Summary of Lesson Plan of College Faculty

Name of the Associate Professor: Dr. S.C.Sharma Month; July Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: I

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *23* | General characters and classification up to order level of protozoa |  |  |
| *24* | General characters and classification up to order level of protozoa |  |  |
| *25* | Biodiversity and economic importance of Protozoa |  |  |
| *26* | Biodiversity and economic importance of Protozoa |  |  |
| *27* | Type study of *Plasmodium* |  |  |
| *29* | Type study of *Plasmodium* |  |  |
| *30* | Life history, mode of infection and pathogenecity of *Entamoeba,* |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; August Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: I

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *1* | Life history, mode of infection and pathogenecity of *Trypanosoma and Leishmania* |  |  |
| *2* | Life history, mode of infection and pathogenecity of *Giardia* |  |  |
| *5* | General characters and classification up to order level of porifera |  |  |
| *6* | General characters and classification up to order level of porifera |  |  |
| *7* | Biodiversity and economic importance of porifera |  |  |
| *8* | *Class Seminar on Pathogenic Protozoans* | |  |
| *9* | *Class Seminar on Pathogenic Protozoans* | |  |
| *10* | Type study – *Sycon* | |  |
| *13* | Type study – *Sycon* | | *Skeleton in Sponges* |
| *14* | Canal system in sponges | |  |
| *16* | Canal system in sponges | |  |
| *17* | Spicules in sponges | |  |
| *19* | General characters and classification up to order level of Coelenterata | |  |
| *20* | General characters and classification up to order level of Coelenterata | |  |
| *21* | Biodiversity, economic importanceofCoelentrata | |  |
| *22* | Biodiversity, economic importanceofCoelentrata | |  |
| *26* | Type Study – *Obelia* | |  |
| *28* | Type Study – *Obelia* | |  |
| *29* | Corals and coral reefs | |  |
| *30* | Corals and coral reefs | |  |
| *31* | Polymorphism in Siphonophores | |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; September Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: I

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *3* | General characters and classification up to order level of helminthes |  |  |
| *4* | General **characters** and classification up to order level of helminthes |  |  |
| *5* | Debate on Coral reefs | |  |
| *9* | Biodiversity, economic importance of helminthes |  |  |
| *12* | Biodiversity, economic importance of helminthes |  |  |
| *13* | Type study – *Fasciola hepatica* |  |  |
| *14* | Type study – *Fasciola hepatica* |  |  |
| *16* |  |  |  |
| *17* | Field Trip to Study Invertebrate fauna | |  |
| *18* |  |  | Excretory System of Fasciola |
| *19* | Brief account of life history, mode of infection and pathogenesity of *Schistosoma* |  |  |
| *20* | Brief account of life history, mode of infection and pathogenesity of *Schistosoma* |  |  |
| *24* | Brief account of life history, mode of infection and pathogenesity of *Ancylostoma, Trichinella* |  |  |
| *25* | Ultrastructure of different cell organelles of animal cell |  |  |
| *26* | Ultrastructure of different cell organelles of animal cell |  |  |
| *27* | **Plasma Membrane:** Fluid mosaic model, various modes of transport across the membrane,  mechanism of active and passive transport, endocytosis and excytosis |  |  |
| *28* | **Plasma Membrane:** Fluid mosaic model, various modes of transport across the membrane,  mechanism of active and passive transport, endocytosis and excytosis |  |  |
| *30* | An elementary idea of cellular basis of Immunity | |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; October Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: I

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *1* | **Endoplasmic reticulum (ER) :** types, role of ER in protein synthesis and transportation in animal cell |  |  |
| *4* | **Golgi complex:** Structure, Associated enzymes and role of golgi-complex in animal cell |  |  |
| *5* | **Ribosomes**: Types, biogenesis and role in protein synthesis | |  |
| *7* | **Lysosomes:** Structure, enzyme and their role; polymorphism |  |  |
| *9* | **Mitochondria:** Mitochondrial DNA; as semiautonomous body, biogenesis, mitochondrial  enzymes (only names), role of mitochondria. |  |  |
| *11* | Ultrastructure and functions of Nucleus : Nuclear membrane, nuclear lamina, nucleolus |  |  |
| *14* | Microtubules, microfilaments |  |  |
| *15* | Centriole and basal body |  |  |
| *16* | Cilia and Flagella | |  |
| *31* | Brief account of causes of cancer |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; November Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: I

