



MVP'S KSKW Arts, Science & Commerce College,

Cidco-Nashik

Teaching Plan (Year 2021-22)

Department: Zoology

Name of the Teacher: Dr. M.S.Patil

Term-I

Class: F.Y.BSc.

Name of the Paper: Animal Diversity –I

| Month | Syllabus (Topics) to be completed as per University circular   | No of lectures prescribed | Syllabus (Topics) completed in the class room  | No of lectures taken | Method of teaching used          |
|-------|--|---------------------------|--|----------------------|----------------------------------|
| Sept. | <b>1.Principles of Classification:</b><br><b>Taxonomy &amp; Systematics</b><br><b>1.1 Taxonomy:</b> Basic terminology and Introduction<br>· Alpha, Beta and Gamma levels of taxonomy, Micro-taxonomy<br>· Macro taxonomy:<br>Phenetics (numerical taxonomy, Cladistics (Phylogenetic systematics), Evolutionary taxonomy (evolutionary systematics)<br>· Classical taxonomy and experimental or neo taxonomy (biochemical taxonomy and Cytotaxonomy)<br>· Significance of Taxonomy<br><br><b>1.2 Systematics: definition introduction</b><br><b>1.3 Linnaean system of classification (Six level classification: Phylum, class, order, family, genus, species)</b><br><b>1.4 Concept of Species: Biological &amp; Evolutionary</b><br><b>1.5 Introduction to Binomial Nomenclature.</b><br><b>1.6 Introduction to Five kingdom system.</b> | 05                        | <b>1.Principles of Classification:</b><br><b>Taxonomy &amp; Systematics</b><br><b>1.1 Taxonomy:</b> Basic terminology and Introduction<br>· Alpha, Beta and Gamma levels of taxonomy, Micro-taxonomy<br>· Macro taxonomy:<br>Phenetics (numerical taxonomy, Cladistics (Phylogenetic systematics), Evolutionary taxonomy (evolutionary systematics)<br>· Classical taxonomy and experimental or neo taxonomy (biochemical taxonomy and Cytotaxonomy)<br>· Significance of Taxonomy<br><br><b>1.2 Systematics: definition introduction</b><br><b>1.3 Linnaean system of classification (Six level classification: Phylum, class, order, family, genus, species)</b><br><b>1.4 Concept of Species: Biological &amp; Evolutionary</b><br><b>1.5 Introduction to Binomial Nomenclature.</b><br><b>1.6 Introduction to Five kingdom system.</b> | 05                   | Board / Power Point presentation |



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| Oct. | 4.<br><b>Origin of Metazoa</b><br>4.1 Introduction Origin and importance of Metazoa  | 01 | 4.<br><b>Origin of Metazoa</b><br>4.1 Introduction Origin and importance of Metazoa   | 01 | Board / Power Point presentation |
|      | 5.<br><b>Phylum Porifera</b><br>5.1. Introduction to Phylum Porifera<br>5.2 Classification of Phylum Porifera up to classes with two examples of each class (names only, no description of specimens).<br>Class Calcarea (e.g.: <i>Leucosolenia</i> , <i>Sycon</i> ( <i>Scypha</i> )<br>Class Hexactinellida (e.g: <i>Euplectella</i> (venus flower basket), <i>Hyalonema</i> (glass sponge))<br>Class Demospongiae (e.g: <i>Chalina</i> (Mermaid's gloves, <i>Spongilla</i> (fresh water sponge))<br>5.3 Canal system in sponges: Ascon, Leucon and Rhagon type.<br>5.4 Skeleton in sponges: Spicules, its types: Microscleres&Megascleres, Monoaxon – monactinal, diactinal, Amphidiscs, Triaxon, Polyaxon, Spongin fibres.<br>5.5 Regeneration in sponges.<br>5.6 Economic importance of Phylum Porifera. | 06 | 5.<br><b>Phylum Porifera</b><br>5.1. Introduction to Phylum Porifera<br>5.2 Classification of Phylum Porifera up to classes with two examples of each class (names only, no description of specimens).<br>Class Calcarea (e.g.: <i>Leucosolenia</i> , <i>Sycon</i> ( <i>Scypha</i> )<br>Class Hexactinellida (e.g: <i>Euplectella</i> (venus flower basket), <i>Hyalonema</i> (glass sponge))<br>Class Demospongiae (e.g: <i>Chalina</i> (Mermaid's gloves, <i>Spongilla</i> (fresh water sponge))<br>5.3 Canal system in sponges: Ascon, Leucon and Rhagon type.<br>5.4 Skeleton in sponges: Spicules, its types: Microscleres&Megascleres,<br>Monoaxon – monactinal, diactinal, Amphidiscs, Triaxon, Polyaxon, Spongin fibres.<br>5.5 Regeneration in sponges.<br>5.6 Economic importance of Phylum Porifera. | 06 |                                  |
| Nov. | 6.<br><b>Phylum: Cnidaria</b><br>6.1 Introduction to Phylum Cnidaria<br>6.2 Salient features of Phylum Cnidaria<br>6.3 Classification of Phylum Cnidaria up to class level with given examples each class (names of examples only)<br>Class Hydrozoa e.g.: Hydra, <i>Physalia</i> (Portuguese man of war)<br>Class Scyphozoe.g: <i>Aurelia</i> (Jelly fish),   | 05 | 6.<br><b>Phylum: Cnidaria</b><br>6.1 Introduction to Phylum Cnidaria<br>6.2 Salient features of Phylum Cnidaria<br>6.3 Classification of Phylum Cnidaria up to class level with given examples each class (names of examples only)<br>Class Hydrozoa e.g.: Hydra, <i>Physalia</i> (Portuguese man of war)   | 05 | Board / Power Point presentation |
|      |  | 01 |   | 01 |                                  |

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| <p><b>Nov.</b></p> | <p><i>Leucernaria</i> (trumpet shaped Jellyfish)<br/>Class Anthozoa: e.g; Metridium (Common sea anemone)<br/>6.4 Polymorphism in Hydrozoa: Polyps &amp; Medusa (polyp types: gastrozooids, dactylozooids, gonozooids) and functions<br/>6.5 Economic importance of Cnidarians with reference to Corals and Coral reefs.<br/>7.<br/><b>Phylum Platyhelminthes</b><br/>7.1 Introduction to Phylum Platyhelminthes<br/>7.2 Salient features of Phylum Platyhelminthes<br/>7.3 Classification of Phylum Platyhelminthes up to classes with two examples each class (names of examples only).<br/>Class: Turbellaria (e.g: <i>Dugesia</i>, <i>Bipallium</i>)<br/>Class: Trematoda (e.g: <i>Fasciola hepatica</i>, <i>schistosomahaematobium</i>)<br/>Class Cestoda: (<i>Taeniasolium</i> (pork tape worm), <i>Echinococcusgranulosus</i> (dog tapeworm))<br/>7.4 Parasitic adaptations in Platyhelminthes: structural and physiological.<br/>7.5 Economic importance of Platyhelminthes</p> | <p>06</p> <p>04</p> | <p>Class Scyphozoe.g: <i>Aurelia</i> (Jelly fish), <i>Leucernaria</i> (trumpet shaped Jellyfish)<br/>Class Anthozoa: e.g; Metridium (Common sea anemone)<br/>6.4 Polymorphism in Hydrozoa: Polyps &amp; Medusa (polyp types: gastrozooids, dactylozooids, gonozooids) and functions<br/>6.5 Economic importance of Cnidarians with reference to Corals and Coral reefs.<br/>7.<br/><b>Phylum Platyhelminthes</b><br/>7.1 Introduction to Phylum Platyhelminthes<br/>7.2 Salient features of Phylum Platyhelminthes<br/>7.3 Classification of Phylum Platyhelminthes up to classes with two examples each class (names of examples only).<br/>Class: Turbellaria (e.g: <i>Dugesia</i>, <i>Bipallium</i>)<br/>Class: Trematoda (e.g: <i>Fasciola hepatica</i>, <i>schistosomahaematobium</i>)<br/>Class Cestoda: (<i>Taeniasolium</i> (pork tape worm), <i>Echinococcusgranulosus</i> (dog tapeworm))<br/>7.4 Parasitic adaptations in Platyhelminthes: structural and physiological.<br/>7.5 Economic importance of Platyhelminthes</p> | <p>06</p> <p>04</p> | <p><b>Board / Power Point presentation</b></p> <p><b>Board / Power Point presentation</b></p> |
|--------------------|--|---------------------|--|---------------------|---|

