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**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**CAMP, PUNE-411001**  
**LECTURE/ TEACHING PLAN**  
**FIRST TERM/SEMESTER I**  
**Academic year 2022-2023**


Name of the Teacher : **Dr. Sayyed Ilivas**  
 Department : Botany Class: F.Y. B.Sc Division: B  
 Subject/ Paper : **BO-111: Plant Life and Utilization I**


Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
June 2022	4	<b>Credit-I</b> <b>Introduction</b> General outline of plant kingdom (Lower Cryptogams: Thallophytes-Algae, Fungi & Lichens; Higher Cryptogams: Bryophytes and Pteridophytes; Phanerogams: Gymnosperms and Angiosperms-Dicotyledons and Monocotyledons). Distinguishing characters of these groups and mention few common examples from each.	3
		<b>Algae</b> 2.1: Introduction	1
July 2022	11	<b>Algae</b> 2.1: Introduction 2.2: General Characters 2.3: Classification (Bold and Wynne 1978) up to classes with reasons 2.4: Life Cycle of Spirogyra w.r.t. Habit, Habitat, Structure of thallus, structure of typical cell, Reproduction-Vegetative, Asexual and Sexual, systematic position with reasons 2.5: Utilization of Algae in Biofuel Industry, Agriculture, Pharmaceuticals, Food and Fodder	8
		<b>Lichens</b> 3.1: Introduction 3.2: General Characters 3.3: Nature of Association, forms- Crustose, Foliose and Fruticose. 3.4: Utilization of lichens.	3

  
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August 2022	12	<b>Credit-II</b> <b>Fungi</b> 4.1: Introduction 4.2: General Characters 4.3: Classification (Ainsworth, 1973) 4.4: Life Cycle of Mushroom- <i>Agaricus bisporus</i> w.r.t. Habit, Habitat, Structure of thallus, Structure of Sporocarp, Structure of Gill, Reproduction- Asexual and sexual, Systematic position. 4.5: Utilization of Fungi in Industry, Agriculture, Food and Pharmaceuticals. <b>Bryophytes</b> 5.1: Introduction 5.2: General Characters 5.3: Classification (G.M. Smith 1955) 5.4: Life Cycle of Riccia w.r.t. Habit, habitat, external and internal structure of thallus, Reproduction- vegetative, asexual and sexual- Structure of sex organs, fertilization, structure of mature sporophyte, structure of spore, systematic position with reasons.	9            3
September 2022	10	5.5: Utilization: Bryophytes as ecological indicators, agriculture, fuel, industry and medicine. (Development of sex organs not expected for all the above mentioned life cycles). Revision and Question paper solving	3    7
October 2022	1	Examination	1

  
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Name of the Teacher : Dr. Rafik Shaikh

Department : Botany

Class: F. Y. B. Sc.

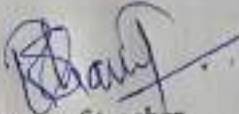
Subject/ Paper : Plant Morphology and Anatomy (Paper- II)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
June 2022	4	<p><b>1. MORPHOLOGY:</b></p> <p>1.1: Introduction, definition, descriptive and interpretative morphology.</p> <p>1.2: Importance in identification, nomenclature, classification, phylogeny and Plant breeding.</p> <p><b>2. MORPHOLOGY OF REPRODUCTIVE PARTS:</b></p> <p>2.1: INFLORESCENCE:</p> <p>2.1.1 Introduction and definition</p>	02
July 2022	11	<p><b>2. MORPHOLOGY OF REPRODUCTIVE PARTS:</b></p> <p>2.1.2 Types: a) Racemose -Raceme, Spike, Spadix, Corymb, Umbel, Catkin and Capitulum. b) Cymose -Solitary, Monochasial- Helicoid and scorpioid; Dichasial and Polychasial. c) Special types -Verticillaster, Cyathium and Hypanthodium.</p> <p>2.1.3 Significance</p> <p><b>2.2: FLOWER:</b></p> <p>2.2.1 Introduction and definition</p> <p>2.2.2 Parts of a typical flower: Bract, Pedicel, Thalamus-forms, Perianth- Calyx and Corolla, Androecium and Gynoecium.</p> <p>2.2.3 Symmetry: Actinomorphic and zygomorphic, Sexuality- Unisexual and bisexual, Insertion of floral whorls on thalamus- Hypogyny, Epigyny and perigyny, Merous condition-Trimerous, tetramerous and pentamerous.</p> <p>2.2.4 Floral whorls: a) Calyx: Nature- Polysepalous, Gamosepalous; Aestivation- types, Modifications of Calyx (Pappus, Petaloid and Spurred. b) Corolla: Forms of Corollai)</p>	04  07

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		<p>Polypetalous- Cruciform and Papilionaceous. ii) Gamopetalous- Infundibuliform, Bilabiate, Tubular and Campanulate. iii) Aestivation- types and significance. c) Perianth: Nature- Polytepalous, Gamotepalous. d) Androecium: Structure of typical stamen, Variations- cohesion and adhesion. e) Gynoecium: Structure of typical carpel, number, position, cohesion and adhesion; placentation- types and significance.</p>	
August 2022	13	<p><b>2.3: FRUITS:</b>  2.3.1 Introduction and definition  2.3.2 Types of fruits: a) Simple: Indehiscent - Achene, Cypsela, Nut and Caryopsis. Dehiscent - Legume, Follicle and Capsule, b) Fleshy: Drupe, Berry, Hesperidium and Pepo. c) Aggregate: Etaerio of Berries and Etaerio of Follicles. d) Multiple fruits: Syconus and Sorosis</p> <p><b>3. ANATOMY:</b>  3.1 Introduction and definition  3.2 Importance in Taxonomy, Physiology, Ecological interpretations, Pharmacognosy and Wood identification.</p> <p><b>4. TYPES OF TISSUES:</b>  Outline with brief description, simple and complex tissues.  4.1: Meristmatic tissues: Meristem, characters and types based on origin, position and plane of division, functions.  4.2: Permanent tissues: Simple tissues - parenchyma, collenchymas, chlorenchyma and sclerenchyma.  4.3: Complex/Vascular tissues: Components of xylem and phloem, types of vascular bundles and functions.  4.4: Epidermal tissues: Epidermis, structure of typical stomata, trichomes, motor cells; functions.</p>	03   02  08
September 2022	10	<p><b>5. INTERNAL ORGANIZATION OF PRIMARY PLANT BODY:</b>  5.1: Internal structure of dicotyledon and monocotyledon root.  5.2: Internal structure of dicotyledon and monocotyledon stem. 5.3: Internal structure of dicotyledon and monocotyledon leaf.</p> <p>Home work Revision</p>	05  03 02
October 2022		<b>University Examination</b>	

  
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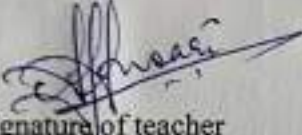
  
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**LECTURE/ TEACHING PLAN**  
**FIRST TERM/SEMESTER**  
**Academic year 2022 - 2023**

Name of the Teacher : Dr. Aafreen .A Ahmed  
 Department : Botany Class: S.Y.B.Sc.  
 Subject/ Paper : Taxonomy of Angiosperms and Plant Ecology (P-I)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	12	<p>1. Introduction to Angiosperms Taxonomy Definition, scope, objectives and importance of taxonomy Exploration, Description, Identification, Nomenclature and classification Concept of Systematics with brief historical background</p> <p>2. Systems of classification Comparative account of various systems of classification Artificial system- Carl Linnaeus Natural system- Bentham and Hooker Phylogenetic system- Engler and Prantl APG system- A brief review</p> <p>3. Study of Plant Families Study of following families with reference to systematic position (As per Bentham and Hooker's system of classification), salient features, floral formula, floral diagram and any five examples with their economic importance – Annonaceae, Brassicaceae, Myrtaceae, Rubiaceae, Solanaceae,</p>	02  05  05
November 2022	12	<p>Apocynaceae, Nyctaginaceae and Amaryllidaceae</p> <p>4. Botanical Nomenclature Concept of nomenclature, brief history, Binomial nomenclature International Code for Nomenclature of Algae, Fungi and Plants (ICN)- Principles, Rules and Recommendations; 'Type' specimen and its types (Holotype, Paratype, Isotype, Lectotype, Neotype). Concept of Typification. Ranks and endings of taxa names, Coining of Genus and Species names Single, double and multiple authority citations</p> <p>5. Introduction to ecology Definition, concept, scope, and interdisciplinary approach, autecology and synecology. Species diversity: definition, concept, scope, and types: Alpha, Beta and Gamma diversity. Methods of vegetation sampling: quadrat method, transect method, plot less method Genetic Diversity: definition, nature and origin of genetic variations Species</p>	03  06  03

December 2022	12	Diversity: definition, origin of species diversity, diversity indices, species abundance Ecosystem Diversity: definition, major ecosystem types of the world, Hotspots in India – concept and basis of 'hotspot' identification.  6. Ecological grouping of the plants Ecological grouping of the plants with reference to their significance of adaptive external and internal features: a) Hydrophytes, b) Mesophytes c) Xerophytes d) Halophytes with examples  <b>Revision</b>	03  04  05
January 2023	13	<b>Question Bank</b> <b>Home work</b>	07 06
February 2023	4	<b>University examination</b>	

  
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**Academic year 2022 - 2023**

Name of the Teacher : Dr. Shafikh Shaikh

Department : Botany

Class: S.Y.B.Sc.

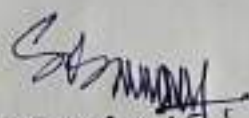
Subject/ Paper : Plant Physiology (P-II)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	13	1. Introduction to Plant Physiology	02
		Scope and applications of plant physiology	03
		2. Absorption of water	
		2.1 Role of water in plants	
		2.2 Mechanisms of water absorption with respect to crop plants	
		2.3 Factors affecting rate of water absorption	03
		3. Ascent of sap	
		3.1 Introduction and definition.	
		3.2 Transpiration pull or cohesion-tension theory, evidences and objections	05
		3.3 Factors affecting ascent of sap	
		4. Transpiration	
		4.1 Definition	
		4.2 Types of transpiration – cuticular, lenticular and stomatal	
4.3 Structure of stomata			
4.4 Mechanism of opening and closing of stomata –Steward's hypothesis, active K <sup>+</sup> transport mechanism			

		4.5 Factors affecting the rate of transpiration	
		4.6 Significance of transpiration	
November 2022	13	4.7 Antitranspirants	02
		4.8 Guttation	
		4.9 Exudation	07
		5. Nitrogen metabolism	
		5.1 Introduction and role of nitrogen in plants	
		5.2 Nitrogen fixation by Rhizobium and BGA	
		5.2.1 Symbiotic nitrogen fixation, nitrogenase enzyme- structure and function	04
		5.2.2 Non-symbiotic nitrogen fixation	
		5.3 Importance and production technique of BGA	
		5.4 Denitrification, ammonification and nitrification	
		5.5 Reductive amination and transamination	
		6. Seed dormancy and germination	
		6.1 Definition, types of seed dormancy and germination	
6.2 Methods to break seed dormancy			
6.3 Metabolic changes during seed germination			
6.4 Role of phytohormones to improve seed germination			
6.5 Vigor Index			
December 2022	12	7. Physiology of flowering	04
		7.1 Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants.	
		7.2 Phytochrome theory, role of phytohormones in induction and inhibition of flowering	
		7.3 Applications of photoperiodism	04
		7.4 Vernalization–concept and definition, mechanism of vernalisation, applications of vernalisation and devernialization	04



		<b>Revision</b> <b>Question Bank</b>	
January 2023	14	<b>Home work</b> <b>Seminars</b>	05 09
February 2023	4	<b>University examination</b>	

  
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LECTURE / TEACHING PLAN  
SEMESTER V  
Academic year 2022 - 2023

Name of the Teacher : Ms. Nabila M. Shaikh

Department : Botany

Class: T. Y. B. Sc.

Subject/ Paper : Cryptogamic Botany ( Algae and Fungi) (Paper- I)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	9	Introduction: Cryptogams- meaning. Types- Lower Cryptogams, brief Review with examples	01
		Algae: General characters, distribution, Thallus organization, habit and Habitat reproduction and Classification (G.M. Smith 1955) up to classes.	04
		Study of life cycle of algae with reference to taxonomic position, Occurrence, Thallus structure, and reproduction of <i>Nostoc</i> , <i>Oedogonium</i> , <i>Chara</i> .	04
November 2022	11	Study of life cycle of algae with reference to taxonomic position, Occurrence, Thallus structure, and reproduction of <i>Sargassum</i> and <i>Batrachospermum</i> .	04
		Economic importance of algae- Role in industry, agriculture, fodder and medicine.	02
		Fungi: General characters, Habit and habitats, thallus organization, cell wall composition, nutrition and Classification. (Alexopoulos and Mims 1979) up to classes.	03
		Study of life cycle of fungi with reference to taxonomic position, thallus structure, and reproduction of <i>Mucor</i> (Zygomycotina), <i>Saccharomyces</i> (Ascomycotina).	06
December 2022	12	<i>Puccinia</i> (Basidiomycotina), <i>Penicillium</i> and <i>Cercospora</i> (Deuteromycotina) [Two members of Deutero.]	06
		Symbiotic Associations - Lichens, Mycorrhiza and their significance	04
		<b>Revision</b>	02
January 2023		<b>University Examination</b>	

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**SEMESTER V**

Academic year 2022-2023

Name of the Teacher : Dr. Sayyed Ilyas  
 Department : Botany Class: T. Y. B.Sc Division:.....  
 Subject/ Paper : **BO 352 Archegoniate**

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	4	<b>Credit-I Bryophytes</b> Introduction to Archegoniate Introduction, general characters, distribution of Bryophytes to land habit, classification of Bryophytes according to G.M. Smith (1955) up to classes with reasons Range of thallus organisation, origin of Bryophytes - Pteridophytes	1 2 1
November 2022	11	Algal hypothesis, evolution of sporophyte Study of Life Cycle of Bryophytes with respect to Taxonomic position, Morphology, Anatomy, Reproduction, Gametophytes and sporophytes of Marchantia, Anthoceros and Funaria Ecological and economic importance of Bryophyte	1 9 1
December 2022	12	<b>Credit-II Pteridophytes</b> Introduction, Vascular Cryptogams, General characteristics, Classification according to K.R. Sporne (1975) up to classes with reasons, Diversity and Distribution of Pteridophytes. Resemblances of Pteridophytes with Bryophytes, Differences between Pteridophytes and Bryophytes, Origin of Pteridophytes -Algal and Bryophytes, Evolution of Pteridophytes- Telome Theory and Enation Theory. Study of Life Cycle of Pteridophytes with respect to Taxonomic position,	2 3 7
January 2023	10	Morphology, Anatomy, Reproduction, Sporophytes and Gametophytes of Psilotum, Selaginella and Equisetum Ecological and Economical Importance of Pteridophytes Revision and question paper solving	2 1 7
February 2023	1	Examination	1

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SEMESTER V  
Academic year 2022- 2023

Name of the Teacher : Dr. Shaikh Rafik Usman

Department : Botany

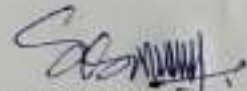
Class: T. Y. B. Sc.

