest:
   a. plants and insects
   b. birds
   c. structures like homes and offices

4. Pest control devices:
   a. incorporate insecticides and IGRs
   b. includes such items as rodent snap traps and glue traps
   c. are usually not part of IPM programs

5. The expression *pesticide use* includes
   a. formulating
   b. transporting
   c. IPM

6. Insects have different mouthparts. Which of the following are *not* examples of different mouthparts?
   a. Breathing and seeing
   b. Chewing and piercing-sucking
   c. Sponging and siphoning

7. Most adult insects have two pair of wings. Which of the following only has one pair of wings?
   a. Beetles
   b. Flies
   c. Fleas

8. Which of the following are stages of gradual metamorphosis?
   a. egg, larva, pupa, adult
   b. egg, larva, adult
   c. egg, nymph, adult

9. Which of the following are stages of complete metamorphosis
   a. egg, larva, pupa adult
   b. egg. Larva, adult
   c. egg, nymph, adult

10. Which of the following are not insects?
    a. ticks, mites & millipedes
    b. fleas, bed bugs & lice
    c. flies, ground beetles & roaches

11. Mold, mildew and mushrooms are examples of
    a. bacteria
    b. viruses
    c. fungi

12. *Complete this sentence* - Mode of action is _____
    a. how pesticides get mixed together
    b. how pesticides are applied
    c. how pesticides work

13. Which of the following kill by coming into contact with the insect?
    a. Inhalation
    b. Contact
    c. Systemic

14. An acute rodenticide kills rodents after _____ feeding(s).
    a. Several
    b. Single
    c. Multiple

15. The terms annual, biennial and perennial refer to the different life stages of _____
    a. insects with complete metamorphosis
    b. plants and weeds
    c. vertebrate animals

16. The term hormone refers to _____ .
    a. insect growth
    b. rodent growth
    c. insect communication

17. The term pheromone refers to _____.
    a. Insect growth
    b. rodent growth
    c. insect communication

18. The term pesticide refers to a class of chemicals used to kill _____
    a. Insects
    b. pests
    c. rodents

19. A solution is _____
    a. a liquid dissolved in another liquid
    b. a solid dissolved in a liquid
    c. a concentrate encapsulated in micro coatings

20. A wettable powder is a _____
    a. dry material dissolved in water
    b. dry material mixed in water
    c. dry material applied without mixing

21. A dust is a _____
    a. applied after blending
    b. applied as is
    c. applied after diluting

22. When an active ingredient is combined with inert ingredients it is called a _____
    a. mix
    b. ready to use pesticide
    c. formulation

23. The initials EC stands for_____.
    a. economically compatible
    b. emulsfiable concentrate
    c. equally concentrated

24. Which of the following would best be closest a wettable powder?
    a. Salt dissolved in water
    b. Flour mixed in water
    c. Sugar dissolved in water

25. An emulsion refers to a liquid mixed in another liquid that _____
    a. can separate if left undisturbed
    b. thoroughly mixes in another liquid
    c. two liquids mixed together

26. Which formulation is especially hazardous to bees and other pollinators?
    a. EC
    b. Encapsulation
    c. Soluble Powders

27. Which of the following would not be a RTU formulation?
    a. Aerosol
    b. Insect Bait
    c. Chemical Concentrate

28. The first step in choosing a particular formulation is to make sure it will be
    a. effective
    b. cost effective
    c. available for use

29. An adjuvant is a chemical added to a pesticide mix to make it work _____
    a. better
    b. safely around children and pets
    c. safely around health compromised people

30. Surfactants & stickers are added to make insecticides work better when applied to __
    a. Floors and walls
    b. Brick and cement surfaces
    c. Plants

31. What is the difference between chronic and acute exposure?
    a. There is no practical difference
    b. The frequency of pesticide exposures
    c. The time differences relating to actual pesticide exposure

32. Risk and exposure go hand in hand and essentially mean _____
    a. the same thing
    b. the relative hazard involved
    c. a pesticide is safe

33. What are the four possible routes of pesticide exposure?
    a. Feet, hands, top of the head and eyes
    b. Eating, touching, breathing and eyes
    c. Elbows, forearms, hands and eyes

34. Chronic effect from poisoning exposure usually occurs within the first _____
    a. hour
    b. twenty minutes
    c. 24 hours

35. LC 50 and LD 50 are measures of a pesticide's toxicity. The higher the number the _____ toxic the product.
    a. more
    b. less
    c. average

36. LC 50 is a measure of toxicity through the _____
    a. skin
    b. nose
    c. ears

37. Signal words on labels are tied to the LD50 value of pesticides. Which signal word indicates low toxicity?
    a. Danger b. Caution c. Warning

38. Which signal word indicates moderate toxicity?
    a. Danger b. Caution c. Warning

39. Which signal word indicates high toxicity?
    a. Danger b. Caution c. Warning

40. Organophosphates, carbamates are insecticides that inhibit _____
    a. nerve impulses
    b. ability to walk a straight line
    c. sight

41. Cholinesterase is _____
    a. a low toxicity pesticide
    b. an enzyme require for nerve transmission
    c. an enzyme necessary for digestion

42. PPE made of cotton, leather or canvas cloth are _____ chemically resistant to pesticide exposure.
    a. the most
    b. the least
    c. average

43. Gloves are worn with the sleeves _____ the glove cuffs when working outside.
    a. inside
    b. over
    c. cut around

44. Most pesticide applicator exposure happens through _____
    a. inhalation
    b. ingestion
    c. contact

45. Where do you learn what PPE is required when using a particular pesticide?
    a. Dept of Environmental Protection
    b. Dept of Public Health
    c. Pesticide label

46. The SDS & Label _____
    a. essentially contain the same information
    b. are different documents that can describe the same pesticide
    c. are prepared and written by the licensed applicator

47. What are the two types of respirators used to protect applicators breathing?
    a. Cloth masks & Face shield
    b. Air supplying & air purifying
    c. Ventilators & ear plugs

48. The pesticide label will list the _____ PPE a person must wear whe using that product.
    a. recommended
    b. minimum
    c. maximum

49. Positive and negative fit tests should be done whenever what type of PPE is employed?
    a. Gloves
    b. Eye covers and face masks
    c. Respirators

50. Work clothes should be laundered separately from _____ clothing.
    a. summer, loose
    b. underwear
    c. family

51. Immediate first aid for pesticide exposure to the skin, eyes is _____
    a. to get the victim to fresh air
    b. is to flush with clean water
    c. is to wash with soap and water

52. Vomiting is _____ the first aid response to poison ingestion.
    a. always
    b. may not always be
    c. is rarely ever

53. Phytotoxicity means causing injury to:
    a. Bees
    b. Phytos
    c. Plants

54. Solubility is a measure of a pesticide's ability to
    a. mix with other active ingredients
    b. dissolve
    c. form a suspension

55. Adsorption means a pesticide's ability to _____
    a. stick to hard surfaces like walls and floors
    b. be taken up by a plant or animal
    c. bound to a surface by physical or chemical attraction

56. Absorption refers to a pesticide's ability to _____
    a. stick top hard surfaces like walls and floors
    b. be taken up by a plant or animal
    c. bound to a surface by physical or chemical attraction

57. Which of the following are *not* ways pesticides break down in the environment?
    a. Becoming diluted
    b. Microbial & sunlight action
    c. Exposure to cold temperature

58. Volatility is when pesticides turn into_____
    a. vapors or gases
    b. liquids and solids
    c. more hazardous substances

59. How is runoff different from leaching?
    a. They are not
    b. They involve liquids
    c. One involves excessive application and the other does not

60. An aquifer is a geologic formation from which groundwater can be _____
    a. withdrawn
    b. replaced
    c. blended

61. Endangered and threatened species are animals or plants that _____
    a. we in pest control are not concerned with and don't encounter
    b. are often found in farmer's fields
    c. don't exist in Massachusetts

62. How does point-source pollution differ from non-point-source pollution?
    a. They are not different. They are essentially the same.
    b. One is more easily identified than the other
    c. One involves liquids and the other solid pesticides

63. What of the following are *not* ways you can prevent back-siphoning?
    a. Mix carefully away from the service vehicle or tractor
    b. Provide for an air gap
    c. Provide your own water supply or use a check valve

64. Resistance refers to the ability of a pest to become ____ susceptible to pesticide exposure and kill.
    a. less
    b. more
    c. immune

65. Pesticide resistance increases in pests that have _____ life cycles.
    a. longer, more extended
    b. multiple stage
    c. shorter

66. Resistance management _____
    a. means certain pests may be more difficult to manage
    b. means agricultural pests may be easier to control than urban/structural pests
    c. means different control measures may be needed for improved control

67. Pesticides are classified (registered) by EPA as either _____
    a. safe or hazardous
    b. restricted or general use
    c. liquids or solids

68. Scouting and trapping are two methods of monitoring for _____
    a. fluctuating weather conditions
    b. pests
    c. animals

69. Which of the following are *not* types of pesticide registration actions under FIFRA?
    a. Section 3 & Section 24c
    b. Section 18 & Section 25(b)
    c. Safe or not safe