| <b>Month</b> | <b>Syllabus (Topics) to be completed as per University circular</b>  | <b>No of lectures prescribed</b> | <b>Syllabus (Topics) completed in the class room</b>  | <b>No of lecture s taken</b> | <b>Method of teaching used</b> |
|--------------|--|----------------------------------|---|------------------------------|--------------------------------|
| <b>Sept.</b> | 1.<br><b>Introduction to Ecology</b><br>1.1 Concepts of Ecology, Environment, Population, Community, Ecosystem, Biosphere, Autecology and synecology<br>2.<br><b>Ecosystem</b><br>2.1 Types of ecosystems: Aquatic (Freshwater, estuarine, Marine and terrestrial (Forest, Grassland and Desert)<br>2.2 Structure and Composition of Ecosystem (Abiotic components and biotic components.<br>2.3 Food chain: Detritus and grazing food chains, Food web, Energy flow through the ecosystem, Ecological pyramids: Number, Biomass, and Energy.<br>2.4 concept of Eutrophication in lakes and rivers.<br>3.<br><b>Population</b><br>3.1Characteristic of population: Density, Natality, Mortality, Fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion.<br>3.2Exponential and logistic growth,<br>3.3 Population regulation – density-dependent and independent factors. | 02                               | 1.<br><b>Introduction to Ecology</b><br>1.1 Concepts of Ecology, Environment, Population, Community, Ecosystem, Biosphere, Autecology and synecology<br>2.<br><b>Ecosystem</b><br>2.1 Types of ecosystems: Aquatic (Freshwater, estuarine, Marine and terrestrial (Forest, Grassland and Desert)<br>2.2 Structure and Composition of Ecosystem (Abiotic components and biotic components.<br>2.3 Food chain: Detritus and grazing food chains, Food web, Energy flow through the ecosystem, Ecological pyramids: Number, Biomass, and Energy.<br>2.4 concept of Eutrophication in lakes and rivers.<br>3.<br><b>Population</b><br>3.1Characteristic of population: Density, Natality, Mortality, Fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion.<br>3.2Exponential and logistic growth,<br>3.3 Population regulation – density-dependent and | 02                           | <b>Specimens</b>               |
| <b>Sept.</b> |  | 08                               |   | 08                           |                                |
|              |  | 08                               |   | 08                           |                                |

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| Oct. | Population interactions, Gause's Principle with laboratory and field interactions, 3.4 Quadrage, line and belt transect methods.  | 07 | independent factors. Population interactions, Gause's Principle with laboratory and field interactions, 3.4 Quadrage, line and belt transect methods.   | 07 |  |
|      | 4. <b>Community</b>   |    | 4. <b>Community</b>   |    |  |
|      | 4.1Community characteristics: species richness, dominance, diversity, abundance, vertical stratification, Eco tone and edge effect; Ecological succession with one example.                   |    | 4.1Community characteristics: species richness, dominance, diversity, abundance, vertical stratification, Eco tone and edge effect; Ecological succession with one example.                   |    |  |
| Oct. | 5. <b>Animal interactions</b>   | 05 | 5. <b>Animal interactions</b>   | 05 |  |
|      | 5.1Introduction to Animal interactions  |    | 5.1Introduction to Animal interactions  |    |  |
|      | 5.2 Types of Animal interactions with at least to suitable examples of each   |    | 5.2 Types of Animal interactions with at least to suitable examples of each   |    |  |
|      | 5.2.1-Competition: Interspecific and intraspecific  |    | 5.2.1-Competition: Interspecific and intraspecific  |    |  |
|      | 5.2.2- Beneficial Associations: Commensalism (remora fish on shark, Cattle egrets on livestock), Mutualism (Termite and Trichonympha, bees and flowers, cleaning symbiosis in fish by prawns. |    | 5.2.2- Beneficial Associations: Commensalism (remora fish on shark, Cattle egrets on livestock), Mutualism (Termite and Trichonympha, bees and flowers, cleaning symbiosis in fish by prawns. |    |  |
| Nov. | 5.3 Antagonistic associations: Parasitism (Ascaris and man, lice and humans), Prey predation (Lion and deer).   |    | 5.3 Antagonistic associations: Parasitism (Ascaris and man, lice and humans), Prey predation (Lion and deer).   |    |  |



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**Teaching Plan (Year 2021-22)**

**Department: Zoology**

**Name of the Teacher: Dr. M.S.Patil**

**Term-I**

**Class: F.Y.BSc.**

**Name of the Paper: Zoology Practical Paper**

| Month | Syllabus (Topics) to be completed as per University circular   | No of lectures prescribed | Syllabus (Topics) completed in the class room  | No of lectures taken | Method of teaching used |
|-------|--|---------------------------|--|----------------------|-------------------------|
| Oct.  | <b>Animal Diversity –I</b><br>1. Museum Study of phylum Protozoa: Euglena, Paramecium, Amoeba, Plasmodium sp.<br>2. Museum study of Phylum Porifera: <i>Sycon</i> , <i>Euplectella</i> , <i>Chalina</i> , <i>Spongilla</i> .<br>3. Museum study of phylum Cnidaria: <i>Hydra</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Metridium</i> .<br>4 Museum Study of phylum Platyhelminthes: <i>Planeria</i> , <i>Faciola hepatica</i> , <i>Taeniasolium</i><br>5. Study of Paramecium: Culture, External morphology, Conjugation and Binary fission.<br>6. Study of permanent slides: Spicules and Gemmules in Sponges, T.S. of <i>Sycon</i> , T.S. of <i>Hydra</i> , <i>Taeniasolium</i> : Scolex, Gravid proglottid.<br>7. Identification of any three museum specimen with help of taxonomic identification key.<br>8. Visit to Zoological survey of India/ Museum/National Park. |                           | <b>Animal Diversity –I</b><br>1. Museum Study of phylum Protozoa: Euglena, Paramecium, Amoeba, Plasmodium sp.<br>2. Museum study of Phylum Porifera: <i>Sycon</i> , <i>Euplectella</i> , <i>Chalina</i> , <i>Spongilla</i> .<br>3. Museum study of phylum Cnidaria: <i>Hydra</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Metridium</i> .<br>4 Museum Study of phylum Platyhelminthes: <i>Planeria</i> , <i>Faciola hepatica</i> , <i>Taeniasolium</i><br>5. Study of Paramecium: Culture, External morphology, Conjugation and Binary fission.<br>6. Study of permanent slides: Spicules and Gemmules in Sponges, T.S. of <i>Sycon</i> , T.S. of <i>Hydra</i> , <i>Taeniasolium</i> : Scolex, Gravid proglottid.<br>7. Identification of any three museum specimen with help of taxonomic identification key.<br>8. Visit to Zoological survey of India/ Museum/National Park. |                      |                         |
| Nov.  | <b>Animal Ecology:</b><br>1. Estimation of Dissolved oxygen from given water sample.<br>2. Estimation of Water Alkalinity from given water sample.<br>3. Study of animal   |                           | <b>Animal Ecology:</b><br>1. Estimation of Dissolved oxygen from given water sample.<br>2. Estimation of Water Alkalinity from given water sample.<br>3. Study of animal   |                      |                         |