Subject/ Paper : Spermatophyta and Paleobotany (Paper- III)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	9	<b>Origin of angiosperms:</b> with reference to time, place and ancestry 1) Pseudanthial theory 2) Transitional-Combinational Theory	02
		<b>Speciation &amp; Endemism:</b> Species concept (Biological, Taxonomic & Phylogenetic Species Concept), Speciation (Allopatric, Sympatric & Parapatric), Endemism and its types (Palaeoendemism, Holoendemism and Neoendemism)	04
		<b>Classification:</b> Outline, Merit and Demerits of Cronquist's System and APG IV system of classification. Study of following families with reference to systematic position (As per Bentham & Hooker),	03
November 2022	11	<b>Diagnostic characters</b> , floral formula, floral diagram and any five examples with their economic importance – Nymphaeaceae, Oleaceae, Amaranthaceae, Cannaceae.	03
		<b>Herbaria and Botanical Gardens</b> Functions of Herbarium, Important herbaria (World: Kew herbarium; India: Central National Herbarium, Kolkata). Botanic gardens of the world (Royal Botanic Garden, Kew) and India	03
		<b>Introduction</b> , general characters, economic importance and classification according to Chamberlain (1934).	02
December 2022	12	<b>Study of life cycle</b> of Pinus and Gnetum with reference to distribution, morphology, anatomy,	03
		reproduction, gametophyte, sporophyte, seed structure and alternation of generations.	07
January 2023		<b>Fossil-</b> Definition, process of fossil formation, types of fossils.-Impression, Compression, Petrification, Pith cast and Coal ball.	03
		<b>Revision</b>	02
January 2023		<b>University Examination</b>	



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**SEMESTER V**  
**Academic year 2022- 2023**

Name of the Teacher : Dr. Aafreen Abrar Ahmed

Department : Botany

Class: T. Y. B. Sc.

Subject/ Paper : Plant Ecology (Paper- IV)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	9	<b>Introduction</b> , interrelationship between the living world and the environment, levels of organization, components and dynamism of ecosystem, homeostasis, niche concept, concept of limiting factors	03
		<b>Biogeography</b> : Floristic realms, speciation and its types, biogeographic regions of India, Plant indicators	03
		<b>Population ecology</b> : Definition, characteristics, population growth form, r and k selection	03
November 2022	11	<b>Community ecology</b> : Introduction and Definition, community structure, physiognomy, Raunkiaer's life form classification, keystone species, edge and ecotone	04
		<b>Biogeochemical cycles</b> : The carbon cycle, Nitrogen cycle, Phosphorus cycle, and Hydrologic cycle	02
		<b>Ecological Impact Assessment (EIA)</b> Introduction, Historical Review of EIA, Objectives of EIA, Stages of EIA process: Screening; Scoping; Baseline study; Impact prediction and assessment; Mitigation; Producing Environmental Impact Statement (EIS); EIS review; Decision making; Monitoring, Compliance and Enforcement; Benefits of EIA.	05
December 2022	12	<b>Environmental Audit</b> Meaning and concept, need, objectives, benefits, types, audit protocol, process, certification, personnel environmental audit	04
		<b>Remote Sensing</b> Definition, basic principles, process of ecological data acquisition and interpretation, global positioning system, application of remote sensing in ecology.	04
		<b>Ecological management</b> : Concepts, sustainable development, sustainability indicators	02
		<b>Home work</b>	02
January 2023		<b>University Examination</b>	

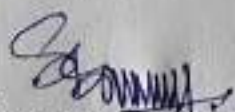
  
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**SEMESTER V**  
 Academic year 2022 - 2023

Name of the Teacher : **Dr. Shafikh Shaikh**  
 Department : Botany Class: T. Y. B. Sc.  
 Subject/ Paper : Cell and Molecular Biology (Paper- V)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	9	<b>Introduction to Cell Biology:</b> Definition, Brief history of Cell Biology, Units of measurement for cell, Interdisciplinary nature of Cell Biology	02
		<b>Cell organelles:</b> Ultrastructure, components and functions of Cell wall and cell membranes, mitochondria and Chloroplast, endoplasmic Reticulum, Golgi apparatus, Lysosomes, Vacuoles, Peroxisomes & Glyoxysomes	06
		<b>Nucleus:</b> Morphology and ultrastructure of nucleus.	01
November 2022	12	,nucleolus and nucleolar organizer Nuclear envelope – structure of nuclear pore complex, transport of molecules across nuclear envelope	02
		<b>Chromosomes:</b> Euchromatin and heterochromatin Histones, Packing of DNA into chromosomes in eukaryotes, Karyotype and ideogram, Polytene chromosomes and lampbrush chromosomes.	03
		<b>Cell signaling:</b> Introduction and definition, Signaling molecules and receptors, Calcium signaling pathway in plants	02
		<b>Genetic material DNA:</b> historical perspective from 1953 to 2020, Griffith's and Avery's transformation experiments, Hershey-Chase bacteriophage experiment.	02
		<b>DNA replication (Prokaryotes and Eukaryotes):</b> Molecular mechanism of DNA replication. Enzymes involved in both prokaryotic and eukaryotic DNA replication and their inhibitors (antibiotics).	03
December 2022	12	<b>Gene expression:</b> Transcription (Prokaryotes in details and passing remarks on Eukaryotes) Types of RNA: mRNA, tRNA, rRNA; types of promoters; types of RNA polymerase enzymes in eukaryotes; molecular mechanism of transcription.	05
		<b>Home work</b>	04
		<b>Revision</b>	03
January 2023		<b>University Examination</b>	

  
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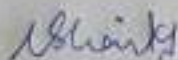
Name of the Teacher : Ms. Nabila M. Shaikh

Department : Botany

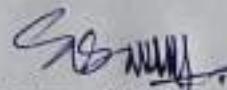
Class: T. Y. B. Sc.

Subject/ Paper : Genetics (Paper- VI)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	9	<p><b>Introduction to Genetics.</b> History, Definition, Concept, branches and applications of Genetics.</p> <p><b>Mendelism:</b> Genetical terminology, Monohybrid cross, Law of dominance, Incomplete dominance, Law of segregation, Dihybrid cross, Dihybrid ratio, Law of independent assortment, Back cross and Test cross.</p> <p><b>Neo Mendelism (Gene Interaction)</b> Genetic interaction, Epistatic interactions –supplementary gene (recessive epistasis 9:3:4), Inhibitory genes (13:3), Masking genes (12:3:1).</p>	01 04 06
November 2022	12	<p>NonEpistatic inter-allelic genetic interactions-Complementary genes (9:7), Duplicate genes (15:1).</p> <p><b>Multiple alleles:</b> Definition, Concept, Characters of multiple alleles, Examples of multiple alleles – Blood group in human and self-incompatibility in <i>Nicotiana</i>.</p> <p><b>Linkage, Recombination and Crossing Over:</b> Linkage- Definition and Types, Crossing over: Definition and Types, Construction of a linkage map by two point test cross and three point test cross, Recombination: Concept, definition and types</p> <p><b>Mutation:</b> Concept, definition and types</p> <p><b>Numerical alterations of chromosomes.:</b> Euploidy, Aneuploidy- Concept and Types, Aneuploidy in Plants and Human, Polyploidy in Plants &amp; Animals, Induced Polyploidy, applications of Polyploidy</p>	02 02 04 01 03
December 2022	12	<p><b>Structural alterations of chromosomes.:</b>Types, cytology and genetic effects of Deletion, Duplication Inversion and Translocation with examples.</p> <p><b>Cytoplasmic &amp; Quantitative Inheritance:</b> Concept of quantitative inheritance, Inheritance of quantitative trait in Maize (Cob length), Cytoplasmic inheritance Definition and concept, Chloroplast- Variegation in Four O'clock plants, Mitochondria- Petite mutants in yeast.</p> <p><b>Sex Linked Inheritance:</b> Concept of Sex chromosomes and autosomes, Inheritance of X- linked genes –Inheritance of colour blindness in humans, Inheritance of Y-linked (Holandric genes) in humans, Sex influenced genes, Sex-limited genes.</p>	04 04 04
January 2023		University Examination	



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**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
 Camp, Pune - 411001  
**LECTURE/ TEACHING PLAN**  
**SEMESTER V**  
 Academic year 2022 - 2023

Name of the Teacher : Dr. Shaikh Rafik Usman  
 Department : Botany Class: T. Y. B.Sc Division: ...  
 Subject/ Paper : Medicinal Botany (Paper X)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	10	<b>Medicinal Plants:</b> History, Scope and Importance Indigenous Medicinal Sciences; Definition and Scope <b>Ayurveda:</b> History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments <b>Siddha:</b> Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine.	02 01 05 02
November 2022	14	<b>Unani:</b> History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations. <b>Conservation of endangered and endemic medicinal plants:</b> Definition: endemic and endangered medicinal plants, Red list criteria; In situ conservation: Biosphere reserves, sacred groves, National Parks; Ex situ conservation: Botanic Gardens, Ethnomedicinal plant Gardens <b>Propagation of Medicinal Plants:</b> Objectives of the nursery, its classification, important components of a nursery,	02 06 06
December 2022	12	<b>Ethnobotany and Folk medicines:</b> Definition; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany: National interacts, Palaeo-ethnobotany. <b>Folk medicines</b> of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India. Application of natural products to certain diseases Jaundice, cardiac, infertility, diabetics, Blood pressure and skin diseases.	06 06
January 2023		<b>University examination</b>	

  
 Signature of teacher

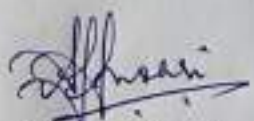
  
 Signature of HOD  
 HEAD  
 Department of Botany  
 Poona College of Arts, Science & Commerce  
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**LECTURE/ TEACHING PLAN**  
**SEMESTER V**  
 Academic year 2022 - 2023

Name of the Teacher : Dr. Aafreen Abrar Ahmed  
 Department : Botany Class: T. Y. B.Sc Division: ...  
 Subject/ Paper : Plant Diversity and Human Health (Paper XI)

Month & Year	Teaching Days Available	Topic / Subject to be taught	Lectures Required
October 2022	10	Plant diversity and its scope- Genetic diversity, Species diversity, Plant diversity at the ecosystem level,	03
		Agrobiodiversity and cultivated plant taxa, wild taxa. Values and uses of Biodiversity: Ethical and aesthetic values, Precautionary principle, Methodologies for valuation, Uses of plants, Uses of microbes.	05
		Loss of Biodiversity: Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity	02
November 2022	13	, Loss of agrobiodiversity, Projected scenario for biodiversity loss,	02
		Management of Plant Biodiversity: Organizations associated with biodiversity management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR; Biodiversity legislation and conservations.	03
		Conservation of Biodiversity: Conservation of genetic diversity, species diversity and ecosystem diversity, In situ and ex situ conservation, Social approaches to conservation, Biodiversity awareness programmes, Sustainable development.	08
December 2022	12	Role of plants in relation to Human Welfare; a) Importance of forestry their utilization and commercial aspects b) Avenue trees, c) Ornamental plants of India. d) Alcoholic beverages through ages. Fruits and nuts: Important fruit crops their commercial importance. Wood and its uses.	07
		Revision	05
January 2023		<b>University examination</b>	

  
 Signature of teacher

  
 Signature of HOD  
 HEAD  
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**Department Of Mathematics**

Lecture Plan

Academic Year: 2022-23

T.Y.B.Sc. Semester-V

Name of the Teacher: Dr. Amjad Shaikh

Subject/Paper: Metric Spaces, P- I -MT-351

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc.	Oct 2022	12	<b>1. Basic Notions</b> 1.1 Definition and examples 1.2 Open Balls and Open Sets	09
			<b>2. Convergence</b> 2.1 Convergent Sequences 2.2 Limit and Cluster points	03
	Dec 2022	16	<b>2. Convergence</b> 2.3 Cauchy Sequences and Completeness 2.4 Bounded Sets 2.5 Dense Sets 2.6 Boundary of a set	08
			<b>3. Continuity</b> 3.1 Continuous Functions 3.2 Equivalent Definitions of Continuity 3.3 Topological Property 3.4 Uniform Continuity	08
	January 2023	16	<b>3. Continuity</b> 3.5 Limit of a Function 3.6 Open and closed maps	02
			<b>4. Compactness and Connectedness</b> 4.1 Compact Spaces and their Properties 4.2 Connected Spaces	14
			Revision	



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**Department Of Mathematics**  
Lecture Plan

Academic Year: 2022-23

F.Y.B.A. Semester-I

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: Financial Mathematics-I FMG- I (Code: 15113 )

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.A.	Sep-2022	12	<b>1: Review</b> 1.1 Exponents 1.2 Polynomials 1.3 Equations: Linear and quadratic 1.4 Simultaneous Equations 1.5 Functions 1.6 Graphs, Slopes and Intercepts	08
			<b>2: The Derivative and the rules of differentiation</b> 2.1 Limits 2.2 Continuity 2.3 The Derivative	04
	Oct-2022	12	2.4 Differentiability and Continuity 2.5 Derivative Notation 2.6 Rules of Differentiation 2.7 Higher Order Derivatives 2.8 Implicit Differentiation	06
			<b>3: Uses of derivative in Mathematics and Economics</b> 3.1 Increasing and Decreasing functions 3.2 Concavity and Convexity 3.3 Relative Extrema 3.4 Inflection Points 3.5 Optimization of Functions	06
	Dec-2022	12	3.6 Marginal Concepts 3.7 Optimizing Economic Functions 3.8 Relationship among Total, Marginal and Average Concepts.	04

			<b>4: Exponential and logarithmic functions</b> 4.1 Exponential Functions 4.2 Logarithmic Functions 4.3 Properties of Exponents and Logarithms 4.4 Natural Exponential and Logarithmic Functions	08
	Jan-2023	06	Revision	06

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**Department Of Mathematics**  
Lecture Plan

F.Y.B.Sc. Semester-I

Academic Year: 2022-23

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: Calculus-I, P-II (CBCS-2019 pattern) MT-112

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc.	Sept.- 2022	12	<b>1.The Real Numbers</b> 1.1: Algebraic properties of R Order properties of R A.M.-G.M., Bernoulli's inequality 1.2: Absolute value functions 1.3: The Completeness Property 1.4: Archimedean property, Density theorem (without proof)	6
			<b>Sequences</b> 2.1: Def. and examples, Limits of a seq. 2.2: Theorems on limits. 2.3: Monotone seq., convergence theorem.	06
	Oct. - 2022	12	2.4: Subseq. Bolzano-Weierstrass theo. Divergence criterion, monot. subseq. theo. (without proof)	04
			<b>3. Limits</b> 3.1: Functions, domain, range, graphs, vertical line test, even and odd, inc. and decreasing functions. 3.2: Limits, sequential criterion, divergence criterion of limits. 3.3: Limit theorems, algebra of limits (proofs using sequential criterion), squeeze theorem.. 3.4: Some extension of limit concepts, one sided and infinite limits (without proof).	08
	Dec -2022	12	<b>4. Continuity</b> 4.1: continuity of a function at a point, sequential criterion, divergence criterion for continuity. 4.2: Continuous functions on intervals Properties of continuous functions on closed and bounded interval. Boundedness theorem (without proof). Minim-maxim theorem (without proof). Location of root theorem (without proof). Bolzano intermediate value theorem.	12
	Jan - 2023	03	Revision	03



