



FUNDAMENTALS OF ENTOMOLOGY

(As per 5th Dean's recommendations)

The subject Entomology deals with scientific study of insects in diverse manner. The economically important insects are grouped as injurious (pest) and useful in nature. Major essential basic science of the insects need to be known in details specifically for the beginners of the said subject. Keeping in mind, **Fundamentals of Entomology (As per 5th Deans' Committee Recommendations)** has been written urgently as a ready text based on nationwide updated syllabus for the UG students in Agricultural science.

Features:

- Hard endeavor has been reflected to discuss the subject materials in a systematic and comprehensive manner along with relevant pictures to make a particular topic easily digestible to the users of this book, wherever, felt necessary.
- Special attention has been drawn covering major basic necessary things apropos Insect Morphology, Insect Systematics, Insect Ecology and Integrated Pest Management (IPM). Through primary understanding of these areas of entomology can only help one to better and easy understanding as well as application of other areas of entomology in research, teaching and extension work. The above mentioned important areas of entomology have been compiled and discussed in a vivid manner under a single umbrella.
- The book has been written keeping in view the requirements of the graduate, post graduate students, teachers, plant protection specialists and research scientists in entomology as per the latest updating syllabus of the 5th Deans' Committee Recommendations.

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(Contents)

- History of Entomology in India
- Major Points related to Dominance of Insect in Animal Kingdom
- Classification of Phylum Arthropoda upto Classes
- Relationship of Class Insecta with Other Classes of Arthropoda
- Morphology: Structure and Functions of Insect Cuticle and Molting
- Body Segmentation
- Structure of Head, Thorax and Abdomen
- Structure and Modifications of Insect Antennae
- Structure and Modification of Insect Mouthparts
- Structure and Modification of Insect Legs
- Wing Venation, Modifications and Wing Coupling Apparatus
- Structure of Male and Female Genital Organ
- Metamorphosis and Diapauses in Insects
- Types of Larvae and Pupae
- Structure and Functions of Digestive System in Insects
- Structure and Functions of Circulatory System in Insects
- Structure and Function of Excretory System in Insects
- Structure and Function of Respiratory System in Insects
- Structure and Function of Nervous system in insects
- Structure and Function of Secretary (Endocrine) System in Insects
- Structure and Function of Reproductive System in Insects
- Types of Reproduction in Insects
- Major Sensory Organs like Simple and Compound Eyes, Chemoreceptor
- Insect Ecology: Introduction, Environment and Its Components
- Effect of Abiotic Factors – Temperature, Moisture, Humidity, Rainfall, Light, Atmospheric Pressure and Air Currents
- Effect of Biotic Factors – Food Competition, Natural and Environmental Resistance
- Categories of Pests
- Concept of IPM, Practices, Scope and Limitations of IPM
- Classification of Insecticides, Toxicity of Insecticides and Formulations of Insecticides
- Chemical Control - Importance, Hazards and Limitations
- Recent Methods of Pest Control, Repellents, Antifeedants,
- Hormones, Attractants and Gamma Radiation
- Insecticides Act 1968 - Important Provisions
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- Symptoms of Poisoning, First Aid and Antidotes
- Systematics: Taxonomy – Importance, History and Development and Binomial
- Nomenclature, Definitions of Biotype, Sub-Species, Species, Genus, Family and Order.
- Classification of Class Insecta Upto Orders
- Basic Groups of Present Day Insects with Special
- Emphasis to Orders and Families of Agricultural Importance