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|  | <p>community structure by quadrat method (Field or Simulation).</p> <p>4. Determination of density, frequency and abundance of species by quadrat method.</p> <p>5. Study of microscopic fauna of freshwater ecosystem (from pond).</p> <p>6. Estimation of water holding capacity of given soil sample.</p> <p>7. Estimation of dissolved and free carbon dioxide from water sample.</p> <p>8. Study of Eutrophication in lake/river.</p> |  | <p>community structure by quadrat method (Field or Simulation).</p> <p>4. Determination of density, frequency and abundance of species by quadrat method.</p> <p>5. Study of microscopic fauna of freshwater ecosystem (from pond).</p> <p>6. Estimation of water holding capacity of given soil sample.</p> <p>7. Estimation of dissolved and free carbon dioxide from water sample.</p> <p>8. Study of Eutrophication in lake/river.</p> |  |  |
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| Feb.  | <p>3.</p> <p><b>Phylum Arthropoda</b></p> <p>3.1 Introduction to Phylum Arthropoda</p> <p>3.2 Salient features of Phylum Arthropoda</p> <p>3.3 Classification of Phylum Arthropoda with specific classes and mentioned examples (names only)</p> <p>Class:Crustacea:<i>Palaemon</i> spp. crabs)</p> <p>Class: Chilopoda: <i>Scolopendra</i> sp. (centipede)</p> <p>Class: Diplopoda: <i>Julus</i> sp. (millipede)</p> <p>Class Insecta: <i>Periplaneta americana</i> (American Cockroach), <i>Anopheles stephensi</i> (mosquito).</p> <p>Class: Arachnida- Spiders, <i>Buthus</i> sp (scorpion)</p> <p>3.4 mouth parts in insects: Mandibulate (cockroach), Piercing and sucking (female <i>Anopheles</i> mosquito), chewing and lapping type (honey bee)</p> <p>3.5 Economic importance of Arthropoda</p> <p>Useful Insects: Honey bee, Lac insect, Silkworm.</p> <p>Harmful insects: Female <i>Anopheles</i> mosquito, Red cotton bug, Rice weevil</p> <p>4.</p> <p><b>Phylum Mollusca</b></p> <p>4.1 Introduction to Phylum Mollusca</p> <p>4.2 Salient features of Phylum Mollusca</p> <p>4.3 Classification of Phylum Mollusca with specific classes and mentioned examples (names only)</p> <p>Class Gastropodae.g<i>Pila globosa</i> (apple snail)</p> <p>Class Pelecypodae.g<i>Lamellidens marginalis</i>(Bivalve)</p> <p>Class Polyplacophorae.g<i>Chiton</i></p> <p>Class: Cephalopodae.g: <i>Octopus vulgaris</i> (common</p> | 06 | <p>3.</p> <p><b>Phylum Arthropoda</b></p> <p>3.1 Introduction to Phylum Arthropoda</p> <p>3.2 Salient features of Phylum Arthropoda</p> <p>3.3 Classification of Phylum Arthropoda with specific classes and mentioned examples (names only)</p> <p>Class:Crustacea:<i>Palaemon</i> spp. crabs)</p> <p>Class: Chilopoda: <i>Scolopendra</i> sp. (centipede)</p> <p>Class: Diplopoda: <i>Julus</i> sp. (millipede)</p> <p>Class Insecta: <i>Periplaneta americana</i> (American Cockroach), <i>Anopheles stephensi</i> (mosquito).</p> <p>Class: Arachnida- Spiders, <i>Buthus</i> sp (scorpion)</p> <p>3.4 mouth parts in insects: Mandibulate (cockroach), Piercing and sucking (female <i>Anopheles</i> mosquito), chewing and lapping type (honey bee)</p> <p>3.5 Economic importance of Arthropoda</p> <p>Useful Insects: Honey bee, Lac insect, Silkworm.</p> <p>Harmful insects: Female <i>Anopheles</i> mosquito, Red cotton bug, Rice weevil</p> <p>4.</p> <p><b>Phylum Mollusca</b></p> <p>4.1 Introduction to Phylum Mollusca</p> <p>4.2 Salient features of Phylum Mollusca</p> <p>4.3 Classification of Phylum Mollusca with specific classes and mentioned examples (names only)</p> <p>Class Gastropodae.g<i>Pila globosa</i> (apple snail)</p> <p>Class Pelecypodae.g<i>Lamellidens marginalis</i>(Bivalve)</p> <p>Class Polyplacophorae.g<i>Chiton</i></p> | 06 |  |
| March |  |    |  |    |  |

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| March | <p>octopus), <i>Sepia officinalis</i> (common Cuttle fish)</p> <p>4.4 Economic importance of Mollusca.</p> <p>5.</p> <p><b>Study of Phylum Echinodermata</b></p> <p>5.1 Introduction to Phylum Echinodermata</p> <p>5.2 Salient features of Phylum Echinodermata.</p> <p>5.3 Classification of Phylum Echinodermata with specific classes and mentioned examples (names only)</p> <p>□ Class Asteroidea (<i>Asterias rubens</i> sea stars or starfish)</p> <p>□ Class: Holothuroidea. <i>Holothuria sp.</i> sea cucumbers)</p> <p>□ Class: Echinoidea(<i>Echinus esculentus</i> common sea urchins)</p> <p>Class: Crinoidea (sea lilies or feather stars)</p> <p><b>5.4 Type study: <i>Asterias rubens</i> (Sea Star):</b> Classification, Habit Habitat, External Morphology, Digestive system, Water vascular System and autotomy and regeneration</p> <p>5.5 Pedicellaria in Echinodermata: straight, crossed, valvate, tridactylous, globigerous.</p> <p>5.6 Economic importance of Echinodermata</p> | 08 | <p>Class: Cephalopoda.g: <i>Octopus vulgaris</i> (common octopus), <i>Sepia officinalis</i> (common Cuttle fish)</p> <p>4.4 Economic importance of Mollusca.</p> <p>5.</p> <p><b>Study of Phylum Echinodermata</b></p> <p>5.1 Introduction to Phylum Echinodermata</p> <p>5.2 Salient features of Phylum Echinodermata.</p> <p>5.3 Classification of Phylum Echinodermata with specific classes and mentioned examples (names only)</p> <p>□ Class Asteroidea (<i>Asterias rubens</i> sea stars or starfish)</p> <p>□ Class: Holothuroidea. <i>Holothuria sp.</i> sea cucumbers)</p> <p>□ Class: Echinoidea(<i>Echinus esculentus</i> common sea urchins)</p> <p>Class: Crinoidea (sea lilies or feather stars)</p> <p><b>5.4 Type study: <i>Asterias rubens</i> (Sea Star):</b> Classification, Habit Habitat, External Morphology, Digestive system, Water vascular System and autotomy and regeneration</p> <p>5.5 Pedicellaria in Echinodermata: straight, crossed, valvate, tridactylous, globigerous.</p> <p>5.6 Economic importance of Echinodermata</p> | 08 |  |
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**MVP'S KSKW Arts, Science & Commerce College,  
Cidco-Nashik**