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Lecture Plan

S.Y.B.Sc. Semester-III

Academic Year : 2022-23

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: Calculus of Several Variables P- I (Code: 23111) MT-231

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
S.Y.B.Sc.	Sept-2022	12	<b>1. Limit and Continuity of :</b> 1.1 Functions of Several Variables :- Functions of two variables, Domain and Range, Graphs, Level Curves, Functions of Three or more variables 1.2 Limits and Continuity.	06
			<b>2. Partial Derivatives:</b> 2.1 Definition and examples. 2.2 Higher Derivatives, Clairaut's Theorem (Statement Only) , Partial Differential Equations, Wave eqn. 2.3 Differentiable function, Differentials	06
	Oct-2022	12	2.4 Chain Rule, Homogeneous Functions, Euler's theorem	04
			<b>3. Extreme Values:</b> 3.1 Extreme values of functions of two variables. 3.2 Necessary conditions for extreme values. 3.3 Second Derivative Test (without proof). 3.4 Lagrange Multipliers ( with one constraints)	08



	Dec-2022	12	<b>4. Multiple Integrals:</b> 4.1 Iterated Integrals, Fubini's Theorem (Statement only) 4.2 Double integral over general regions, Change of order of integration for two variables. 4.3 Double integral in Polar coordinates. 4.4 Triple integrals , Evaluation of triple integrals. Triple integrals in spherical coordinates 4.5 Jacobians , Change of variables in multiple integrals .(Results without proofs)	12
	Jan-2023	06	Revision	06

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Lecture Plan

T.Y.B.Sc. Semester-V

Academic Year: 2022-23

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: DSE-2 A: Group Theory, P- III (Code: 35113) MT-353

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc.	Oct - 2022	12	<b>1. Groups</b> 1.1 Binary Operation 1.2 Isomorphic Binary Structures 1.3 Groups.	06
			<b>2. Subgroups</b> 2.1 Subgroups 2.2 Cyclic Groups	06
	Dec - 2022	12	<b>3. Permutations [12 lectures]</b> 3.1 Groups of Permutations 3.2 Orbits 3.3 Cycles 3.4 Alternating Groups 3.5 Cosets and the Theorem of Lagrange 3.6 Direct Products Theorem of Lagrange, Direct Products.	12
	Jan- 2023	12	<b>4. Homomorphisms and Factor Groups</b> 4.1 Homomorphisms 4.2 Factor Groups 4.3 Factor Group Computations and Simple Groups Simple Groups	12





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 Lecture Plan

Semester/Term: I

Academic Year: 2022-23

Name of the Teacher: Mrs. Munzarin Sajjan

Subject/Paper: Discrete Mathematics P - I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	Sept 2022	12	<b>1 Logic</b>	12
			Propositional Logic, Equivalences.	
			Predicates and Quantifiers : Predicate, n-Place Predicate or ,n-ary Predicate,	
			Quantification and Quantifiers, Universal Quantifier, Existential Quantifier,	
			Quantifiers with restricted domains, Logical Equivalences involving Quantifiers.	
			Rules of Inference : Argument in propositional Logic, Validity	
	Oct 2022	12	<b>2 Lattices and Boolean Algebra</b>	12
			Poset, Hasse diagram, lattices and types	
			Definition of Boolean Algebra.	
			Representation of Boolean Functions : Disjunctive normal form, Conjunctive normal Form.	
	Nov 2022	12	<b>3 Counting Principles</b>	11
			Cardinality of Set The Product Rule,	
The Inclusion- Exclusion Principle.				
The Pigeonhole Principle				
Dec 2022	03	<b>4 : Recurrence Relations</b>	03	
		Linear Recurrence Relations with constant coefficients. Homogeneous Solutions.		
		Particular Solutions. Total solution		

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Mrs. Munzarin Sajjan



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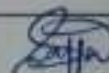
Academic Year: 2022-23

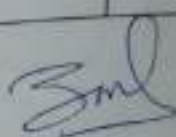
Semester/Term: II

Name of the Teacher: Sajjan Munzarin A.

Subject/Paper: Graph Theory P - II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	January 2023	12	An Introduction to graph Definitions, Basic terminologies and properties of graph, Graph models. Special types of graphs, basic terminologies, properties and examples of directed graphs. Types of diagraphs. Some applications of special types of graph. Matrix representation and elementary results, Isomorphism of graphs.	12
	February 2023	12	<b>Connected Graphs</b> Walk, trail, path, cycle, elementary properties of connectedness. Counting paths between vertices (by Warshall's algorithm). Cut edge (Bridge), Cut vertex, cut set, vertex connectivity, edge connectivity, and Properties. Shortest path problem, Dijkstra's algorithm.	12
	March 2023	11	<b>Euler and Hamilton path</b> The Konigsberg bridge problem, Euler trail, path, circuit and tour, elementary properties and Fleury's algorithm. Hamilton path, circuit, elementary properties and examples. Introduction of Travelling salesman problem, Chinese postman problem	11
			<b>Trees</b> Definitions, basic terminologies, properties and applications of trees.	
April 2023	03	Weighted graph, definition and properties of spanning tree, shortest spanning tree, Kruskal's algorithm, Prim's algorithm.	03	

Mrs. Munzarin Sajjan 



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
Semester/Term: V

Academic Year: 2022-23

Name of the Teacher: Sajjan Munzarin A.

Subject/Paper: Real Analysis – I (P-II)

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc	October 2022	12	Unit 1: Logic and Set Theory	10
			1.1 Introduction	
			1.2 "And" and "Or"	
			1.3 "Not" and "If-Then"	
			1.4 Contrapositive, Converse, and Iff	
			1.5 Quantifiers	
			1.6 Set Theory and Venn Diagrams	
			1.7 Relations and Functions	
			1.8 Countable and Uncountable Sets	
			Unit 2: Sequences of Real Numbers	
	2.1 Definition of sequence and subsequence			
	December 2022	16	2.2. Limit of a sequence	05
			2.3 Convergent sequences	
			2.4 Divergent sequences	
			2.5 Bounded sequences	
			2.6 Monotone sequences	
			Unit 3: Operations on convergent sequences and Limit Superior, Limit Inferior	
	3.1 Operations on convergent sequences			
	3.2 Operations on divergent sequences			
3.3 Limit superior and limit inferior				
3.4 Cauchy sequences				
January 2023	16	Unit 4: Series of Real Numbers	12	
		4.1 Convergence and divergence		
		4.2 Series with nonnegative terms		
		4.3 Alternating series		
		4.4 Conditional convergence and absolute Cng		
		4.5 Rearrangements of series		
		4.6 Tests for absolute convergence		
		4.7 Series whose terms form a non-increasing sequence		
		4.8 The class 12		
Question paper solving and revision	04			

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Semester/Term: VI

Academic Year: 2022-23

Name of the Teacher: Sajjan Munzarin A.

Subject/Paper: Real Analysis – II (P-II)

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc (Mathematics)	February 2023	12	Riemann Integral	12
			1.1 Sets of Measure zero	
			1.2 Definition of the Riemann Integral	
			1.3 Existence of the Riemann Integral	
			1.4 Properties of the Riemann Integral	
			1.5 Fundamental Theorems of Calculus	
	March 2023	14	Improper Integrals	14
			2.1 Improper Integrals on Closed and Bounded Intervals	
			2.2 Tests for Convergence of Positive Integrands	
			2.3 Improper Integrals on Unbounded Intervals and Tests for their Convergence	
			2.4 Tests for Convergence of the Integral of Product	
	April 2023	14	Unit 3: Sequences of Functions	14
			3.1 Pointwise convergence of sequences of functions	
			3.2 Uniform convergence of sequences of functions	
			3.3 Consequences of uniform convergence	
Unit 4: Series of Functions				
4.1 Convergence and uniform convergence of series of functions				
4.2 Integration and differentiation of series of functions				
Question paper solving and revision				

Munzarin Sajjan 

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Academic Years: 2022-23

Semester/Term-III

Name of the Teacher: Ismat Shaikh

Subject/Paper: Groups and Coding Theory P-I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
SYBSc (CS)	September 2022	12	Unit 1. Integers	12
			1.1 Division Algorithm (without Proof)	
			1.2 G.C.D. using division algorithm and expressing it as linear combination	
			1.3 Euclid's lemma	
			1.4 Equivalence relation (revision), Congruence relation on set of integers, Equivalence class partition	
	October 2022	12	Unit 2. Groups	12
			2.1 Binary Operation	
			2.2 Group: Definition and Examples	
			2.3 Elementary Properties of Group	
	November 2022	12	Unit 3. Finite Groups and Subgroups	12
			3.1 Order of a group, order of an element	
			3.2 Examples $(\mathbb{Z}_n, +)$ and $(U(n), *)$	
			3.3 Subgroup definition, Finite subgroup test, subgroups of $\mathbb{Z}_n$	
			3.4 Generator, cyclic group, finding generators of $\mathbb{Z}_n$ (Corollary 3,4 without proof)	
			3.5 Permutation group, definition, composition of two permutations, representation as product of disjoint cycles, inverse and order of a permutation, even/ odd permutation	
			3.6 Cosets: Definition, Examples and Properties, Lagrange Theorem(without Proof)	
	December 2022	03	Unit 4. Groups and Coding Theory	03
			4.1 Coding of Binary Information and Error detection	
			4.2 Decoding and Error Correction	
			4.3 Public Key Cryptography	

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Academic Year: 2022-23

Semester/Term-V

Name of the Teacher: Ismat Shaikh

Subject/Paper: Ordinary Differential Equation P-V & VI

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
TYBSc	Oct 2022	12	<b>1. Linear Differential Equations with constant coefficients:</b>	12
			The auxiliary equations. Distinct roots, repeated roots, Complex roots, particular solution.	
			The operator $1/f(D)$ and its evaluation for the functions $x^m, e^{ax}, e^{axv}$ & $xv$	
			the operator $1/(D^2+a^2)$ acting on $\sin ax$ and $\cos ax$ with proofs.	
	December 2022	16	<b>2. Non-Homogeneous Differential Equations:</b>	16
			Method of undetermined coefficients,	
			Method of variation of parameters,	
			Method of reduction of order, The use of a known solution to find another.	
	January 2023	16	<b>3. Power series solutions:</b>	16
			Introduction and review of power series, Linear equations and power series	
			Convergence of power series	
			Ordinary points and regular singular points.	
			<b>4. System of First-Order Equations:</b>	
			linear systems, homogeneous linear	
			Systems with constant Coefficients, Distinct, repeated roots, Complex roots.	

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Academic Year: 2022-23

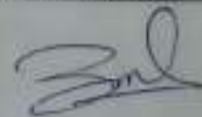
Semester/Term: I

Name of the Teacher: Mrs. Shaheen Salman Khan

Subject/Paper: Matrix Algebra P - I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	Sept 2022	12	Unit 1 : Introduction	12
			1.1 Matrix Operations	
			1.2 The Inverse of a Matrix	
			1.3 Characterization of invertible matrices	
			Unit 2 : Linear Equations in Linear Algebra-I	
			2.1 System of Linear equations	
	Oct 2022	12	2.2 Row reduction and echelon forms	12
			2.3 Vector equations	
			2.4 The matrix equation $Ax=b$	
			2.5 Solution sets of linear systems	
			Unit 3 : Linear Equations in Linear Algebra -II	
			3.1 Partitioned Matrices	
	Nov 2022	12	3.2 Matrix factorization [Lu decomposition]	12
			3.3 Linear Independence	
			3.4 Introduction to linear transformation	
			3.5 The matrix of linear transformation	
			3.6 Subspaces of $R_n$	
			3.7 Dimension and Rank	
			Unit 4 : Determinants	
4.1 Introduction to determinants				
Dec 2022	03	4.2 Properties of determinants	03	
		4.3 Cramer's rule, Volume and linear transformations		
		Question paper solving and revision		

  
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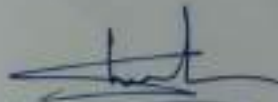
Academic Year: 2022-23

Semester/Term: II

Name of the Teacher: Mrs Shaheen Salman Khan

Subject/Paper: Linear Algebra P – I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	Jan 2023	12	Unit 1: Vector Spaces	12
			1.1 Vector spaces and subspaces	
			1.2 Null spaces, column spaces and linear transformations.	
			1.3 Linearly independent sets : Bases	
			1.4 Coordinate systems	
			1.5 The dimension of a vector space	
			1.6 Rank	
	Feb 2023	12	Unit 2: Eigen values and Eigen vectors	12
			2.1 Eigen values and Eigen vectors	
			2.2 The characteristic equation	
			2.3 Diagonalization	
			2.4 Eigen vectors and Linear transformations	
			Unit 3: Orthogonality and Symmetric Matrices	
	Mar 2023	11	3.1 Inner product, length and orthogonality	11
			3.2 Orthogonal sets	
			3.3 Orthogonal Projections	
			3.4 Diagonalization of Symmetric Matrices	
			3.5 Quadratic forms	
			Unit 4: The Geometry of vector spaces	
			4.1 Affine combinations	
			4.2 Affine independence	
Apr 2023	03	4.3 Convex combinations	03	
		Question paper solving and revision		

  
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Department Of Mathematics

Lecture Plan


Academic Year: 2020-21 2022-23

Semester/Term - V

Name of the Teacher: Mrs. Shaheen Salman Khan

Subject/Paper: Number Theory P- VI & Lab Course III

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required	
TYBSc Mathematics	Oct 2022	12	<b>Divisibility</b>	12	
			Introduction		
			Divisibility		
			Prime		
			<b>Congruences</b>		
			Congruences		
			Solution of Congruences		
			The Chinese Remainder Theorem		
	Dec 2022	16		<b>Greatest integer function</b>	16
				Greatest integer function	
Arithmetic functions					
The Mobius Inversion formula					
Jan 2023	16		<b>Ch4. Quadratic Reciprocity</b>	16	
			Quadratic residues		
			Quadratic reciprocity		
			The Jacobi Symbol		
			<b>Diophantine Equations</b>		
			Diophantine equations $ax + by = c$		
Pythagorean triplets.					

