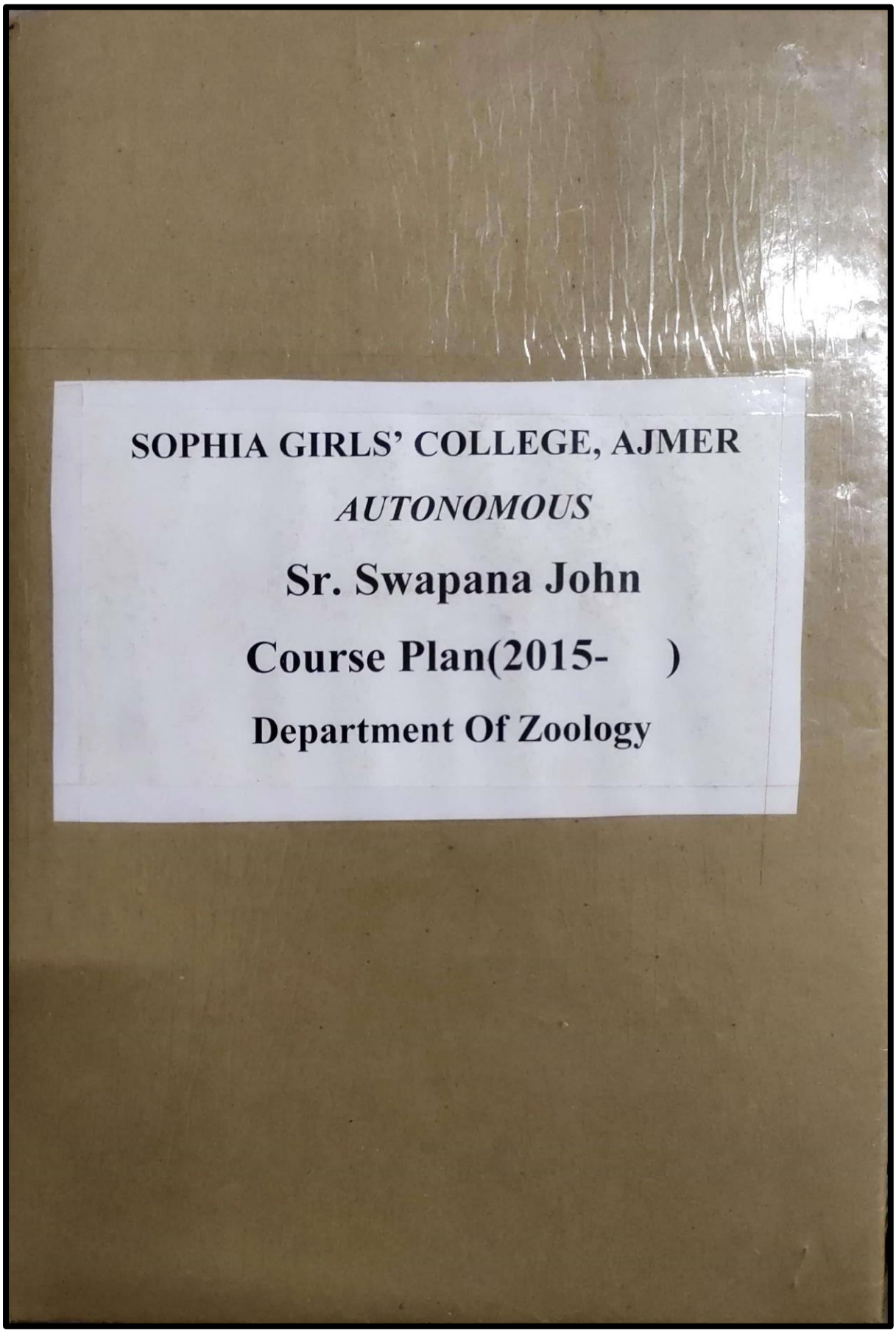
SOPHIA GIRLS' COLLEGE, AJMER
AUTONOMOUS
Sr. Swapana John
Course Plan(2015-)
Department Of Zoology

