



# SEVA BHARATI MAHAVIDYALAYA

(A multi-faculty college affiliated to Vidyasagar University and funded by UGC & Govt. of W.B.)

Vill. & P.O.-Kapgari: P.S.-Jamboni: Dist.-Jhargram (W.B.): Pin.-721505

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**DEPARTMENT OF ZOOLOGY**  
**PROGRAMME OUTCOME (PO): BACHELOR OF SCIENCE**  
**FOR THE YEAR 2019-2020**

PO	Description
PO1	Students acquired knowledge and develop skill over animal sciences, understands the interactions among various living organisms
PO2	Students are able to study animals of different phyla, their distribution and their relationship with the environment
PO3	Students are able to understand internal structure of cell, functions of various cellular organelles.
PO4	Understands the complex evolutionary processes and behavioural pattern of various animals
PO5	To apply the acquired knowledge to solve the ongoing socio-cultural problems of the society in general.
PO6	To develop the culture of value-based thinking, understand the pros and cons while taking decisions, and lead a sound value based ethical life
PO7	Students are able to correlate the physiological and biochemical processes of animals
PO8	Understanding of ecological factors, environmental conservation processes and its importance, pollution control and biodiversity and protection of threatened species
PO9	Gain knowledge about applied fields like sericulture, fisheries, apiculture, poultry and dairy farms along with tissue preparation, molecular and statistical techniques
PO10	Understanding about various concepts of genetics and its importance in human health
PO11	Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties
PO12	Apply the knowledge and understanding of Zoology to one's own life and work
PO13	Develops empathy and love towards the animals



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## **PROGRAMME SPECIFIC OUTCOME (PSO):: B.SC.:** **DEPARTMENT OF ZOOLOGY** **FOR THE YEAR 2019-2020**

**PSO1:** Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, gathering data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.

**PSO2.** Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists.

**PSO3.** Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.

**PSO4.** Students will be able to apply fundamental mathematical tools (statistics, calculus) and physical principles (physics, chemistry) to the analysis of relevant biological situations.

**PSO5.** Students will be able to identify the major groups of organisms with an emphasis on animals and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of animals that differentiate them from other forms of life.

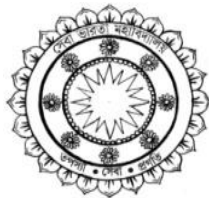
**PSO6.** Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped animal morphology, physiology, life history, and behavior.

**PSO7.** Students will be able to explain how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and behavior of different forms of life.

**PSO8.** Students will be able to explicate the ecological interconnectedness of life on earth by tracing energy and nutrient flows through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems.

**PSO9.** Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for their area of specialization within biology.

**PSO10.** Employable candidates in careers related to teaching in Zoology, especially in schools colleges and universities



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**COURSE OUTCOME (CO):: DEPARTMENT OF ZOOLOGY  
FOR THE YEAR 2017-2018  
(As per the new CBCS syllabus of VU)**

PAPER NAME	COURSE	OUTCOMES
1 <sup>st</sup> Sem Paper CC1 (Non- Chordates1)	CO 1	<b>CO1.1:</b> Brief idea about the evolution, classification, structural organizations of phylum Porifera, Ctenophora, Platyhelminthes, and Nematoda. <b>CO1.2:</b> Brief idea about the basics of Classification, Systematic, Taxonomy and Nomenclature.
1 <sup>st</sup> Sem Paper CC2(Ecology)	CO 2	<b>CO2.1:</b> Brief idea about the History of ecology, Attributes of population, Community and Human modified ecosystem <b>CO2.2:</b> Brief idea about the Wildlife Conservation and Management strategies.
2 <sup>nd</sup> Sem Paper CC3(Non- Chordates-II)	CO3	<b>CO3.1:</b> Brief idea about the Evolution of coelom and metamerism <b>CO3.2:</b> Brief idea about the classification and structural organizations of Annelida, Arthropoda, Onychophora, Mollusca, Echinodermata, Hemichordata.
2 <sup>nd</sup> Sem Paper CC4(Cell Biology)	CO4	<b>CO4.3:</b> Brief idea about the whole cell organelles with their structure and function <b>CO4.4:</b> Brief idea about the cell cycle.
3 <sup>rd</sup> Sem Paper CC5(Chordates)	CO5	<b>CO5.1:</b> Brief idea about the Chordate phylum, structure and function.
3 <sup>rd</sup> Sem Paper CC6(Animal Physiology: Controlling & Coordinating Systems)	CO6	<b>CO6.1:</b> Brief idea about the structure and functions of Tissues system, Nervous System, Muscular system, Reproductive System, Endocrine System.
3 <sup>rd</sup> Sem Paper CC7 (Fundamentals of Biochemistry)	CO7	<b>CO7.1:</b> Brief idea about the Structure and Biological importance and metabolism of Carbohydrate, Proteins, Lipid and Nucleic Acids
4 <sup>th</sup> Sem Paper CC8 (Comparative Anatomy of Vertebrates)	CO8	<b>CO8.1:</b> Brief idea about the Structure, function and derivatives of integument and skeletal system. <b>CO8.2:</b> Brief idea about the Comparative study of Digestive System, Respiratory System, Circulatory System, Urinogenital System, Nervous System of Vertebrates.
4 <sup>th</sup> Sem		<b>CO9.1:</b> Brief idea about the cell Physiology,



