**UACE MARKING GUIDE UNEB 2017 PAPER 1 (P515/1)**

**SECTION A**

1. One advantage of urban farming is that

A. the cost of production is low

B. products are packed before sale

**C.** there is excess to consumer markets

D. farmers earn much income from it.

2. Dried mushrooms are packed in sealed containers in order to

**A.** prevent absorption of moisture

B. maintain the flavor

C. control storage pests

D. prevent loss of nutrients.

3. Which one of the following metabolic disorders is likely to occur in high yielding cattle fed on

grass only?

**A.** Ketosis

1. Grass tetany
2. Pica
3. Milk fever.

4. Which of the following stages of a production function shows optimum utilization of an input

factor?

A. Constant returns

B. Increasing returns

C. Negative returns

**D.** Diminishing returns

5. The resistance of barbed wire to a force pulling it apart when strained on fence posts represents its

**A.** tensile strength

B. compression strength;

C. shearing strength

D. elastic strength.

6. When a bag of maize weighing 80kg is lifted vertically through a distance of 1.5 m, the work done

is

A. 120 J

B. 53.3 J

**C.** 1,200 J

D. 12 J

7. Which one of the following is an advantage of using farm yard manure over inorganic fertilizers?

Farm yard manure

A. contains more nutrients

**B.** adds organic matter which improves on soil structure

C. does not alter pH

D. supplies all the micro-nutrients required by the plant.

8. It is not advisable to use paper bags to collect soil samples for laboratory analysis because they

A. react chemically with soil minerals

B. cannot carry large soil samples

C. generate heat that may kill soil microbes

**D.** absorb moisture from the soil.

9. Production of shell-less eggs by layers may be prevented by

A. vaccination

**B.** giving fish meal to layers

C. supplying layers with greens

D. increasing light in the laying house

10. It is easier to compact legumes than cereals because legumes

A. have high Carbon to Nitrogen ratio

B. are more succulent than cereals

**C.** have a small Carbon to Nitrogen ratio

D. have a high Nitrogen content.

11. Manure is added to a fish pond two weeks prior to stocking fish in order to

A. provide materials for breeding

B. provide food for fingerings

**C.** encourage growth of algae and other water plants

D. give pond water a dark colour to protect fish

12. Which one of the following is an advantage of embryo transfer?

A. Increases hybrid vigour.

**B.** Eliminates undesirable traits from the herd.

C. Allows a farmer to choose between male and female off-springs.

D. Eliminates free martins in a herd.

13. The purpose of uniting two bee colonies in bee management is to

A. have more drones in a hive for mating

B. form a strong colony that can defend the hive.

**C.** form a colony that produces more honey.

D. have more productive queens in the hive.

14. Which one of the following takes place during the dark stages of photosynthesis?

A. Oxygen is given off as a by-product.

**B.** Carbon dioxide combines with ribulose diphosphate.

C. Water molecules are split.

D. Electrons are emitted from chlorophyll molecules.

15. Frequent use of pesticides like DDT in a ecosystem is discouraged because it

**A.** accumulates in consumer tissues.

B. causes migration of beneficial organisms from the area.

C. leads to emergence of secondary pests in an area.

D. is too strong and cannot be diluted.

16. The management practice that ensures high litter size in pig rearing is

A. timely serving.

B. early wining.

C. proper housing.

**D.** flushing sows.

17. Phosphatic fertilizers are normally applied at planting time because they

A. do not scotch the seedlings

B. promotr leaf growth.

C. are required for seed germination.

**D.** promote root growth

18. Light intensity affects the rate of transpiration by

A. influencing the opening and closing of the stomata.

B. affecting air movement around the leaf surface.

**C.** providing energy necessary for transpiration.

D. providing energy which accelerates evaporation.

19. Which of the following organisms contributes to mechanical biding of soil particles in the field?

A. Bacteria

**B.** Fungi

C. Earthworms

D. Protozoa

20. In a test cross, a tall organism is proved to be heterozygous for tallness if it produces

**A.** tall and dwarf off-springs.

B. tall off-springs only.

C. only dwarf off-springs.

D. off-springs of intermediate height.

21. Which one of the following would be the most appropriate use of long term credit?

A. Buying seeds for planting.

B. facilitate mating.

**C.** Buying agricultural inputs.

D. Paying hired labour.

22. The major reason for grooming dairy cattle is to

**A.** facilitate clean milk production.

B. facilitate mating.

C. keep the skin soft.

D. facilitate blood circulation.

23. Which one of the following would be most effective in controlling viral diseases in livestock?

A. Antibiotics

**B.** Vaccines

C. Antihelminths

D. Analgesics

24. Concrete can be reinforced to increase its strength by

A. using 1 part cement, 2 parts sand and 3 parts aggregates.

**B.** putting steel bars in the concrete.

C. using just enough water to mix concrete contents.

D. finishing with a coat of wetted cement.

25. Which one of the following is not likely to occur when there is excessive supply of feeds in a fish

pond?