  
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Academic Year: 2022-23

Semester/Term-VI

Name of the Teacher: Shaheen Khan

Subject/Paper: Partial Differential Equation P-V & VI

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
TYBSc	Feb 2023	12	<b>Unit 1: Introduction to Ordinary and Partial Differential Equations</b> 1.1 Surfaces and Curves in Three Dimensions 1.2 Simultaneous Differential Equations of the First Order and the First Degree in Three Variables. 1.3 Methods of solution of $d/P = dy/Q = dz/R$ 1.4 Pfaffian Differential Forms and Equations. 1.5 Solution of Pfaffian Differential Equations in Three Variables <b>Unit 2: Partial Differential Equations</b> 2.1 Introduction to Partial Differential Equations 2.2 Origin of first order Partial Differential Equations	10
	Mar 2023	14	2.3 Linear Equations of First order equations 2.4 Integral surfaces passing through given curve <b>Unit 3: Second Order Partial Differential Equations</b> 3.1 The Origin of Second Order Partial Differential Equations. 3.2 Linear Partial Differential Equations with constant coefficients. 3.3 Methods of solving Linear Partial Differential Equations 3.3.1. Solution of reducible equations 3.3.2. Solution of irreducible equations with constant coefficients	14
	Apr 2023	14	3.3.3. Rules of finding complementary functions 3.3.4. Rule of finding particular integrals <b>Unit 4 : Classification of Partial Differential Equations</b> 4.1 Classification of second order partial differential equations, canonical forms 4.2 Solution of Laplace equations by separation variables methods 4.3 Solution of periodic differential equations by separation variables method 4.4 Solution of wave equation by separation variables method.	14




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 Department Of Mathematics  
 Lecture Plan

Academic Year: 2022-23

Semester/Term: III

Name of the Teacher: Saeed Anwar Patel

Subject/Paper: Numerical Techniques

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required		
S.Y.B.Sc (CS)	Oct 2022	06	Significant Digits, Errors, Absolute, Relative and Percentage Error, Examples, Introduction to Solution of Linear and Non-Linear Equations, Graphical Interpretation, Location of Roots, Examples,	06		
			Solution of Non-Linear Equations by Regula-Falsi and Newton-Raphson Methods with Derivation, Geometrical Meaning and Examples, Interpolation, Finite Differences, Operators, Proof of Identities, Exercise, Newton Forward, Backward, Central Lagrange Interpolation, Divided Difference, Central Difference and Average Operator, Numerical Integration, General Quadrature Formula, Trapezoidal, Simpson's $1/3^{rd}$ Simpson's $3/8^{th}$ Derivations, Examples, Comparison of Methods		20	
			First Order Ordinary Differential Equation Solving by Euler's, Euler's Modified, Runge-Kutta $2^{nd}$ Order, Runge-Kutta $4^{th}$ Order Methods			17
			Revision			
Dec 2022	17					
	Nov 2022	20				
	Jan 2023	05				

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Academic Year: 2022-23

Semester/Term: V

Name of the Teacher: Saeed Anwar Patel

Subject/Paper: Operations Research

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc	Oct 2022	08	Modeling with L.P,	08
			2 variables L.P,	
			Graphical LP solution,	
			Selected LP Applications,	
			Graphical Sensitivity analysis,	
			The Simplex Method to Solve L.P	
	Dec 2022	16	Equation form, Transition from Graphical to Algebraic Solutions	16
			Examples	
			Simplex Method Examples	
			Artificial Starting Solutions	
			Duality, Definition, Dual Problems	
			Primal-Dual Relationship	
	Jan 2022	16	Transportation Model,	16
			IBFS by North West, Least Cost and VAM Methods	
			Optimal Solution by Modi's Method	
			Assignment Problems by	
			Hungarian Method	

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Academic Year : 2022-23

F.Y.B.A-Semester-II

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: FMG-2 : Financial Mathematics-2

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.A.	March-2023	02	<b>1 : Exponential and Logarithmic functions in Economics</b> 1.1. Interest Compounding	02
	April-2023	18	1.2. Discounting 1.3. Converting Exponential to Natural Exponential functions 1.4. Estimating growth rates from data points.	06
			<b>2 : The Fundamentals of Linear Algebra</b> 2.1. The role of linear algebra 2.2. Definitions and Terms 2.3. Addition and Subtraction of Matrices 2.4. Scalar Multiplication 2.5. Multiplication of Matrices 2.6. Commutative, Associative and Distributive laws in Matrix Algebra 2.7. Identity and null matrices 2.8. Matrix Expression of a System of Linear Equations 2.9. Determinants and Nonsingularity 2.10. Minors and Cofactors 2.11. Cofactor and Adjoint Matrices 2.12. Inverse Matrix 2.13. Solving Linear Eq with Inverse.	12
May-2023	16	<b>3 : Integral Calculus: The Indefinite Integral</b> 3.1. Integration 3.2. Rules of Integration 3.3. Initial and Boundary Conditions 3.4. Integration by Substitutions 3.5. Integration by Parts 3.6. Economic Applications	08	

			<b>4 : Integral Calculus: The Definite Integral</b> 4.1. Area Under a Curve 4.2. The definite Integral 4.3. Properties of Definite Integral. 4.4. Area Between Curves 4.5. Consumers and Producer's Surplus	08
	June - 2023	06	Revision	06

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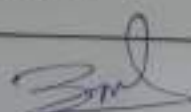
Academic Year: 2022-23

F. Y. B. Sc - Semester-II

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: MT-122 Calculus-II, P-II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F. Y. B. Sc.	March-2023	02	<b>1. Differentiation</b> 1.1 Definition of derivative of a real valued function at a point, rules of differentiation, Caratheodary's theorem (without proof),	02
	April-2023	18	chain rule of finding derivative of composite functions , derivative of inverse functions (without proof). <b>1.2 MVT</b> and their consequences, increasing and decreasing function, derivative test for extrem	08
			<b>2. L'Hospital Rule and Successive Diff.</b> 2.1 Indeterminate forms, L'Hospital Rules (without proof) 2.2 Taylor's and Maclaurin's theorem with Lagrange's form of remainder (without proof). 2.3 The nth derivative, Leibnitz's theorem for successive differentiation	10
	May-2023	16	<b>3. Ordinary Differential Equations</b> 3.1 Linear first order differential equations 3.2 Separable equations 3.3 Existence and uniqueness of solutions of non-linear equations	08
			<b>4. Exact Differential Equation</b> 4.1 Transformation of non-linear equations to separable equations 4.2 Exact differential equations 4.3 Integrating Factors	08
	June - 2023	06	<b>Revision</b>	06



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Academic Year: 2022-23

S.Y.B.Sc-Semester-IV

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: MT-242 :- Vector Calculus , P- II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
S.Y.B.Sc.	March-2023	02	<b>1: Vector-Valued Functions</b> 1.1 Curves in Space, Limits and Continuity, Derivatives and Motion, Differentiation, Rules for Vector Function, Vector Functions of Constant Length	02
	April-2023	20	1.2 Integrals of Vector Functions. 1.3 Arc Length along a Space Curve, Speed on a Smooth Curve, Unit Tangent Vector. 1.4 Curvature of a Plane Curve, Circle of Curvature for Plane Curves, Curvature and Normal Vectors for a Space Curve	06
			<b>2: Integrals</b> 2.1 Line Integral of Scalar Functions, Additivity, Line integral in the Plane. 2.2 Vector Fields, Gradient Fields, Line Integral of Vector Fields, Line Integrals with respect to dx, dy, dz 2.3 Work done by a Force over a Curve in Space, Flow Integrals and Circulation for Velocity Fields, Flow across the Simple Closed Plane Curve. 2.4 Path Independence, Conservative and Potential Functions. 2.5 Divergence, Two forms for Green's Theorem, Green's Theorem in the Plane (Proof for special regions),	12
			<b>3: Surface Integrals</b>	02



			3.1 Parameterizations of Surfaces, Implicit surfaces.	
	May-2023	14	3.2 Surface integrals, Orientation of Surfaces. 3.3 Surface Integrals of Vector Fields.	06
			<b>4: Applications of Integrals</b> 4.1 The Curl Vector Field, Stokes' Theorem(without proof), Conservative Fields and Stokes' Theorem 4.2 Divergence in three Dimensions, Divergence Theorem (without proof). 4.3 Unifying the Integral Theorems.	08
	June - 2023	06	<b>Revision</b>	06

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Shaikh Farreen N.



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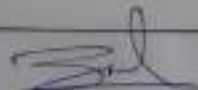
T.Y.B.Sc-Semester -VI

Academic Year : 2022 -23

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: MT 365(A) Optimization Techniques

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
S.Y.BSc	March-2023	04	<b>1. Network Models</b> CPM and PERT, Network representation,	04
	April-2023	20	Critical Path Computations, Construction of the time schedule, Linear programming formulation of CPM, PERT calculations	06
			<b>2. Decision Analysis and Games</b> Decision under uncertainty, Game theory, Some basic terminologies, Optimal solution of two person zero sum game, Solution of mixed strategy games, graphical solution of games, linear programming solution of games.	08
			<b>3. Replacement and Maintenance Models</b> Introduction, Types of failure,	06
	May-2023	12	Replacement of items whose efficiency deteriorates with time	02
			<b>4. Sequencing Problems</b> Introduction, Notation, terminology and assumptions, Processing n jobs through two machines, Processing n jobs through three machines.	05
			<b>5. Classical Optimization Theory</b> Unconstrained problems, Necessary and sufficient conditions, Newton Raphson method, Constrained problems, Equality constraint	05
	June-2023	06	<b>Revision</b>	06



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Academic Year: 2022-23

Semester/Term: II

Name of the Teacher: Nida Kazi

Subject/Paper: Graph Theory P-II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	March 2023	12	An Introduction to graph Definitions, Basic terminologies and properties of graph, Graph models. Special types of graphs, basic terminologies, properties and examples of directed graphs .Types of diagraphs. Some applications of special types of graph. Matrix representation and elementary results, Isomorphism of graphs.	12
	April 2023	12	<b>Connected Graphs</b> Walk, trail, path, cycle, elementary properties of connectedness, Counting paths between vertices (by Warshall's algorithm). Cut edge (Bridge), Cut vertex, cut set, vertex connectivity, edge connectivity, and Properties. Shortest path problem, Dijkstra's algorithm.	12
	May 2023	11	<b>Euler and Hamilton path</b> The Konigsberg bridge problem, Euler trail, path, circuit and tour, elementary properties and Fleury's algorithm. Hamilton path, circuit, elementary properties and examples. Introduction of Travelling salesman problem, Chinese postman problem	11
		<b>Trees</b> Definitions, basic terminologies, properties and applications of trees.		

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## Lecture Plan

Academic Year: 2023-24

Semester/Term: VI

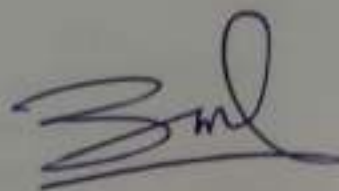
Name of the Teacher: Nida Kazi

Subject/Paper: Computational Geometry (P-II)

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc (Mathematics)	March 2023	12	<b>Unit 1: Two Dimensional Transformations</b> 1.1 Introduction. 1.2 Representation of points. 1.3 Transformations and matrices. 1.4 Transformation of – points, straight lines. 1.5 Midpoint Transformation. 1.6 Transformation of – parallel lines, intersecting lines. 1.7 Transformation: rotations, reflections, scaling. 1.8 Combined transformations. 1.9 Transformation of a unit square. 1.10 Solid body transformations. 1.11 Translations and homogeneous coordinates. 1.12 Rotation about an arbitrary point. 1.13 Reflection through an arbitrary line. 1.14 Projection – A Geometric Interpretation of Homogeneous Coordinates. 1.15 Overall Scaling. 1.16 Points at Infinity.	12
	April 2023	10	<b>Unit 2: Three Dimensional Transformations</b> 2.1 Introduction. 2.2 Three dimensional – Scaling, shearing, rotation, reflection, translation. 2.3 Multiple transformations. 2.4 Rotation about – an axis parallel to coordinate axes, an arbitrary axis in space. 2.5 Reflection through an arbitrary plane.	10
	May 2023	08	<b>Unit 3: Projection</b>	08

			3.1 Orthographic projections. 3.2 Axonometric projections. 3.3 Oblique projections. 3.4 Perspective Transformations	
June 2023	08		<b>Unit 4: Plane and Space Curves</b> 4.1 Introduction. 4.2 Curve representation. 4.3 Parametric curves. 4.4 Parametric representation of a circle. 4.5 Bezier Curves - Introduction, definition, properties (without proof), Curve fitting (up to $n = 3$ ), equation of the curve in matrix form (up to $n = 3$ )	08

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Academic Year: 2022-23

T.Y.B.Sc. Semester-V

Name of the Teacher: Dr. Amjad Shaikh

Subject/Paper: Metric Spaces, P- I -MT-351

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc.	Oct 2022	12	<b>1. Basic Notions</b> 1.1 Definition and examples 1.2 Open Balls and Open Sets	09
			<b>2. Convergence</b> 2.1 Convergent Sequences 2.2 Limit and Cluster points	03
	Dec 2022	16	<b>2. Convergence</b> 2.3 Cauchy Sequences and Completeness 2.4 Bounded Sets 2.5 Dense Sets 2.6 Boundary of a set	08
			<b>3. Continuity</b> 3.1 Continuous Functions 3.2 Equivalent Definitions of Continuity 3.3 Topological Property 3.4 Uniform Continuity	08
	January 2023	16	<b>3. Continuity</b> 3.5 Limit of a Function 3.6 Open and closed maps	02
			<b>4. Compactness and Connectedness</b> 4.1 Compact Spaces and their Properties 4.2 Connected Spaces	14
			Revision	



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Academic Year: 2022-23

F.Y.B.A. Semester-I

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: Financial Mathematics-I FMG- I (Code: 15113 )

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.A.	Sep-2022	12	<b>1: Review</b> 1.1 Exponents 1.2 Polynomials 1.3 Equations: Linear and quadratic 1.4 Simultaneous Equations 1.5 Functions 1.6 Graphs, Slopes and Intercepts	08
			<b>2: The Derivative and the rules of differentiation</b> 2.1 Limits 2.2 Continuity 2.3 The Derivative	04
	Oct-2022	12	2.4 Differentiability and Continuity 2.5 Derivative Notation 2.6 Rules of Differentiation 2.7 Higher Order Derivatives 2.8 Implicit Differentiation	06
			<b>3: Uses of derivative in Mathematics and Economics</b> 3.1 Increasing and Decreasing functions 3.2 Concavity and Convexity 3.3 Relative Extrema 3.4 Inflection Points 3.5 Optimization of Functions	06
	Dec-2022	12	3.6 Marginal Concepts 3.7 Optimizing Economic Functions 3.8 Relationship among Total, Marginal and Average Concepts.	04

			<b>4: Exponential and logarithmic functions</b> 4.1 Exponential Functions 4.2 Logarithmic Functions 4.3 Properties of Exponents and Logarithms 4.4 Natural Exponential and Logarithmic Functions	08
	Jan-2023	06	Revision	06

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F.Y.B.Sc. Semester-I

Academic Year: 2022-23

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: Calculus-I, P-II (CBCS-2019 pattern) MT-112

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc.	Sept.- 2022	12	<b>1.The Real Numbers</b> 1.1: Algebraic properties of R Order properties of R A.M.-G.M., Bernoulli's inequality 1.2: Absolute value functions 1.3: The Completeness Property 1.4: Archimedean property, Density theorem (without proof)	6
			<b>Sequences</b> 2.1: Def. and examples, Limits of a seq. 2.2: Theorems on limits. 2.3: Monotone seq., convergence theorem.	06
	Oct. - 2022	12	2.4: Subseq. Bolzano-Weierstrass theo. Divergence criterion, monot. subseq. theo. (without proof)	04
			<b>3. Limits</b> 3.1: Functions, domain, range, graphs, vertical line test, even and odd, inc. and decreasing functions. 3.2: Limits, sequential criterion, divergence criterion of limits. 3.3: Limit theorems, algebra of limits (proofs using sequential criterion), squeeze theorem.. 3.4: Some extension of limit concepts, one sided and infinite limits (without proof).	08
	Dec -2022	12	<b>4. Continuity</b> 4.1: continuity of a function at a point, sequential criterion, divergence criterion for continuity. 4.2: Continuous functions on intervals Properties of continuous functions on closed and bounded interval. Boundedness theorem (without proof). Minim-maxim theorem (without proof). Location of root theorem (without proof). Bolzano intermediate value theorem.	12
	Jan - 2023	03	Revision	03