TEACHING PLAN
2016-17

B.Sc. (Zoology) (Semester –I)

PAPER : 101 Invertebrate: Classification & Special Features

Month	Unit and Topics Covered	Other activities
July	**Unit – I** **Invertebrate classification**: salient features of various phyla and their classification upto Classes: Protozoa,Porifera,Colenterata,Aschelminthes,Platyhelminthes,Annelida,Arthropoda,Mollusca, Echinodermata. **General principles of taxonomy** - concept of the Five Kingdom scheme. **Concept of Protozoa, Parazoa, Metazoa, Eumetazoa** and levels of organization.	Group discussion Quiz Open book test
August	**Basis of classification of non-chordata**: Symmetry, coelom, segmentation and embryogeny. **Unit - II** **Protozoa**: Reproduction and Mode of locomotion:Cilia, Flagella and pseudopodia. **Porifera**: Spicules: calcareous, silicious. Canal system: Ascon, Sycon and Leucon	Assignment
September	**Coelenterata:** Polymorphism, Corals and Coral reefs **Platyhelminthes**: Parasitic adaptations: Morphological and Physiological **Aschelminthes**: Life cycle with reference to Ascaris and its Economic Importance	Test
October	**Unit - III** **Annelida**: Reproduction with reference to Earthworm.	CIA

	Arthropoda: Metamorphosis:Ametabolous,Hemimetabolousand Holometabolous Social organization in termites and Bees :Life Cycle.Caste System and its Economic Importance	Power Point Presentations Mock test
November	**Mollusca**: Foot and shells, Torsion with reference to Pila **Echinodermata**: Water vascular system and its function **END SEMESTER EXAMINATION**	Revision

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B.Sc (Zoology) (Semester –III)

PAPER : 301 Structure and Function of Invertebrates

Month	Unit and Topics Covered	Other activities
July	**Unit – I** Structural and functional organization of vital systems of nonchordates **Skeleton**: Endoskeleton (spicules of *Sycon*), exoskeleton, chitinous (*Palaemon*). **Nervous System:** Sensory and nerve cells (*Obelia*); brain ring and longitudinal nerves (*Fasciola*), brain and ventral nerve cord (*Palaemon*), nervous system of *Pila*	Group discussion Quiz
August	**Unit - II** **Sense-organs:** Statocyst and osphradium *(Pila)*, compound eye (*Palaemon*) and simple eye (*Nereis*), tactile and olfactory organs (*Palaemon*), nuchal organs (*Nereis*). **Food, Feeding, Digestive structures and Digestion**: Autotrophic (*Euglena*), heterotrophic: through food vacuole (*Paramecium*) and in hydroid and medusoid zooids (*Obelia*), parasitic, *(Taenia, Hirudinaria*), predatory*(Palaemon,*).	Assignment Project
September	**Respiration:** Aquatic general body surface (Earthworm), dermal branchiae (*Asterias*), parapodia (*Nereis*), gills (*Pila*), aerial, pulmonary sac (*Pila*), trachea (Insect), anaerobic (*Fasciola*	Test
October	**Unit – III** **Excretion:** General body surface (Paramecium), protonephridial system and flame cells (*Fasciola*), nephridia (*Earthworm*), malpighian tubules (insect); organ of Bojanus (*Pila*). **Circulation:** Cyclosis (*Paramecium*), diffusion (*Sycon, Taenia*), open circulatory system (*Palaemon),* closed circulatory	

	system (*Nereis*).	CIA
November	**Reproduction:** Asexual (*Paramecium, Sycon*), alternation of generation (*Obelia*), sexual(*Fasciola, Neries*) **END SEMESTER EXAMINATION**	Revision

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B.Sc III Years (Zoology)

