



ST. ALOYSIUS COLLEGE(AUTONOMOUS), JABALPUR

Reaccredited 'A+' Grade by NAAC(CGPA:3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & STAR College Scheme by DBT

Faculty of Science

Bachelor of Science (B.Sc.)

SUBJECT: ZOOLOGY

B.Sc. VI Semester

Paper-I

Insect Taxonomy and Applied Entomology (Paper-I) Group-B Course Outcomes

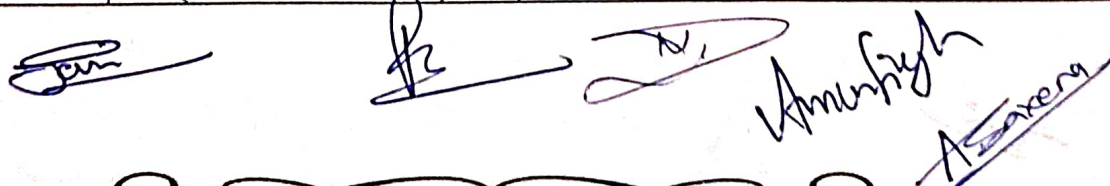

CO. No.	Course Outcomes	Cognitive Level
CO 1	Learn about the taxonomy, Morphology and Anatomy of Insect	U
CO 2	Identify the importance of insect as Beneficial and Harmful Pests of different crops, forest, medical and veterinary field with their control measures.	E
CO 3	Get Self Employment in the field of Silk, Honey and Lac Production	C
CO 4	Identify the nutritive value of the insects.	E
CO 5	Identify ecological services of insects and its role in agriculture.	An

Credit and Marking Scheme

	Credits	Marks		Total Marks
		Internal	External	
Theory	3	40	60	100
Practical	2	40	60	100
Total	6		200	

Evaluation Scheme

	Marks	
	Internal	External
Theory	3 Internal Exams of each 20 Marks (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of Semester)
Practical	3 Internal Exams (During the Semester) (Best 2 will be taken)	1 External Exams (At the End of Semester)



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Content of the Course

Theory

No. of Lectures (in hours per week): 2 Hrs. per week

Maximum Marks: 60

Total No. of Lectures: 60 Hrs.

Units	Topics	No. of Lectures
I	1. Introduction of Insect-History of Insect biology, Identifying characters and outline classification of class - Insecta upto orders.Diagnostic features with example of Insect orders - Isoptera, Orthoptera, Hemiptera, Coleoptera, Hymenoptera, Lepidoptera, Diptera. 2. General Morphology of an insect (Periplaneta) Antennae, Mouth parts, Legs, Wings, Genitalia.General Anatomy of an insect (Periplaneta) -Digestive System, Excretory System, Nervous System and Reproductive system, Ecological services of Insect,Role of Insect in Agriculture (Direct & Indirect)	14
II	Beneficial Insects-Sericulture-History of Sericulture, Systematic position, Silk producing moths (mulberry and non mulberry), Mulberry Silkworm - lifecycle of Bombyx mori,Sericulture Industry and its management,Diseases and enemies of silkworm,Uses of Silk and Sericulture in India.Apiculture-History of Apiculture, classification and species of Honeybee. Social organization, division of labor and lifecycle of Honeybee. Bee keeping methods and equipments,Diseases and enemies of Honeybee.2.5 Products, its uses and Apiculture in India.Lac Culture- History of Lac culture, Systematic position, structure of lac insect.Lifecycle of lac insect and host plants.Varieties and crops of lac.Cultivation of lac and enemies of lac insect.Uses of lac and Lac industry in India.Edible Insects - Locust, Termite, Grasshopper, Beetles, Caterpillars and Bees	14
III	Important Insect pest of Crop and Forestry,Classification, Lifecycle, Diseases and Control measures-Crop pest,Sugarcane pest - Pyrilla perpusilla,Fruit pest, Amritodus alkenson ,Polyphagus pest - Schistocerca gregaria,Forest pest,Sal borer - Hoplocerambyx spinicornis, Bamboo borer - Dinoderus brevis,Common forest beetle - Sinoxylon sps Insect and Plant interaction	10
IV	Pests of Medical and Veterinary importance-Pest of Medical importance ,Mode of transmission, Common vector insect distribution,host characters,life cycle,diseases and their control,Housefly Musca domestica,Mosquitoes-Culex,Anopheles and Aedes,Distinguished characters of culex ,Anopheles and Aedes,Pest of Veterinary importance,Insect parasitism, Distribution, host, characters, lifecycle, host pest interaction, diseases and their control. Horsefly - Tabanus sps,Stable fly - Stomoxys sps.,Cattle blood sucking louse - Linognathus sps.	10

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v	. Insect pest control- Natural control, Artificial(applied/chemical) control, Biological control, Integrated pest management. (IPM), Equipment for insecticidal application and their maintenance , Safety precautions by insecticides.	12
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List of Practical

Units	Topics	Lactures
I	. Identification and Comments on common insects of different orders of Class-Insecta	04
2.		03
3	Identification & Study of terrestrial fauna and its economic importance – Earthworm, Millipede, Peripatus, Scorpion, Naja, Tortoise, Echidna, Kangaroo.	3
4.	Study of ecological experiments: a.To Determine the population of some species of organism by Quadrat sampling method. b.To measure the population of a locality by mark and Recapture method. c.To estimate the biomass of particular area.	5
5	To identify, study and prepare slide/preservation of micro and macro- organisms from any wate body.	4
6	Study of pond ecosystem.- Visit to a nearby pond/lake	3
7	Identify, comment and use of important forest medicinal plants- Mahua, Harad, Bah eda , Amla, Oak.	2
8	Identify and comment on specimen related to adaption and mimicry – Scolidon , Pigeon , Phrynosoma , Chameleon , Draco , Stick Insect , Leaf Insect.	3
9.	Evolutionary experiment: a.Connection link – Peripatus , Archaeopteryx Platypus. b.Homology and Homologous organs – -Homology in four limbs structure of vertebrates -Serial homology – Crustacean appendages. c.Analogy – Wing of Bird and Bate.	4

A. Saxena

31.7.24

[Signature]

Amen Singh