**Teaching Plan (Year 2021-22)**

**Department: Zoology**

**Name of the Teacher: Mr. R. B. Patil**

**Term-II**

**Class: F.Y.BSc.**

**Name of the Paper: Cell Biology**

| Month | Syllabus (Topics) to be completed as per University circular   | No of lectures prescribed | Syllabus (Topics) completed in the class room  | No of lectures taken | Method of teaching used |
|-------|--|---------------------------|--|----------------------|-------------------------|
| Jan.  | 1.<br><b>Introduction:</b><br>1.1 Introduction cell biology,<br>1.2 Cell as basic unit of life.<br>1.3 Importance of Cell Biology and its applications in industry.<br><b>Overview of Cells</b><br>1.3 Introduction to Prokaryotic and Eukaryotic cells.<br>1.4 Structure and function of Prokaryotic ( <i>E. coli</i> )<br>1.5 Structure and function of Eukaryotic cells (Animal and Plant Cell)<br>2.<br><b>Techniques in Cell Biology:</b><br>3.1 Introduction<br>3.2 Microscopy: Basic Principle, Simple, Compound and applications of Electron Microscope.<br>3.3 Stains and dyes: Types of Stain: Acidic, basic and neutral.<br>Dye (Preparation and chemistry of dyes not expected)<br>3.4 Micrometry.<br>3.<br><b>Plasma Membrane:</b><br>4.1 Introduction<br>4.2 Structure of plasma membrane: Fluid mosaic model.<br>4.3 Transport across membranes: Active and Passive transport, Facilitated transport, exocytosis, endocytosis, phagocytosis – vesicles and their importance in transport. | 04                        | 1.<br><b>Introduction:</b><br>1.1 Introduction cell biology,<br>1.2 Cell as basic unit of life.<br>1.3 Importance of Cell Biology and its applications in industry.<br><b>Overview of Cells</b><br>1.3 Introduction to Prokaryotic and Eukaryotic cells.<br>1.4 Structure and function of Prokaryotic ( <i>E. coli</i> )<br>1.5 Structure and function of Eukaryotic cells (Animal and Plant Cell)<br>2.<br><b>Techniques in Cell Biology:</b><br>3.1 Introduction<br>3.2 Microscopy: Basic Principle, Simple, Compound and applications of Electron Microscope.<br>3.3 Stains and dyes: Types of Stain: Acidic, basic and neutral.<br>Dye (Preparation and chemistry of dyes not expected)<br>3.4 Micrometry.<br>3<br><b>Plasma Membrane:</b><br>4.1 Introduction<br>4.2 Structure of plasma membrane: Fluid mosaic model.<br>4.3 Transport across membranes: Active and Passive transport, Facilitated transport, exocytosis, endocytosis, | 04                   |                         |
| Feb.  |  | 04                        |  | 04                   |                         |
|       |  | 06                        |  | 06                   |                         |

|       |   |    |   |    |  |
|-------|---|----|---|----|--|
| March | <p>4.4 Other functions of Cell membrane in brief<br/>Protection, cell recognition, shape, storage, cell signalling.</p> <p>4.5 Cell Junctions: Tight junctions, gap junctions, Desmosomes.</p> <p>4.</p> <p><b>Nucleus: Structure and function</b></p> <p>5.1 Introduction to Nucleus</p> <p>5.2 Structure of Nucleus: Nuclear envelope, Nuclear pore complex, Nucleoplasm, Nucleolus</p> <p>5.3 Chromatin: Eu-chromatin and Hetro-chromatin, nature and differences.</p> <p>5.4 Functions of nucleus</p> <p>5.</p> <p><b>Endomembrane System</b></p> <p>6.1 Introduction</p> <p>6.2 Structure, location and Functions: Endoplasmic Reticulum, Golgi apparatus, Lysosomes and vacuoles.</p> <p>6.</p> <p><b>Mitochondria and Peroxisomes</b></p> <p>7.</p> <p>7.1 Introduction</p> <p>7.2 Mitochondria: ultrastructure and function of mitochondrion.</p> <p>7.3 Peroxisomes</p> <p>8.</p> <p><b>Cell Division</b></p> <p>7.1 Introduction</p> <p>7.2 Cell cycle (G1, S, G2, M phases),</p> <p>7.3 Mitosis.</p> <p>7.4 Meiosis.</p> | 04 | <p>phagocytosis – vesicles and their importance in transport.</p> <p>4.4 Other functions of Cell membrane in brief<br/>Protection, cell recognition, shape, storage, cell signalling.</p> <p>4.5 Cell Junctions: Tight junctions, gap junctions, Desmosomes.</p> <p>4.</p> <p><b>Nucleus: Structure and function</b></p> <p>5.1 Introduction to Nucleus</p> <p>5.2 Structure of Nucleus: Nuclear envelope, Nuclear pore complex, Nucleoplasm, Nucleolus</p> <p>5.3 Chromatin: Eu-chromatin and Hetro-chromatin, nature and differences.</p> <p>5.4 Functions of nucleus</p> <p>5.</p> <p><b>Endomembrane System</b></p> <p>6.1 Introduction</p> <p>6.2 Structure, location and Functions: Endoplasmic Reticulum, Golgi apparatus, Lysosomes and vacuoles.</p> <p>6.</p> <p><b>Mitochondria and Peroxisomes</b></p> <p>7.</p> <p>7.1 Introduction</p> <p>7.2 Mitochondria: ultrastructure and function of mitochondrion.</p> <p>7.3 Peroxisomes</p> <p>8.</p> <p><b>Cell Division</b></p> <p>7.1 Introduction</p> <p>7.2 Cell cycle (G1, S, G2, M phases),</p> <p>7.3 Mitosis.</p> <p>7.4 Meiosis.</p> | 04 |  |
| March |   | 04 |   | 04 |  |
|       |   | 03 |   | 03 |  |
|       |   | 05 |   | 05 |  |