A. Wastage of feeds.

B. Development of foul smell

**C.** Over fattening of fish.

D. Abundance of phytoplanktons.

26. When selecting a tree species to be grown for timber, the most important consideration is

A. disease resoistance.

B. early maturity.

C. narrow crown.

**D.** straight growth.

27. Which one of the following is a feature of resettlement? It involves

A. a planned transfer of population from one area to another

**B.** a process of transferring people from a more populated area to a sparsely populated area.

C. a transfer of people to an area that has not been previously inhabited.

D. relieving population pressure from an area by reducing the number of people settled on it.

28. A disadvantage of sub-surface drainage is that it

A. leads to silting up.

B. interferes with mechanical tillage operations.

C. takes up good land for crops.

**D.** leads to excessive leaching.

29. Which one of the following distinguishes subsidies from loans?

**A.** Subsidies are not recovered from farmers but loans are.

B. Loans are given in form of liquid cash but subsidies are physical items.

C. Subsidies are normally small in nature but loans are usually big sums.

D. Subsidies are given against a collateral while loans are not.

30. Which one of the following has the least effect on urban farming?

A. The structure of the urban population.

**B.** The quality of the available water.

C. Land tenure conditions.

D. The potential for irrigation.

**SECTION B**

31. a) Define agroforestry. (01 mark)

A farming system which involves the growing of crops, trees / pastures and rearing of animals on the same land unit.

***Award 1 mark if only all the three enterprises ie crops, trees / pastures and livestock are in the definition.***

b) Describe three types of agroforestry practices commonly carried out by farmers. (03 marks)

* Agro sylvo culture; which involves growing trees and crops;
* Agro sylvo pastoral; which involves combining trees, crops and livestock;
* Sylvo pastoral; which involves combining trees with pastures and or animals.

***Award 1 mark each for any 3 correct points; 1 x 3 = 03 marks***

c) Give six characteristics of agro forestry trees. (06 marks)

* Have light canopy to avoid shading of crops;
* Not allelopathic;
* Should mature fast / Easy to establish;
* Bear a variety of products ie multipurpose in nature;
* Drought resistant;
* Pests and disease free;
* Have high capacity / ability to regenerate from a cut stump;
* Deep rooted system to reduce competition for nutrients with associated crops;
* Highly palatable for livestock feeding;
* Leguminous to fix nitrogen in the soil.

***Award 1 mark each for any 6 correct points; 1 x 6 = 06 marks***

32. a) What is meant by total efficiency of a machine used to do work? (02 marks)

* It refers to work output equal to work input.

***Award 2 marks for the correct definition; 2 x 1 = 02 marks***

b) A machine requires 6250 kgs of energy to lift a bag of maize weighing 50 kgs through a

vertical height of 10 metres. Calculate the:

i) work done by the machine. (03 marks)

Work done = Force (F) x Distance (S). ***(01 mark)***

= 50 x 10 N x 10 M.  ***(01 mark)***

= 5000J or 5000 NM. ***(01 mark)***

Or Work done = M A x Distance

= 50 x 9.8 x10 M

= 490 x 10 M

= 4900 J

ii) Efficiency of the machine. (03 marks)

Work out put x 100

Work input

= 5000 J x 100%

6250 x 1000 J

= 0.08 %

Or Energy output x 100 %

Energy input

= 5000 J x 100 %

6250 x 1000 J

= 0.08 %

Or 4900 x 100%

6250 x 1000

= 0.000784 x 100

= 0.0784 % = 0.08 %

c) State two ways of improving the efficiency of a machine. (02 marks)

* Oiling / lubrication to reduce friction;
* Using recommended loads;
* Increasing effort distance;
* Using recommended alloys in the internal parts of a machine;
* Sharpening cutting edges of a machine.

33. a) Distinguish between a systemic and non systemic herbicide. (02 marks)

* Systemic herbicides are absorbed and translocated in the internal parts of weeds eg cells and tissues from where they are transported to parts where they cause action, while non systemic herbicides are not absorbed and translocated into the parts of a weed and kill by contact.

***Award 2 marks for the correct definition; 2 x 1 = 02 marks***

b) Explain four factors that influence the selection of a herbicide. (04 marks)

* Cost of the herbicide; it should be affordable for farmer while purchasing it from the market;
* Availability of a herbicide; it must be easily got or found on market once selected to be used;
* Nature of weeds; eg some weeds have underground structures like stolons, bulbs, rhizomes, which require systemic herbicides;
* Nature of herbicides eg some herbicides are translocated or non-translocated, selective or nonselective or contact type;
* Stage of crops; some herbicides may be applied as pre-emergence if crops have not yet germinated or post emergence if the crops have germinated;
* Effectiveness of the herbicide; a herbicide must be able to destroy the intended weeds;
* Nature of the plant; the herbicide should not harm crops;
* Environmental effect; the herbicide should not introduce toxic chemicals to humans and animals ie it should be environmentally friendly.

