



*Dr. Blosa Science*

Sponsored by  
**The Science Foundation College**  
**Uganda East Africa**  
Senior one to senior six  
**+256 778 633 682, 753 802709**  
**Based On, best for science**

[digitalteachers.co.ug](http://digitalteachers.co.ug)



 Nurture your dreams 

## UACE P515/1 Principles and practices of agriculture 2005

### SECTION A (30 MARKS)

Write the letter corresponding to the correct answer

- Which one of the following factors is not considered when deciding on which fertilizer to use on crop?
  - Amount of rainfall
  - Type of crop
  - Type of soil
  - Stage of crop growth
- The advantage of using solar power on a farm is that it is
  - Maintenance free
  - Pollution free
  - Cheap to harness
  - Constant throughout the year
- Under which one of the following conditions does a farm animal require extra nutrient?
  - When the weather is hot
  - In a crowded house
  - During lactating period
  - When it is dry
- Types of records kept by a livestock farmer depend on the
  - intensity of production
  - number of animal kept
  - kind of activities on the farm
  - Ability of the farmer
- One of the limitations to use of artificial insemination in Uganda is the
  - large number of animals involved
  - poor feeding of cattle
  - prevalence of reproductive diseases in cattle
  - limited of inseminator
- The effectiveness of agricultural credit can be improved by
  - availing credit to all farmers

- B. encouraging the culture of saving
  - C. ensuring fairness to both the borrower and the lender
  - D. limiting the use of credit to the intended purpose
7. In a budget, the break even indicates the minimum yield value that would give
- A. a loss
  - B. maximum profit
  - C. minimum profit
  - D. no profit
8. The main advantage of using an ultra-low volume sprayer is that is
- A. cheap
  - B. sprays a large area at a time
  - C. is easy to maintain
  - D. is safe to use
9. When urea is used, it is worked in the soil in order to
- A. Prevent the volatilization of ammonia
  - B. Bring the nitrogen close to plant roots
  - C. Rapidly adjust soil pH
  - D. Stimulate seed germination
10. Intercropping is due to
- A. increase crop yield per hectare
  - B. ensure more efficient use of farm land
  - C. increase production per unit area
  - D. improve soil fertility
11. the firing order in a four cylinder tractor engine is
- A. 1-3-4-2
  - B. 1-2-3-4
  - C. 1-4-2-4
  - D. 1-4-3-2
12. Lubricating oils for tractors are classified according to
- A. the parts of the engine they are used in
  - B. how viscous they are
  - C. temperature they withstand
  - D. the type of engine they are used in
13. The quality of silage is **not** influenced by the
- A. percentage of moisture in the fodder crop
  - B. stage of maturity of the fodder crop
  - C. compactness of the ensiled material
  - D. type of silo to make silage
14. Calf pneumonia is common in
- A. Hot condition with poor ventilation
  - B. Hot and wet condition
  - C. Damp and cold conditions