**MVP'S KSKW Arts, Science & Commerce College,  
Cidco-Nashik**

**Teaching Plan (Year 2021-22)**

**Department: Zoology**

**Name of the Teacher: Dr. M.S.Patil**

**Term-II**

**Class: F.Y.BSc.**

**Name of the Paper: Zoology Practical Paper**

| Month       | Syllabus (Topics) to be completed as per University circular   | No of lectures prescribed | Syllabus (Topics) completed in the class room   | No of lectures taken | Method of teaching used |
|-------------|--|---------------------------|---|----------------------|-------------------------|
| <b>Jan.</b> | <b>Animal Diversity –II</b><br>1. Museum study of Phylum Aschelminthes: <i>Ascarislumbricoides</i> ,<br>2. Museum study of phylum Annelida: <i>Neries</i> , Earthworm, Leech.<br>3. Museum study of phylum Arthropoda: Prawn, Cockroach, Centipede, Millipede, Crab<br>4. Museum study of phylum Mollusca: <i>Pila</i> , <i>Chiton</i> , Bivalve, Octopus.<br>5. Museum study of phylum Echinodermata: Sea Star, Sea urchin, Brittle Star, sea cucumber.<br>6. Study of permanent slides: Mouthparts of Insects - Mandibulate, Piercing and sucking, Chewing and Lapping.<br>7. Types of Shells in Mollusca. <i>Pila</i> , Bivalve, Chiton, Sepia.<br>8. Economic importance of honey bees, Lac insects silk worms, red cotton bug, Anopheles mosquito<br>9. Earthworm: vermicomposting bin preparation and maintenance.<br>10. Visit to a vermicomposting unit/ field for insect pest collection and its identification |                           | <b>Animal Diversity –II</b><br>1. Museum study of Phylum Aschelminthes: <i>Ascarislumbricoides</i> ,<br>2. Museum study of phylum Annelida: <i>Neries</i> , Earthworm, Leech.<br>3. Museum study of phylum Arthropoda: Prawn, Cockroach, Centipede, Millipede, Crab<br>4. Museum study of phylum Mollusca: <i>Pila</i> , <i>Chiton</i> , Bivalve, Octopus.<br>5. Museum study of phylum Echinodermata: Sea Star, Sea urchin, Brittle Star, sea cucumber.<br>6. Study of permanent slides: Mouthparts of Insects -Mandibulate, Piercing and sucking, Chewing and Lapping.<br>7. Types of Shells in Mollusca. <i>Pila</i> , Bivalve, Chiton, Sepia.<br>8. Economic importance of honey bees, Lac insects silk worms, red cotton bug, Anopheles mosquito<br>9. Earthworm: vermicomposting bin preparation and maintenance.<br>10. Visit to a vermicomposting unit/ field for insect pest collection and its identification |                      |                         |
| <b>Feb.</b> | <b>Cell Biology</b><br>1. Study of Microscope:   |                           | <b>Cell Biology</b>   |                      |                         |

|              |  |  |  |  |  |
|--------------|--|--|--|--|--|
| <b>March</b> | <p>Simple and Compound</p> <p>2. Micrometry: Measurement of microscopic objects</p> <p>3. Study of cell: Preparation of temporary mount of human buccal epithelial cells.</p> <p>4. Preparation of blood smears to observe the blood cells</p> <p>5. Temporary preparation of mitotic cell from onion roots</p> <p>6. Study of Cell organelles (any three) by using microphotographs</p> |  | <p>1. Study of Microscope: Simple and Compound</p> <p>2. Micrometry: Measurement of microscopic objects</p> <p>3. Study of cell: Preparation of temporary mount of human buccal epithelial cells.</p> <p>4. Preparation of blood smears to observe the blood cells</p> <p>5. Temporary preparation of mitotic cell from onion roots</p> <p>6. Study of Cell organelles (any three) by using microphotographs</p> |  |  |
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Principal  
K.S.K.W. Arts, Sci. & Comm College  
CIDCO, Nashik

**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**

**Term -I**

**Name of the Teacher: Dr. M. S. Patil**

**Department: Zoology**

| <b>Class</b>    | <b>Title of the paper</b>           | <b>Name of the chapters taught up to 15/10/2019</b>  | <b>Number of period used up to 15/10/2019</b> | <b>Percentage of completed syllabus</b> | <b>Name of remaining chapters to be taught</b> | <b>In how many periods remaining syllabus will be completed</b> | <b>Remark</b> |
|-----------------|-------------------------------------|--|---|---|--|---|---------------|
| <b>F.Y.B.Sc</b> | <b>ZO-111 : Animal Diversity –I</b> | <b>1. Principles of classification.</b><br><b>2. General Features of kingdom Animalia.</b><br><b>3.Kingdom Protista (Phylum: Protozoa)</b><br><b>4. Origin of Metazoa</b><br><b>5.Phylum Porifera</b><br><b>6.Phylum: Cnidaria</b><br><b>7.Phylum Platyhelminthes</b>                  | <b>30</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  | <b>-</b>      |
| <b>S.Y.B.Sc</b> | <b>Animal Diversity III</b>         | <b>1. Introduction to Phylum Chordata</b><br><b>2. Introduction to Group – Protochordata.(03)</b><br><b>3. Introduction to subphylum – Vertebrata</b><br><b>4. Introduction to Class – Pisces</b><br><b>5. Introduction to Class – Amphibia</b><br><b>6. Study of <i>Scoliodon</i></b> | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |



|                 |                              |  |           |              |            |          |  |
|-----------------|------------------------------|--|-----------|--------------|------------|----------|--|
| <b>T.Y.B.Sc</b> | <b>Histology:</b>            | <b>1.Introduction</b><br><b>2. Definitions and Review of Types of Tissues</b><br><b>3. Histological study of following mammalian organs</b><br><b>4. Histological study of Alimentary canal and Liver:</b><br><b>5. Histological study of Respiratory organs</b><br><b>6. Histological study of Excretory organs</b><br><b>7. Histological study of Reproductive organs:</b><br><b>8. Histology of Endocrine glands:</b> | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |
| <b>T.Y.B.Sc</b> | <b>Biological Chemistry:</b> | <b>1.Introduction of Biochemistry</b><br><b>2. p<sup>H</sup> and Buffers:</b><br><b>3. Carbohydrates:</b><br><b>4 .Amino acids and Proteins:</b><br><b>5. Enzymes:</b><br><b>6. Lipids:</b>  | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |

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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**


**Term -I**

**Name of the Teacher: Mr. R. B. Patil**

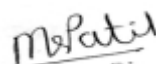
**Department: Zoology**

| <b>Class</b>    | <b>Title of the paper</b>      | <b>Name of the chapters taught up to<br/>15/10/2019</b>  | <b>Number of period used up to<br/>15/10/2019</b> | <b>Percentage of completed syllabus</b> | <b>Name of remaining chapters to be taught</b> | <b>In how many periods remaining syllabus will be completed</b> | <b>Remark</b> |
|-----------------|--------------------------------|--|---|---|--|---|---------------|
| <b>F.Y.B.Sc</b> | <b>ZO-112 : Animal Ecology</b> | <ol style="list-style-type: none"> <li>1. Introduction to Ecology</li> <li>2. Ecosystem</li> <li>3. Population</li> <li>4. Community</li> <li>5. Animal interactions</li> </ol>  | <b>30</b>   | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  | <b>-</b>      |
| <b>S.Y.B.Sc</b> | <b>APPLIED ZOOLOGY – I</b>     | <ol style="list-style-type: none"> <li>1. Sericulture</li> <li>2. Agricultural Pests and their control.</li> </ol>   | <b>48</b>   | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |
| <b>T.Y.B.Sc</b> | <b>Pest Management</b>         | <ol style="list-style-type: none"> <li>1. Pest:</li> <li>2. Pest management using Regulatory control:</li> <li>3. Pest management using Cultural control:</li> <li>4. Pest management using Biological control:</li> <li>5. Biotechnology approaches in pest management:</li> <li>6. Integrated pest management (IPM):</li> <li>7. Insecticides:</li> <li>8. Insecticide residue:</li> </ol> | <b>48</b>   | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |

|                 |                              |  |           |              |            |  |  |
|-----------------|------------------------------|--|-----------|--------------|------------|--|--|
| <b>T.Y.B.Sc</b> | <b>Developmental Biology</b> | <b>1. Fundamentals of Developmental Biology:</b><br><b>2. Theories of Developmental Biology:</b><br><b>3. Gametogenesis:</b><br><b>4. Fertilization:</b><br><b>5. Cleavage and Blastula:</b><br><b>6. Gastrulation:</b><br><b>7. Chick Embryology:</b> | <b>48</b> | <b>100 %</b> | <b>Nil</b> |  |  |
| <b>T.Y.B.Sc</b> | <b>Poultry Management</b>    | <b>1. Introduction to Poultry Farming:</b><br><b>2. Breeding Management:</b><br><b>3. Housing Management:</b><br><b>4. Feeding Management:</b><br><b>5. Health Management:</b><br><b>6. Poultry Products:</b>  | <b>48</b> | <b>100 %</b> | <b>Nil</b> |  |  |



