

**Programme:** M. Sc. (Zoology)

**Course Code:** ZOC-204

**Title of the Course:** Agricultural Entomology

**Number of Credits:** 3

**Effective from AY:** 2018-19

<b><u>Prerequisites for the course:</u></b>	Basic working knowledge of insects, their classification, beneficial and harmful insects in agriculture	
<b><u>Objective:</u></b>	This course deals about the insects encountered in agricultural fields. To provide insight on pests of various foods, fibre, oil household and veterinary importance. Understand principles of pest control methods including pest control appliances	
<b><u>Content:</u></b>	<b>Module 1:</b> Role of insects in agriculture, insect population and crop losses, organs of support and movement in insects, segmentation and body regions, segmental appendages, musculature, ingestion and digestion of food, control and coordination, reproduction, development and growth in insects, insect-responses to the environment.	12 hours
	<b>Module2:</b> Insect pests of cereals, vegetables, fibre crops, oil seeds, species, household pests, insects of veterinary importance. Pests of stored products, storage structures, insect pest types, stored products pest control.	12 hours
	<b>Module 3:</b> Principles of pest control, selection methods for pest control, cultural, mechanical, legislative, chemical control, pesticide residues and their monitoring, bio-ecological practices, Biological control, Microbial pesticides, Integrated pest management, Pesticide application equipments.	12 hours
<b><u>Pedagogy:</u></b>	Lectures/ tutorials/assignments/self-study.	
<b><u>References/Readings</u></b>	<ol style="list-style-type: none"><li>1. Atwal A S, Agricultural pests of South East Asia, Kalyani Publishers, New Delhi.</li><li>2. Apple JL and Smith RF, Integrated Pest Management. Plenum Press, New York.</li><li>3. Evans JW, Insect Pests and Their Control. Sameer Book Centre, Delhi.</li><li>4. Hill DS, Agricultural Insect Pests of the tropics and Their Control. Cambridge University Press, Cambridge.</li><li>5. Kumar A and Nigam M, Economic and Applied Entomology, Emkay Publications, New Delhi.</li><li>6. Mani MS, General Entomology, Oxford and IBH Publishing Co., New Delhi.</li><li>7. Nair MRGK, Insects and Mites of Crops in India. ICAR, New Delhi.</li></ol>	
<b><u>Learning Outcomes</u></b>	<ol style="list-style-type: none"><li>1. Understands role of insects in agriculture.</li><li>2. Studies insect structure and function.</li><li>3. Realising various insect pests of various food, fibre,</li></ol>	

	<p>oil and other crops.</p> <ol style="list-style-type: none"> <li>4. Learns to apply various agricultural equipments.</li> <li>5. Understands insect pest management.</li> <li>6. Practicals will give hand on training to the learner.</li> </ol>	
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