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

c) Mention four ways in which the effectiveness of a herbicide can be achieved. (04 marks)

* Properly mixing the herbicide s to use the right concentration;
* Using the right herbicide for the recommended weeds;
* Using clean equipments when spraying herbicides to avoid contamination of the chemical;
* Avoiding spraying when it is windy to avoid drifting of herbicides;
* Avoid spraying when it is about to rain because rain water washes off the chemicals;
* Ensuring proper wetting of weed leaves during application of chemicals;

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

34. a) Explain the following terms as used in animal nutrition. (02 marks)

i) Digestibility: Refers to oral to faecal difference of a feed / proportion of a feed absorbed by

the body after feeding an animal; (01 mark)

ii) Crude protein: The total amount of proteins contained in a feed and is expressed as a

percentage of dry matter. (01 mark)

b) Give four characteristics of concentrate feeds. (04 marks)

* They have high protein content;
* They have high energy content;
* They are highly digestible;
* They are highly palatable;
* They have high mineral content;
* They have low fibre content;
* They have low water content.

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

c) State one method of controlling each of the following nutritional disorders in farm animals.

(03 marks)

1. Bloat

* Using anti-bloat drugs;
* Using good balanced ratio of legume-grass mixture during feeding;
* Feeding animals on good quality forage with high fibre content to avoid lush pastures;
* Feeding animals on time to avoid hurried feeding.

***Award 1 mark each for any 1 correct point; 1 x 1 = 01 mark***

1. Milk fever

* Incomplete milking to avoid over extraction of Calcium from the body of dairy animals;
* Feeding animals on feeds rich in Calcium.
* ***Award 1 mark each for any 1 correct point; 1 x 1 = 01 mark***

1. Piglet anaemia

* Provide piglets with feeds rich in Iron /
* Provide anti hill soil /
* Provide Iron solution injections to pregnant sows or piglets.
* ***Award 1 mark each for any 1 correct point; 1 x 1 = 01 mark***

35. a) Suggest six challenged faced by a farmer who owns fragmented land. (06 marks)

- Difficult to mechanize because of scattered plots of land / small land that is un economical;

- Conflicts / wrangles / quarrels with neighbours over trespasses on their land;

- Difficult to make sound land planning;

- Difficult to supervise from one plot to another;

- Wastage of time in movement from one place to another;

- Expensive to register land due to the scattered holdings;

- Difficult to control pests and diseases because the neighbour’s plots / land may become sources of infection;

- Low agricultural production due to small plots;

- Difficult to put in place soil and water conservation measures because of limitations from the neighbours.

***Award 1 mark each for any 6 correct points; 1 x 6 = 06 marks***

b) Outline four benefits of having a land title deed by a farmer. (04 marks)

* Avoids conflicts of land with neighbours;
* It is easy to sell the land;
* It can easily be used as collateral security to get loans from banking institutions;
* Gives security of ownership for long term planning;
* It adds value to land in case of selling it;
* It can be rented or hired to create a source of income.

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

36. (a) What is meant by polyploidy? (02 marks)

A condition when an organism with diploid condition acquires one or more sets of chromosomes.

***Award 2 marks for the correct definition; 2 x 1 = 02 marks***

b) Give four ways in which polyploidy conditions affect the quality of crops. (04 marks)

* New crop varieties are produced that can be high yielding;
* Leads to pests and disease resistant crops;
* Leads to drought resistant crops;
* Produces fast maturing crops

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

c) Outline four reasons why grafting is important in crop production. (04 marks)

* Produces crops with a variety of fruits, flowers;
* Enables changing the plant tops from being un desirable to desirable;
* Maintains genetic constitution of parent plants;
* Enables repair of damaged trees;
* Facilitates change of trees from being un desirable to desirable;
* Improves on plant resistance against pests and disease attack;
* Improves on the adaptability of plants to un favourable environment;
* Leads to faster maturity;
* Clones / Cuttings can be propagated.

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

37. a) State six factors to be considered when selecting a site for a fish pond. (06 marks)

* Soil type; clay type with good structural stability;
* Topography / Relief; it should be gently sloping for easy drainage;
* Accessibility; it should have easy access to transport routes to enable marketing of fish;
* Nearness to home; for easy supervision;
* Security; for safety of fish;
* Freedom from stones; to avoid excessive drainage of water;
* Availability of a permanent and clean water source; to supply water to the pond;
* Distance from sources of pollution; should far away from pollution sources to avoid damaging the health of fish.

***Award 1 mark each for any 6 correct points; 1 x 6 = 06 marks***

b) Give four management practices carried out in a fish pond. (04 marks)

* Regular feeding for growth of fish;
* Manuring / fertilization to provide nutrients for the growth of planktons which are fed on by fish;
* Desilting to remove eroded soil from the pond;
* Regular supply of clean water to recommended level to ensure fresh oxygen supply;
* Cropping to remove oversized fish and create space for the young ones left behind;
* Harvesting by removing mature fish from the pond;
* Fencing to prevent predators;
* Slashing around the pond to remove weeds from water;
* Checking for leakages from pond walls and sealing them off to avoid leakages;
* Mixing drugs in fish feeds to control diseases;
* Planting grass around the pond to control soil erosion;
* Liming to maintain alkaline conditions of pond water.

***Award 1 mark each for any 4 correct points; 1 x 4 = 04 marks***

**E N D**