70. Section 2(ee) allows pesticide uses not specifically described on the _____.
    a. MSDS
    b. Label
    c. Fact Sheet

71. Quarantine is total _____ of a pest from a designated area.
    a. elimination
    b. chemical control
    c. movement control

72. Elimination involves _____ of a pest from a designated area.
    a. total extermination
    b. partial control
    c. using pesticides for control

73. A private certified applicator _____
    a. applies pesticides on his own property.
    b. is a farmer
    c. is a sole proprietor owning their own lawncare business

74. A commercial certified applicator is _____.
    a. someone who applies pesticides for hire
    b. a business owner who applies pesticides
    c. some who applies low toxicity pesticides

75. REI stands for _____
    a. registered engaging interval
    b. re-entry interval
    c. repeat entering information

76. The WPS is intended to _____
    a. protect individuals that perform tasks related to cultivation and harvesting of plants
    b. protect farmers
    c. protect commercial applicators and those that mix pesticides

77. The WPS is a standard created by _____.
    a. US Environmental Protection Agency
    b. Chapter 132B (Mass Pesticide Control Act)
    c. Mass Department of Public Health

78. The Federal Insecticide Fungicide & Rodenticide Act _____.
    a. is the law regulating pesticides in New England
    b. is the law regulating pesticides in the US
    c. is the law regulating environmental safety in the US

79. The SLA in Massachusetts is _____.
    a. Mass Department of Agricultural Resources
    b. Mass Department of Conservation & Recreation
    c. Mass Department of Public Health

80. How can you tell if a pesticide is an RUP? _____
    a. Look at the SDS
    b. Look at the Label
    c. Contact the USEPA and ask

81. The initials FQPA stands for _____.
    a. Frank Quality Program Act
    b. Food Quality Protection Act
    c. Foremost Quality Perception Arrangement

82. The FFDCA regulates _____ throughout the US.
    a. farmers, dairies & cooperatives
    b. food, medicines & cosmetics
    c. fisheries, domestic animals & cannabis

83. Pesticide remaining on a crop after application is called _____.
    a. a residue
    b. a deposit
    c. left over

84. Pesticide that legally remains on food products when ready for market or to be consumed is called a _____.
    a. contaminant
    b. adulterant
    c. tolerance

85. What is a pesticide that is held in containers that hold greater than 55 gallons of liquid or 100 pounds of solid material called?
    a. A lot of chemical
    b. A bulk pesticide
    c. A pesticide needing containment & ventilation

86. A service container is _____
    a. a container used for service
    b. any container other than the original manufacturer's container
    c. a container holding bulk pesticides to be stored safely

87. Pesticide rinsate is _____.
    a. liquid used to dilute pesticides to end use dilutions
    b. liquid used to clean out empty containers
    c. liquid pesticide left over at the end of the work day

88. Which of the following does the definition of "pesticide use" not include?
    a. mixing and applying
    b. transporting
    c. storing

89. Which of the following are not necessarily recommended to be in the service vehicle to be prepared in case of an accident?
    a. Label, SDS, andcell phone or communication device & PPE
    b. 24 hr. emergency phone #, soap & water and spill kit
    c. Flashlight, written IPM plans and work clothes

90. Which document has the most detailed information on pesticide use, disposal and environmental risks?
    a. Material Safety Data Sheet (MSDS)
    b. Label
    c. Technical Data Sheet

91. SARA deals with emergency planning and _____
    a. community right-to-know.
    b. pesticide cleanup actions.
    c. pesticide use restriction.

92. SERC stands for _____.
    a. State Emergency Response Commission
    b. State Evacuation Route Concerns
    c. State Evaluation Referencing Contaminants

93. LEPC stands for _____.
    a. Local Environmental Pesticide Committee
    b. Local Emergency Planning Committee
    c. Local Evaluating Processing Committee

94. Spill Prevention, Control and Countermeasure Plans (SPCC) are required by _____ who store large quantities of liquid pesticides and/or oil.
    a. farmers
    b. commercial pesticide applicators
    c. individuals storing pesticides

95. The “4 Cs” of spill control are _____
    a. Cost, Calculations, Collect & Contribute
    b. Cost, Contain, Control & Create
    c. Control, Contain, Contact (others to report) & Cleanup

96. A foliar application directs pesticide to:
    a. the ground
    b. the leaves
    c. the growing fruits and vegetables

97. _____ control the amount of material applied, formation of the droplets and their size and the distribution and pattern of the droplets
    a. Nozzles
    b. Hoses
    c. Pumps

98. Nozzles made of brass or aluminum work best with _____ materials like wettable powders and dry flowables.
    a. abrasive
    b. solid particle
    c. liquid emulsions

99. Low-pressure boom sprayers and high-pressure boom sprayers basically have the same components. Why would you use a high pressure boom sprayer rather than a low pressure one?
    a. To achieve better control
    b. To force chemical into dense foliage
    c. To reduce chemical flow

100. Airblast sprayers work best _____.
    a. in crawl-spaces
    b. indoors
    c. outdoors

101. Compressed air sprayers work best with _____
    a. large quantities of spray material.
    b. small quantities of spray material
    c. moderate quantities of spray material

102. Overspray and drift can result in _____
    a. the same outcome.
    b. improved control and reduced risk
    c. less effective control

103. Temperature inversions increase the risk of _____
    a. leaching
    b. erosion
    c. drift

104. When opening pesticide containers for mixing, stand with your head well above the container and _____ if the wind is blowing.
   a. downwind
   b. upwind
   c. to the side

105. What is a water soluble packet?
   a. a gel packet that contains pesticide and dissolves in water
   b. a pesticide mixed with gelatin
   c. a pesticide that is dissolved in gelatin

106. How many times do you rinse liquid pesticide containers to decontaminate them?
   a. Twice
   b. Three
   c. Five

107. Which of the following represents a unique identifier assigned to every individual pesticide?
   a. EPA Reg #
   b. PPE Requirement #
   c. EPA Est #

108. Which are the following three signal words are found on every pesticide label?
   a. Caution, Warning, Danger-Poison
   b. Least, Moderate, Highly-Poisonous
   c. Non-toxic, Toxic, Lethal

109. Which of the following items are not found on pesticide labels?
   a. trade name, manufacturer, formulation, ingredient statement
   b. fire fighting instructions, weather restrictions, best time to apply, transporting
   c. use classification, type of pesticide, use directions, precautionary statements

110. States have the option of enacting pesticide laws and regulations that may be _____ restrictive than FIFRA requirements.
   a. less
   b. more
   c. equally as

111. Uncertified individuals may never purchase or supervise the ____ of restricted-use pesticides.
   a. mixing
   b. storing
   c. use

112. No pesticides can be considered _____,
   a. Mixable
   b. Safe
   c. Non-hazardous

113. Cross contamination is when two or more products may be:
   a. mixed together without impacting how effective each is when applied separately.
   b. when ingredients from one product are taken up by another.
   c. when mixed together the sum of the two is synergystic.

114. Synergism is _____
   a. when two pesticides are mixed together and the total potency equals the sum of each independent substance.
   b. when three pesticides are mixed together
   c. when two pesticides are mixed together and the total potency is greater than the sum of each independently

115. Compatability is _____
   a. when two pesticides are mixed together and create a new, unique mode of action
   b. when two pesticides are mixed together and each works independently without affecting the other
   c. when two pesticides are mixed together to form an emulsion

116. Massachusetts pesticide law requires licensed applicators have:
   a. liability insurance.
   b. an active drivers license.
   c. a physical office/place of business

117. Is it legally possible to apply a pesticide for a pest not expressly listed on the label?
   a. Yes
   b. No
   c. Yes, If recommended by a Cooperative Extension agent or licensed Entomologist

118. A pesticide concentrate is:
   a. a solid that dissolves in water
   b. a formulation before any dilution occurs
   c. a liquid that dissolves in another liquid

END

More Massachusetts Applicator License/Core Exam Practice Questions

(NOTE – These are not the actual test questions, nor are they intended to be. These are practice questions that cover content the real questions are likely to ask about.)