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<b>Paper</b> CC9(Animal Physiology: Life Sustaining Systems)	<b>CO9</b>	Thermoregulation and Osmoregulation.
<b>4<sup>th</sup> Sem</b> <b>Paper CC10</b> (Immunology)	<b>CO10</b>	<b>CO10.1:</b> Brief idea about the Immune System, Immunology of diseases and Vaccine.
<b>5<sup>th</sup> Sem</b> <b>Paper CC11</b> (Molecular Biology)	<b>CO11</b>	<b>CO11.1:</b> Brief idea about the cell biology and molecular biology: Replication, Transcription and Translation cell, Gene Regulation, cell signaling, Molecular Techniques..
<b>5<sup>th</sup> Sem</b> <b>Paper CC12</b> (Genetics)	<b>CO13</b>	<b>CO13.1:</b> Brief idea about the Mendelian Genetics and its Extension and Mutations <b>CO13.2:</b> Brief idea about the Sex Determination mechanism.
<b>3<sup>rd</sup> Sem</b> <b>SEC – 1</b> Skill Enhancement Course (Apiculture)	<b>CO14</b>	<b>CO14.1:</b> Brief idea about the apiculture and its Entrepreneurship
<b>SEC – 1</b> Skill Enhancement Course (Aquarium Fish Keeping)	<b>CO15</b>	<b>CO15.1:</b> Brief idea about the Aquarium Fish Keeping and its Entrepreneurship
<b>4<sup>th</sup> Sem</b> <b>SEC – 2</b> Skill Enhancement Course(Medical Diagnostic Techniques)	<b>CO16</b>	<b>CO16. SEC-21:</b> Understand the <b>CO16.SEC-2.2:</b> Brief idea about the Blood composition, Analysis of Blood, Urine. <b>CO16. SEC-2.3:</b> Understand the techniques of Detection of Tumours. <b>CO16. SEC-2.4:</b> Brief idea about the infectious and Non-infectious Diseases.
<b>4<sup>th</sup> Sem</b> <b>SEC – 2</b> Skill Enhancement Course (Sericulture)	<b>CO17</b>	<b>CO17.1:</b> Brief idea about the Sericulture and Entrepreneurship in Sericulture.
<b>5<sup>th</sup> Sem</b> Discipline Specific Elective-1(Animal Behaviour and Chronobiology)	<b>CO18</b>	<b>CO18-DSE-1.1</b> Brief idea about the Ethology and chronobiology.
<b>5<sup>th</sup> Sem</b> Discipline Specific Elective-1(Fish and Fisheries)	<b>CO19</b>	<b>CO19.DSE-11:</b> Brief idea about the aquaculture process, problems and prospects of Aquaculture



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<b>5<sup>th</sup> Sem</b> Discipline Specific Elective-1 (Reproductive Biology)	<b>CO20</b>	<b>CO20. DSE-11:</b> Brief idea about the Development and differentiation of gonads. <b>CO20. DSE-12:</b> Brief idea about the reproduction, Infertility: causes, diagnosis and management.
<b>5<sup>th</sup> Sem</b> Discipline Specific Elective-2 (Animal Biotechnology)	<b>CO21</b>	<b>CO21. DSE-2.1:</b> Brief idea about the Scope and Significance of Biotechnology and its different techniques.
<b>5<sup>th</sup> Sem</b> Discipline Specific Elective-2 (Microbiology)	<b>CO22</b>	<b>CO22. DSE-2.1:</b> Brief idea about the structure, distribution, pathogenesis of Bacteria and Virus. <b>CO22. DSE-2.2:</b> Brief idea about the Diagnostic Microbiology and Bacteria culture.