

Benha University
Faculty of Science
Entomology Department
4th year Student Final Examination
Time allowed: 1Hour
Date: 18 / 1 /2017
Specialized Field Training (code: E 491)



Model Answer

1. Write the scientific term for each of the following statements

(20 Marks)

No	Statements	scientific term
1	What question you want to have answered in an experiment	The goal
2	The individual things that you wish to test in your experiment	treatments
3	Arrangement of treatments in the field	experimental design
4	The information you collect to answer your question	data
5	Number of individuals in an area	Size
6	Measurement of population per unit area or unit volume	Density
7	Insects feeding on dead zoogenic matter	Necrophagous
8	lives on or in higher animal but not killing it	Parasite
9	Means that the treatments are assigned to plots with no discernable pattern to the assignments	Randomization
10	Uncontrolled variation in an experiment	Experimental error

2. Mention the technique or sampling method for each of the following

(16 Marks)

1	Insect traps	The most efficient way to effectively trap a large area within a limited amount of time, with limited staff and resources.
2	Indirect sampling methods	Sample the amount of injury rather than insect's numbers
3	In Situ sampling technique	Direct Counts- good for large, conspicuous insects, mostly on plants, insects are not necessarily removed from the field.
4	Berlese funnel	Insects removed from habitat via light/heat extraction.
5	Tree Band Trap	To know insects that walk up and down trees
6	The Pan Trap, or Bee Bowl	Used in collecting visually-oriented flying insects, such as bees.
7	Kairomone trap	Traps containing materials mimic host plant odor
8	Window trap	Used for collecting mosquitoes which bites indoor and goes outside for the rest

3. Write on the following (12 Marks)

1. Control (check) and Replication are necessary:

Replication: The purpose of replication is to allow you to make a more accurate estimate of how each treatment performed even though there is uncontrolled variation in the experiment.

Replication is necessary because all test plots are not identical, and that leads to variation in the data you collect

Control (check): Because without the proper controls, you will not be able to say that any treatment worked better than other treatments or even that the new treatment worked better than no treatment!

The questions you wish the experiment to answer should indicate what treatments should be included as controls

It is frequently desirable to have both a positive and a negative control in an experiment.

The negative control helps you determine if the treatments being tested work better than some minimal treatment (or nothing) and positive controls help you determine if the treatments being tested work better than the current standard practice.

2. **Blocking:** Blocking refers to physically grouping treatments together in an experiment to minimize unexplained variation in the data you collect (referred to as experimental error).

3. Five necessary Policies for safety during field activities

Any five from of the following

1. Wear appropriate clothing and footwear for the field activity. This will be explained to you in advance by your leader or described on a checklist provided to you.
2. Be on time for the field activity or you will be left behind and miss the activity.
3. Wear seatbelts in equipped vehicles whenever they are in operation.
4. Report any unsafe conditions to an activity leader as soon as possible. o If this involves fatigue or sleepiness of the driver of your vehicle, then you must alert other passengers and immediately request that the driver take a break.
5. Wear a seat belt whenever their vehicle is in operation.
6. Report any unsafe conditions to the RCO as soon as possible. If this involves fatigue or sleepiness of the driver of their vehicle, then they must alert other passengers and immediately request that the driver take a break. Any resistance to such a request must be reported to the RMO.
7. Provide and administer any medications that they take orally or by injection for chronic medical conditions.
8. Any accidents involving vehicles used for off-campus field activities must be reported immediately to local law enforcement authorities, the RCO, the RMO, and, if applicable, the rental company.