1. Which of the following includes the information found on containers of pesticides?
   a. MSDS
   b. Label
   c. Labeling

2. A plant that is growing where we don't want it, or an unwanted animal is _____
   a. something bad
   b. a beneficial
   c. a pest

3. Small, microscopic worm-like creatures that can parasitize animals are called _____
   a. namastes
   b. nematodes
   c. bacteria

4. Non-chemical control tools like insect electrocutors and mosquito traps _____
   a. are classified as low risk
   b. are classified as devices
   c. must be registered by the Mass Department of Public Health

5. Driving a vehicle carrying pesticides meets the definition of _____
   a. pesticide moving in the environment
   b. pesticide misuse
   c. pesticides application

6. Insects have different antennae shapes that can be useful in identifying pests. Which of the following would be considered shapes of antennae found in the insect world?
   a. chewing and siphoning
   b. feathered, clubbed and beaded
   c. piercing-sucking and sponging

7. Most adult insects have two pair of wings, but not all. Which of the following have no wings?
   a. bed bugs
   b. beetles
   c. ants

8. The sense of smell and touch is located on which body part?
   a. The legs
   b. The wings
   c. The antennae

9. Openings that allow insect to breath are located on the _____
   a. head
   b. thorax
   c. abdomen

10. Ticks and mites have _____
   a. biting mouthparts
   b. piercing-sucking mouthparts
   c. siphoning mouthparts

11. Ballooning refers to how spiders _____
   a. may be transported or spread in the environment
   b. communicate with one another
   c. reproduce

12. Which of the following are long, flat, wormlike animals with one pair of legs on each body segment, move quickly and have chewing mouthparts?
   a. millipedes
   b. aphids
   c. centipedes

13. A plant that grows from seed, matures, produces more seed for the next generation and dies in one year or less is called _____
   a. an annual
   b. a biennial
   c. a perennial

14. A plant that grows from seed, develops a heavy root system or cluster of leaves and produces seed in a second year of growth and dies is called _____
   a. an annual
   b. a biennial
   c. a perennial

15. A plant that grows for more than two years and may or may not produce seed is called _____
   a. an annual
   b. a biennial
   c. a perennial

16. The term pheromone refers to _____
   a. communication
   b. reproduction
   c. naturally occurring compounds found in the environment

17. The pest that causes plants diseases like wood rot is called _____
    a. a bacteria
    b. a fungi
    c. a virus

18. Spores are like seeds produced by _____ that allow it to spread in the wind or in rain splash
    a. bacteria
    b. fungi
    c. chinch bugs

19. *Bacillus thuringiensis* is a beneficial _____ that put onto some crop plants like corn can kill pest caterpillars without harming the plant.
    a. virus
    b. bacteria
    c. insect

20. Which of the following types of pesticides are actually used to alter desirable plants, not weeds?
    a. Fungicides & miticides
    b. Growth regulators & defoliants
    c. Piscicides & Mulluscides

21. Which of the following describes a pesticide mode of action intended to be effective only at the time of application, or for a short time afterward?
    a. Residual insecticide
    b. Nonresidual insecticide
    c. Stomach poison

22. Which of the following pesticide types works after being ingested?
    a. Stomach poison
    b. Contact poison
    c. Residual poison

23. A selective, or narrow spectrum poison would be one that _____
    a. works only on chinch bugs
    b. works only on cockroaches, ants and moths
    c. works only on grasses and leafy weeds

24. Inert ingredients (listed on pesticide labels) _____
    a. make the pesticide *a.i.* more usable
    b. are needed to dilute the product
    c. also are toxic to the listed target pests

25. Trade, brand, or product name used by manufacturers _____
    a. Identifies the chemical components and structure of the active ingredient
    b. Is the name the producer uses to advertise its product to customers
    c. will differ between similar chemical compounds

26. A liquid dissolved in another liquid is called a(n) _____
    a. solution
    b. emulsion
    c. wettable powder

27. A mixture of finely divided, solid particles dispersed in a liquid (similar to chocolate milk) is called a(n) _____
    a. thick slurry
    b. suspension
    c. wettable powder

28. If salad oil mixed with vinegar to make salad dressing was a pesticide, it would classified as _____
    a. an emulsifiable concentrate
    b. a carrier mix
    c. an emulsion

29. Which of the following formulations poses the greater applicator risk from handling that formulation during measuring and mixing?
    a. Water dispersable granules (WDG)
    b. Wettable powders (WP or W)
    c. Invert emulsions (IE)

30. Surfactants are also called_____
    a. active ingredients
    b. inactive ingredients and obsolete
    c. wetting agents and spreaders

31. Which of the following is an adjuvant that increases the adhesion of solid particles to target surfaces?
    a. sticker
    b. extender
    c. plant penetrant

32. Buffers, acidifiers, thickeners and foaming agents are examples of _____
    a. different active ingredients
    b. different synthetic pyrethroids
    c. different adjuvants

33. Which of the following are more likely to be sensitive to pesticide exposure and at higher risk?
    a. Heavier persons and those taking aspirins
    b. Youngest and oldest individuals
    c. Married and middle age individuals

34. Pesticide A has an LD50 of 750 milligrams per kg of body weight, pesticide B has an LD 50 of 75 and pesticide C has an LD50 of 7500. Which pesticide would carry the signal word Warning?
    a. Pesticide A
    b. Pesticide B
    c. Pesticide C

35. Which of the following is the least likely potential route of applicator pesticide exposure?
    a. Through the feet
    b. Through the arms
    c. Through the nose

36. Which of the following formulations are more readily absorbed through the skin?
    a. Water based formulations
    b. Oil based formulations
    c. Wettable powder formulations

37. Where would you typically find information on the label related to routes of exposure for that individual pesticide?
    a. Just after the use directions
    b. In the precautionary statements
    c. With the disposal directions

38. LC50 and LD 50 have limitations because they _____
    a. only measure one toxic effect
    b. do not measure the potential chronic effects
    c. both a & b

39. Which of the following are ways PPE degrade and become less effective at preventing pesticide exposure?
    a. Exposure to cold and heat
    b. Exposure to liquids
    c. Neither a nor b

40. When applying pesticides overhead _____
    a. Gloves should be worn over the sleeves
    b. Gloves should be worn inside the sleeves
    c. Gloves are optional, unless required by the label

41. For jobs in which your arms are mostly lowered _____
    a. Gloves should be worn over the sleeves
    b. Gloves should be worn inside the sleeves
    c. Gloves are optional, unless required by the label

42. Which of the following federal agencies is responsible for testing and certifying respirators used in conjunction with pesticides?
    a. EPA
    b. Department of Agriculture
    c. NIOSH

43. Respirators that filter out dusts and mists should have filters changed _____
    a. every 8-10 hours worth of use
    b. if it's getting hard to breath
    c. before washing, rinsing and allowing to dry out

44. Respirators used to filter out vapors and gases should have their cartridges replaced ____
    a. every 4-6 hours worth of use, or more frequently if used often
    b. if you taste or smell pesticide, or the nose burns or stings
    c. according to standards set by the WPS

45. Heat stress and heat illness are sometimes confused with pesticide poisoning.
    Heat stress _____
    a. is caused by exposure to pesticides
    b. happens on hot, muggy days in the summer
    c. is a buildup of body heat generated by muscles during work, especially on hot days

46. Heat illness _____
    a. Is more related to physical conditioning and high levels of activity
    b. Includes disorders that can occur when the body is subjected to more heat than it can cope with
    c. Is treatable with anti-biotics and vitamin D

47. Pesticides get into the environment _____
    a. Both b & c below
    b. when they are applied
    c. when they are spilled or disposed

48. Secondary poisoning is _____
    a. when a second animal feeds on the poison, often rodenticides
    b. when a non-target animal feeds on a poison, or is unintentionally exposed to a pesticide
    c. when an animal feeds on another animal that has been poisoned and becomes poisoned

49. Sensitive areas include sites where living things could easily be injured by a pesticide. Which of the following would most likely not be considered a sensitive area?
    a. Railroad yards and rail track beds
    b. Apiaries and surface waters
    c. Public gardens and organic farms

50. The Endangered Species Act (ESA) is a federal law _____
    a. makes it illegal to kill, harm, or collect endangered or threatened wildlife or fish
    b. is administered by the US Fish & Wildlife Service of the Department of the Interior
    c. both a & b above

51. An aquifer is _____
    a. the geologic formation (e.g. sand, gravel, bedrock) from which groundwater can be drawn
    b. the boundary between the saturated zone and the overlaying unsaturated rock and soil
    c. subject to being affected by fracking

52. The water table is _____
    a. often described as a layer of water in the ground, similar to a large, flat table
    b. the boundary between different layers of chemical and water in the ground
    c. the boundary between the overlying unsaturated rock or soil and the saturated zone

53. Anything that increases the likelihood and amount of runoff from a site treated with pesticides will increase the risk of _____
    a. surface water contamination
    b. air pollution
    c. deep well contamination

54. Groundwater is _____
    a. present in the ground
    b. water that enters an underground pool and is subject to contamination for from drift and overspray
    c. water in aquifers beneath the soil surface from which well water is obtained or surface springs are formed

55. Biomagnification _____
    a. occurs when concentrations of poison accumulate in animals as poisoning goes up the food chain
    b. is an expression used to describe examining small pests under microscopic magnification
    c. refers to contaminated water mixed with microbes

56. Which of the following sites would represent a potential point-source pollution risk?
    a. The mix tank of a resting farm tractor set up to prepare (dilute) finished spray
    b. An apple orchard being treated for codling moths and aphids
    c. The turf area around a large condominium complex with lush, green lawns

57. The initials BMP stand for _____
    a. Before Modern Practices
    b. Basic Mixing Practices
    c. Best Management Practices

58. Containment pads are used _____
    a. where pesticides are often mixed and loaded into equipment
    b. and designed to contain spills, leaks, overflow and waste water
    c. both a & c

59. Using check valves, air gaps and drawing water from a tank or bottle are ways to _____
    a. improve treatment efficiency and protect the environment
    b. prevent back-siphoning from contaminating groundwater or surface water
    c. prevent equipment failures that could result in contamination