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *4* | Fine structure of chromosomes, Nucleosome Concept |  |  |
| *5* | Role of histones, euchromatin and heterochromatin |  |  |
| *6* | Lampbrush chromosomes & polytene chromosomes | |  |
| *7* | Mitosis and Meiosis (Cell reproduction) |  |  |
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Summary of Lesson Plan of College Faculty

Name of the Associate Professor: Dr. S.C.Sharma Month; July Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: III

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *23* | Origin and Evolutionary tree of Chordates |  |  |
| *24* | Systematic position, distribution, ecology, morphology and affinities of Urochordata |  |  |
| *25* | Systematic position, distribution, ecology, morphology and affinities of Urochordata |  |  |
| *26* | *Herdmania* - type study |  |  |
| *27* | *Herdmania* - type study |  |  |
| *29* | Systematic position, distribution, ecology, morphology and affinities of Cephalochordata |  |  |
| *30* | Systematic position, distribution, ecology, morphology and affinities of Cephalochordata |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; August Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: III

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *1* | *Amphioxus* – type study |  |  |
| *2* | *Amphioxus* – type study |  |  |
| *5* | *Amphioxus* – type study |  |  |
| *6* | *Amphioxus* – type study |  |  |
| *7* | Type study of *Petromyzon* |  |  |
| *8* | Type study of *Petromyzon* |  |  |
| *9* | Type study of *Petromyzon* |  | *Circulatory system of Herdmania* |
| *10* | Type study of *Petromyzon* |  |  |
| *13* | Type study of *Petromyzon* |  |  |
| *14* | Scales & Fins in fises |  |  |
| *16* | Parental care in fishes |  |  |
| *17* | Parental care in fishes |  |  |
| *19* | Fish migration |  |  |
| *20* | Fish migration |  |  |
| *21* | Types study of Labeo |  |  |
| *22* | Types study of Labeo |  |  |
| *26* | Types study of Labeo |  |  |
| *28* | Types study of Labeo |  |  |
| *29* | *Seminar on Labeo* | |  |
| *30* | Introduction, Classification, Structure, function and general properties of proteins |  |  |
| *31* | Introduction, Classification, Structure, function and general properties of carbohydrates |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; September Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: III

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *3* | Introduction, Classification, Structure, function and general properties of lipids |  |  |
| *4* | Nomenclature, Classification and mechanisms of enzyme action |  |  |
| *5* |  | | *Test on Enzymes* |
| *9* | Transport through biomembranes (Active and Passive) |  |  |
| *12* | Transport through biomembranes (Active and Passive) |  |  |
| *13* | Buffers |  |  |
| *14* | Buffers |  |  |
| *16* | Nutritional components; Carbohydrates, fats, lipids, Vitamins and Minerals |  |  |
| *17* | Nutritional components; Carbohydrates, fats, lipids, Vitamins and Minerals | |  |
| *18* | Nutritional components; Carbohydrates, fats, lipids, Vitamins and Minerals |  |  |
| *19* | Types of nutrition & feeding |  |  |
| *20* | Digestion of dietary constituents, viz. lipids, proteins,  carbohydrates & nucleic acids |  |  |
| *24* |  |  |  |
| *25* | Digestion of dietary constituents, viz. lipids, proteins,  carbohydrates & nucleic acids |  |  |
| *26* | Symbiotic digestion |  |  |
| *27* | Absorption of nutrients & assimilation |  |  |
| *28* | Control of enzyme secretion |  |  |
| *30* |  | |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; October Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: III

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *1* | Types of muscles, ultra-structure of skeletal muscle |  |  |
| *4* | Types of muscles, ultra-structure of skeletal muscle |  |  |
| *5* | Bio-chemical events during muscle contraction | |  |  |
| *7* | Bio-chemical events during muscle contraction |  |  |
| *9* | Physical events during muscle contraction |  |  |
| *11* | Physical events during muscle contraction |  | Bio-cemical events during muscle contraction |
| *14* | Single muscle twitch, tetanus |  |  |
| *15* | Muscle fatigue muscle, tone |  |  |
| *16* | Oxygen debt. | |  |  |
| *31* | Single unit smooth muscles, their physical and functional properties, Cori’s cycle |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; November Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: III

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *4* | Structure and types of bones |  |  |
| *5* | Classification of bones |  |  |
| *6* | Bone growth and resorption | |  |
| *7* | Effect of ageing on Skeletal system |  |  |
|  | Bone disorders |  |  |
|  |  |  |  |

Summary of Lesson Plan of College Faculty

Name of the Associate Professor: Dr. S.C.Sharma Month; July Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: V