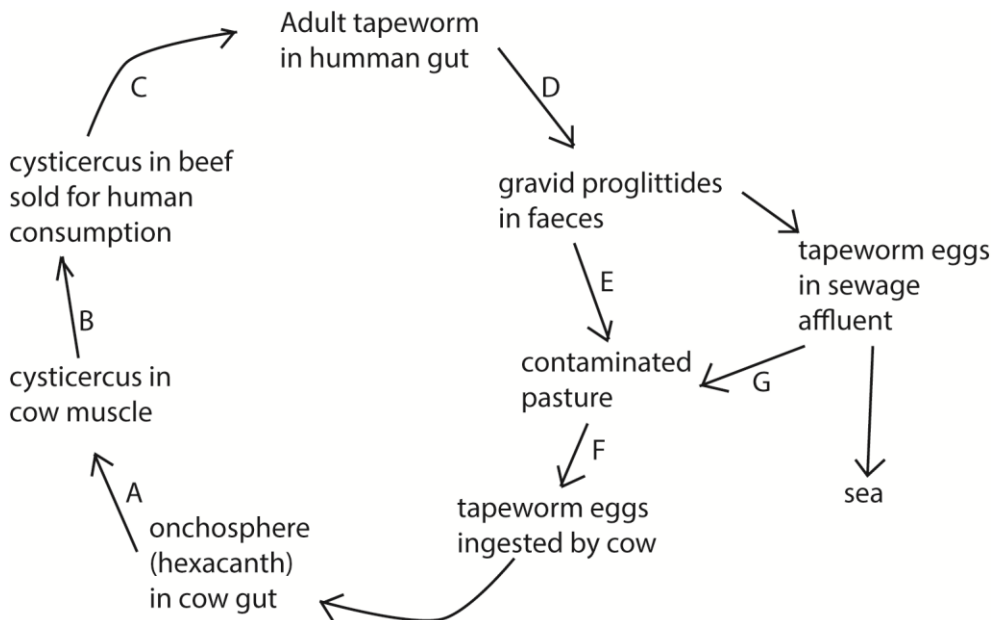
- D. Hot and dry condition
15. Which one of the following is **not** an important consideration in selecting an animal for breeding?
- A. Record of its ancestors
  - B. Performance of its offspring
  - C. Breed of the animal
  - D. Age of the parent
16. The only situation in which opportunity cost is equal to zero is when
- A. the two alternative enterprises are equal in value
  - B. there is no alternative to the enterprise being considered
  - C. the alternative enterprise is beyond the farmer's means
  - D. one enterprise cannot be undertaken without the alternative
17. In a maize production function, which of the following situation would give less output of maize for additional unit of labour?
- A. Few tools for large number of laborers
  - B. Lack of division of labour
  - C. Too many laborers for available working space
  - D. Over-cultivated land
18. Land reforms refers to measures aimed at
- A. changing land ownership
  - B. improving land management practices
  - C. ensuring everybody owns land
  - D. controlling of land use by government
19. The main effect of inbreeding is
- A. a decrease in the number of pairs of homologous genes
  - B. maintenance of the number of pairs of heterozygous genes
  - C. an increase in the number of pairs of homologous genes
  - D. an increase in the number of pairs of heterozygous genes
20. In order to reduce the loss of fertilizers from the top soil, farmers should
- A. apply only a small amount of fertilizer
  - B. splint fertilizer application into two
  - C. use only fertilizers that dissolve slowly
  - D. avoid applying fertilizers too early
21. Crumb and granular soil structure are characteristic of surface soil that
- A. not cultivated
  - B. frequently cultivated
  - C. high in organic matter
  - D. well drained
22. The camshaft runs at only half the speed of crankshaft because
- A. there are only two valves to be opened in each cylinder
  - B. in one engine cycle, the crankshaft makes only two revolution
  - C. the camshaft opens valve only during the intake and exhaust stroke
  - D. valve open only after two revolution of crankshaft

23. Overcooling in an engine is not desirable because it causes
- A. Cracking of engine parts
  - B. Corrosion of engine parts
  - C. Failure of ignition
  - D. Loss of engine power
24. When too much water is supplied to crop during sprinkler irrigation
- A. crop maturity may be delayed
  - B. soil nutrients may be leached
  - C. pest and disease incidence is increased
  - D. the soil become saline
25. Proper root development in a plant has advantage of
- A. reducing water percolation through the soil
  - B. improving drought resistance in crop
  - C. increasing organic material in the soil
  - D. reducing leaching of soil nutrient
26. The nutrients required by a fattening bull are mainly used for
- A. Maintenance and production
  - B. Reproduction and growth
  - C. Production and reproduction
  - D. Reproduction and maintenance
27. The rapid population increase in Uganda is partly due to
- A. abundance of food supplies
  - B. breakdown in moral standards
  - C. inadequate family planning education
  - D. improved health services
28. Which one of the following expenses would be most appropriately financed by a medium term credit? The cost of
- A. labour
  - B. buying an irrigation pump
  - C. establishing tree crop
  - D. constructing farm building
29. Which one of the following would reduce the effectiveness of an Acaricide?
- A. Dipping animals on a rainy day
  - B. Evaporating water from the dip-wash
  - C. Dipping animals less frequently
  - D. Rushing animals through the dip
30. Which one of the following is not an important consideration in the construction of a dam?
- A. Purpose of the dam
  - B. Amount of rainfall
  - C. Type of soil
  - D. Source of water

SECTION B

Do all numbers

31. (a) Explain five ways in which land fragmentation affects agricultural production. (05marks)  
 (b) Outline the steps involved in consolidating land. (03marks)  
 (c) Suggest two problems that may be associated with the land consolidation process (02marks)
32. Figure 1 shows the life cycle of the beef tape worm *Taenia saginata*. The stages and events of the life cycle have been labeled A to G.



