



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



Nurture your dreams

UACE P515/1 Principles and practices of agriculture 2002

SECTION A (30 MARKS)

Write the letter corresponding to the correct answer

- Which one of the following does not determine the method of dehorning cattle?
 - Age of the animal
 - Size of the animal
 - Breed of cattle
 - Brittleness of the horns
- Which one of the following is a function of a disc scrapper?
 - Press the disc against the bearing
 - Clean the disc
 - Turn the furrow slice
 - Stabilize the rotation of the disc
- The best time to take a sample of dip wash for testing its strength
 - when animals are being dipped
 - just before animals are dipped
 - immediately after mixing the Acaricide
 - after animals have been dipped
- Which one of the following factors should be considered when selecting a site for construction of a dam on a farm
 - Purpose for which the water will be used
 - Type of soil at the site
 - Volume of water to be trapped
 - Speed of water flow
- Which one of the following would result in a decrease in soil pH
 - Mulching
 - Adding lime to the soil
 - Leaching
 - Incorporating manure into the soil
- The limitation of feeding animals on concentrates is that concentrates
 - provide limited amount of nutrients

- B. are expensive
 - C. cannot be digested by all animals
 - D. increase water intake
7. Which one of the following is an advantage of diversifying farm production?
- A. Reduction in pest and disease attack
 - B. Easy marketing of farm products
 - C. More efficient use of farm resources
 - D. Increased yield
8. Which of the following substances will combine to form lactose?
- A. Sucrose and fructose
 - B. Glucose and fructose
 - C. Glucose and galactose
 - D. Fructose and galactose
9. Which one of the following represents the energy transformation that take place in an internal combustion engine?
- A. Electrical → mechanical energy → heat energy
 - B. Electrical → heat energy → mechanical energy
 - C. Chemical energy → mechanical energy → heat energy
 - D. Chemical energy → heat energy → mechanical energy
10. The rate of meat spoilage is influenced by the
- A. amount of meat stored
 - B. age of the animal slaughtered
 - C. treatment given to an animal before slaughter
 - D. extent of breeding the carcass
11. Which of the following is a semi-mounted tractor implement
- A. Disc harrow
 - B. Fertilizer distributor
 - C. Mould board plough
 - D. Disc plough
12. A high breeding efficiency may be maintained in a herd by
- A. Allowing the animals plenty of exercise
 - B. Confining cows in the paddock with bulls
 - C. Mating the cows three months after calving
 - D. Increasing the number of cows in a herd
13. Which one of the following is influenced by the type of soil on which tobacco is grown
- A. Flavor of the leaves
 - B. Spacing of the crop
 - C. Color of the leaves after curing
 - D. Length of the growing period
14. One advantage of using a vegetative material in crop production is that the crop
- A. Gives a high yield

- B. Maintains mother plant characteristics
 - C. Mature uniformly
 - D. Is pest resistant
15. Which one of the following influences the water retention capacity of the soil?
- A. The pH of the soil
 - B. The level of microbial activity in the soil
 - C. The depth of the soil
 - D. Amount of organic matter in the soil
16. When the value of assets equals liability, the farm business is said to be
- A. in balance
 - B. bankrupt
 - C. solvent
 - D. insolvent
17. Rice can grow in water logged soil because the
- A. Stem epidermis is water proof
 - B. Crop requires a lot of water to grow
 - C. Roots can absorb air from the water
 - D. Crop can obtain air through the stem cortex
18. Which one of the following is a method by which a hen maintains a high humidity around the eggs it is incubating?
- A. Exposing the eggs to absorb moisture from the atmosphere
 - B. Laying eggs on a damp surface
 - C. Sweating on the abdomen while sitting on eggs
 - D. Bathing in dew
19. Which stage of the liver fluke infests the host animals?
- A. Adult
 - B. Miracidium
 - C. Sporocyst
 - D. cercaria
20. Which one of the following is the purpose of the pitch on the mould board plough share?
- A. Ease penetration into the soil
 - B. Stabilize the plough bottom
 - C. Determine plough depth
 - D. Clears the chuff during ploughing
21. A pre-emergence herbicide is one that is applied before emergence of
- A. flower in weeds
 - B. a crop
 - C. weeds
 - D. flowers in a crop
22. Which one of the following would be the effect of pruning a tea crop?
- A. Production of larger leaves
 - B. Encouragement of flowering