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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**

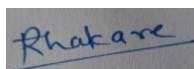
**Term -I**

**Name of the Teacher: Ms. P. B. Khapre**

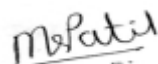
**Department: Zoology**

| <b>Class</b>    | <b>Title of the paper</b> | <b>Name of the chapters taught up to 15/10/2019</b>   | <b>Number of period used up to 15/10/2019</b> | <b>Percentage of completed syllabus</b> | <b>Name of remaining chapters to be taught</b> | <b>In how many periods remaining syllabus will be completed</b> | <b>Remark</b> |
|-----------------|---------------------------|---|---|---|--|---|---------------|
| <b>T.Y.B.Sc</b> | <b>Genetics</b>           | <b>1. Introduction to genetics:</b><br><b>2 Exceptions to Mendelian Inheritance:</b><br><b>3. Gene Mutation:</b><br><b>4. Sex-determination:</b><br><b>5. Population Genetics:</b><br><b>6. Human Population Genetics:</b><br><b>7. Sex linked inheritance in human:</b><br><b>8. Applicatin of genetics:</b> | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |
| <b>T.Y.B.Sc</b> | <b>Parasitology</b>       | <b>1.Introduction: Scope and branches of Parasitology</b><br><b>2 Types of parasites &amp; hosts:</b><br><b>3. Host - Parasite relationship:</b><br><b>4. Study of Parasitic Protists:</b><br><b>5. Study of Parasitic worms:</b><br><b>6. Study of Parasitic Arthropoda:</b>                                 | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |

|                 |                            |   |           |              |            |          |  |
|-----------------|----------------------------|---|-----------|--------------|------------|----------|--|
| <b>T.Y.B.Sc</b> | <b>Cell Biology</b>        | <b>1) Introduction to Cell biology</b><br><b>2) Plasma membrane</b><br><b>3) Endoplasmic reticulum</b><br><b>4) Golgi complex</b><br><b>5) Lysosomes</b><br><b>6) Mitochondria</b><br><b>7) Nucleus</b><br><b>8) Cytoskeleton</b><br><b>9) Cell cycle and cell division</b><br><b>10) Cellular ageing and cell death</b><br><b>11) Cancer cell</b>  | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |
| <b>T.Y.B.Sc</b> | <b>Aquarium Management</b> | <b>1. Introduction to Aquarium Fish Keeping:</b><br><b>2. Biology of Aquarium Fishes:</b><br><b>3. Food and feeding of Aquarium Fishes:</b><br><b>4. Fish Transportation:</b><br><b>5. Maintenance of Aquarium:</b><br><b>6. Physico-chemical parameters of water for fish culture:</b><br><b>7. Fish preservation:</b><br><b>8. Fish breeding:</b> | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |



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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,**  
**Syllabus Completion Report- (Year 2021-22)**

**Term -II**

**Name of the Teacher: Dr. M. S. Patil**

**Department: Zoology**

| Class    | Title of the paper               | Name of the chapters taught up to 28/02/2020  | Number of period used up to 28/02/2020 | Percentage of completed syllabus | Name of remaining chapters to be taught | In how many periods remaining syllabus will be completed | Remark |
|----------|----------------------------------|---|--|----------------------------------|---|--|--------|
| F.Y.B.Sc | ZO-121 :<br>Animal Diversity –II | 1. Phylum Aschelminthes<br>2. Phylum Annelida<br>3. Phylum Arthropoda<br>4. Phylum Mollusca<br>5. Study of Phylum Echinodermata<br>5.4 Type study: <i>Asterias rubens</i> (Sea Star): | 30                                     | 100                              | -                                       | -  |        |
| S.Y.B.Sc | Animal Diversity IV              | 1. Introduction to class –Reptilia<br>2. Introduction to class –Aves<br>3. Introduction to class - Mammalia.<br>4. Study of Rat   | 48                                     | 100                              | -                                       | -  |        |
| T.Y.B.Sc | Molecular biology                | 1. Nucleic Acids and Chromatin:<br>2. Central Dogma of Molecular Biology:<br>3. Lac operon:<br>4. DNA repair mechanism:<br>5. Recombinant DNA Technology:                             | 48                                     | 100 %                            | Nil                                     | -  |        |

*M. S. Patil*

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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**

**Term -II**

**Name of the Teacher: Mr. R.B. Patil**

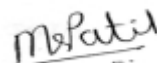
**Department: Zoology**

| <b>Class</b>    | <b>Title of the paper</b>    | <b>Name of the chapters taught up to 28/02/2020</b>  | <b>Number of period used up to 28/02/2020</b> | <b>Percentage of completed syllabus</b> | <b>Name of remaining chapters to be taught</b> | <b>In how many periods remaining syllabus will be completed</b> | <b>Remark</b> |
|-----------------|------------------------------|--|---|---|--|---|---------------|
| <b>F.Y.B.Sc</b> | <b>ZO-122 :-Cell biology</b> | <b>1. Introduction:</b><br><b>Overview of Cells</b><br><b>2. Techniques in Cell Biology</b><br><b>3 Plasma Membrane:</b><br><b>4 Nucleus: Structure and function</b><br><b>5. Endomembrane System</b><br><b>6 Mitochondria and Peroxisomes</b><br><b>7.Cell Division</b> | <b>30</b>                                     | <b>100</b>                              | <b>-</b>                                       | <b>-</b>  |               |
| <b>S.Y.B.Sc</b> | <b>APPLIED ZOOLOGY – II</b>  | <b>1. Apiculture</b><br><b>2. Fisheries</b>  | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |
| <b>T.Y.B.Sc</b> | <b>Animal Physiology</b>     | <b>1. Nutrition and digestion:</b><br><b>2. Respiration:</b><br><b>3. Circulation:</b><br><b>4. Excretion:</b><br><b>5. Muscles:</b><br><b>6. Reproduction and Endocrine Glands:</b>   | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |

|                 |                                |  |           |              |            |          |  |
|-----------------|--------------------------------|--|-----------|--------------|------------|----------|--|
| <b>T.Y.B.Sc</b> | <b>Technique in Biological</b> | <b>1. Microscopy:</b><br><b>2. Microtomy: Tissue fixation and Processing</b><br><b>3. Haematological Techniques:</b><br><b>4. Immunological Techniques:</b><br><b>5. Types of PCR &amp; DNA Barcoding :</b><br><b>6. Methods in Biodiversity:</b><br><b>7. Instruments in Field Biology:</b><br><b>8. Laboratory techniques:</b> | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |
| <b>T.Y.B.Sc</b> | <b>General Embryology</b>      | <b>1 Introduction</b><br><b>2 Concepts in Developmental Biology</b><br><b>3 Gametogenesis</b><br><b>4 Fertilization</b><br><b>5 Cleavage</b><br><b>6 Blastula</b><br><b>7 Gastrulation</b><br><b>8 Chick Embryology</b><br><b>9 Extra embryonic membranes</b>  | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |
| <b>T.Y.B.Sc</b> | <b>Entomology</b>              | <b>1. Fundamentals of Entomology:</b><br><b>2. Insect Morphology:</b><br><b>3. Insect Anatomy (Grasshopper):</b><br><b>4. Insect Ecology:</b><br><b>5. Insect Metamorphosis:</b><br><b>6. Insects as social groups:</b><br><b>7. Economic Importance of Insects:</b>   |           |              |            |          |  |



