

Syrian Arab Republic

Damascus university

Faculty of agricultural engineering

Department of Animal production

Basic animal nutrition 4<sup>th</sup> year 5/8/2025 2<sup>nd</sup> semester



1. Read the following paragraphs carefully then answer the questions that follow:

Digestion has been defined as the 1 of food for absorption and may include 2 forces such as chewing or 3 contractions of the GI tract, 4

Action of hydrogen chloride (HCL) in the stomach or 5 action of bile from the 6 in the small intestines or activity from 7 produced in the GI or from 8 in various sites in the tract. The overall 9 of the various digestive processes is to reduce food 10 to a size or 11 that will allow for 12. Absorption includes various processes that allow small 13 to pass through the 14 of the GI tract into the blood or 15 systems.

In 16 species, the crop, proventriculus, and 17 replace the 18 found in monogastric species.

Even here there are variations between different types of birds, because most 19 or fish-eating species have no 20.

A- Fill in the blanks above using the following set of words: (20 marks)

Insect-eating, simple stomach, crops, avian, gizzard, lymph, membranes, molecule, absorption, particles, solubility, function, microorganisms, liver, enzymes, physicochemical, muscular, preparation, methanical, chemical.

B- What do the previous paragraphs talk about? (3marks) / Digestion & absorption in animals

2- state wheather the following statements are true (T) or false (F) : (15 marks)

- ☒ a- The Camel is a true ruminant
- ☒ b- Cellulose and Hemicellulose are easily digested by simple stomached animals
- ☒ c- Saliva is produced by 3 bilateral pairs of glands during mastication.
- ☒ d- During the process of digestion large amount of water is absorbed.
- ☒ e- The liver is a very active site of detoxification of many toxins found in plants or drugs that may be administered to the animal.
- ☒ f- Ruminants have a large stomach composed of 3 compartments.
- ☒ g- Avian species have a well developed digestive system consisting of 2 stomachs.
- ☒ h- Eructation is a mechanism used by ruminants to expel gases formed during metabolism in the rumen.
- ☒ i- Water is lost from the body by ways of the kidneys as urine, from the GI tract in the faeces.
- ☒ j- A reduced supply of water increases feed consumption.
- ☒ k- Alanine is an essential amino acid.
- ☒ l- Arginine is a non-essential amino acid.
- ☒ m- A characteristic of all proteins is that they are composed of long chains of fatty acids.
- ☒ n- Lipids include fat and oils.
- ☒ o- Starch is a simple sugar.

عندئذ يكون إجابة  
مصححة

3- Give the Arabic meaning of the following: ( 16 marks)

Digestibility, Gizzard, Insect-eating birds, monogastric, soluble proteins, Metabolic water, Metabolic fecal nitrogen, salivary glands, complex carbohydrates, biological value, large intestines, Microbial proteins, essential fatty acids, rumination, saturated compound, balanced diet.

4- What are the most common simple sugars in feed and feed ingredients? And what is the most important polysaccharide found in plants? [ 5 marks] .

5- Why ruminants don't require dietary amino acids in their diet to the same extent as monogastric species? ( 4 marks) .

6- Draw a scheme that illustrates the ingredients of a feed sample? ( 7 marks).

### Best of back

**Prof. Dr. Faisal Maya**

السؤال الأول: Fill in the blanks: (10 Marks)

علاقہ، احمدیہ (کلی) اے۔  
صحبہ

1-18, 2-19, 3-17, 4-20, 5-16,  
6-14, 7-15, 8-13, 9-12, 10-10, 11-11,  
12-9, 13-8, 14-7, 15-6  
16-4, 17-5, 18-2, 19-1, 20-3

برونشیت، قاعه الصدر، وحمى المعده، التهاب الكلى، قارصه، معده، طفم (3)  
الحمى، اسهال، كبريت، ان سفت، اغرد، القاعيه، امونيا، اسهال، اعطاء، اسهال،  
ورثه، صبح، الامعاء، الحماض، برونش، ميكروب، اعطاء، بقله  
الاسف، صبحه

4) Glu, fructo, starch <sup>3</sup> 5 Marks

5) due to synth. by microbes to most a.s. 4 Marks  
H<sub>2</sub>O Ashes / Minerals

5) due to synthesis

F. sample 100g → H<sub>2</sub>O → DM → OM → CHO prot. lipids - enzymes

7 Marks