- C. Reduction in pest and disease
 - D. Encouragement of lateral growth
23. Layering is used to propagate plants when
- A. A large propagate is required
 - B. Early maturing is required
 - C. Cutting cannot root easily
 - D. Uniform maturity is required
24. In preparation of silage, molasses is added to
- A. aid bacterial action
 - B. act as a catalyst
 - C. kill harmful organism
 - D. increase temperature
25. A farm inventory indicates all the following **except** the
- A. number of livestock in farm at the beginning of the year
 - B. sales, deaths and purchase of stock during the year
 - C. value of crop in the field
 - D. quantities of crops in the store
26. Which of the following processes in plants requires expenditure of energy by the plant?
- A. Loss of water vapor from stomata
 - B. Uptake of mineral ions by plant roots
 - C. Absorption of water from soil into root hairs
 - D. Translocation of sugars
27. An epithelium tissue lining the walls of the alveoli and capillaries is
- A. Columnar
 - B. Cuboidal
 - C. Stratified
 - D. squamous
28. Which of the following factors may make crop rotation ineffective in controlling crop disease?
- A. Loss of soil fertility
 - B. Absence of resistant crop variety
 - C. Late planting of a crop
 - D. Presence of pathogens spore from previous crop
29. Which one of the following is a function of the chalaza in an egg?
- A. Conveying air to the germinal spot
 - B. Allowing rotation of the yolk
 - C. Maintain the shape of the egg
 - D. Conveying excretory products from the germinal spot
30. Sub-soiling is carried out in order to
- A. Mix soil
 - B. Encourage soil drainage
 - C. Discourage soil erosion
 - D. Expel soil organisms

SECTION B

31. (a) Explain how water requirement varies with the age of growth of crop. (03marks)
(b) State seven measures that a farmer can take to ensure the harvesting of good quality cotton? (07marks)
32. (a) Distinguish between a partial budget and complete budget. (02marks)
(b) Give three considerations that a farmer should make when drawing a budget? (03marks)
(c) What are the shortcomings of each of the following types of information in farm budgeting?
(i) Results from agricultural research stations. (02marks)
(ii) Information on input-output relations (03marks)
33. (a) State five advantages of using water as a coolant in engines. (05marks)
(b) Give five maintenance practices that should be carried out on the water cooling system of an engine. (05marks)
34. (a) Give four reasons to explain why a cow should be dried off two months before calving. (04marks)
(b) Explain the following procedure that can be used to dry off a cow. (1½ mark each)
(i) Incomplete milking
(ii) intermittent milking
(iii) ceasation
(iv) dry cow therapy
35. (a) Name any four types of soil micro-organisms (02marks)
(b) Give four ways in which soil organisms contribute to soil fertility. (04marks)
(c) State four harmful effects of soil organism to crops (04marks)

Suggested answers

1C 4C 7C 10C 13B 16C 19D 22C 25C 28D
2B 5D 8C 11B 14B 17D 20A 23C 26D 29B
3B 6B 9D 12B 15D 18C 21C 24A 27D 30B

Comments

5. Manure decomposes to release organic acids

17. Roots can obtains oxygen through aerenchyma which connect roots to the shoot

SECTION B

31. (a) Explain how water requirement varies with the age of growth of crop. (03marks)
- Initially plants require low water because they have poorly developed roots and shoots. The rate of transpiration is low
 - Water requirement increases with age in order to form plant structures such as roots, leaves stems and replace that lost in evaporation and transpiration

- Then water requirement decreases due to senescence involving drying up and losses of leaves and fruits.

