

ECVCN

Examples of Multiple Choice and essay questions for the ECVCN Board exam

Dear diplomats and residents, to give you an impression on the questions for the ECVCN exams, we have compiled some examples of multiple choice and essay questions.

A. General nutrition exam

1. Protein Quality for monogastric animals

Which of the following statements is TRUE?

- a. The biological value of the protein in a ration can never be higher than the biological value of any of its ingredients.
- b. For growing pigs the amino acid profile of fish meal protein seems less similar to their ideal protein than that in corn
- c. Protein efficiency ratio (PER) is defined as the weight gain per gram of digestible protein consumed
- d. The biological Value may be defined as the proportion of the nitrogen absorbed which is retained by the animal

2. Which of the following amino acid is an intermediate in the urea cycle:

- a. Arginine
- b. Histidine
- c. Lysine
- d. Leucine

3. Which dietary factor leads to an increased mortality in juvenile rabbits due to digestive disease?

- a. increase in non fermentable fibre
- b. increase in starch
- c. decrease of Ca:P ratio
- d. reduction of dietary protein
- e. increase in indigestible lignin

4. Which of the following affirmations is TRUE?

- a. An essential fatty acid used in the treatment of inflammatory diseases of the skin is arachidonic acid
- b. Eicosapentaenoic (EPA) and arachidonic (AA) acids compete as substrates for cyclooxygenase and 5-lipoxygenase in the pathways of eicosanoid formation
- c. Alpha linolenic is a n-6 PUFA
- d. EPA is the precursor of the most active leukotriene B₄
- e. 18-carbon n-3 acids are especially effective and fundamental to cells compared to the n-3 LCPUFAS

5. Which of the following affirmations is FALSE In relation to vitamins:

- a. Feed manufacturing improves the bioavailability of the added vitamins
- b. The needs of supplementation with vitamin K is bigger in hens allocated in cages than in ecological systems of production
- c. In theory, one molecule of beta-carotene should form, on hydrolysis, two molecules of vitamin A
- d. With the exception of cobalamin, members of the vitamin B complex are not stored in the body tissues in appreciable amounts
- e. Ascorbic acid is necessary for the maintenance of normal collagen metabolism

Essay question 1: A turkey farmer is losing a lot of birds with spontaneous bone fractures. He does add mineral phosphorus to the feed and the pelleted feed contains phytase. What could be the reason for these spontaneous bone fractures?

Essay question 2: What is the consequence of elevated molybdenum levels (15 ppm in DM) in a diet for ruminants?

Essay question 3. Oxidant Stress in Health and Disease, examples for the consequences and the role of antioxidants (examples)

Essay question 4. Describe the potential mode of action of probiotics in livestock nutrition, considering intestinal and extra-intestinal effects.

Essay question 5. What is the essential content and significance of the EC directive 185/2005 (Feed hygiene directive)?

B. Subspecialty exam (both, companion and farm animals)

1. Chromium deficiency can induce

- a. Renal disorders
- b. Higher insulin sensitivity
- c. Lower insulin sensitivity
- d. Hepatic nickel accumulation
- e. Impaired zinc metabolism

2. In recent years, L-carnitine has been used increasingly as a supplement in livestock animals

- a. L-carnitine supplementation to a sow diet does not increase piglet and litter weights
- b. L-carnitine supplementation seems to have a favourable effect on intra-uterine growth in pigs
- c. L-carnitine supplementation seems to increase sow milk production
- d. L-carnitine supplementation does not seem to increase sow milk production
- e. Endogenous de novo synthesis of carnitine is sufficient to meet the metabolic requirement of sows during gestation

3. Ghrelin

- a. Increases body fat mass
- b. levels decrease before meals and increase after meals
- c. is produced by adipose tissue
- d. is mainly produced by muscle tissue
- e. is produced in the stomach

4. Melamine in cow's milk

- a. Results from melamine dietary intake
- b. Results from direct milk contamination after milking
- c. Results from excess urea addition in cow's feeds
- d. Follows a period of thiamin deficiency

5. The degradation of oral supplements of propylene-glycol by in the rumen is:

- a. nearly zero
- b. partial, to propionate
- c. partial to butyrate
- d. partial, to acetate
- e. nearly complete

6. Ruminal acetogenic bacteria convert:

- a. pyruvate to acetate
- b. carbon dioxide + hydrogen to acetate
- c. butyrate to acetate
- d. lactate to acetate

7. Which are the first and second limiting amino acids in poultry nutrition?

- a. lysine
- b. treonine
- c. methionine
- d. tryptophan
- e. arginine

Essay question 1: Colostrum is considered more and more as “functional food”. Besides its contents of immunoglobulins there are some constituents that markedly influence the neonate’s development. Which are important factors?

Essay question 2: Constipation is a problem of older cats. What is the aetiology? What are the main dietary measures to treat this disturbance?

Essay question 3. What do you recommend as diet in a case of acute pancreatitis in dogs?

Essay question 4. Explain the role of NDF and ADF in rabbits, especially after weaning

Essay question 5. What are the major elements of appetite/satiety regulation in companion animals?