OET3.1: APPLIED ZOOLOGY (4 Credits) 100 Marks

64 Hours

Unit 1 **(8)**

Sericulture: Modren rearing methods for chawki and lateage silkworm, procurement and incubation of eggs, synchronization of hatching, brushing and feeding lea quality and its preservation. Rearing from brushing to mounting for seed production and silk production.

Unit II **(7)**

Apiculture: Importance, history and development of bee keeping. Different species of honeybees and their distribution. Management of bees, product and by product of apiculture and their use.

Unit III **(7)**

Vermiculture: Introduction and importance of vermiculture, Uses of earthworms for biodegradation of organic waster materials, Earthworms as protein source, Vermiculture technique.

Unit IV **(10)**

Aquaculture:

a)Fin-fish Culture: Freshwater, brackish-water and marine fish culture in India.

b) Shell-fish Culture: Prawn edible bivalve and Pearl culture.

Unit V **(7)**

Parasitology: Importance and human veterinary parasites (protozoan and helminthes), Molecular basis of host-parasite interactions

Unit VI **(25)**

Immunology: History, overview and scope:

Antigen and antigenicity: Cells and tissues of immune system, differentiation of stem cells and generation of T and B lymphocytes, Innate immunity, species and strains, age, metabolic, environmental factors, natural barriers, and mechanisms of innate immunity.

Humoral immunity:

B-lymphocytes-structure and function, Immunoglobin types, structure and functions, complement system. Genetic basis of immunological genes-generation of antibody diversity.

Cell mediated immunity:

T-lymphocytes, T-helper and cytotoxic T-cells, Major histocompatibility complex class I and II molecules. T-cell receptors, isolation, molecular components and structure. Cytokines, structure and functions, assays, cytokine receptor mechanisms. Cell to cell interactions, adhesion molecules, HLA.

Immunization strategies:

Development of plyclonal sera and monoclonal antibody production and characterization and use in diagnosis and therapy, immunoassays. Auto immunity, autoimmune disease, Transplantation immunity. Vaccines against communicable and infectious diseases. Conventional and genetically engineered vaccines, DNA vaccines, combined subunit vaccines, Immunological tolerance.

OEP3.1: APPLIED ZOOLOGY (2 Credits) 50 Marks

Practicals Based on OET3.1