- (a) Give one control measure that may be applied at each of the following stage (07 marks)
- A  
 B  
 C  
 D  
 E  
 F  
 G
- (b) Suggest two ways by which the transfer of tapeworm egg at G may occur (02marks)
- (c) Give two symptoms of tape worm infestation in cattle.
33. (a) Give six conditions under which you would use grafting as a method of crop propagation, (06marks)
- (b) What precautions should be taken to ensure successful grafting of plants? (04marks)
34. (a) Explain four factors that influence the choice of an irrigation method to use. (04marks)  
 (b) State three advantages of using drip irrigation (03marks)

(c) Give three factors that should be considered to ensure efficient use of sprinkler irrigation (03marks)

35. (a) Explain five management practices that should be carried out in sheep for successful breeding. (05marks)

(b) Outline the factors that affect the quality of wool. (05marks)

Suggested answer

1D 4C 7D 10D 13C 16B 19C 22D 25D 28D

2B 5D 8B 11A 14C 17C 20D 23D 26A 29A

3C 6D 9A 12B 15D 18A 21C 24B 27C 30B

### SECTION B

31. (a) Explain five ways in which land fragmentation affects agricultural production. (05marks)

- It's difficult to supervise all plots effectively.
- Large scale/commercial farming is not possible
- It's difficult to offer agricultural extension services on such scattered plots.
- Theft of farm produce is common due to reduced supervision.
- It encourages low agriculture production.
- Farmers fail to secure land title deeds.
- Farmers fail to access social services such as road, water for irrigation etc.
- Farm planning is difficult due to the small size of the fragments.
- Agricultural mechanization is expensive due to the small size of the plots which are scattered.
- It's difficult to carry out soil conservation measures due to the distance involved.

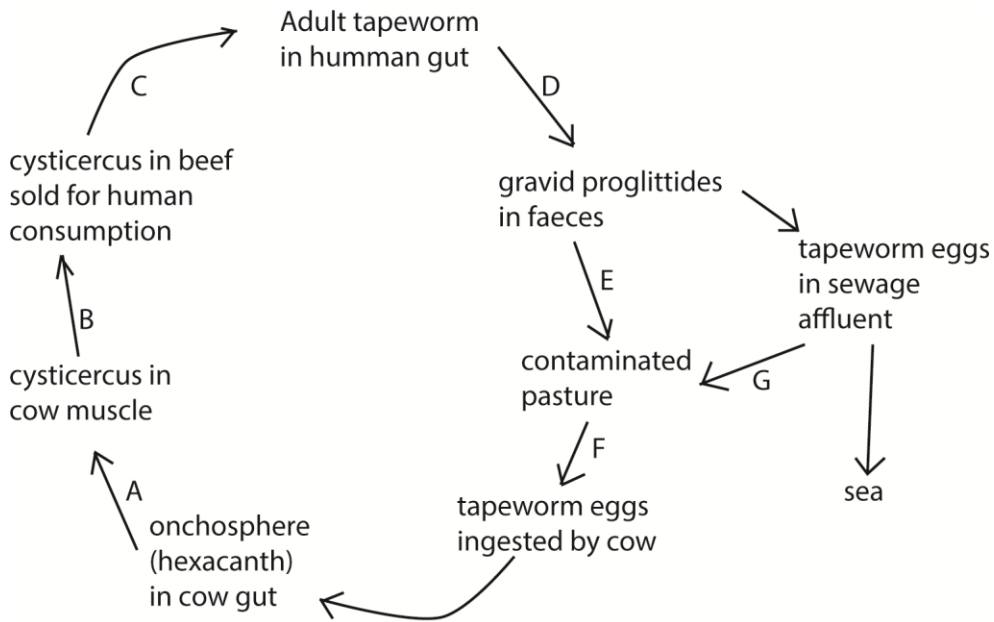
(b) Outline the steps involved in consolidating land. (03marks)

- Establish land ownership
- Measurement of the plot to be consolidated in order to establish their size.
- Describing the nature of the fragment
- Valuing the fragments to be consolidated
- Recording each fragment of land for further consideration
- Issuing of the title for the consolidated land or fragments.

(c) Suggest two problems that may be associated with the land consolidation process (02marks)

- It may make people landless.
- It may cause political unrest among the population
- It's a very costly exercise since each fragment is of a different value.

32. Figure 1 shows the life cycle of the beef tape worm *Taenia saginata*. The stages and events of the life cycle have been labeled A to G.



