Important Questions on Protein Metabolism in Veterinary Biochemistry

Short Answer/Definition Type:

1. Define transamination and name the key enzymes involved.
2. What is oxidative deamination? Give an example.
3. What is the urea cycle? Where does it occur?
4. Name the essential amino acids in animals.
5. Define the term nitrogen balance. What are its types?
6. What are glucogenic and ketogenic amino acids?
7. What is deamination? Mention its biological significance.
8. Define protein turnover.
9. What are the fate of amino acids in the body?
10. What is ammonia toxicity and how is it prevented in animals?

Short Notes (3-5 Marks):

1. Urea cycle and its regulation.
2. Role of liver in protein metabolism.
3. Transamination and its importance.
4. Differences between essential and non-essential amino acids.
5. Metabolism of ammonia in ruminants and non-ruminants.
6. Protein catabolism in muscle tissue.
7. Protein sparing action of carbohydrates and fats.
8. Role of glutamine and alanine in nitrogen transport.

Long Answer/Essay Type:

1. Describe the urea cycle with steps, enzymes, and significance.
2. Explain the processes of transamination, deamination, and decarboxylation with examples.
3. Describe protein metabolism in ruminants vs monogastric animals.
4. Discuss the role of liver in amino acid metabolism.

5. Explain nitrogen balance, its types, and its significance in veterinary practice.

6. Describe the catabolic fate of amino acids with energy production.

7. Discuss the integration of protein metabolism with carbohydrate and fat metabolism.