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S.Y.B.Sc. Semester-III

Academic Year : 2022-23

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: Calculus of Several Variables P- I (Code: 23111) MT-231

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
S.Y.B.Sc.	Sept-2022	12	<b>1. Limit and Continuity of :</b> 1.1 Functions of Several Variables :- Functions of two variables, Domain and Range, Graphs, Level Curves, Functions of Three or more variables 1.2 Limits and Continuity.	06
			<b>2. Partial Derivatives:</b> 2.1 Definition and examples. 2.2 Higher Derivatives, Clairaut's Theorem (Statement Only) , Partial Differential Equations, Wave eqn. 2.3 Differentiable function, Differentials	06
	Oct-2022	12	2.4 Chain Rule, Homogeneous Functions, Euler's theorem	04
			<b>3. Extreme Values:</b> 3.1 Extreme values of functions of two variables. 3.2 Necessary conditions for extreme values. 3.3 Second Derivative Test (without proof). 3.4 Lagrange Multipliers ( with one constraints)	08

*Akhlaque Ahmed*

	Dec-2022	12	<b>4. Multiple Integrals:</b> 4.1 Iterated Integrals, Fubini's Theorem (Statement only) 4.2 Double integral over general regions, Change of order of integration for two variables. 4.3 Double integral in Polar coordinates. 4.4 Triple integrals , Evaluation of triple integrals. Triple integrals in spherical coordinates 4.5 Jacobians , Change of variables in multiple integrals .(Results without proofs)	12
	Jan-2023	06	Revision	06

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T.Y.B.Sc. Semester-V

Academic Year: 2022-23

Name of the Teacher: Akhlaque Ahmed

Subject/Paper: DSE-2 A: Group Theory, P- III (Code: 35113) MT-353

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc.	Oct - 2022	12	<b>1. Groups</b> 1.1 Binary Operation 1.2 Isomorphic Binary Structures 1.3 Groups.	06
			<b>2. Subgroups</b> 2.1 Subgroups 2.2 Cyclic Groups	06
	Dec - 2022	12	<b>3. Permutations [12 lectures]</b> 3.1 Groups of Permutations 3.2 Orbits 3.3 Cycles 3.4 Alternating Groups 3.5 Cosets and the Theorem of Lagrange 3.6 Direct Products Theorem of Lagrange, Direct Products.	12
	Jan- 2023	12	<b>4. Homomorphisms and Factor Groups</b> 4.1 Homomorphisms 4.2 Factor Groups 4.3 Factor Group Computations and Simple Groups Simple Groups	12



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Semester/Term: I

Academic Year: 2022-23

Name of the Teacher: Mrs. Munzarin Sajjan

Subject/Paper: Discrete Mathematics P - I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	Sept 2022	12	<b>1 Logic</b>	12
			Propositional Logic, Equivalences.	
			Predicates and Quantifiers : Predicate, n-Place Predicate or ,n-ary Predicate,	
			Quantification and Quantifiers, Universal Quantifier, Existential Quantifier,	
			Quantifiers with restricted domains, Logical Equivalences involving Quantifiers.	
			Rules of Inference : Argument in propositional Logic, Validity	
	Oct 2022	12	<b>2 Lattices and Boolean Algebra</b>	12
			Poset, Hasse diagram, lattices and types	
			Definition of Boolean Algebra.	
			Representation of Boolean Functions : Disjunctive normal form, Conjunctive normal Form.	
	Nov 2022	12	<b>3 Counting Principles</b>	11
			Cardinality of Set The Product Rule,	
The Inclusion- Exclusion Principle.				
The Pigeonhole Principle				
Dec 2022	03	<b>4 : Recurrence Relations</b>	03	
		Linear Recurrence Relations with constant coefficients. Homogeneous Solutions.		
		Particular Solutions. Total solution		

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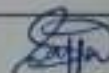
Academic Year: 2022-23

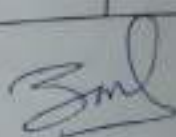
Semester/Term: II

Name of the Teacher: Sajjan Munzarin A.

Subject/Paper: Graph Theory P - II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	January 2023	12	An Introduction to graph Definitions, Basic terminologies and properties of graph, Graph models. Special types of graphs, basic terminologies, properties and examples of directed graphs. Types of diagraphs. Some applications of special types of graph. Matrix representation and elementary results, Isomorphism of graphs.	12
	February 2023	12	<b>Connected Graphs</b> Walk, trail, path, cycle, elementary properties of connectedness. Counting paths between vertices (by Warshall's algorithm). Cut edge (Bridge), Cut vertex, cut set, vertex connectivity, edge connectivity, and Properties. Shortest path problem, Dijkstra's algorithm.	12
	March 2023	11	<b>Euler and Hamilton path</b> The Konigsberg bridge problem, Euler trail, path, circuit and tour, elementary properties and Fleury's algorithm. Hamilton path, circuit, elementary properties and examples. Introduction of Travelling salesman problem, Chinese postman problem	11
			<b>Trees</b> Definitions, basic terminologies, properties and applications of trees.	
April 2023	03	Weighted graph, definition and properties of spanning tree, shortest spanning tree, Kruskal's algorithm, Prim's algorithm.	03	

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
Semester/Term: V

Academic Year: 2022-23

Name of the Teacher: Sajjan Munzarin A.

Subject/Paper: Real Analysis – I (P-II)

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc	October 2022	12	Unit 1: Logic and Set Theory	10
			1.1 Introduction	
			1.2 "And" and "Or"	
			1.3 "Not" and "If-Then"	
			1.4 Contrapositive, Converse, and Iff	
			1.5 Quantifiers	
			1.6 Set Theory and Venn Diagrams	
			1.7 Relations and Functions	
			1.8 Countable and Uncountable Sets	
			Unit 2: Sequences of Real Numbers	
	2.1 Definition of sequence and subsequence			
	December 2022	16	2.2. Limit of a sequence	05
			2.3 Convergent sequences	
			2.4 Divergent sequences	
			2.5 Bounded sequences	
			2.6 Monotone sequences	
			Unit 3: Operations on convergent sequences and Limit Superior, Limit Inferior	
	3.1 Operations on convergent sequences			
	3.2 Operations on divergent sequences			
3.3 Limit superior and limit inferior				
3.4 Cauchy sequences				
January 2023	16	Unit 4: Series of Real Numbers	12	
		4.1 Convergence and divergence		
		4.2 Series with nonnegative terms		
		4.3 Alternating series		
		4.4 Conditional convergence and absolute Cng		
		4.5 Rearrangements of series		
		4.6 Tests for absolute convergence		
		4.7 Series whose terms form a non-increasing sequence		
		4.8 The class 12		
Question paper solving and revision	04			

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Semester/Term: VI

Academic Year: 2022-23

Name of the Teacher: Sajjan Munzarin A.

Subject/Paper: Real Analysis – II (P-II)

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc (Mathematics)	February 2023	12	Riemann Integral	12
			1.1 Sets of Measure zero	
			1.2 Definition of the Riemann Integral	
			1.3 Existence of the Riemann Integral	
			1.4 Properties of the Riemann Integral	
			1.5 Fundamental Theorems of Calculus	
	March 2023	14	Improper Integrals	14
			2.1 Improper Integrals on Closed and Bounded Intervals	
			2.2 Tests for Convergence of Positive Integrands	
			2.3 Improper Integrals on Unbounded Intervals and Tests for their Convergence	
			2.4 Tests for Convergence of the Integral of Product	
	April 2023	14	Unit 3: Sequences of Functions	14
			3.1 Pointwise convergence of sequences of functions	
			3.2 Uniform convergence of sequences of functions	
			3.3 Consequences of uniform convergence	
Unit 4: Series of Functions				
4.1 Convergence and uniform convergence of series of functions				
4.2 Integration and differentiation of series of functions				
Question paper solving and revision				

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Academic Years: 2022-23

Semester/Term-III

Name of the Teacher: Ismat Shaikh

Subject/Paper: Groups and Coding Theory P-I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
SYBSc (CS)	September 2022	12	Unit 1. Integers	12
			1.1 Division Algorithm (without Proof)	
			1.2 G.C.D. using division algorithm and expressing it as linear combination	
			1.3 Euclid's lemma	
			1.4 Equivalence relation (revision), Congruence relation on set of integers, Equivalence class partition	
	October 2022	12	Unit 2. Groups	12
			2.1 Binary Operation	
			2.2 Group: Definition and Examples	
			2.3 Elementary Properties of Group	
	November 2022	12	Unit 3. Finite Groups and Subgroups	12
			3.1 Order of a group, order of an element	
			3.2 Examples $(\mathbb{Z}_n, +)$ and $(U(n), *)$	
			3.3 Subgroup definition, Finite subgroup test, subgroups of $\mathbb{Z}_n$	
			3.4 Generator, cyclic group, finding generators of $\mathbb{Z}_n$ (Corollary 3,4 without proof)	
			3.5 Permutation group, definition, composition of two permutations, representation as product of disjoint cycles, inverse and order of a permutation, even/ odd permutation	
			3.6 Cosets: Definition, Examples and Properties, Lagrange Theorem(without Proof)	
	December 2022	03	Unit 4. Groups and Coding Theory	03
			4.1 Coding of Binary Information and Error detection	
			4.2 Decoding and Error Correction	
			4.3 Public Key Cryptography	

*Ismat*

AKI's  
 Poona College of Arts, Science & Commerce, Camp, Pune-01  
 Department Of Mathematics  
 Lecture Plan

Academic Year: 2022-23

Semester/Term-V

Name of the Teacher: Ismat Shaikh

Subject/Paper: Ordinary Differential Equation P-V & VI

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
TYBSc	Oct 2022	12	<b>1. Linear Differential Equations with constant coefficients:</b>	12
			The auxiliary equations. Distinct roots, repeated roots, Complex roots, particular solution.	
			The operator $1/f(D)$ and its evaluation for the functions $x^m, e^{ax}, e^{axv}$ & $xv$	
			the operator $1/(D^2+a^2)$ acting on $\sin ax$ and $\cos ax$ with proofs.	
	December 2022	16	<b>2. Non-Homogeneous Differential Equations:</b>	16
			Method of undetermined coefficients,	
			Method of variation of parameters,	
			Method of reduction of order, The use of a known solution to find another.	
	January 2023	16	<b>3. Power series solutions:</b>	16
			Introduction and review of power series, Linear equations and power series	
			Convergence of power series	
			Ordinary points and regular singular points.	
			<b>4. System of First-Order Equations:</b>	
			linear systems, homogeneous linear	
			Systems with constant Coefficients, Distinct, repeated roots, Complex roots.	

*Ismat Shaikh*

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Department Of Mathematics

Lecture Plan


Academic Year: 2022-23

Semester/Term: I

Name of the Teacher: Mrs. Shaheen Salman Khan

Subject/Paper: Matrix Algebra P - I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	Sept 2022	12	Unit 1 : Introduction	12
			1.1 Matrix Operations	
			1.2 The Inverse of a Matrix	
			1.3 Characterization of invertible matrices	
			Unit 2 : Linear Equations in Linear Algebra-I	
			2.1 System of Linear equations	
	Oct 2022	12	2.2 Row reduction and echelon forms	12
			2.3 Vector equations	
			2.4 The matrix equation $Ax=b$	
			2.5 Solution sets of linear systems	
			Unit 3 : Linear Equations in Linear Algebra -II	
			3.1 Partitioned Matrices	
	Nov 2022	12	3.2 Matrix factorization [Lu decomposition]	12
			3.3 Linear Independence	
			3.4 Introduction to linear transformation	
			3.5 The matrix of linear transformation	
			3.6 Subspaces of $R_n$	
			3.7 Dimension and Rank	
			Unit 4 : Determinants	
4.1 Introduction to determinants				
Dec 2022	03	4.2 Properties of determinants	03	
		4.3 Cramer's rule, Volume and linear transformations		
		Question paper solving and revision		

  
Shaheen Khan



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**Department Of Mathematics**

Lecture Plan

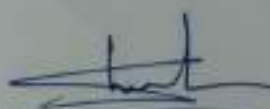
Academic Year: 2022-23

Semester/Term: II

Name of the Teacher: Mrs Shaheen Salman Khan

Subject/Paper: Linear Algebra P – I

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	Jan 2023	12	Unit 1: Vector Spaces	12
			1.1 Vector spaces and subspaces	
			1.2 Null spaces, column spaces and linear transformations.	
			1.3 Linearly independent sets : Bases	
			1.4 Coordinate systems	
			1.5 The dimension of a vector space	
			1.6 Rank	
	Feb 2023	12	Unit 2: Eigen values and Eigen vectors	12
			2.1 Eigen values and Eigen vectors	
			2.2 The characteristic equation	
			2.3 Diagonalization	
			2.4 Eigen vectors and Linear transformations	
			Unit 3: Orthogonality and Symmetric Matrices	
	Mar 2023	11	3.1 Inner product, length and orthogonality	11
			3.2 Orthogonal sets	
			3.3 Orthogonal Projections	
			3.4 Diagonalization of Symmetric Matrices	
			3.5 Quadratic forms	
			Unit 4: The Geometry of vector spaces	
			4.1 Affine combinations	
			4.2 Affine independence	
Apr 2023	03	4.3 Convex combinations	03	
		Question paper solving and revision		

  
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Poona College of Arts, Science & Commerce, Camp, Pune-01

Department Of Mathematics

Lecture Plan


Academic Year: 2020-21 2022-23

Semester/Term - V

Name of the Teacher: Mrs. Shaheen Salman Khan

Subject/Paper: Number Theory P- VI & Lab Course III

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required	
TYBSc Mathematics	Oct 2022	12	<b>Divisibility</b>	12	
			Introduction		
			Divisibility		
			Prime		
			<b>Congruences</b>		
			Congruences		
			Solution of Congruences		
			The Chinese Remainder Theorem		
	Dec 2022	16		<b>Greatest integer function</b>	16
				Greatest integer function	
Arithmetic functions					
The Mobius Inversion formula					
Jan 2023	16		<b>Ch4. Quadratic Reciprocity</b>	16	
			Quadratic residues		
			Quadratic reciprocity		
			The Jacobi Symbol		
			<b>Diophantine Equations</b>		
			Diophantine equations $ax + by = c$		
Pythagorean triplets.					