(a) Give one control measure that may be applied at each of the following stage (07 marks)

- B- Use dewormer
- C- Inspect to prevent sale of infected beef
- D- Cook beef properly to kill cysts
- E- Drenching with dewormers
- F- Proper disposal of wastes
- G- Proper disposal/treatment of sewage
- H- Spray with pesticides

(b) Suggest two ways by which the transfer of tapeworm egg at G may occur (02marks)

- Improper disposal of sewage
- Grass growing around sewage

(c) Give two symptoms of tape worm infestation in cattle.

- Rough hair coat
- Pot belly in young animals
- Diarrhea or constipation

33. (a) Give six conditions under which you would use grafting as a method of crop propagation,

(06marks)

- To propagate clones which cannot be propagated by other means
- To repair damaged trees
- To propagate plant varieties without seeds
- Necessity for fast maturity
- Need to preserve good parental characteristics
- To impart disease resistance
- To develop branches that are lacking on a tree

-

(b) What precautions should be taken to ensure successful grafting of plants? (04marks)

- Compatibility – The scion and stock must be related or close to facilitate sexual hybridization.
- The scion and the stock should be disease free.
- Use suitable equipment or tool for grafting
- Scion should have a bud
- Both scion and stock should be woody
- Both scion and stock should be from quality plant
- Graft quickly
- Cambial alignment – The cambium of the scion and root stock should be aligned for the union form.
- Timing of the grafting operation – Grafting must be done at a time when the root stock is in a proper physiological state.
- Avoiding desiccation – After grafting operation make sure that all the surface is sealed off using wax or grafting tape around the joining
- Pressure – Apply a pressure after aligning the cambium of the root stock and scion such that the xylem stays in contact.

34. (a) Explain four factors that influence the choice of an irrigation method to use. (04marks)

- Topography of the area: surface methods are best where there is a gradient of land
- Type of soil: surface methods are not suitable for sand soil but suitable for clay soil
- Availability of water: some irrigation method like uncontrolled flood irrigation require a lot of water
- Type of crops: some plants like rice require a lot of water so require methods like uncontrolled flood irrigation
- Distance from source of water: methods like sprinkler require nearby water to reduce the cost of pipe
- Availability of capital to invest in irrigation system
- Availability of labour: some methods like overhead irrigation requires a lot of labour
- Technical skills such as level of mechanization
- 

(b) State three advantages of using drip irrigation (03marks)

- Minimize spreading of diseases since it minimizes contact with leaves and stems
- Allows the rows between plants to remain dry discouraging growth of weed
- Save water
- Delivers water and nutrients to plant roots
- Minimize soil erosion
- Uses low labor



(c) Give three factors that should be considered to ensure efficient use of sprinkler irrigation (03marks)

- Quality of water: good quality water is necessary to avoid blockade of nozzles
- Type of soil: this affects water infiltration
- Pump pressure: high pump pressure improves efficiency of sprinkler irrigation
- Weather conditions: high wind speed reduces efficiency of sprinkler irrigation

35. (a) Explain five management practices that should be carried out in sheep for successful breeding. (05marks)

- **Good feeding:** Breeding animals should be fed well but excessive fattening should be avoided as it may reduce the fertility.
- **Insemination at the right time:** In case of artificial insemination, the cow should be inseminated towards the middle and late part of heat period as ovulation occurs 14 hours after the beginning of estrus.
- **Observation of animals on heat:** This should be done as early as possible more especially where artificial insemination is being used to avoid the animal missing service.
- **Veterinary Attention:** Animals that fail to conceive should be identified and examined to find out the causes and treated if possible.
- **Pregnancy diagnosis:** Animals should be diagnosed to find out whether they have conceived or not so that appropriate measures can be taken in time.
- **Keep accurate breeding records** for the herd to be used as reference were necessary
- Use **correct techniques of artificial insemination** to ensure successful fertilization hence high breeding efficiency
- Females with abnormal discharges should be examined and treated early enough
- Know a complete breeding history of the sheep before buying it into the farm

(b) Outline the factors that affect the quality of wool. (05marks)

- Hair thickness/diameter
- Hair length
- Color
- Crimp
- purity

Please obtain free downloadable notes of general paper, biology, economics, geography etc. from [digitalteachers.co.ug](http://digitalteachers.co.ug) website

Thanks

Dr. Bbosa Science

