

**An Najah National University  
Faculty of Agriculture and Veterinary Medicine  
Animal Nutrition(12382)**

**Exam 1**

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- 1. Choose the best answer: (40 points; llo 1-4)**
- 1. The feed nutrients that do not produce energy are:**
    - a) Vitamins. Minerals. Carbohydrates
    - b) Carbohydrates, proteins, lipids
    - c) Carbohydrates, lipids, vitamins
    - d) Vitamins, minerals, water.
  
  - 2. Animals get most of its energy requirements from:**
    - a) Proteins
    - b) Lipids
    - c) Carbohydrates
    - d) Water.
  
  - 3. One gram of starch gives how many kcal:**
    - a) 4
    - b) 7
    - c) 9
    - d) 38.
  
  - 4. Fats are included in animal diet because:**
    - a) It is expensive
    - b) As source of energy
    - c) Reducing diets appetite
    - d) A+B.
  
  - 5. The followings are non essential amino acids except:**
    - a) Serine
    - b) glycine
    - c) Methionine
    - d) Proline.
  
  - 6. Plant proteins quality is lower than animal proteins because:**
    - a) Of less essential amino acids
    - b) Of less balanced amino acids
    - c) Of less biological value
    - d) All of them.
  
  - 7. Cereals are deficient in:**

- a) Proline
- b) Histidine
- c) Arginine
- d) Lysine

8. Animal body contains-----ash:

- a) 10%
- b) 20%
- c) 30%
- d) 5%.

9. The followings are macro minerals except:

- a) Iron
- b) Sulfur
- c) Sodium
- d) Chlorine.

10. The following are B complex vitamins except:

- a) Ascorbic acid
- b) cyanocobalamin
- c) thiamin
- d) Niacin.

11. The following feeds are roughages except:

- a) Pastures
- b) Silage
- c) Barley grains
- d) Straw.

12. Roughages compared to concentrates are characterized by its:

- a) Low digestibility
- b) Low protein content
- c) High fiber
- d) All of them.

13. The followings are concentrated feeds except:

- a) Silage
- b) Wheat grain
- c) Oat grain
- d) Sorghum.

14. The protein supplement is:

- a) Contains more than 18% crude protein
- b) Can be of both plant or animal origin
- c) Can be added to types of diets
- d) All of them.

15. Vitamins are not synthesized in animal body except:

- a) Vitamin A
- b) Vitamin D
- c) Niacin
- d) Vitamin C.

16. Which one is a volatile fatty acid?

- a) Arachidonic acid
- b) Acetone
- c) Propionic
- d) Glutamic acid.

17. The enzyme involved in fatty acid metabolism is:

- a) Lipase
- b) Amylase
- c) Hormone sensitive lipase
- d) All of them.

18. Lipids are absorbed in the form of:

- a) Glucose
- b) Fructose
- c) Phospholipids
- d) Chylomicrons.

19. One of the endopetidases enzymes is the:

- a) Trypsin
- b) Pepsin
- c) Lactase
- d) Maltase.

20. The non protein nitrogen sources are:

- a) True proteins
- b) Of low quality protein equivalent
- c) Of high level of protein equivalent
- d) Used in nonruminants diets.

2. Why is protein quality is not important in ruminant diets? (2 points; Ilo 3)

**3. Name two cereal grains by products.**

**(2 points; Ilo 3)**

**4. Name the problem associated with feeding the following:  
(8points; Ilo 2,3)**

**1. Raw soybean:**

**2. Cotton seeds:**

**3. Wheat:**

**4. Raw starch:**