  
Shaheen Khan



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Poona College of Arts, Science & Commerce, Camp, Pune-01  
Department Of Mathematics  
Lecture Plan

Academic Year: 2022-23

Semester/Term-VI

Name of the Teacher: Shaheen Khan

Subject/Paper: Partial Differential Equation P-V & VI

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
TYBSc	Feb 2023	12	<b>Unit 1: Introduction to Ordinary and Partial Differential Equations</b> 1.1 Surfaces and Curves in Three Dimensions 1.2 Simultaneous Differential Equations of the First Order and the First Degree in Three Variables. 1.3 Methods of solution of $d/P = dy/Q = dz/R$ 1.4 Pfaffian Differential Forms and Equations. 1.5 Solution of Pfaffian Differential Equations in Three Variables <b>Unit 2: Partial Differential Equations</b> 2.1 Introduction to Partial Differential Equations 2.2 Origin of first order Partial Differential Equations	10
	Mar 2023	14	2.3 Linear Equations of First order equations 2.4 Integral surfaces passing through given curve <b>Unit 3: Second Order Partial Differential Equations</b> 3.1 The Origin of Second Order Partial Differential Equations. 3.2 Linear Partial Differential Equations with constant coefficients. 3.3 Methods of solving Linear Partial Differential Equations 3.3.1. Solution of reducible equations 3.3.2. Solution of irreducible equations with constant coefficients	14
	Apr 2023	14	3.3.3. Rules of finding complementary functions 3.3.4. Rule of finding particular integrals <b>Unit 4 : Classification of Partial Differential Equations</b> 4.1 Classification of second order partial differential equations, canonical forms 4.2 Solution of Laplace equations by separation variables methods 4.3 Solution of periodic differential equations by separation variables method 4.4 Solution of wave equation by separation variables method.	14




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 Department Of Mathematics  
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Academic Year: 2022-23

Semester/Term: III

Name of the Teacher: Saeed Anwar Patel

Subject/Paper: Numerical Techniques

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required		
S.Y.B.Sc (CS)	Oct 2022	06	Significant Digits, Errors, Absolute, Relative and Percentage Error, Examples, Introduction to Solution of Linear and Non-Linear Equations, Graphical Interpretation, Location of Roots, Examples,	06		
			Solution of Non-Linear Equations by Regula-Falsi and Newton-Raphson Methods with Derivation, Geometrical Meaning and Examples, Interpolation, Finite Differences, Operators, Proof of Identities, Exercise, Newton Forward, Backward, Central Lagrange Interpolation, Divided Difference, Central Difference and Average Operator, Numerical Integration, General Quadrature Formula, Trapezoidal, Simpson's $1/3^{rd}$ Simpson's $3/8^{th}$ Derivations, Examples, Comparison of Methods		20	
			First Order Ordinary Differential Equation Solving by Euler's, Euler's Modified, Runge-Kutta $2^{nd}$ Order, Runge-Kutta $4^{th}$ Order Methods			17
			Revision			
Dec 2022	17					
	Jan 2023	05				

*Saeed*

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 Department Of Mathematics  
 Lecture Plan

Academic Year: 2022-23

Semester/Term: V

Name of the Teacher: Saeed Anwar Patel

Subject/Paper: Operations Research

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc	Oct 2022	08	Modeling with L.P,	08
			2 variables L.P,	
			Graphical LP solution,	
			Selected LP Applications,	
			Graphical Sensitivity analysis,	
			The Simplex Method to Solve L.P	
	Dec 2022	16	Equation form, Transition from Graphical to Algebraic Solutions	16
			Examples	
			Simplex Method Examples	
			Artificial Starting Solutions	
			Duality, Definition, Dual Problems	
			Primal-Dual Relationship	
			Economic Interpretation of Duality	
	Jan 2022	16	Transportation Model,	16
			IBFS by North West, Least Cost and VAM Methods	
			Optimal Solution by Modi's Method	
			Assignment Problems by	
			Hungarian Method	

*Saeed Anwar Patel*



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**Department Of Mathematics**  
Lecture Plan

Academic Year : 2022-23

F.Y.B.A-Semester-II

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: FMG-2 : Financial Mathematics-2

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.A.	March-2023	02	<b>1 : Exponential and Logarithmic functions in Economics</b> 1.1. Interest Compounding	02
	April-2023	18	1.2. Discounting 1.3. Converting Exponential to Natural Exponential functions 1.4. Estimating growth rates from data points.	06
			<b>2 : The Fundamentals of Linear Algebra</b> 2.1. The role of linear algebra 2.2. Definitions and Terms 2.3. Addition and Subtraction of Matrices 2.4. Scalar Multiplication 2.5. Multiplication of Matrices 2.6. Commutative, Associative and Distributive laws in Matrix Algebra 2.7. Identity and null matrices 2.8. Matrix Expression of a System of Linear Equations 2.9. Determinants and Nonsingularity 2.10. Minors and Cofactors 2.11. Cofactor and Adjoint Matrices 2.12. Inverse Matrix 2.13. Solving Linear Eq with Inverse.	12
May-2023	16	<b>3 : Integral Calculus: The Indefinite Integral</b> 3.1. Integration 3.2. Rules of Integration 3.3. Initial and Boundary Conditions 3.4. Integration by Substitutions 3.5. Integration by Parts 3.6. Economic Applications	08	

			<b>4 : Integral Calculus: The Definite Integral</b> 4.1. Area Under a Curve 4.2. The definite Integral 4.3. Properties of Definite Integral. 4.4. Area Between Curves 4.5. Consumers and Producer's Surplus	08
	June - 2023	06	<b>Revision</b>	06

Ashaikh  
 Shaikh fareen N.



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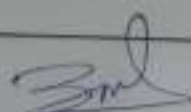
Academic Year: 2022-23

F. Y. B. Sc - Semester-II

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: MT-122 Calculus-II, P-II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F. Y. B. Sc.	March-2023	02	<b>1. Differentiation</b> 1.1 Definition of derivative of a real valued function at a point, rules of differentiation, Caratheodary's theorem (without proof),	02
	April-2023	18	chain rule of finding derivative of composite functions , derivative of inverse functions (without proof). <b>1.2 MVT</b> and their consequences, increasing and decreasing function, derivative test for extrem	08
			<b>2. L'Hospital Rule and Successive Diff.</b> 2.1 Indeterminate forms, L'Hospital Rules (without proof) 2.2 Taylor's and Maclaurin's theorem with Lagrange's form of remainder (without proof). 2.3 The nth derivative, Leibnitz's theorem for successive differentiation	10
	May-2023	16	<b>3. Ordinary Differential Equations</b> 3.1 Linear first order differential equations 3.2 Separable equations 3.3 Existence and uniqueness of solutions of non-linear equations	08
			<b>4. Exact Differential Equation</b> 4.1 Transformation of non-linear equations to separable equations 4.2 Exact differential equations 4.3 Integrating Factors	08
	June - 2023	06	<b>Revision</b>	06



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Lecture Plan

Academic Year: 2022-23

S.Y.B.Sc-Semester-IV

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: MT-242 :- Vector Calculus , P- II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
S.Y.B.Sc.	March-2023	02	<b>1: Vector-Valued Functions</b> 1.1 Curves in Space, Limits and Continuity, Derivatives and Motion, Differentiation, Rules for Vector Function, Vector Functions of Constant Length	02
	April-2023	20	1.2 Integrals of Vector Functions. 1.3 Arc Length along a Space Curve, Speed on a Smooth Curve, Unit Tangent Vector. 1.4 Curvature of a Plane Curve, Circle of Curvature for Plane Curves, Curvature and Normal Vectors for a Space Curve	06
			<b>2: Integrals</b> 2.1 Line Integral of Scalar Functions, Additivity, Line integral in the Plane. 2.2 Vector Fields, Gradient Fields, Line Integral of Vector Fields, Line Integrals with respect to dx, dy, dz 2.3 Work done by a Force over a Curve in Space, Flow Integrals and Circulation for Velocity Fields, Flow across the Simple Closed Plane Curve. 2.4 Path Independence, Conservative and Potential Functions. 2.5 Divergence, Two forms for Green's Theorem, Green's Theorem in the Plane (Proof for special regions),	12
			<b>3: Surface Integrals</b>	02

			3.1 Parameterizations of Surfaces, Implicit surfaces.	
	May-2023	14	3.2 Surface integrals, Orientation of Surfaces. 3.3 Surface Integrals of Vector Fields.	06
			<b>4: Applications of Integrals</b> 4.1 The Curl Vector Field, Stokes' Theorem(without proof), Conservative Fields and Stokes' Theorem 4.2 Divergence in three Dimensions, Divergence Theorem (without proof). 4.3 Unifying the Integral Theorems.	08
	June - 2023	06	<b>Revision</b>	06

Husain  
Shaikh Farreen N.



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Lecture Plan

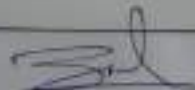
T.Y.B.Sc-Semester -VI

Academic Year : 2022 -23

Name of the Teacher: Shaikh Fareen N.

Subject/Paper: MT 365(A) Optimization Techniques

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
S.Y.BSc	March-2023	04	<b>1. Network Models</b> CPM and PERT, Network representation,	04
	April-2023	20	Critical Path Computations, Construction of the time schedule, Linear programming formulation of CPM, PERT calculations	06
			<b>2. Decision Analysis and Games</b> Decision under uncertainty, Game theory, Some basic terminologies, Optimal solution of two person zero sum game, Solution of mixed strategy games, graphical solution of games, linear programming solution of games.	08
			<b>3. Replacement and Maintenance Models</b> Introduction, Types of failure,	06
	May-2023	12	Replacement of items whose efficiency deteriorates with time	02
			<b>4. Sequencing Problems</b> Introduction, Notation, terminology and assumptions, Processing n jobs through two machines, Processing n jobs through three machines.	05
			<b>5. Classical Optimization Theory</b> Unconstrained problems, Necessary and sufficient conditions, Newton Raphson method, Constrained problems, Equality constraint	05
	June-2023	06	<b>Revision</b>	06



Shaikh

Shaikh Fareen N.

AKI's

Poona College of Arts, Science & Commerce, Camp, Pune-01

Department Of Mathematics

Lecture Plan

Academic Year: 2022-23

Semester/Term: II

Name of the Teacher: Nida Kazi

Subject/Paper: Graph Theory P-II

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
F.Y.B.Sc (CS)	March 2023	12	An Introduction to graph Definitions, Basic terminologies and properties of graph, Graph models. Special types of graphs, basic terminologies, properties and examples of directed graphs .Types of diagraphs. Some applications of special types of graph. Matrix representation and elementary results, Isomorphism of graphs.	12
	April 2023	12	<b>Connected Graphs</b> Walk, trail, path, cycle, elementary properties of connectedness, Counting paths between vertices (by Warshall's algorithm). Cut edge (Bridge), Cut vertex, cut set, vertex connectivity, edge connectivity, and Properties. Shortest path problem, Dijkstra's algorithm.	12
	May 2023	11	<b>Euler and Hamilton path</b> The Konigsberg bridge problem, Euler trail, path, circuit and tour, elementary properties and Fleury's algorithm. Hamilton path, circuit, elementary properties and examples. Introduction of Travelling salesman problem, Chinese postman problem	11
		<b>Trees</b> Definitions, basic terminologies, properties and applications of trees.		

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Poona College of Arts, Science &amp; Commerce, Camp, Pune-01

**Department Of Mathematics**

## Lecture Plan

Academic Year: 2023-24

Semester/Term: VI

Name of the Teacher: Nida Kazi

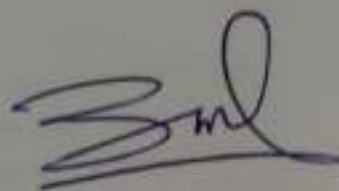
Subject/Paper: Computational Geometry (P-II)

Class	Month / Year	Lectures available	Topic /Subtopic to be Taught	Lectures Required
T.Y.B.Sc (Mathematics)	March 2023	12	<b>Unit 1: Two Dimensional Transformations</b> 1.1 Introduction. 1.2 Representation of points. 1.3 Transformations and matrices. 1.4 Transformation of – points, straight lines. 1.5 Midpoint Transformation. 1.6 Transformation of – parallel lines, intersecting lines. 1.7 Transformation: rotations, reflections, scaling. 1.8 Combined transformations. 1.9 Transformation of a unit square. 1.10 Solid body transformations. 1.11 Translations and homogeneous coordinates. 1.12 Rotation about an arbitrary point. 1.13 Reflection through an arbitrary line. 1.14 Projection – A Geometric Interpretation of Homogeneous Coordinates. 1.15 Overall Scaling. 1.16 Points at Infinity.	12
	April 2023	10	<b>Unit 2: Three Dimensional Transformations</b> 2.1 Introduction. 2.2 Three dimensional – Scaling, shearing, rotation, reflection, translation. 2.3 Multiple transformations. 2.4 Rotation about – an axis parallel to coordinate axes, an arbitrary axis in space. 2.5 Reflection through an arbitrary plane.	10
	May 2023	08	<b>Unit 3: Projection</b>	08



			3.1 Orthographic projections. 3.2 Axonometric projections. 3.3 Oblique projections. 3.4 Perspective Transformations	
June 2023	08		<b>Unit 4: Plane and Space Curves</b> 4.1 Introduction. 4.2 Curve representation. 4.3 Parametric curves. 4.4 Parametric representation of a circle. 4.5 Bezier Curves - Introduction, definition, properties (without proof), Curve fitting (up to $n = 3$ ), equation of the curve in matrix form (up to $n = 3$ )	08

Nida



**Y&M AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE CAMP, PUNE-1**  
**LECTURE/TEACHING PLAN**  
**(FIRST TERM/ SEMESTER)**  
**ACADEMIC YEAR-2022-2023**

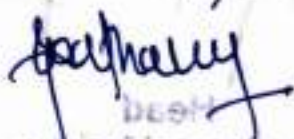
Name of the Teacher: - **Dr. Gulab Pathan**

Subject/ Paper: - Introduction to Sociology.

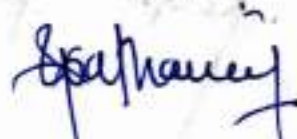
Department: - Sociology Class: - F.Y.B.A.

Division:-A & B

Month & Year	Teaching Days Available	Topic/ Subject to be taught	Lectures Required
September	12	<b>Chapter –I Emergence of Sociology as a Discipline.</b> a) Emergence of Sociology - Western and Non-Western background, Enlightenment (French and industrial Revolution) b) Definitions, Nature (Scientific and Humanist) and subject matter of Sociology. c) Sociological Imagination: Beyond Commonsense d) Diverse fields and career opportunities in Sociology.	12
October	12	<b>Chapter –II. Basic Concepts in Sociology.</b> a) Society: Definitions, Characteristics and Changing Types of Society (Gathering and Hunting, Agriculture, Industrial and Neo Liberal).	10
November	15	b) Groups, associations and Social Networks – Concepts and Characteristics <b>Chapter –III. Culture, Inequality and Social Exclusion</b> c) Ethnocentrism, Xenophobia, Multiculturalism and hybridization	14
December	12	d) Social stratification and Social Inequality – Concept and Bases (caste, class, gender, ethnicity and age) e) Social Exclusion – Meaning and Dimensions (Economic, Political, Occupational and Cultural)	12



Signature of Teacher



Signature of H.O.D.

**Head**

**Department of Sociology**  
 Poona College of Arts, Science and Commerce  
 Camp, Pune-411 001

**Y&M AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE CAMP, PUNE-1**  
**LECTURE/TEACHING PLAN**  
**(Semester - II)**  
**ACADEMIC YEAR-2022-2023**

Name of the Teacher: **-Dr. Gulab Pathan**

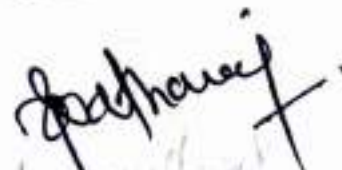
Department: - Sociology

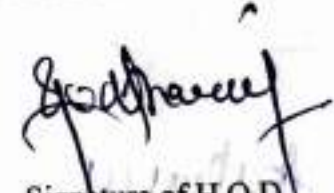
Class: - F.Y.B.A.