60. Reduced uptake, metabolic resistance, target site insensitivity and behavioral change refer to _____
    a. length of a pest's life cycle
    b. mechanisms of resistance
    c. pest biology

61. Practicing IPM, limiting pesticide use to only when needed, applying at label rates and rotating pesticides with different modes of action _____
    a. represents economical and efficient pesticide use
    b. are good resistance management practices
    c. have little to no effect on the level of control when practiced in farm settings

62. The goal of IPM is to _____
    a. save money and labor
    b. prevent pests from reaching economically or aesthetically damaging levels with the least risk to people and the environment
    c. make sure the correct pesticides are chosen for the application required and are then applied using the correct equipment

63. The first step in any pest management program is to _____
    a. interview the homeowner, grower or concerned parties
    b. identify the pest
    c. select the appropriate pesticide and formulation

64. The pest population density at which control measures are needed to prevent a pest from reaching the economic injury level is called _____
    a. economic threshold (ET)
    b. action threshold (AT)
    c. economic injury level (ET)

65. The pest population density that causes losses equal to the cost of the control measures is called the _____
    a. economic threshold (ET)
    b. action threshold (AT)
    c. economic injury level

66. The pest level at which control is warranted for reasons other than economics is called _____
    a. economic threshold (ET)
    b. action threshold (AT)
    c. economic injury level (ET)

67. Which of the following would *not* be considered natural pest control?
    a. Using organic pesticides
    b. Climatic factors such as wind, temperature, sunshine and rain
    c. Natural enemies such as predators, parasites and pathogens

68. Cultural controls _____
    a. involve using certain ethnic groups to plant and harvest crops
    b. involves using sticky traps, lures and snap traps (for rodents)
    c. involve altering the environment

69. Sometimes plants and animals can be bred or selected to _____
    a. provide improved control measures
    b. to resist specific pest problems
    c. become less susceptible to different pesticide groups

70. The best time to take preventive pest control approaches _____
    a. is after first correctly identifying the pest
    b. is when a pest is not a problem and you want to keep it that way
    c. is before the pest problem reaches the action threshold level.

71. Approved State Lead Agencies (SLA) are allowed to_____
    a. relax label requirements on specific pesticides
    b. allow exemptions from specific FIFRA requirements
    c. enact laws and regulations more strict than FIFRA

72. The US EPA classifies all pesticides as either RU or General use. How can you tell if a particular pesticide is classified as general use?
    a. The label statement will say CAUTION
    b. The label statement will say WARNING
    c. The label statement will not say RESTRICTED-USE

73. FIFRA Section 25(b) pesticides _____
    a. are exempt from registration
    b. are low toxicity pesticides with the signal word CAUTION
    c. are used in agriculture

74. Agricultural workers covered under the federal WPS include _____
    a. owners and operator of agricultural establishments
    b. individuals who mix, load or apply pesticides, clean or repair pesticide application equipment
    c. individuals who perform tasks related to cultivation and harvesting of plants

75. The WPS requires agricultural employers _____
    a. provide notification to workers about treated areas and supply decontamination supplies
    b. provide safety training and access to labeling and site specific information
    c. a & b above

76. A variety of actions are unlawful under the provisions of FIFRA. Which of the following are *not* unlawful?
    a. Mixing, loading and applying pesticides with proper applicator certification
    b. Refusing to keep records; detaching, altering or defacing any part of a container or label
    c. Making a guarantee other than that specified by the label

77. Pesticide tolerances apply to _____
    a. the legal amount of pesticide that may be applied to food crops
    b. domestic and imported foods
    c. the total amount of a particular used and how it is mixed

78. Tolerances are _____
    a. described and listed on pesticide labels
    b. are not listed on pesticide labels
    c. established by USDA

79. Pesticide remaining on a crop for an extended period after application is called a _____
    a. deposit
    b. residue
    c. problem

80. Pesticide storage areas allowed to freeze _____
    a. can extend the useful residual life of pesticides
    b. can be difficult to mix and get back into solution
    c. can cause formulations to break down and containers to rupture

81. Pesticide storage areas exposed to high heat _____
    a. can cause labels to peel and become difficult or impossible to read
    b. can cause dry formulations to cake, making them harder to handle, measure and apply
    c. cause some liquids to become flammable, volatilize and generate dangerous fumes

82. Which of the following are *not* recommended to be in the service vehicle in order to be prepared in case of an accident?
    a. label, SDS, PPE and spill kit
    b. cell phone (or communication device) & 24 hr. emergency number
    c. tape, scissors and sun glasses

83. Which document has the most detailed information on chemical properties, first aid and emergency procedures to be followed in the event of a spill, leak fire or transportation crisis?
    a. MSDS
    b. the label
    c. the manufacturer's labeling

84. The flooring of cargo areas of vehicles transporting pesticides should be _____
    a. porous
    b. non-porous
    c. absorbent

85. A truck (rather than sedans) is preferred for transporting pesticides because _____
    a. there is more space to store and carry pesticides
    b. vehicle size and weight provides better driver protection
    c. there is a physical barrier between the cargo area and the passenger compartment

86. Which of the following warning signs are recommended for pesticide storage/holding areas?
    a. Warning-Pesticides: Keep Out: Private Property
    b. both a & c
    c. No Vehicles Beyond This Point: No Trespassing

87. Which of the following are *not* key items in a vehicle/facility spill kit?
    a. Sealable plastic containers, fire extinguishers and vehicle maintenance log
    b. PPE, containment tubes or pads and absorbent material
    c. Shovel, broom, dust pan, sweeping compound and heavy-duty detergent

88. Household bleach diluted in water (diluted to 30%) and hydrated lime _____
    a. can be used to keep office spaces and stock rooms clean and safe from pesticides
    b. can be used to denature excess, unwanted liquid pesticides
    c. can be used to decontaminate surface spaces after having spills cleaned up

89. A spill is defined as _____
    a. unintended pesticide overspray
    b. an accidental release of a pesticide
    c. applying pesticides to the wrong property or site

90. Cone, flooding flat-fan, even flat-fan and flat fan and multi-pattern refer to _____
    a. equipment sizes used in agriculture
    b. equipment sizes used with certain types of pesticides
    c. common spray patterns

91. Rotary and drop spreaders are two common types of applicators used to apply _____
    a. Wettable powders
    b. Granular formulations
    c. Suspensions

92. Equipment should be cleaned and decontaminated after use. The most ideal location to clean and decontaminate equipment is _____
    a. back at the pesticide and equipment storage facility
    b. outside, rather than inside
    c. at the application site

93. Spray Drift. As droplet size decreases the spray particles fall more slowly, evaporate more quickly and _____
    a. are less likely to drift
    b. are more likely to drift
    c. are not affected by other drift factors

94. Spray Drift. The higher boom height is set above crop target surfaces _____
    a. reduces drift potential
    b. has little to no effect on drift potential
    c. increases drift potential

95. Overspray and drift _____
    a. result from errors in applicator judgement
    b. may be detrimental or beneficial
    c. are usually limited to liquid pesticide sprays

96. The most important factor effecting drift potential is _____
    a. the temperature
    b. droplet size
    c. relative humidity and cloud cover (hiding direct sun light exposure)

97. The first rule of drift management is _____
    a. know the characteristics of your pesticides
    b. know when not to spray
    c. know your equipment

98. The size of buffer zones around a site can influence the decision to spray or not, considering wind speeds. Buffer zones are _____
    a. unsprayed areas
    b. previously sprayed areas
    c. areas flagged off limits

99. How many times do you rinse liquid pesticide containers to decontaminate them?
    a. 3 times
    b. 4 times
    c. 5 times

100. The EPA Registration and Establishment numbers:
    a. are different numbers that essentially designate the same information
    b. indicate a unique pesticide identification and where it was manufactured
    c. are co-issued by the Federal and state governments

101 The key signal words found on every pesticide label are:
    a. general-use, restricted-use and ready-to-use
    b. keep out of reach of children
    c. caution, warning, danger-poison

102 . Which of the following items are not found on pesticide labels?
    a. trade name, formulation, ingredient statement & manufacturer
    b. fire fighting directions, inert ingredients & vehicle loading instructions
    c. formulation, use directions & PPE needed

103 . States have the option of enacting laws and regulations:
    a. that may be more restrictive than that required by FIFRA
    b. that may be less restrictive than that required by FIFRA
    c. that may exempt certain classes of pesticide applicator

104 . Uncertified individuals:
    a. may never purchase or apply restricted-use pesticides
    b. may be exempted to purchase and apply restricted-use pesticides
    c. may apply restricted-use pesticides under the direct supervision of an appropriately registered certified person

105. Cross contamination is when:
   a. two or more products may be mixed together without impacting how effective each is when applied separately
   b. two pesticides mixed become more potent than the sum of the two
   c. an herbicide becomes mixed with a fertilizer, insecticide or rodenticide

106. We often read (and hear) the expression, "*The label is the law*." Which of the following best describes what this means?
   a. The label provides *suggested* ways of handling that product
   b. The label provides *recommended* ways of handling that product
   c. The label provides *required* ways of handling that product