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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,**  
**Syllabus Completion Report- (Year 2021-22)**

**Term -II**

**Name of the Teacher: Ms. P. B. Khapre**

**Department: Zoology**

| Class    | Title of the paper         | Name of the chapters taught up to 15/10/2019   | Number of period used up to 15/10/2019 | Percentage of completed syllabus | Name of remaining chapters to be taught | In how many periods remaining syllabus will be completed | Remark |
|----------|----------------------------|--|--|----------------------------------|---|--|--------|
| T.Y.B.Sc | Medical & Forensic Zoology | 1. Introduction to medical zoology and its importance<br>2. Medico-legal Autopsy:<br>3. Urine Analysis:<br>4. Non infectious Diseases:<br>5. Infectious Diseases:<br>6. Introduction to Forensic Zoology:<br>7. Forensic Medicine:<br>8. Forensic Analysis:                              | 48                                     | 100 %                            | Nil                                     | -  |        |
| T.Y.B.Sc | Evolutionary Biology       | 1. Introduction:<br>2. Evidences of Evolution:<br>3. Historical Review of Evolutionary Concept:<br>4. Sources of Variations:<br>5. Isolation<br>6. Speciation:<br>7. Population Genetics:<br>8. Origin of Man:<br>9. Zoogeographical Realms With reference to fauna:<br>10. Extinctions: | 48                                     | 100 %                            | Nil                                     | -  |        |

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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**

**Term -II**

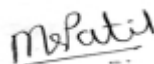
**Name of the Teacher: Ms. V.R. Kapse**

**Department: Zoology**

| Class           | Title of the paper                     | Name of the chapters taught up to 15/10/2019  | Number of period used up to 15/10/2019 | Percentage of completed syllabus | Name of remaining chapters to be taught | In how many periods remaining syllabus will be completed | Remark |
|-----------------|--|---|--|----------------------------------|---|--|--------|
| <b>T.Y.B.Sc</b> | <b>Environmental Impact Assessment</b> | <b>1. Environment</b><br><b>2. Pollution:</b><br><b>3. Sustainable development:</b><br><br><b>4. Overview of Environmental Protection acts:</b><br><b>5. Environmental Impact Assessment (EIA):</b><br><br><b>6. EIA Process:</b><br><b>7. Stakeholders in EIA process:</b><br><b>8. Overview of Scheme for Accreditation of EIA Consultant Organizations(NABET / QCI):</b> | <b>48</b>                              | <b>100 %</b>                     | <b>Nil</b>                              | <b>-</b>   |        |



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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**

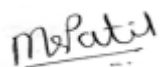
**Term -I**

**Name of the Teacher: Dr. M.S. Patil**

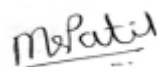
**Department: Zoology**

| <b>Class</b> | <b>Title of the paper</b>   | <b>Name of the chapters taught up to<br/>15/10/2019</b>   | <b>Number<br/>of period<br/>used up to<br/>15/10/2019</b> | <b>Percentage<br/>of<br/>completed<br/>syllabus</b> | <b>Name of<br/>remaining<br/>chapters<br/>to be<br/>taught</b> | <b>In how<br/>many<br/>periods<br/>remaining<br/>syllabus<br/>will be<br/>completed</b> | <b>Remark</b> |
|--------------|---|---|---|---|--|---|---------------|
| <b>M.Sc</b>  | <b>ZOUT 111</b><br>Biochemistry<br>and<br>Biochemical<br>Techniques | <b>Biochemistry:</b><br><b>2. Basics of chemistry</b><br><br><b>3. Chemistry of Water</b><br><br><b>4. Carbohydrates:</b><br><br><b>5. Lipids:</b><br><br><b>6. Vitamins:</b><br><br><b>7. Amino acids:</b><br><br><b>8. Proteins:</b><br><b>9. Enzymes:</b><br><b>Biochemical Techniques:</b><br><br><b>1. Chromatography:</b><br><br><b>2. Electrophoresis:</b><br><br><b>3. Absorption spectroscopy:</b><br><br><b>4. Radioactivity:</b> | <b>48</b>   | <b>100 %</b>  | <b>Nil</b>   | <b>-</b>  |               |

|  |  |   |  |  |  |  |  |
|--|--|---|--|--|--|--|--|
|  |  | <b>5. Manometry:</b><br><br><b>6. Methods for protein sequencing.</b><br><b>7. Methods for DNA sequencing.</b><br><b>8. Centrifugation:</b> |  |  |  |  |  |
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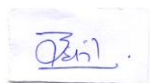
Signature of Principal

Name of the Teacher: Mr. R.B. Patil

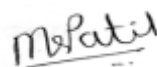
Department: Zoology

| Class | Title of the paper                               | Name of the chapters taught up to 15/10/2019   | Number of period used up to 15/10/2019 | Percentage of completed syllabus | Name of remaining chapters to be taught | In how many periods remaining syllabus will be completed | Remark |
|-------|--|--|--|----------------------------------|---|--|--------|
| M.Sc  | ZOUT 112<br>Cell Biology & Developmental Biology | <b>Cell Biology</b><br>1. Cell Theory<br>2. Overview of chemical nature of the cell<br>3. Plasma membrane<br>4. Endomembrane system<br>5. Mitochondria<br>6. Nucleus | 48                                     | 100 %                            | Nil                                     | -  |        |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  | <p>7. Cell Cycle</p> <p>8. Cytoskeleton</p> <p>9. Cancer</p> <p><b>10. Cell signaling</b></p> <p><b>Developmental Biology</b></p> <p>1. Introduction to developmental biology</p> <p>2. Model Organisms</p> <p>3. Gametogenesis</p> <p>4. Fertilization</p> <p>5. Types of eggs</p> <p>6. Morphogenesis</p> <p>7. Pattern formation: Setting up the body axis</p> <p>8. Organizers</p> <p>9. Regeneration</p> <p>10. Apoptosis, aging and senescence</p> |  |  |  |  |  |
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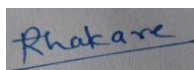
**Signature of Principal**