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| --- | --- | --- | --- |
| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *23* | Origin of life. |  |  |
| *24* | Origin of life. |  |  |
| *25* | Origin of life. |  |  |
| *26* | Concept and evidences of organic evolution. |  |  |
| *27* | Concept and evidences of organic evolution. |  |  |
| *29* | Theories of organic evolution. |  |  |
| *30* | Theories of organic evolution. |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; August Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: V

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *1* | Concept of micro, macro-and mega-evolution |  |  |
| *2* | Concept of micro, macro-and mega-evolution |  |  |
| *5* |  |  | *Evidences of organic evolution* |
| *6* | Concept of species |  |  |
| *7* | Phylogeny of horse |  |  |
| *8* | Phylogeny of horse |  |  |
| *9* | Phylogeny of horse |  |  |
| *10* | *Seminar on Phylogeny of horse* | |  |
| *13* | Evolution of man |  |  |
| *14* | Evolution of man |  |  |
| *16* | Evolution of man |  |  |
| *17* | *Debate on evolution of man* | |  |
| *19* | Historical perspectives, aims and scope of developmental biology |  |  |
| *20* | Generalized structure of mammalian ovum & sperm |  |  |
| *21* | Generalized structure of mammalian ovum & sperm |  |  |
| *22* | Spermatogenesis and Oogenesis |  |  |
| *26* | Fertilization |  |  |
| *28* | Fertilization |  |  |
| *29* | Parthenogenesis |  |  |
| *30* | Parthenogenesis |  |  |
| *31* | *Parthenogenesis* |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; September Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: V

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *3* | Different types of eggs and patterns of cleavage |  |  |
| *4* | Proces of blastulation in Frog and chick |  |  |
| *5* | Proces of blastulation in Frog and chick | |  |
| *9* | Fate-map construction in Frog and chick |  |  |
| *12* | Fate-map construction in Frog and chick |  |  |
| *13* | Gastrulation in frog upto the formation of three germinal layers |  |  |
| *14* | Gastrulation in frog upto the formation of three germinal layers |  |  |
| *16* | Gastrulation in chick upto the formation of three germinal layers |  |  |
| *17* | *Seminar on gastrulation* | |  |
| *18* | Elementary knowledge of primary organizers |  |  |
| *19* | Elementary knowledge of primary organizers |  |  |
| *20* | Elementary knowledge of extra embryonic membranes |  |  |
| *24* | Concepts of competence, determination and differentiation |  |  |
| *25* | Concepts of competence, determination and differentiation |  |  |
| *26* | Concepts of competence, determination and differentiation |  |  |
| *27* | Concept of regeneration |  |  |
| *28* | Concept of regeneration |  |  |
| *30* | *Debate on primary organisers* | |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; October Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: V

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *1* | **Basic concepts of ecology**: Definition, signification. Concepts of habitat and ecological niche |  |  |
| *4* | **Factors affecting environment**: Abiotic factors (light-intensity, quality and duration),  temperature, humidity, topography; edaphic factors; Biotic factors. |  |  |
| *5* | **Factors affecting environment**: Abiotic factors (light-intensity, quality and duration),  temperature, humidity, topography; edaphic factors; Biotic factors | |  |
| *7* |  |  | *Test on abiotic factors* |
| *9* | Introduction to major ecosystemt of the world |  |  |
| *11* | **Ecosystem:** Concept, components, properties and functions; Ecological energetics and  energy flow-food chain, food web, trophic structure; ecological pyramids concept of  productivity |  |  |
| *14* | **Ecosystem:** Concept, components, properties and functions; Ecological energetics and  energy flow-food chain, food web, trophic structure; ecological pyramids concept of  productivity |  |  |
| *15* | **Biogeochemical cycles:** Concept, reservoir pool, gaseous cycles and sedimentary cycles |  |  |
| *16* | **Environmental Pollution:** Air, water, soil and management strategies | |  |
| *31* | **Population**: Growth and regulation |  |  |

Name of the Associate Professor: Dr. S.C.Sharma Month; November Subject: Zoology

Name of College: IGN College, Ladwa Academic Session: 2019-20 Semester: V

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| *Dates* | *Topic/Chapter to be covered* | *Academic Activity to be organized* | *Topic of Assignments/Tests to be given to the students* |
| *4* | Concept of biodiversity and conservation of natural resources |  |  |
| *5* | Migration in fishes and birds |  |  |
| *6* | Parental care in animals | |  |
| *7* | **Population interactions:** Competition, predation, parasitism, commensalisms and mutualism |  |  |
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