107. An attractive nuisance:
   a. usually involves cases where bees and other beneficial insects are drawn to pesticide treated areas
   b. usually involves cases where children are involved
   c. usually involves cases where children are attracted to ground equipment and become injured from carelessness

108. A carcinogen is _____
   a. a substance that is able to produce changes in living cells
   b. a substance that is able to cause malignant tumors (cancer)
   c. a substance that can produce abnormalities or defects in living humans or animal embryos

109. A teratogen is _____
   a. a substance that is able to produce changes in living cells
   b. a substance that is able to cause malignant tumors (cancer)
   c. a substance that can produce abnormalities or defects in living humans or animal embryos

110. A mutagen is _____
   a. a substance that is able to produce changes in living cells
   b. a substance that is able to cause malignant tumors (cancer)
   c. a substance that can produce abnormalities or defect sin living humans or animal embryos

111. Rinsate is _____
   a. liquid resulting from rinsing pesticide container or application equipment
   b. liquid used to dilute pesticide concentrate to a usable finished mix
   c. adjuvant added to make pesticides more effective

112. Cat and dog collars used to kill fleas and ticks would be considered _____
    a. a bait formulation
    b. non-chemical devices
    c. a pesticide impregnated material

113. An acaricide is _____
    a. a pesticide used to kill roaches and ants
    b. a pesticide used to kill fleas and flies
    c. a pesticide used to kill mites and ticks

114. Carbamates are _____
    a. a class of enzymes produced by the human body
    b. a class of naturally occurring pesticides found in the environment
    c. a class of cholinesterase-inhibiting pesticides

115. A class of chemicals that cause a loss of moisture from plant leaves or from insect bodies are called _____
    a. lipophyllics
    b. desiccants
    c. organics

116. A persistent pesticide _____
    a. remains active in the environment more than one growing season
    b. breaks down rapidly in the environment
    c. lasts only one season

117. Repellents are pesticides that _____
    a. attract fleas and ticks
    b. repel fleas and ticks
    c. kill fleas and ticks on contact

118. A spot treatment is _____
    a. an application to a small, localized area where pests are found
    b. an application directly into cracks, crevices and voids
    c. made by adjusting the speed of the tractor

119. A broadcast application is _____
    a. a treatment made over an entire field or surface area
    b. a targeted treatment to minimize human exposure
    c. a treatment intended to kill flying insects such as mosquitoes

120. inorganic pesticides _____
    a. lack organics
    b. are produced from mineral sources and lack carbon
    c. are synthetic pyrethroids

END

Revised for May 2021

SAMPLE MDAR CORE LICENSE, APLICATOR EXAM PRACTICE QUESTIONS FROM THE CORE MANUAL

(NOTE – These are not the actual test questions, nor are they intended to be. These are practice questions that cover content the real questions are likely to ask about.)

CHAPTER ONE

1. Pesticide use includes _____
   (a) the actual application of a pesticide
   (b) mixing the pesticide to the end use dilution
   (c) mixing, applying and transporting pesticides

2. Repellents are _____
   (a) not considered a pesticide
   (b) kill on contact
   (c) don't kill anything

3. IPM is an approach to pest management that _____
   (a) combines all available necessary techniques
   (b) excludes the use of pesticides
   (c) usually involves greater expense

4. Which document would you find the best information on how a particular pesticide is used and applied?
   (a) label
   (b) labeling
   (c) MSDS

CHAPTER TWO

5. Which of the following would not be considered a pest related problem?
   (a) structural and property damage
   (b) health & environmental risks and impaired function of things we use
   (c) illegible pesticide labels and leaking containers

6. Which of the following would be vertebrate pests?
   (a) Ants and termites
   (b) Rats and mice
   (c) Bed bugs and flies

7. Pests need _____ in order to survive
   (a) food, water, shelter and harborage
   (b) dark spaces and moderate temperatures
   (c) sunlight, moderate rain and low wind conditions

8. Metamorphosis is _____
   (a) the process describing how rats and mice grow
   (b) the process describing how snails and slugs grow
   (c) the process describing how roaches and other insects grow

9. Pests can cause many different kinds of damage. Which of the following would not be considered a type of problem pests could cause?
   (a) structural damage, property damage, health risks
   (b) food concerns, health risks, high expense
   (c) environmental risks, reduced aesthetics, impaired functions of things we use

10. In insect metamorphosis, which stage can reproduce?
   (a) egg
   (b) larvae, or nymph
   (c) adult

11. Adult spiders, ticks, centipedes and millipedes _____
   (a) have three pair of legs and three distinct body segments
   (b) have a head that bears mouthparts, eyes and antennae
   (c) are not considered insects

12. A pathogen is _____
   (a) something bad
   (b) a disease-causing organism
   (c) an organism found on paths

13. Mouthparts vary among insect groups so you can _____
   (a) tell insects apart
   (b) identify a pest insect and the sort of damage it does
   (c) identify what kind of food each likes to eat

14. The varroa mite is a serious pest in _____
   (a) homes
   (b) greenhouses growing ornamentals (flowers)
   (c) honeybee colonies

15. Nematodes _____
   (a) are sometimes found infesting homes
   (b) can be parasites of pets and livestock
   (c) are relatively easy to control

16. Which of the following are the smallest pests?
   (a) algae
   (b) woody weeds
   (c) microorganisms like fungi and bacteria

17. The terms annual, biennial and perennial refer to different
    (a) processes describing how grass grows
    (b) processes describing how trees grow
    (c) processes how plants grow

18. The term instar refers to _____
    (a) insects shedding (molting) their exoskeletons
    (b) a certain stage of plant growth (particularly weeds)
    (c) a type of insect mouthpart

CHAPTER THREE

19. Which of the following terms refer to *mode of action* ?
    (a) acute and multi-dose
    (b) broad spectrum and selective
    (c) the way a pesticide acts

20. If hormones regulate growth and development, what do pheromones do?
    (a) regulate reproduction
    (b) represent a means of communication
    (c) influence the color and size of insects

21. Which of the following types of pesticide would provide long lasting control?
    (a) Nonresidual
    (b) Residual
    (c) Contact

22. A selective herbicide kills _____
    (a) some plants but not others
    (b) any plant it comes in contact with
    (c) only herb plants

23. A non-selective (broad-spectrum) herbicide kills _____
    (a) all broadleaf plants
    (b) monocots and dicot plants
    (c) any plant it contacts

24. An acute rodenticide will kill _____
    (a) cute rodents
    (b) after repeated doses
    (c) after a single dose

25. Anticoagulant rodenticides _____
    (a) tend to be less toxic to children and pets
    (b) are considered safe
    (c) are more likely to cause rodents to avoid that bait

26. Pesticide impregnated materials include _____
    (a) treated seed, flea and tick collars
    (b) treated lumber
    (c) both a & b above

CHAPTER FOUR

27. A carrier could be a
    (a) Ford Ranger of Dodge Ram vehicle
    (b) suspension or emulsion
    (c) solid, liquid or gas

28. When active ingredients are mixed with inert ingredients the end result is called ___
    (a) a compatible mix, or combination
    (b) an incompatible mix, or combination
    (c) a formulation

29. Chemical names and common names _____
    (a) may refer to the same compound
    (b) refer to different active ingredients
    (c) refer to different formulations

30. The terms solution, suspension and emulsion refer to different _____
    (a) types of solid formulations
    (b) types of liquid formulations
    (c) types of pesticide products used in apple orchards & greenhouses

31. Baits, dusts, granules, ECs and WPs are examples of _____
    (a) different pesticide products
    (b) different pesticide formulations
    (c) different pesticide common names

32. RTU formulations _____
    (a) require no dilution before application
    (b) require special licenses in order to legally apply them
    (c) are more often than have high toxicity

33. The initials ULV stands _____
    (a) unacceptably low vapor (pressure)
    (b) ultra low vapor (pressure)
    (c) ultra low volume

34. Which of the following formulations is ready to use, usually contains less than 10% a.i., and involves a very fine inert ingredient like talc, clay, nut hulls or volcanic ash?
    (a) Granules
    (b) Baits
    (c) Dust

35. Which of the following formulations involves a gas?
    (a) Microencapsulation
    (b) Fumigant
    (c) Aerosol

36. Surfactants, stickers, extenders, buffers, drift additives and foaming agents are _____
    (a) examples of different types of active ingredients
    (b) examples of solid inactive ingredients
    (c) examples of adjuvants

37. It's rare that a pesticide product formulation contains only _____
    (a) inert ingredients
    (b) adjuvants
    (c) active ingredients (a.i)

CHAPTER FIVE

38. Pesticide risk and toxicity _____
    (a) mean different things to different people
    (b) refer to the same pesticide characteristics
    (c) confusion can actually lead someone away from choosing the safest pesticide alternative

39. Toxicity is a measure of pesticide's ability to _____
    (a) cause harm
    (b) kill insects
    (c) kill vertebrate organisms

40. Is it possible a highly toxic pesticide can be low risk at the same time?
    (a) Yes
    (b) No
    (c) Depends on the pesticide SDS value

41. A person's weight, age, gender, health status and the surrounding environment ___
    (a) influence the level of risk to different individuals
    (b) influence the level of toxicity to different individuals
    (c) influence the type of pesticide formulation to different individuals