**Name of the Teacher: Ms. P.B. Khapre**

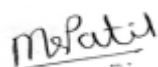
**Department: Zoology**

| <b>Class</b> | <b>Title of the paper</b>  | <b>Name of the chapters taught up to 15/10/2019</b>  | <b>Number of period used up to 15/10/2019</b> | <b>Percentage of completed syllabus</b> | <b>Name of remaining chapters to be taught</b> | <b>In how many periods remaining syllabus will be completed</b> | <b>Remark</b> |
|--------------|--|--|---|---|--|---|---------------|
| <b>M.Sc</b>  | <b>ZOUT 113<br/>Genetics &amp;<br/>English in<br/>Scientific<br/>Communication</b> | <p><b>Genetics</b></p> <ol style="list-style-type: none"> <li>1. Recapitulation of Mendelian principles</li> <li>2. Classical concept of a gene</li> <li>3. Gene interactions and epistasis</li> <li>4. Linkage and crossing over</li> <li>5. Quantitative genetics</li> <li>6. Principles of Population Genetics</li> <li>7. Somatic cell genetics</li> <li>8. Microbial genetics</li> <li>9. Extra chromosomal inheritance</li> <li><b>10. Human genetics</b></li> </ol> <p><b>English in Scientific Communication</b></p> <ol style="list-style-type: none"> <li>1. Language as a communication tool</li> <li>2. Pragmatic competence:co-operative principles</li> <li>3. Organisation of English language</li> <li>4. Common errors in written and spoken English</li> </ol> | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  | 5. Oral presentation<br>6. Drafting of a research project<br>7. Outline of a scientific research paper<br>8. Editing and correcting<br>9. Plagiarism |  |  |  |  |  |
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Signature of Principal

Name of the Teacher: Ms. P.B. Khapre

Department: Zoology

| Class | Title of the paper                 | Name of the chapters taught up to 15/10/2019  | Number of period used up to 15/10/2019 | Percentage of completed syllabus | Name of remaining chapters to be taught | In how many periods remaining syllabus will be completed | Remark |
|-------|------------------------------------|---|--|----------------------------------|---|--|--------|
| M.Sc  | ZODT 114<br>Fresh Water<br>Zoology | 1. Introduction to freshwater habitats.<br>2. Physico-chemical conditions of freshwater<br>3. General characters of plankton<br>4. Introduction to minor phyla:<br>5. Diversity and economic importance of freshwater Crustacea and Mollusca. | 48                                     | 100 %                            | Nil                                     | -  |        |

|  |  |   |  |  |  |  |  |
|--|--|---|--|--|--|--|--|
|  |  | 6. Locomotory and respiratory adaptation in freshwater insect orders<br>7. Diversity and distribution of vertebrates in the freshwater bodies of India<br>8. Adaptive physiology of freshwater fauna:<br>9. Anthropogenic impact on freshwater: |  |  |  |  |  |
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*M. Patil*

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**MVP Samaj's K.S.K.W Arts Commerce, and Science College,  
Syllabus Completion Report- (Year 2021-22)**

**Term -II**

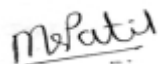
**Name of the Teacher: Dr. M.S. Patil**

**Department: Zoology**

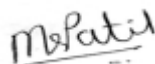
| Class | Title of the paper                          | Name of the chapters taught up to 15/10/2019               | Number of period used up to 15/10/2019 | Percentage of completed syllabus | Name of remaining chapters to be taught | In how many periods remaining syllabus will be completed | Remark |
|-------|---|--|--|----------------------------------|---|--|--------|
| M.Sc  | ZOUT 121 Molecular Biology & bioinformatics | <b>Molecular Biology:</b><br>1. DNA structure and topology |  |                                  |   |  |        |



|  |  |   |           |              |            |          |  |
|--|--|---|-----------|--------------|------------|----------|--|
|  |  | 2. Physical properties of DNA<br>3. Genome organization<br>4. DNA Replication<br>5. DNA damage and repair<br>6. Transcription<br>7. Gene regulation and expression<br>8. Protein synthesis<br>9. Mobile DNA elements<br><br><b>Bioinformatics:</b><br><br>1. Introduction<br><br>2. Databases – Tools and their uses<br><br>3. Sequence alignment methods<br><br>4. Predictive applications using DNA and protein sequences | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |
|--|--|---|-----------|--------------|------------|----------|--|



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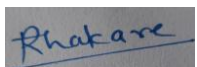
Signature of Principal

**Name of the Teacher: Ms. P.B. khapre**

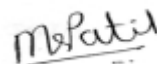
**Department: Zoology**

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|--------------|--|--|---|---|--|---|---------------|
| <b>M.Sc</b>  | <b>ZOUT 122<br/>Endocrinology<br/>&amp; Parasitology</b> | <b>Endocrinology:</b><br>1. Hormones as chemical messenger<br><br>2. Hormone receptors<br><br>3. Mechanism of hormone action-<br><br>4. Hypothalamic hypophysiotropins<br><br>5. Adenohypophysial hormones<br><br>6. Control of chromatophores<br><br>7. Hormonal regulation<br><br>8. Osmoregulatory hormones<br><br>9. Gastrointestinal hormones<br><br>10. Control of calcium and phosphate metabolism<br><br>11. Endocrine mechanism in crustacean | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |

|  |  |   |  |  |  |  |  |
|--|--|---|--|--|--|--|--|
|  |  | 12. Chronobiology<br><br><b>Parasitology:</b><br><br>1. Host-Parasite systems<br><br>2. Type study<br><br>3. Genetics & Molecular Biology<br><br>4. Serology & immunodiagnostic methods<br><br>5. Prophylaxis & control |  |  |  |  |  |
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Signature of Principal

Name of the Teacher: Mr. R. B. Patil

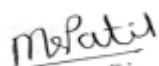
Department: Zoology

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|-------|---|---|--|----------------------------------|---|--|--------|
| M.Sc  | ZOUT 12 Comparative Animal Physiology & Environmental Biology | <b>Comparative Animal Physiology:</b><br>1. Digestion<br><br>2. Respiration |  |                                  |   |  |        |

|  |  |  |           |              |            |          |  |
|--|--|--|-----------|--------------|------------|----------|--|
|  |  | 3. Muscle contraction<br>4. Osmotic regulation<br>5. Excretion<br>6. Thermoregulation<br>7. Chemical Communication<br>8. Sense organ<br><br><b>Environmental Biology:</b><br>1. Introduction: Fundamentals of Ecology, Ecosystems<br>2. Environmental Microbiology<br>3. Biomes and Habitat Diversity<br>4. Biological diversity of India<br>5. Population and Community Ecology<br>6. Wetlands Forests and Semi-Arid Habitats of India<br>7. Endangered, Endemic and Extinct Species of India<br>8. Wildlife management and conservation<br>9. Introduction to human animal conflict. | <b>48</b> | <b>100 %</b> | <b>Nil</b> | <b>-</b> |  |
|--|--|--|-----------|--------------|------------|----------|--|



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Signature of Principal

**Name of the Teacher: Ms. V.R. Kapse**

**Department: Zoology**

| <b>Class</b> | <b>Title of the paper</b>    | <b>Name of the chapters taught up to 15/10/2019</b>   | <b>Number of period used up to 15/10/2019</b> | <b>Percentage of completed syllabus</b> | <b>Name of remaining chapters to be taught</b> | <b>In how many periods remaining syllabus will be completed</b> | <b>Remark</b> |
|--------------|------------------------------|---|---|---|--|---|---------------|
| <b>M.Sc</b>  | <b>ZODT 124: Ichthyology</b> | <b>Ichthyology</b><br>1. Introduction, general characteristics, evolutionary succession and fossil history of fishes<br>2. Eschmeyer's classification of fishes and diagnostic characters<br>3. External morphology<br>4. Food and feeding habits<br>5. Respiratory mechanism<br>6. Circulatory system<br>7. Excretion and Osmoregulation:<br>8. Reproduction<br>9. Nervous system and Sense organs<br>10. Endocrine system:<br>11. Fish pathology<br>12. Ornamental Fish production and management | <b>48</b>                                     | <b>100 %</b>                            | <b>Nil</b>                                     | <b>-</b>  |               |

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