(b) State seven measures that a farmer can take to ensure the harvesting of good quality cotton? (07marks)

- Harvest cotton when bolls are fully open and fluffy white cotton is exposed
- Harvest cotton during dry weather
- Do not harvest dry cotton only to maintain fiber quality
- Do not delay harvesting until the last few bolls are open
- Harvest cotton in dry containers
- Do not harvest stained cotton
- Ensure harvested cotton is not contaminated with soil or other material
- Ensure correct storage conditions after harvesting such as dry places

32. (a) Distinguish between a partial budget and complete budget. (02marks)

Partial budget is a financial statement outlining the anticipated revenue and expenditure for and enterprise or part of the whole farm in the fourth coming financial period.

Complete budget is a financial statement outlining the anticipated revenue and expenditure for the whole farm in the fourth coming financial period

(b) Give three considerations that a farmer should make when drawing a budget? (03marks)

- Scheduled expenditure
- Scheduled income
- Planned expansion
- Results from research station which show expected production of an enterprises.
- Data on input-output relationship i.e. production functions

(c) What are the shortcomings of each of the following types of information in farm budgeting?

(i) Results from agricultural research stations. (02marks)

(ii) Information on input-output relations (03marks)

33. (a) State five advantages of using water as a coolant in engines. (05marks)

- Water has high specific heat capacity
- Readily available
- Cheap
- Has high boiling point
- Has high specific heat of vaporization
- Has low freezing points
- Has high specific heat of freezing

(b) Give five maintenance practices that should be carried out on the water cooling system of an engine. (05marks)

- Flush and replace used coolant
 - Keep the radiator clean and free from debris or dirt
 - Monitor level of coolant and top up when necessary
 - Ensure the thermostat is in proper working conditions
 - Ensure there is no leaking of coolant from the system
 - Ensure that the fan is working properly
34. (a) Give four reasons to explain why a cow should be dried off two months before calving. (04marks)
- Allow the cow to restore udder tissues before getting back to lactation
 - Allow the cow to replace the minerals depleted during lactation
 - To give the fetus enough time to develop and also enough nutrients
 - To maintain a high future milk yield in the next lactation
 - Enable the cow to gain weight before delivering
 - To ensure high quality colostrum at birth
- (b) Explain the following procedure that can be used to dry off a cow. (1½ mark each)
- (i) **Incomplete milking:** this involves milking the cow half way its production capacity so that the remaining milk in the udder exerts pressure on the milk secreting cells which will stop secreting milk.
 - (ii) **Intermittent milking:** the cow is milked at intervals of days and later left completely after 5 days or more.
 - (iii) **Cessation Milking:** this is when milking stopped once for all. It causes a lot of pain to the animal and can easily result into mastitis
 - (iv) **Dry cow therapy:** Here antibiotics are included in feeds which will control mastitis.
35. (a) Name any four types of soil micro-organisms (02marks)
- bacteria
 - fungi
 - protozoa
 - algae
- (b) Give four ways in which soil organisms contribute to soil fertility. (04marks)
- They carry out decomposition of dead plants and animals remains to produce humus which is used by plants.
 - Some bacteria like Rhizobia fix nitrogen into the soil
 - After their death more especially the macro organisms decompose and add fertility to the soil.
 - Mix soil with organic matter
 - Bind soil particles together thereby improving soil texture.
 - Other living organisms like earthworms, excrete urea which adds fertility to the soil by providing nitrogen.
 - They aerate the soil by making tunnels. The more tunnels, the more the aeration.
 - Some produce antibiotics that can be used to control harmful bacteria in the soil.

(c) State four harmful effects of soil organism to crops (04marks)

- Infect and cause diseases to the plant
- Some transmit disease to plant (vectors)
- Some compete for nutrients with the plants (immobilization)
- Denitrifying bacteria lead to loss of nitrogen from the soil
- By decomposing root nodules.
- Some are plant parasites
- Damage crop roots.

Please obtain free downloadable notes of general paper, biology, economics, geography etc. from digitalteachers.co.ug website

Thanks

Dr. Bbosa Science