Division: - A and B

Subject/ Paper: - Introduction to Sociology.

Month & Year	Teaching Days Available	Topic/ Subject to be taught	Lectures Required
February	14	<b>Chapter - I. Social Institutions</b> a) Family and kinship, Marriage – meaning, forms and changing trends. (Singlehood, cohabitation, Mixed Family, Gay-Lesbian Marriages).  b) Polity: Meaning Forms. ( Monarchy, Democracy, Totalitarianism, Authoritarianism, Neo-liberal state)	12
March	12	a) Economy: Meaning, History and Models. (Capitalism, Socialism, Mixed Economy, Neo liberal)  <b>Chapter - II. Social Institutions</b> a. Religion: Meaning, Forms, Secularization b. Education – Meaning, Forms (Formal , Non-formal and Role), Challenges in Higher Education	12
April	12	a) Media – Meaning, Types (Print, Electronic, Social Media and Role) Relevance of Mass Media in Contemporary Society. <b>Chapter – III Social Change</b> a. Social change : Concept and Characteristics	12
May	12	b. Technology, State, Civil Society and Social movement. c. Modernization, Development and Globalization	12

  
 Signature of Teacher

  
 Signature of H.O.D.  
**Head**  
**Department of Sociology**  
**Poona College of Arts, Science and Commerce**  
**Camp, Pune-411 001**

Head  
 Department of Sociology  
 Poona College of Arts, Science and Commerce  
 Camp, Pune-411 001

**AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE CAMP, PUNE-1**  
**LECTURE/TEACHING PLAN**  
**(FIRST TERM/ SEMESTER)**  
**ACADEMIC YEAR-2022-2023**

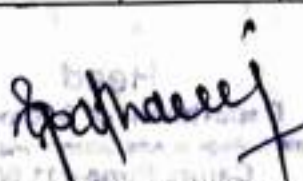
Name of the Teacher: - **Dr. Gulab Pathan**

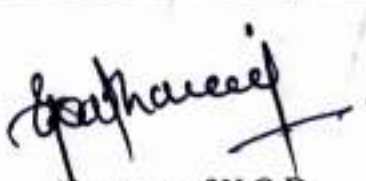
Subject/ Paper: - Population and Society.

Department: - Sociology Class: - S.Y.B.A.

Division:-A & B

Month & Year	Teaching Days Available	Topic/ Subject to be taught	Lectures Required
September	12	<b>Chapter 1</b> <b>1. Population Studies – Meaning, Scope and Importance</b> <b>2. Evolution of Population Studies – Micro Demography to Macro Demography</b> <b>Chapter 2.</b> <b>1. Malthusian and neo-Malthusian theory</b>	12
October	09	<b>Chapter 2.</b> <b>2. Demographic Transition theory</b> <b>3. Marxist perspective</b> <b>4. Feminist perspective</b> <b>Chapter 3.</b> <b>1. Census – definition and importance</b> <b>2. Registration of vital</b>	09
November	15	<b>3. National Sample Survey – meaning and importance</b> <b>4. Recent trends in collection of population data –</b> <b>Adhar meaning and debate about it.</b> <b>5. International sources :</b> <b>Human Development Report, World Development Report Gender Development Report</b>	15
December	12	<b>1.Fertility - Definition and</b> <b>2. Mortality - (Mortality, Infant Mortality,</b> <b>3. Migration - Definition, Types and</b> <b>Consequences</b>	12

  
 Signature of Teacher

  
 Signature of H.O.D.

**Head**

**Department of Sociology**  
 Poona College of Arts, Science and Commerce  
 Camp, Pune-411 001

**AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE CAMP, PUNE-1**  
**LECTURE/TEACHING PLAN**  
**(SECOND TERM/ SEMESTER)**  
**ACADEMIC YEAR-2022-2023**

Name of the Teacher: -**Dr. Gulab Pathan**

Department: - Sociology

Class: - S.Y.B.A.

Division: - A and B

Subject/ Paper: - Population and Indian Society.

Month & Year	Teaching Days Available	Topic/ Subject to be taught	Lectures Required
February	12	<b>Chapter- 1</b> 1. Growth of population since 1901 2. Nature and characteristics of Indian population	12
March	13	<b>Chapter- 2</b> 1. Population policy and Role of state 2. Population policy in India  • Pre independence b) Post independence <b>1. Population Education</b> – Concept and debate, need, objectives, Sex Education, HIV, Aids Awareness	13
April	12	<b>Chapter- 3</b> <b>2. Legislative measures to enhance the quality and quantity of population in India -</b> 1. Population as a constraint on and a resource for development	12
May	15	2. Socio-cultural factors of population dynamics- gender, religion, education 3. Relationship between population and poverty	11

Signature of Teacher

Signature of H.O.D.

**Head**  
**Department of Sociology**  
**Poona College of Arts, Science and Commerce**  
**Camp, Pune-411 001**

**Y&M AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE CAMP, PUNE-1**  
**LECTURE/TEACHING PLAN**  
**(FIRST TERM/ SEMESTER)**  
**ACADEMIC YEAR-2022-2023**

Name of the Teacher: - **Dr. Gulab Pathan**

Subject/ Paper: - Work and society.

Department: - Sociology Class: - T.Y.B.A.

Division:-A & B

Month & Year	Teaching Days Available	Topic/ Subject to be taught	Lectures Required
September	12	<b>Chapter 1.</b> Meaning, importance and types of work (Formal and Informal). Historical Overview of work – Gathering-hunting, manorial, guild system, domestic/ putting out system, factory system and post-industrial production	12
October	12	<b>Chapter 2.</b> Contemporary theorization: George Ritzer - 'Macdonaldization'; Michel Foucault - 'Surveillance'; Harry Braverman - 'Deskilling' and Ulrich Beck Brave - 'New world of work'. b) Feminist theorization of work: the domestic labour debate, women's work and the new international division of labour.	12
November	12	<b>Chapter 3.</b> Bureaucracy – characteristics and problems. Taylorism; Scientific Management, Fordism; Japanese model and human resource management. The role of Multi-National Companies (MNCs) in global economy and their impact	12
December	12	b) Nature and types of work in post-industrial society (e.g. changes from manufacturing to service sector, casualization, flexibility, outsourcing) and Effects on human relationships. New Economic Policy (1991) and its effects on workers in formal sector	12

  
Signature of Teacher

  
Signature of H.O.D.

**Head**  
**Department of Sociology**  
 Poona College of Arts, Science and Commerce

**Y&M AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE CAMP, PUNE-1**  
**LECTURE/TEACHING PLAN**  
**(SECOND TERM/ SEMESTER)**  
**ACADEMIC YEAR-2022-2023**

Name of the Teacher: **-Dr. Gulab Pathan**

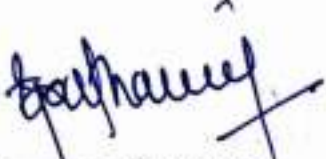
Department: - Sociology

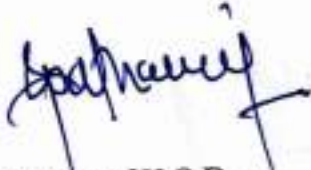
Class: - T.Y.B.A.

Division: - A and B

Subject/ Paper: - Work and Indian Society.

Month & Year	Teaching Days Available	Topic/ Subject to be taught	Lectures Required
February	12	<b>Chapter- 1</b> b) Trade union movement in India: issues, challenges and future. Meaning, characteristics and classification of informal sector. c) Problems of workers in the informal sector	12
March	12	<b>Chapter- 2</b> Issues and problems of service sector employees – Software industries, BPOs, Hospitality and retail sectors. b) Issues and problems of migrant workers	12
April	12	<b>Chapter- 3</b> Nature of agricultural labour. Problems of agricultural labourers	12
May	12	Problems of agricultural labourers	12

  
Signature of Teacher

  
Signature of H.O.D.

**Head**  
**Department of Sociology**  
Poona College of Arts, Science and Commerce  
Camp, Pune-411 001

**Y&M AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE, Camp, Pune-411001**  
**(YEAR-2022-2023)**

**Semester-I**  
**INDIVIDUAL WORKLOAD**


Name of the Lecturer: - Dr. Gulab Pathan

**Department of Sociology**

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08.20-09.10	P				Sociology	Sociology	sociology
	C				T.Y.B.A.	T.Y.B.A.	T.Y.B.A.
	H				23	23	23
09.10-10.00	P	Sociology	Sociology	Sociology			
	C	F.Y.B.A (A)	F.Y.B.A (A)	F.Y.B.A (A)			
	H	28	28	28			
10.00-10.50	P	Sociology	Sociology	Sociology			
	C	S.Y.B.A	S.Y.B.A	S.Y.B.A			
	H	28	28	28			
12.30-01.20	P	Sociology	Sociology	Sociology	Sociology	Sociology	Sociology
	C	F.Y.B.A (B)	F.Y.B.A (B)	F.Y.B.A (B)	T.Y.B.A (T)	S.Y.B.A (T)	F.Y.B.A (A)(T)
	H	31	31	31	100	31	31
01:20-02:10	P	Sociology					
	C	F.Y.B.A (B)(T)					
	H	100					
	P						
	C						
	H						
Timing Available on the Campus		08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm

\*P- Paper/Subject  
C-Class/Division  
H-Hall No.

  
Sign. of the Lecturer

  
Head of Dept.  
Head

**Department of Sociology**  
Poona College of Arts, Science and Commerce  
Camp, Pune-411 001

  
Principal  
PRINCIPAL

Poona College of Arts, Science & Commerce  
Camp, Pune-411001  
Principal Office



**Y&M AKI'S**  
**POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE, Camp, Pune-411001**

(YEAR- YEAR-2022-2023)

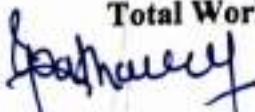
**Semester-I**  
**INDIVIDUAL WORKLOAD**

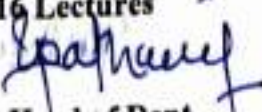
Name of the Lecturer: - Dr. Gulab Pathan

**Department of Sociology**

Class/ Division	Subject/Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
FYBA (A+B)	Introduction to Sociology	214	08	
SYBA	Population and Society	98	04	
TYBA	Work, Industry and society	89	04	
<b>Total Number of Student in Dept.</b>		<b>401</b>	<b>16</b>	
<b>Practicals:</b>				
<b>Remission:</b>				

Total Workload per week: 16 Lectures

  
Sign. of the Lecturer

  
Head of Dept.  
**Head**

**Department of Sociology**

Poona College of Arts, Science and Commerce  
Camp, Pune-411 001

  
Principal

**PRINCIPAL**

Poona College of Arts, Science & Commerce  
Camp, Pune-411001  
Principal Office

Y&M AKI'S

POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE, Camp, Pune-411001

(YEAR-2022-2023)

Semester-II

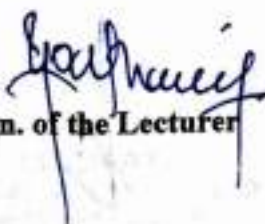
INDIVIDUAL WORKLOAD

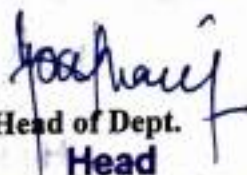
Name of the Lecturer: - Dr. Gulab Pathan

Department of Sociology

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08.20-09.10	P				Sociology	Sociology	sociology
	C				T.Y.B.A.	T.Y.B.A.	T.Y.B.A.
	H				23	23	23
09.10-10.00	P	Sociology	Sociology	Sociology			
	C	F.Y.B.A (A)	F.Y.B.A (A)	F.Y.B.A (A)			
	H	28	28	28			
10.00-10.50	P	Sociology	Sociology	Sociology			
	C	S.Y.B.A	S.Y.B.A	S.Y.B.A			
	H	28	28	28			
12.30-01.20	P	Sociology	Sociology	Sociology	Sociology	Sociology	Sociology
	C	F.Y.B.A (B)	F.Y.B.A (B)	F.Y.B.A (B)	T.Y.B.A (T)	S.Y.B.A (T)	F.Y.B.A (A)(T)
	H	31	31	31	100	31	31
01:20-02:10	P	Sociology					
	C	F.Y.B.A (B)(T)					
	H	100					
	P						
	C						
	H						
Timing Available on the Campus		08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm	08.10 am to 2.00pm

\*P- Paper/Subject  
C-Class/Division  
H-Hall No.

  
Sign. of the Lecturer

  
Head of Dept.  
Head  
Department of Sociology  
Poona College of Arts, Science and Commerce  
Camp, Pune-411 001

  
Principal  
PRINCIPAL  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001  
Principal Office

**Y&M AKI'S  
POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE, Camp, Pune-411001**

**(YEAR- YEAR-2022-2023)**

**Semester-II**

**INDIVIDUAL WORKLOAD**

Name of the Lecturer: - Dr. Gulab Pathan

**Department of Sociology**

Class/ Division	Subject/Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
FYBA (A+B)	Introduction to Sociology	214	08	
SYBA	Population and Society	98	04	
TYBA	Work, Industry and society	89	04	
<b>Total Number of Student in Dept.</b>		<b>401</b>	<b>16</b>	
<b>Practicals:</b>				
<b>Remission:</b>				

**Total Workload per week: 16 Lectures**

Sign, of the Lecturer

Head of Dept.