42. Pesticides can enter the body causing someone to become poisoned by _____
    (a) eating, drinking or breathing
    (b) mishandling
    (c) not washing hands

43. Exposure occurs when pesticides enter the body. Which of the following is not a type of pesticide exposure?
    (a) Acute
    (b) General
    (c) Chronic

CHAPTER SIX

44. Pesticide exposure (poisoning) effects can be _____
    (a) reversible
    (b) irreversible
    (c) reversible or irreversible

45. LC_{50} and LD_{50} are _____
    (a) references to toxicity and risk
    (b) ways of measuring risk
    (c) ways of measuring and comparing toxicity

46. LC_{50} and LD_{50} measure which toxic effect?
    (a) death
    (b) chronic poisoning effect
    (c) acute poisoning effect

47. The signal words DANGER, WARNING and POISONING _____
    (a) let the user quickly assess relative toxicity
    (b) refer to whether products have acute or chronic risks
    (c) may or may not appear on certain labels

48. Which signal word represents a moderately toxic pesticide?
    (a) Danger
    (b) Warning
    (c) Caution

CHAPTER SEVEN

49. Cholinesterase is _____
    (a) a low toxicity pesticide used in agriculture
    (b) a nerve enzyme necessary for life
    (c) an ingredient in some pesticide mixes

50. Most potential pesticide applicator exposure involves the _____
    (a) the skin
    (b) eyes
    (c) lungs

51. Which of the following would not be considered PPE?
    (a) Clothing
    (b) Gloves and respirators
    (c) Application devices and mix tanks

52. Which of the following materials represent the least chemically resistant to pesticide exposure?
    (a) Cotton and leather
    (b) Rubber and plastic
    (c) Glass and metal

53. Positive and negative pressure checks refer to _____
    (a) personal protective equipment
    (b) respirators
    (c) certain types of gloves

54. Facial hair can _____
    (a) prevent proper safety google use
    (b) prevent proper noise protection use
    (c) prevent proper respirator use

55. PPE required for a particular pesticide's use can be found _____
    (a) by contacting the manufacturer
    (b) by contacting MDAR
    (c) by referring to the label

56. Work clothes should be _____
    (a) laundered weekly
    (b) laundered using hot water
    (c) laundered separately from family clothing

CHAPTER EIGHT

57. The first step in any pesticide poisoning is to _____
    (a) call for medical assistance
    (b) provide fresh air and water
    (c) remove the person from the exposure situation and begin first aid

58. Vomiting is always induced using an emetic when a poisoning victim has ingested a poison.
    (a) True
    (b) False
    (c) and the pesticide involved is a liquid

59. Even when applying first aid to poisoning victims you should _____
    (a) seek medical help as soon as possible
    (b) get the victim to fresh air
    (c) get the victim fresh, potable water

CHAPTER NINE

60. Wearing PPE and working in heat can lead to _____
    (a) poor results from incomplete treatment
    (b) heat illness
    (c) dehydration

61. Factors that can increase risk of heat stress include _____
    (a) temperature, humidity, and /or amount of sunlight increase
    (b) work load, ppe use, water intake
    (c) both a & b

CHAPTER TEN

62. Match the word on the left to the correct definition on the right

(1) adsorption	(a) water movement through the soil
(2) absorption	(b) pesticides ability to dissolve in a solvent
(3) leaching	(c) pesticides ability to bind to soil particles
(4) solubility	(d) pesticides ability to be absorbed by an animal or plant

63. A pesticide capable of causing injury to a plant is called _____
    (a) plant poisoning
    (b) phytotoxic
    (c) photodegraded

64. The environment _____
    (a) includes the air and water
    (b) includes the plants, fish and animals
    (c) includes everything that is around us

65. Which of the following does not refer to how pesticides may move in the environment?
    (a) Drift
    (b) Runoff
    (c) Spraying

CHAPTER ELEVEN

66. Which of the following describes the overall geologic formation from which groundwater can be drawn?
    (a) water table
    (b) aquifer
    (c) bed rock

67. Point-source source pollution differs from non-point source pollution _____
    (a) as it's easier to define and locate
    (b) because it usually involves liquid concentrates
    (c) as it usually involves smaller volumes of pesticides

68. The water table is _____
    (a) the table where water is served
    (b) the boundary between the saturated zone and the unsaturated rock and soil
    (c) the overall geologic formation from which ground water may be drawn

69. Which of the following is not a way of preventing back-siphoning?
    (a) air gap
    (b) compressed air sprayer
    (c) check valve

CHAPTER TWELVE

70. What is the inherited ability of a pest to avoid the toxic effects of a particular pesticide?
    (a) persistence
    (b) resistance
    (c) insensitivity

71. Pests with shorter life cycles have _____ ability to develop _____ .
    (a) less - fewer young
    (b) greater - resistance
    (c) an average - resistance

72. Resistance management _____
    (a) is best practiced when the same pesticides, or class of pesticides are continuously used
    (b) attempts to prevent, delay, or reverse the development of resistance
    (c) avoids using IPM practices whenever possible

CHAPTER THIRTEEN

73. Scouting and trapping are techniques commonly used to _____
    (a) kill pests
    (b) establish injury levels
    (c) monitor for insects and their activity

74. Cultivation, exclusion, trapping, cultural practices and sanitation are examples of ___
    (a) killing methods
    (b) safe methods
    (c) methods of pest management

75. The *economic threshold* in IPM _____
    (a) is when the population density at which control measures are needed to prevent the pet from reaching the economic injury level
    (b) is when the cost to control a pest exceeds $1000 per acre
    (c) is when the cost to control a pest exceeds $500 per acre

76. The *economic injury level* _____
    (a) is when the cost to store and transport a product exceeds the cost to produce that product
    (b) is when the harm caused to certain plans exceeds their cost
    (c) is when the pest population density that causes losses is equal to the cost of control measures

77. *Action thresholds* _____
    (a) are more appropriate outside for agriculture
    (b) are the pest levels at which control is warranted for reasons other than just economic
    (c) both a & b above are true

78. *Quarantine* is when _____
    (a) illnesses are isolated in plants and animals
    (b) inadvertently transporting pests from infested to un-infested areas is prohibited
    (c) individuals' are isolated to prevent becoming infested

79. *Eradication* is when _____
    (a) targeted areas are treated to prevent spreading plant disease
    (b) all possible treatment options are considered
    (c) total elimination of a pest from a designated area is attempted

CHAPTER FOURTEEN

80. Section 3, Section 24(c), Section 18 and Section 25(b) are examples of ____
    (a) different types of facility registrations under FIFRA
    (b) different types of pesticide registration classifications under FIFRA
    (c) different types of applicator type registrations in Massachusetts

81. A private applicator is one ____
    (a) who uses or supervises pesticides in home, apartments and condominiums
    (b) who uses pesticides on a farm
    (c) who has the ability to operate as a commercial applicator if necessary

CHAPTER FIFTEEN

82. A *tolerance* is _____
    (a) The maximum amount of reside that may legally remain on or in food or feed when the crop, animal or animal product is ready for market
    (b) pesticide that remains on crops after treatment
    (c) the amount of pesticide that will not cause injury when consumed

83. The terms residue and deposit _____
    (a) mean the same thing after a pesticide application
    (b) mean different things
    (c) are equally illegal and dangerous after an application

84. The FQPA requires _____
    (a) food and quality be protected
    (b) the states have local rules/regulations that protect food and quality for the sake of children
    (c) EPA conclude with reasonable certainty that no harm will come to infants, children or other sensitive individuals exposed to pesticides

78 Which law governs the establishment of pesticide tolerances for food and feed products?
    (a) FIFRA
    (b) FFDCA
    (c) Chapter 132B

CHAPTER 16

85. Which government agency regulates pesticide use in Massachusetts?
    (a) Mass Department of Agricultural Resources
    (b) Mass Department of Environmental Protection
    (c) Mass Department of Public Health

86. Which of the following describes the pesticide rules and regulations we must follow here in Massachusetts?
    (a) Chapter 132B
    (b) 333 CMR
    (c) 190 CMR

CHAPTER SEVENTEEN

87. The recommended temperature range to store and hold pesticides is _____
    (a) 0 to 40 degrees F
    (b) 40 to 100 degrees F
    (c) 100 to 120 degrees F

88. A bulk pesticide container is one that _____
    (a) holds greater than 5 gallons of liquid or 15 pounds of a solid
    (b) holds greater than 25 gallons of liquid or 30 pounds of a solid
    (c) holds greater than 55 gallons of liquid or 100 pounds of a solid

89. A *service container* _____
    (a) is any container other than the original manufacturer's container designed to hold pesticide concentrate or diluted pesticide
    (b) is a container designed to hold smaller quantities than the original container
    (c) is the container applicator's may take into the field, or out on a job

90. *Rinsate* is _____
    (a) water used to wash out liquid, and sometimes dry pesticide containers
    (b) dilute pesticide from rinsing pesticide containers or washing application equipment
    (c) water taken from outside hoses used to clean out equipment

