**Animal Disease**

Disease is a state in which normal functions are disturbed or altered at cellular, tissue, organ or whole organism level.

caused by:

1• micro-organisms - bacteria and viruses causing infectious disease

2• parasites, causing clinical and subclinical disease

3• poor management, especially related to feeding, causing production diseases

4• alterations to the animal's genetic make-up, causing changes in function at cell level that lead to, or predispose to, disease

5• toxic agents, causing cell damage and possibly clinical disease.

**Why is disease important in livestock production?**

For a number of reasons:

1• Clinical and subclinical disease cause production losses. If an animal is ill and not consuming its ration, it will not produce as much milk, or put on as much weight as expected.

 The wool or fibre it produces may be of poor quality. Veterinary services and drugs may have to be paid for, and if the disease is severe enough the animal may die.

2• Some infectious diseases that affect livestock are also capable of causing disease in their owners, handlers and attendants - they are zoonoses.

3• describe pathological changes that occur at cellular, tissue and organ level during the disease process

4• use the knowledge gained by studying pathology to make diagnostic decisions about diseases at ante- and post-mortem levels

e5• explain basic immunological mechanisms used by animals to combat diseases

6• describe both specific and non-specific mechanisms of defence using relevant cell types, cytokines, complements and other molecules that are involved in these pathways.

6• describe how parasites affect animals and their health status

7• explain the life cycles of important protozoan, arthropod and helminth parasites that cause diseases in domestic animals

8• list and describe the major types of organisms that cause infectious diseases and the structures that ar primarily responsible for pathogenetic and antigenic mechanisms

9• vaccination and treatment strategies are devised, based on knowledge about the organism

10• outline methods of isolating, characterizing and identifying micro-organisms to facilitate clinical diagnosis