PAPER : Ethology, Biostatistics and Applied Zoology

Month	Unit and Topics Covered	Other activities
July-August	**UNIT II** Introduction and understanding the concepts of descriptive and inferential statistics Frequency distribution, t-test, graphical presentation Mean, mode, median, Variance, Coefficient of correlation and Chi square test Standard deviation, standard error	Practice of Questions
September-October	**Unit - I** Introduction and history of **Ethology** **Concepts of Ethology**: fixed action pattern, sign stimulus, innate releasing mechanism, action specific energy, motivation, imprinting and learning. **Methods of studying behaviour:** Neuroanatomical neurophysiological, neurochemical techniques. **Territory and Home range**- Role of pheromones. **Social behaviour**: Characteristics and advantages with special reference to deer and monkey	Assignment Observation through visits. **C.I.A**
November January	**Unit - III** **Honey bee**: Social life and communication, life history, Apiculture. **Lac culture**: life cycle, lac culture, composition, and uses of lac. **Silk moth**: Life history, Sericulture,	Project Power Point Presentation

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B.Sc (Zoology) (Semester –II)
PAPER : 201 Genetics and Evolution

Month	Unit and Topics Covered	Other activities
January	**Unit III** **History of evolutionary thought** – Lamarckism, Neo-Lamarckism, Darwinism and Neo- Darwinism. Evidence of evolution. **Natural selection** (differential reproduction), genetic basis of evolution, speciation **Variations, Isolation and Adaptations** and their role in evolution.	Group Discussion Project
February	**Study of extinct forms**: Dinosaurs, Archaeopteryx .Geological time scale (Basic idea). **UNIT I** **Cell reproduction:** **Interphase** nucleus and cell cycle S, G-1, G-2 M-phase. **Mitosis**: Phases and process of mitosis, structure and function of spindle apparatus, anaphasic movement. **Meiosis**: Phases and process of meiosis, synapses and synaptonemal complex, formation and fate of chiasmata and significance of	Quiz

Last week of Feb	crossing over. **Mendelism:** Brief history of genetics and Mendel's work, Mendelian laws, their significance and current status, chromosomal theory of inheritance..	**C.I.A**
March	**Chromosomal mutations:** Classifications of chromosomal mutations, translocation, inversion, deletion and duplication, variation in chromosomal number; haploidy, diploidy, polyploidy, aneuoploidy,euploidy and polysomy. **Unit – II** **Linkage and crossing over;** elementary idea of chromosome mapping. **Genetic interaction:** Supplementary genes, complementary genes, duplicate genes, epistasis, inhibitory and poymorphic genes, multiple gene inheritance, ABO blood groups and Rh factor and their significance	Power Point Presentations
April	**Cytoplasmic inheritance.** **Sex determination-** types and genic balance theory, Dosage compensation **END SEMESTER EXAMINATION**	Revision

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B.Sc (Zoology) (Semester –IV)
PAPER : 401 Animal Physiology

Month	Unit and Topics Covered	Other activities
January	**Unit – I** **Physiology of Digestion**: nature of food stuff, various types of digestive enzymes and their digestive action in the alimentary canal. **Physiology of Respiration**: Mechanism of breathing, exchange of gases, transportation of oxygen and carbon dioxide in blood, regulation of breathing. **Unit II** **Physiology of Circulation**: Composition and function of blood, mechanism of blood clotting, heartbeat, cardiac cycle, blood pressure, body temperature regulation.	Assignment Paper Reading
February Last week of Feb	**Physiology of Excretion** : Kinds of nitrogenous excretory end-products (amino telic, ureotelic and uricotelic), role of liver in the formation excretory end products, functional architecture ofmammalian kidney tubule and formation of urine, hormonal regulation of water and electrolyte balance. **Physiology of Muscle Contraction**: Functional architecture of skeletal muscle, chemical and biophysical events during contraction and relaxation of muscle fibers.	Test Power Point Presentation C.I.A

March	**Unit – III** **Physiology of Nerve Impulse and Reflex Action**: Functional architecture of a neuron, origin and propagation of nerve impulse, synaptic transmission, spinal reflex arc, central control of reflex action. **Hormonal control** of male and female reproduction and implantation, parturition and lactation in mammals.	Discussion on important topic Mock test
April	**END SEMESTER EXAMINATION**	Revision

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