CHAPTER EIGHTEEN

91. The definition of *pesticide use* includes _____
    (a) manufacturing
    (b) distribution
    (c) transportation

92. Three sources of risk of accidents that could result in pesticide spills onto public roads are _____
    (a) Leaking containers, mislabeled containers and frozen/overheated containers
    (b) Poor tires, breaks and inoperable turn signals
    (c) Hazardous driving conditions, the driver (you) and the vehicle

CHAPTER NINETEEN

93. Pesticide security means _____
    (a) using the safest, least toxic products whenever possible
    (b) protecting people and the environment from inadvertent pesticide exposure
    (c) following IPM practices

CHAPTER TWENTY

94. Farms that store oil (including any oil such as diesel, crop oil concentrate and horticultural oil pesticides) in total quantities greater than 1,320 gallons in above ground tanks (but only those having a capacity of 55 gallons or more) or more than 42,000 gallons in completely buried tanks must _____
    (a) have a vegetation management plan
    (b) have an SPCC plan
    (c) be registered per SARA TITLE III

95. The LEPC administers _____ at the state level.
    (a) the SERC
    (b) the LEPC
    (c) the Federal Emergency Planning and Community Right-To-Know Act

96. The "4Cs" needed to deal with a pesticide spill are _____
    (a) Cooperate, Create, Coordinate and Capitalize
    (b) Control, Contain, Contact and Clean
    (c) Camera, Cost, Capture and Cap

CHAPTER TWENTY ONE

97. Band, basal, broadcast, crack and crevice, tree injection, spot and space are examples of _____
    (a) different agricultural methods of application
    (b) examples of common application methods
    (c) examples of different nozzle spray patterns

98. Nozzles _____
    (a) are an important part of sprayers and spray systems
    (b) can be made of brass, aluminum or stainless steel, depending on their intended use
    (c) control the amount of material applied, the formulation of droplets and their size and distribution of the droplets

99. The terms flat, even, flooding, cone and multi-pattern refer to _____
    (a) methods of application
    (b) equipment used for certain types of pesticides
    (c) different nozzle spray patterns

100. Which of the following application devices are normally applied at high pressure ranging up to 100 psi?
    (a) Truck mounted air blast sprayers
    (b) compressed air sprayers
    (c) backpack sprayers

101. Wettable powder and dry flowable formulations work best with _____
   (a) nozzles made from stainless steel
   (b) nozzles made from brass
   (c) nozzles made from aluminum

102. Low-pressure boom sprayers _____
   (a) are light weight, relatively inexpensive and can adapt for many uses
   (b) can cover large areas quickly and use low volumes of sprays
   (c) both a & b above

103. Low-pressure boom sprayers _____
   (a) generally apply at low pressures of 10-40 gallons per acre
   (b) are not effective to penetrate dense foliage
   (c) both a & b above

104. High pressure boom sprayers _____
   (a) are heavy and tend to cost more than low-pressure boom sprayers
   (b) are effective in treating dense vegetation and through heavy canopies
   (c) both a & b above

105. Engineering controls for applicator safety _____
   (a) are devices which reduce pesticide applicator exposure associated with pesticide applications
   (b) are manufactured under sterile and super clean conditions to prevent contamination
   (c) both a & b above

106. Compressed air sprayers are most effective _____
   (a) applying large volumes of pesticide
   (b) applying small volumes of pesticide
   (c) when used for agricultural uses

100. Rotary and drop spreaders are used _____
   (a) to apply water dispersable granules
   (b) to apply dry granules
   (c) to apply wettable powder products

CHAPTER TWENTY TWO

101. Drift occurs when _____
   (a) the wind exceeds more than 20 mph
   (b) air currents exceed the wind speed
   (c) air currents cause pesticide to be deposited outside the target application site

102. Overspray occurs when _____
    (a) pesticide is directly applied outside the target area
    (b) too much pesticide is applied
    (c) liquids are mixed incorrectly and misapplied

103. Factors that affect drift include _____
    (a) droplet size, wind speed, temperature and humidity
    (b) tractor speed, type of nozzle used and formulation
    (c) neither of the above

104. A temperature inversion is when _____
    (a) the soil and/or crop surface temperature exceeds 85 degrees
    (b) a layer of warm air is sandwiched between layers of cold air
    (c) wind speeds usually exceed 20 mph

105. Droplet size is the most important factor affecting the potential for spray drift. Which of the following factors affect droplet size?
    (a) Spray pressure, nozzle & spray rate
    (b) Formulation, mix tank & type of tractor
    (c) Spray equipment, temperature and wind

CHAPTER TWENTY THREE

106. Which of the following are steps to take before an application?
    (a) prepare to respond in case of a pesticide spill or accident
    (b) read and understand the label
    (c) both a & b

107. Which of the following applications would not be covered by the WPS?
    (a) dust, granule and pellet applications indoors
    (b) air blast spraying in an apple orchard
    (c) aerial spraying in a cranberry bog

108. The typical REI under the WPS typically lasts _____
    (a) from one to two days
    (b) from 1-2 hours
    (c) from 4-96 hours

CHAPTER TWENTY FOUR

109. Calibration is _____
    (a) figuring out how much pesticide to apply
    (b) measuring the delivery rate of application equipment
    (c) determining the amount of pressure in application equipment

110. Changing the speed of the sprayer (such as a tractor) or walking speed when using a hand sprayer
    (a) can adjust the spray rate
    (b) can affect the level of control
    (c) can help avoid misuse

CHAPTER TWENTY FIVE (Math)

111. A pesticide contains 1 pound of active ingredient per gallon of concentrate and the finished spray is mixed with two gallons of concentrate per 50 gallons of diluent. How much concentrate per acre will be applied if the finished spray is applied at 25 gallons per acre?
    (a) ¼ pound
    (b) 1 pound
    (c) ¾ pound

112. A 100 gallon tank with water is mixed with a pesticide that has 2 pounds of active ingredient per gallon of concentrate. Two gallons of concentrate are mixed in the tank to make the finished spray. If the finished spray is applied at 10 gallons per acre, how much concentrate would be spread over each acre?
    (a) 16 ounces
    (b) 8 ounces
    (c) 6.4 ounces

113. How many square feet are in an acre?
    (a) 1000
    (b) 25,300
    (c) 43,560

CHAPTER TWENTY SIX

114. When mixing pesticides in a spray tank, stand with your head _____
    (a) off to the side
    (b) not too far from the equipment opening to avoid over filling
    (c) upwind of the equipment opening

115. Which of the following type of packaging has no risk of inhaling or contacting undiluted pesticide, but must be kept dry?
    (a) Water soluble packets
    (b) Granules in a paper sack
    (c) Bait trigger applicator

116. How many times do you rinse empty liquid pesticide containers to decontaminate them?
    (a) 1X
    (b) 3X
    (c) 5X

117. Pesticides may be compatible or incompatible. Which of the following describes incompatible pesticides?
    (a) when pesticides are different formulations
    (b) when pesticides are mixed without affecting each other
    (c) when pesticides are mixed and result in problems

CHAPTER TWENTY SEVEN

118. Where can you find information on where to dispose of empty pesticide containers?
    (a) by contacting MDAR or U Mass Cooperative Extension
    (b) by contacting the local landfill or a local commercial disposal company
    (c) on the label

119. When is a liquid pesticide container not considered hazardous waste?
    (a) after it is empty
    (b) after triple rinsing
    (c) after being sanitized

120. Which of the following are not recognized methods of container disposal?
    (a) Recycle or bring to a hazardous waste collection drive
    (b) Return to dealer for reuse or refilling, or bring to an approved disposal site
    (c) Find a secondary use and return to service

121. Freezing can _____
    (a) extend the life of most liquid formulations
    (b) cause some liquid formulations to deteriorate
    (c) make diluting liquid formulations more difficult to mix

CHAPTER TWENTY EIGHT

122. Which of the following are not found on labels?
    (a) active and inactive ingredients, along with percentages of each
    (b) weather conditions that affect pesticide use and state registration status
    (c) where the pesticide was manufactured

123. Which of the following are sometimes not found on labels?
    (a) protective clothing and safety equipment
    (b) signal words
    (c) use directions

124. Every pesticide is classified by EPA as _____
    (a) prohibited or illegal
    (b) allowed for use in specific states and jurisdictions
    (c) general use or restricted use

125. Which of the following label designations allows a pesticide product investigation to be conducted if a particular pesticide may be adulterated, or otherwise unfit for sale?
    (a) EPA Reg no.
    (b) EPA Est no.
    (c) EPA SLN no.

