12. a) -Type of crop

* Fertilizer characters
* Type of soil
* Environmental condition ( ½ x3=1 ½ mks)

b) - Avoid unique sites e.g. compost, along fence

* Remove all vegetation parts
* Mix the samples thoroughly

Make as many samples as possible

14. Fertilizer ratio is the proportion of various nutrients in a fertilizer grade is the percentage of

nutrients in a fertilizer;

(b)- Nitrogen

- Calcium

- Potassium

- Magnesium

- Sulphur

17. a) A compound of fertilizer has a fertilizer grade of 25:10:5.calculate the a mount

 of phosphorus fore sent in 400kg of this fertilizer

N:P:K

25:10:5

If 10kg P2O5√1 = 100kg NPK

 ? = 400kg NPK√1

 = 400 x 10

 100

 = 40kg P2O5√1 (3 steps x 1=3mks)

 b) i) - zigzag method

 ii) xx –traverse/diagonal

 iii) State three importance of carrying out soil sampling and testing

* determine the type of crop to grow
* determine the type of fertilizer to be used
* determine type of nutrients in the soil (3x1=3mks)

18. (a) Lacks one of the major fertilizer NPK elements

 (b) – The soils could be very acidic

 - Too much rainfall

4. a) A Banana sucker

 B Stem tubes

 C Bulb

 D Stem cutting

 b) Chitting

 c) four advantages of vegetative propagation on crop production

* Grow faster
* True copy of mother plant
* Have no dormancy period

Easy to obtain

10. - Reduces leaching

* Improves water holding capacity
* Improves soil structure
* Suffer soil pH
* Moderate soil temperature
* Increases microbial activities
* Increases cation exchange capacity

- Improve fertility of the soil after decomposition

6. a) Germinated seed x100√

 Total seeds planted

 =90 x100 (2)

 100 = 90%√

b) Given that maize is planted at a spacing of 75cm by 25cm, calculate the plant population in a plot measuring 4m by 3m

plant ppl = land area√

 Spacing

 4mx3m

 75x25cm

 400cmx300cm

 75cmx25cm = 64plants√ (2)

7. four qualities of a mother plant which should be considered when selecting vegetative

material for propagation.

* High quality.
* High yielding.
* Disease resistance / healthy/ disease tree.

Fast growth/ fast maturity.