

**ELECTIVE PAPER-IV**  
**ENTOMOLOGY**

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
			Hrs/ week	Total Hours/ Semester	Hrs/ week	Total Hours/ Semester		
IV	21CPZO4B	Elective-IV	3	45	3	45	Nil	3

**COURSE OBJECTIVES**

- To catch up with the tremendous strides of expansion of knowledge in Entomology
- To comprehend the classification of insects, economic importance of Entomology with special reference to beneficial insects.

**COURSE OUTCOMES:**

On the successful completion of the course, students will be able to:

CO Number	CO Statement	Knowledge Level (K1-K4)
<b>CO1</b>	To comprehend knowledge on the classification of insects.	K1&K2
<b>CO2</b>	To understand about the biology of beneficial insects like honey bees and silkworm	K2
<b>CO3</b>	To imbibe and analyse the knowledge of insect pests like paddy ,sugarcane and beverages.	K4
<b>CO4</b>	To understand about the principles and methods of pest management	K2
<b>CO5</b>	To apply and analyse the knowledge of vector borne diseases.	K3&K4

Knowledge Level : K1-Remember ; K2 –Understand ; K3 – Apply ; K4 – Analyze

**MAPPING WITH PROGRAMME OUTCOME**

COS	PO1	PO2	PO3	PO4	PO5
<b>CO1</b>	S	S	M	S	M
<b>CO2</b>	M	S	S	M	S
<b>CO3</b>	S	M	S	M	S
<b>CO4</b>	M	S	M	S	S
<b>CO5</b>	S	M	S	M	S

S- Strong; M – Medium ; L- Low

DISTRIBUTION OF MARKS: THEORY 100%

## **UNIT-I**

**9 Hours**

### **SCOPE OF ENTOMOLOGY**

Introduction and Scope of insects- characteristics of class insecta –Morphology and Classification of insects up to order with examples (Apterygota and Pterygota)- Economic importance of insects.

## **UNIT-II**

**9 Hours**

### **BENEFICIAL INSECTS**

Api culture:

Apis : Biology and social life of honey bees . Management of honey hives–Nutritive and medicinal value of honey bee. Honey bee as Pollinators.

**Sericulture:**

Bombyx mori: Biology of silkworm- different species of silkworm. Economic importance and byproducts

Lac culture:

Lac insects : (**Kerriidae**) Biology and their importance of Lac insects

Butterflies as pollinators

## **UNIT-III**

**9 Hours**

### **HARMFUL INSECTS**

Insects as crop pests: (Rice,Pulses ,Sorghum, Sugarcane, Beverages-Tea & Coffee) Types of injuries and loss caused to plants in general. Factors governing the outbreak of pests. Stored grain pests

## **UNIT-IV**

**9 Hours**

### **INSECTS AS VECTORS**

Vector borne diseases in man: Method of transmission of parasitic agents with special reference to mosquitoes (Aedes aegypti ,Anopheles, Culex) and houseflies.

## **UNIT-V**

**9 Hours**

### **PEST-VECTOR CONTROL AND THEIR MANAGEMENT**

Principles and methods of pest suppression- Natural Control-Climatic factors and Physical factors. Cultural, mechanical, physical, chemical, Biological and Artificial Control. Integrated pest management . Integrated Vector Management (IVM).

**TEXT BOOKS**

S.NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1.	William S. Romoser and John G. Stoffolano.W.	The Science of Entomology	C.Brown Publishers, England	1994
2.	Yataro Tazima, Kodarsha	The silkworm	Scientific Book Ltd., Japan	1978
3.	Ananthakrishnan, T.N	Insect Plant Interactions	Oxford and I.B.H, New Delhi.	2002
4.	P.G.Fenemore, Alkaprakash	Applied Entomology	Wiley Eastern Ltd., Delhi	1992
5.	Nayar, K.K., Ananthakrishnan, T.N. and B.V.David	General and Applied Entomology	Tata McGraw Hill Publications, New Delhi.	1989
6.	Larry P.Pedigo	Entomology and Pest Management	Prentice Hall, New Jersey.	1989
7.	Richards, O.W. and Davies, R.G	General Text Book of Entomology Tenth Edition. Vol I and II	R.I Publications, New Delhi.	1997

**REFERENCE BOOKS**

S.NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1.	T.V. Prasad	Hand Book Of Entamoly Third Edition	New Vishal Publication	2014
2.	D.S.Reddy	Applied Entamoly New Revised Edition	New Vishal Publication	2010
3.	David B.V., Muralirangan M.C. And Meera Murali Rangan	Harmful And Beneficial Insects.	Popular Book Depot, Chennai	1992
4.	Ramakrishna Ayyar T.V	Handbook Of Economic Entomology For South India.	Books And Periodicals Supply Service, New Delhi	1989
5.	Frost S.W	General Entomology	Narendra Publishing House, Delhi	1994

6.	Dennis S.Hill	Agricultural Insect Pests Of The Tropics And Their Control	Cambridge University Press, U.K.	1993
7.	Saxena. A.B	Harmful Insects	Anmol Publications, New Delhi.	1996
8.	Rathinaswamy, T.K.	Medical Entomology	S.Viswanathan And Co., Madras	1986
9.	Sundari, M.S.N. And Santhi, R.	Entomology	Mjp Publishers, Chennai.	2006

#### **WEB SOURES:**

[www.sciencedaily.com](http://www.sciencedaily.com)

[www.sciencemag.com](http://www.sciencemag.com)

[www.treehugger.com](http://www.treehugger.com)

[www.nature.com](http://www.nature.com)

#### **TEACHING METHODOLOGY**

- Class room teaching
- Assignments, Seminars and Models
- Group Discussions
- Home test
- PPT Presentations
- Board and chalk
- Demonstration from the Video slides, Animated videos and interactive software.

#### **SYLLABUS DESIGNERS**

- Dr D.Sasikala, Assistant Professor & HOD
- Dr.V.Kiruthiga, Assistant Professor
- Dr V.Rekha, Assistant Professor
- DrA.Vinodhini, Assistant Professor
- Dr.G.Vidhya, Assistant Professor
- Dr. S. Vijayakumari, Assistant Professor