126. There are four critical times when you should read the label. Which of the following are not included in those four key times?
    (a) Before storing or disposal of unused pesticide and empty containers
    (b) Before deciding which dealer is going to supply the pesticide products
    (c) Before buying, mixing or applying a pesticide

CHAPTER TWENTY NINE

127. An attractive nuisance _____
    (a) is a good looking, attractive vehicle
    (b) usually involves children
    (c) is something that usually only involves agricultural application equipment

128. If you become involved with an alleged pesticide related problem you should
    (a) deny liability
    (b) correct inaccurate records to reflect proper use
    (c) contact your attorney and your insurance company

129. Though not required by federal law _____
    (a) maintaining training records is a good idea
    (b) keeping a discussion log is a healthy idea
    (c) using a cell phone or other recording device is a reasonable idea

130. Risk Communication. Which are the most desirable terms to use when referring to Pesticide use?
    (a) Safe, safer, safe for children and pets and environmentally friendly.
    (b) EPA and/or state approved, green or least toxic
    (c) Reduced risk or less toxic

131. Cross contamination, which may damage the sites being treated, occurs when ____
    (a) application equipment is improperly used or maintained
    (b) a pesticide active ingredient or product gets unintentionally mixed with another
    (d) strong winds are blowing and a pesticide moves off target

END

RESTRICTED USE PESTICIDE

Due to Dermal Toxicity

For retail sale to, and use only by, Certified Applicators, or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification.

TRACKING
POWDER

Bell LABORATORIES, INC.

Image does not represent a label placement.

DITRAC®

TRACKING POWDER

KILLS RATS & MICE

ACTIVE INGREDIENT:	
Diphacinone (CAS #82-66-6):	0.2%
OTHER INGREDIENTS:	99.8%
TOTAL	100.0%

KEEP OUT OF REACH OF CHILDREN

WARNING

See back panels for First Aid and additional precautionary statements.

NET WT:
6 lbs (2.7 kg)

FIRST AID

Have label with you when obtaining treatment advice.

If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15–20 minutes. • Call a poison control center or doctor immediately for treatment advice.
If inhaled	• Move person to fresh air. • If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center, doctor, or 1-877-854-2494 immediately for treatment advice.

TREATMENT FOR PET POISONING

If animal eats bait, call veterinarian or 1-877-854-2494 at once.

NOTE TO PHYSICIAN OR VETERINARIAN

Anticoagulant Diphacinone: If swallowed, this material may reduce the clotting ability of the blood and cause bleeding. **For humans or dogs** that have ingested this product and/or have obvious poisoning symptoms (bleeding or prolonged prothrombin times), give Vitamin K_1 intramuscularly or orally. Repeat as necessary based on monitoring of prothrombin times.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ THIS LABEL: Read this entire label and follow all use directions and use precautions. Use only for sites, pests, and application methods described on this label.

USE RESTRICTIONS:

This product is for use indoors and in burrows leading indoors only. This product is for control of Norway rats, roof rats and house mice only inside of homes, industrial, commercial, agricultural, and public buildings, and similar man-made structures and in burrows located along the periphery of buildings and likely entry routes into buildings. DITRAC TRACKING POWDER must be placed in locations inaccessible to children, pets, domestic animals, or wildlife. Do not place near or inside ventilation duct openings. Do not contaminate water, food, feedstuffs, food or feed handling equipment, or milk or meat handling equipment or surfaces that come into direct contact with food.

SELECTION OF TREATMENT AREAS: Determine dry areas where rats and mice will most likely pick up the powder on their feet or fur and ingest it during grooming. Generally, these areas are along walls, by gnawed openings and burrows, in corners and concealed places, in spaces between floors and walls or in locations where rodents or their signs have been observed. Remove goods piled directly on floor and place on skids. Use boxes or other obstacles to force rodents to travel through constricted areas.

608DT-6

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WARNING

See side panels for First Aid and additional precautionary statements.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store only in original container in a cool, dry place inaccessible to children and pets. Keep containers closed and away from other chemicals.

Pesticide Disposal: Wastes resulting from the use of this product may be placed in trash or delivered to an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. **[Plastic:]** Offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill; or by incineration.

WARRANTY: Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

NET WEIGHT: 6 lbs (2.7 kg)

EPA REG. NO.: 12455-56

Manufactured by:

Bell LABORATORIES, INC.

EPA EST. NO.: 12455-WI-1

3699 Kinsman Blvd.
Madison, WI 53704 U.S.A.
www.belllabs.com

DIRECTIONS FOR USE (Continued from other panel)

Give special attention to the climbing ability of roof rats. For this species, use suitable PVC, sheet metal, cardboard or similar rigid tubing securely attached to rafters or other horizontal surfaces where rats will pass. Employ tubes long enough to prevent spillage of powder through the ends.

APPLICATION DIRECTIONS: Evenly sprinkle 1/2 oz (3 level teaspoons) of DITRAC TRACKING POWDER in patches 12 inches long and 6 inches wide. Apply the powder into the rodent burrow or holes or within walls with a hand bulb or similar duster. Do not use power dusting devices. Sprinkle the powder in patches in such a manner as to expose the rodent to it. Patch size may be (but not limited to) 6" x 12" and should be adapted to each situation. For rat burrows that are located along the periphery of buildings and that are likely to serve as routes of entry into these structures, place about 5 grams of tracking powder in each burrow with foot pump duster (about 15 pumps). Close burrows with soil, loose leaves, or paper. Repeat if burrows are reopened. Maintain powder in treated areas for at least 20 days.

FOLLOW-UP: Replace contaminated powder immediately. Wearing waterproof gloves, collect and properly dispose of all visible dead animals and leftover powder, as well as any powder that has become accessible to non-target animals. To discourage reinfestation, limit sources of rodent food, water and harborage as much as possible. If reinfestation does occur, repeat treatment.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

WARNING: May be fatal if absorbed through the skin. Harmful if swallowed. Avoid breathing dust. Keep away from children, domestic animals and pets. Do not get in eyes, on skin, or on clothing. Avoid exposure to this product during pregnancy.

All handlers must wear coveralls over short sleeved shirt and short pants, chemical resistant footwear, socks, and water-proof gloves. Any person who retrieves carcasses or unused bait following application of this product must wear waterproof gloves.

User Safety Requirements

Follow manufacturer's instruction for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash hands thoroughly after applying bait and before eating, drinking, chewing gum, using tobacco or using the toilet and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is extremely toxic to mammals and birds. Dogs and other predatory and scavenging mammals and birds might be poisoned if they feed upon animals that have eaten this bait. Only use indoors and in burrows leading indoors. Do not contaminate water when disposing of equipment wash water or rinsate.

101711/10-11

Label Review Practice Quiz
Ditrac Tracking Powder

INSTRUCTIONS - The label is the law! Pesticide products must be applied as directed by the label. There is a wealth of information on the label. Part of the licensed applicator's responsibility is being able to read and interpret pesticide labels. You will have label questions to answer on the exam. Answer the following label questions on the above product. You must have a copy of the label in front of you in order to complete this exercise. The purpose of this exercise is to get you familiar with reading labels and answering questions on the core exam. This is not the label from the exam

1. Ditrac Tracking Powder may have _____ kill.
   a. primary b. secondary c. positive

2. Ditrac Tracking Powder is classified as _____ toxicity.
   a. low b. moderate c. high

3. The percent active ingredient in Ditrac TP is _____.
   a. 2.0 % b. 99.8% c. 0.2%

4. Ditrac TP may be used _____.
   a. outdoors b. indoors c. in attics & crawl spaces

5. Gloves _____ be worn when handling Ditrac TP and removing dead animals.
   a. may b. should c. must

6. Ditrac TP is classified as restricted use due to its _____.
   a. method of application b. oral toxicity c. dermal toxicity

7. Ditrac TP may be used in residences where children _____.
   a. are present b. have been evacuated c. older than 10

8. Power dusting is _____ applying Ditrac TP deep into enclosed, protected voids.
   a. recommended for b. advised against c. prohibited from

9. Contaminated Ditrac TP should be _____ with fresh product immediately.
   a. alternated b. replaced c. repeated

10 Ditrac TP is applied in evenly sprinkled patches. Approximately how much material would be applied in a 12 inch long by 6 inch wide patch?
   a. ¼ oz b. ½ oz c. 1 oz

11. Ditrac TP be may be used in alleys outside if dusted into rodent bait stations____.
   a. as often as needed b. every other month c. never

12. The active ingredient in Ditrac TP is _____.
    a. zinc phosphide b. diphacinone c. warfarin

13. Ditrac TP is a(n) _____ rodenticide.
    a. acute b. toxic c. anti-coagulant

14. After treating rodent burrows on the periphery leading indoors _____.
    a. openings should be closed
    b. openings should be left open for re-inspection
    c. openings should be retreated if undisturbed and activity persists

15. First aid for Ditrac TP exposure _____, whether on the skin, ingested or inhaled.
    a. is the same b. is different c. involves fresh water

16. An obvious sign of poisoning from Ditrac is _____
    a. shaking
    b. difficulty breathing
    c. bleeding

17. The Ditrac method of exposure to rodents is by _____
    a. coming into contact with the material
    b. by inhalation
    c. by ingestion

18. May Ditrac be applied into wall voids to kill rodents?
    a. yes
    b. no
    c. yes, if certain explicit/limiting conditions are met

19. Ditrac comes in a _____ container
    a. reusable container, after reconditioning
    b. refillable container
    c. nonrefillable, non-reusable container

20. After using/handling Ditrac, gloves _____
    a. should be replaced before the powder's next use
    b. outside surface should be washed before removing
    c. are stored in the storage compartment of the service vehicle

END