**Head**

**Department of Sociology  
Poona College of Arts, Science and Commerce  
Camp, Pune-411 001**

Principal  
**PRINCIPAL**

**Poona College of Arts, Science & Commerce  
Camp, Pune-411001  
Principal Office**

**JOINT DIRECTOR HIGER EDUCATION PUNE REGION PUNE  
TOTAL WORKLAD IN YEAR 2022-23**

**TABLE 'B'**

Sr no	Subject	Class	No. of Students	No. of division	No. of papers				Details of workload				Total workload (col. 9+11)	Name of the teacher to whom work load assigned	Total no. of periods assigned to the teacher in Col. 13	Whether teacher belongs to reserve category, if so give details	Whether the teacher is surplus /Shortage (+/-)
					Theory	Practical	No. of lectures prescribed for papers	Total periods of lectures (col. No. 5X6X8)	No. of batches	Total workload of practical (col. 7X8X10)	No. of lectures	Total periods of lectures (col. No. 5X6X8)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	Sociology (Gen.)	FYB A	214	2	4	-	4	8	-	-	8	Dr Gulab Pathan	8	FT	NO		
2	Sociology (Gen.)	SYB A	98	1	4	-	4	4	-	-	4	Dr Gulab Pathan	4	FT	NO		
3	Sociology (Gen.)	TYB A	89	1	4	-	4	4	-	-	4	Dr Gulab Pathan	4	FT	NO		

  
**Dr. Gulab Pathan**  
 Head department of Sociology  
**Head**  
 Department of Sociology  
 Poona College of Arts, Science and Commerce  
 Camp, Pune-411 004

  
**Principal**  
**PRINCIPAL**  
 Poona College of Arts, Science & Commerce  
 Camp, Pune-411001  
 Principal Office

**JOINT DIRECTOR HIGER EDUCATION PUNE REGION PUNE**  
**TOTAL WORKLAD IN YEAR 2022-2023**

SERIAL NO.	NAME OF THE SUBJECT	TOTAL WORKLAD IN YEAR 2022-2023	NAME OF THE LECTURER	ALLOTED WORKLOAD
1	SOCIOLOGY	16	Dr. Gulab Pathan	16

  
**Dr. Gulab Pathan**  
 Hade department of Sociology  
**Head**  
**Department of Sociology**  
 Poona College of Arts, Science and Commerce  
 Camp, Pune-411 001

  
**Principal**  
**PRINCIPAL**  
 Poona College of Arts, Science & Commerce  
 Camp, Pune-411001  
 Principal Office

**Anjuman Khairul Islam's  
Poona College of Arts, Science & Commerce  
Camp, Pune – 411 001  
(Faculty of Humanities)**

**Course Completion Certificate**

**Department of Sociology**  
First Term/ First Semester/ Second Term/ Second Semester

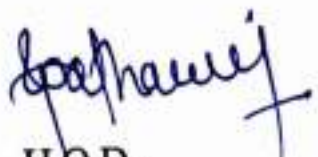
**Academic Year – 2022-2023**

Name of the Teacher: **Dr. Gulab Pathan**

This is to certify that we have completed the courses as mentioned below,

Sr. No.	Class	Division	Subject Taught
1,	FYBA	A & B	<b>Semester-I</b> Introduction to Sociology
			<b>Semester-I</b> Sociology: Social Institutions and Change
2,	SYBA	A & B	<b>Semester-III</b> Population and Society
			<b>Semester-III</b> Population and Indian Society
3,	TYBA	A & B	<b>Semester-V</b> Work and Society
			<b>Semester-VI</b> Work and Society in India

  
Signature of the Teacher

  
H.O.D.  
Head  
Department of Sociology  
Poona College of Arts, Science and Commerce  
Camp, Pune-411 001



**DEPARTMENT OF BOTANY**

Time Table: 2022-2023 (Term-I)

w.e.f 20/06/2022

Period	Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
FY Practical	7:20 am To 10:40 am			AA + NS (P-III)	RS + SS (P-III)	IUS + SS (P-III)	RS+ NS (P-III)
Theory	9:10 am To 10:10 am	SY SS (P-II)	SY SS (P-II)	SY SS (P-II)	SY AA (P-I)	SY AA (P-I)	SY AA (P-I)
Theory	10:50 am To 11:40 am	TY RS (P-III)	TY RS (P-III)	TY RS (P-III)	TY AA (P-IV)	TY AA (P-IV)	TY NS (P-I)
Theory	11:40 am To 12:30 pm	TY AA (P-IV) FY IUS (P-I)	TY AA (P-XI) FY IUS (P-I)	TY AA (P-XI) FY IUS (P-I)	TY RS (P-X)	TY RS (P-X)	TY RS (P-X)
Theory	12:30 pm To 1:20 pm	TY SS (P-V)	TY NS (P-I)	TY NS (P-I)	TY IUS (P-II)	TY NS (P-VI)	TY IUS (P-II)
Theory	1:20 pm To 2:10 pm	TY SS (P-V)	TY NS (P-VI)	TY NS (P-VI)	TY IUS (P-II) FY RS (P-II)		TY AA (P-XI) FY RS (P-II)
Theory	3.00 pm To 3.50 pm					TY SS (P-V) FY RS (P-II)	
SY Practical	12:30 pm To 3:50 pm	AA + NS (P-III)	RS + SS (P-III)	IUS + SS (P-III)			
TY Practical	2:10 pm To 5:30 pm	IUS (P-I)	AA (P-II)		NS (P-III)		

(Hall No. for Theory classes: T.Y.B.Sc - Botany Lab, S.Y.B.Sc- 28 and F.Y.B.Sc- 26)

IUS: Dr. Sayyed Ilyas

RS: Dr. Rafik Shaikh

AA: Dr. Mrs. Aafreen Abrar Ahmed

SS: Dr. Shafikh Shaikh

NS: Ms. Nabila .M. Shaikh

I/C Head,

Department of Botany

HEAD

Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001



Y & M Anjuman Khairul Islam's  
**POONA COLLEGE**  
**OF ARTS, SCIENCE AND COMMERCE**  
(Affiliated to Savitribai Phule Pune University ID No. PU/PN/ASC/023/1970)

**DEPARTMENT OF BOTANY**

Time Table: 2022-2023

(Term- II)

w.e.f March, 2023

Period	Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
FY Practical	7:20 am To 10:40 am			AA + NS (P-III)	RS + SS (P-III)	IUS + SS (P-III)	RS+ NS (P-III)
Theory	9:10 am To 10:10 am	SY SS (P-II)	SY SS (P-II)	SY SS (P-II)	SY AA (P-I)	SY AA (P-I)	SY AA (P-I)
Theory	10:50 am To 11:40 am	TY RS (P-I)	TY RS (P-I)	TY RS (P-I)	TY IUS (P-II)	TY IUS (P-V)	TY IUS (P-V)
Theory	11:40 am To 12:30 pm	TY AA (P-VI) FY IUS (P-II)	TY AA (P-VI) FY IUS (P-II)	TY AA (P-VI) FY IUS (P-II)	TY IUS (P-II)	TY IUS (P-II)	TY IUS (P-V)
Theory	12:30 pm To 1:20 pm	TY SS (P-III)	TY NS (P-IV)	TY NS (P-IV)	TY NS (P-XI)	TY AA (P-X)	TY NS (P-IV)
Theory	1:20 pm To 2:10 pm	TY SS (P-III)	TY NS (P-XI)	TY NS (P-XI)	TY AA (P-X) FY RS (P-II)		TY AA (P-X) FY RS (P-II)
Theory	3:00 pm To 3:50 pm					TY SS (P-III) FY RS (P-II)	
SY Practical	12:30 pm To 3:50 pm	AA + NS (P-III)	RS + SS (P-III)	IUS + SS (P-III)			
TY Practical	2:10 pm To 5:30 pm	IUS (P-I)	AA (P-III)		NS (P-II)		

(Hall No. for Theory classes: T.Y.B.Sc - Botany Lab, S.Y.B.Sc- 28 and F.Y.B.Sc- 26)

IUS: Dr. Sayyed Ilyas

RS: Dr. Rafik Shaikh

AA: Dr. Mrs. Aafreen Abrar Ahmed

SS: Dr. Shafikh Shaikh

NS: Ms. Nabila .M. Shaikh

I/C Head,  
Department of Botany





# POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PNI/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College

K. B. Hidayatullah Road, Camp,  
Pune - 411001, (MS), India

+91-20-2645 4240 / 2644 6319.

www.poonacollege.edu.in  
principal@poonacollege.edu.in

## Time Table for Semester-I of Academic Year-2022-23

### Class: F.Y. B.Sc. (Div-A and B)

w.e.f : 17/10/2022

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:20 a.m. to 10:40 a.m.	PRACTICAL	PRACTICAL	PRACTICAL	PRACTICAL	PRACTICAL	PRACTICAL
10:50 a.m. to 11:40 a.m.	CHEM-26	CHEM-26	CHEM-26	CHEM-26	CHEM-26	CHEM-26
11:40 a.m. to 12:30 p.m.	BOT-26 STATS-11	BOT-26 STATS-11	BOT-26 STATS-11	ZOO-26 STATS-11	ZOO-26 STATS-11	ZOO-26 STATS-11
12:30 p.m. to 1:20 p.m.	PHY-11 GEO-26	PHY-11 GEO-26	PHY-11 GEO-26	PHY-11 GEO-26	PHY-11 GEO-26	PHY-11 GEO-26
1:20 p.m. to 2:10 p.m.	ELECT-11 ZOO-26	ELECT-11 ZOO-26	ELECT-11 ZOO-26	ELECT-11 BOT-26	---	ELECT-11 BOT-26
2:10 p.m. to 3:00 p.m.	MATHS-11	MATHS-11	MATHS-11	MATHS-11	ELECT-11 BOT-26	MATHS-11
3:00 p.m. to 3:50 p.m.	---	---	---	---	MATHS-11	---

Lecture Hall No 26 is near Botany Department in the 2<sup>nd</sup> Floor of Main Building.

Lecture Hall No 11 is near Physics Department in the 1<sup>st</sup> Floor of Main Building.

Dr. Iqbal N. Shaikh  
Vice Principal



Dr. Aftab Anwar Shaikh  
Principal  
PRINCIPAL  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001

Batch	Group	Roll No.		Strength In Group	Batch	Group	Roll No.		Strength In Group
		From	To				From	To	
S1	PCM	7201	7209	09	S11	CBZ	7501	7512	12
S2	PCS			00	S12	CBZ	7513	7524	12
S3	PME	7321	7327	07	S13	CBZ	7525	7536	12
S4	PSE	7381	7382	02	S14	CBZ	7537	7537	01
S5	PMS	7441	7449	09	S15	CBG	7561	7564	04
S6					S16	CZG	7621	7626	06
S7					S17	BZG	7681	7692	12
S8					S18	BZG	7693	7704	12
S9					S19	BZG	7705	7706	02
S10									
Sub-total ( Group- A )				27	Sub-total ( Group- B )				73


Subject	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total Strength
Chemistry	S1, S2 (09)	S11, S12 (24)	S13, S14, (13)	S15, S16 (10)			56
Physics	S3, S4 (09)	S1, S2, S5 (18)					27
Zoology	S11, S12 (24)	S13, S14, (13)	S16, S17, S18, S19 (32)				69
Botany	S13, S14, S15 (17)	S17, S18, S19 (26)	S11, S12 (24)				67
Geology	S17, S18, S19 (26)	S15, S16 (10)					36
Statistics	S5, S2 (09)		S4 (02)				11
Mathematics				S1, S3 (16)		S5 (09)	24
Electronics		S3, S4 (09)					09

Practical timings:

Sr. No.	Subjects	Time
1.	Botany, Zoology and Geology	12:30 pm to 4:30 pm
2.	Chemistry, Electronics, Physics, Mathematics Statistics	01:20 pm to 5:20 pm

  
Dr. Iqbal N. Shaikh  
Vice Principal



  
Dr. Aftab Anwar Shaikh  
Principal  
PRINCIPAL  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001  
Principal Office

# POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE, CAMP, PUNE- 01

## TIME TABLE (2022-2023)

CLASS: S.Y. B. Sc. (Div. A & B)

w.e.f. 17/10/2022

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
9.10 am To 10.00 am	Bot. (28) Phy. (13)	Bot. (28) Phy. (13)	Bot. (28) Phy. (13)	Bot. (28) Phy. (13)	Bot. (28) Phy. (13)	Bot. (28) Phy. (13)
10.00 am To 10.50 am	Zoo. (28) Math. (13)	Zoo. (28) Math. (13)	Zoo. (28) Math. (13)	Zoo. (28) Math. (13)	Zoo. (28) Math. (13)	Zoo. (28) Math. (13)
10.50 am To 11.40 am	Geo. (28) Stat. (13)	Geo. (28) Stat. (13)	Geo. (28) Stat. (13)	Geo. (28) Stat. (13)	Geo. (28) Stat. (13)	Geo. (28) Stat. (13)
11.40 am To 12.30 pm	Chem. (28) Elect. (13)	Chem. (28) Elect. (13)	Chem. (28) Elect. (13)	Chem. (28) Elect. (13)	Chem. (28) Elect. (13)	Chem. (28) Elect. (13)
12.30 pm To 1.20 pm				Eng. (28)	Eng. (28)	Eng. (28)

(Note: Figures in Bracket denotes Hall No.)



Principal  
Dr. Aftab Ansari Shaikh  
Poona College of Arts, Science & Commerce  
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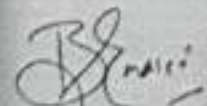
## F.Y.B.Sc. Practical Time Table for Academic Year 2022-23


Time: 7:20 am to 10:40 am

With effect from Date: 03/10/2022

Batch	Group	Roll No		Strength In Batch	Batch	Group	Roll No		Strength In Batch
		From	To				From	To	
F1	PCMS	6701	6715	15	F9	CBZG	6851	6865	15
F2	PCMS	6716	6730	10	F10	CBZG	6866	6880	15
F3	PCMS	6731	6745	0	F11	CBZG	6881	6895	15
F4	PCSE	6746	6760	15	F12	CBZG	6896	6910	15
F5	PCSE	6761	6775	09	F13	CBZG	6911	6925	15
F6	PCME	6776	6790	07	F14	CBZG	6926	6940	15
F7	PCME	6791	6805	0	F15	CBZG	6941	6955	15
F8	PMSE	6806	6820	04	F16	CBZG	6956	6970	03
Sub Total (Group 'A')				60	Sub Total (Group 'B')				108

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Chemistry	F1, F2	F4, F5, F6	F9, F10	F11, F12	F13, F14	F15, F16
Physics	F4	F5, F6	F1	F2, F8		
Zoology			F15, F16	F9, F10	F11, F12	F13, F14
Botany			F13, F14	F15, F16	F9, F10	F11, F12
Geology			F11, F12	F13, F14	F15, F16	F9, F10
Statistics				F4	F2, F5	F1, F8
Electronics	F5, F6		F4, F8			
Mathematics		F1, F8	F2, F6			

  
Dr. Iqbal N. Shaikh  
Vice Principal

  
Dr. Aftab Anwar Shaikh  
Principal



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**Professor (Dr.) Aftab Anwar Shaikh**  
M.Com, Ph.D (Busi. Admin.)  
PRINCIPAL



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dranwarshaikh@gmail.com

## Department of Mathematics T.Y.B.Sc Sem-V (2022-23) Time Table

w.e.f: 27/10/2022

Hall No. 36

Time/Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:30-10:00	SEC-I (SK) (Stats Lab)					
10:00-10:50	DSE-1B P-II (MS)	DSE-3B P - VI (SK)	DSE-3B P - VI (SK)	DSE-1B P-II (MS)	DSE-1 LC-I (MS)	DSE-3 LC-III (SK)
10:50-11:40	DSE-1A P - I (AS)	DSE-1 LC-I (AS)	DSE-1A P - I (AS)	DSE-1A P - I (AS)	DSE-1 LC-I (AS & MS)	DSE-3 LC-III (SK)
11:40-12:30	DSE-3B P - VI (SK)	DSE-1 LC-I (AS)	DSE-3 LC-III (SP)	DSE-2A P - III (AA)	DSE-2A P - III (AA)	DSE-1 LC-I (MS)
12:30-01:20	DSE-2A P - III (AA)	DSE-3A P-V (SP)	DSE-3 LC-III (SP)	DSE-3 LC-III (SK & SP)	DSE-3A P-V (SP)	DSE-2 LC-II (AA)
01:20-02:10	DSE-2 LC-II (IS)	DSE-2 LC-II (AA)	DSE-2B P-IV (IS)	DSE-2B P-IV-(IS)	-----	SEC-II (MS) (Stats Lab)
02:10-03:00	DSE-2 LC-II (IS)	DSE-2 LC-II (AA & IS)	DSE-1B P-II (MS)	DSE-2B P-IV-(IS)	DSE-3A P-V (SP)	SEC-II (MS) (Stats Lab)
3.00-3.50	-----	-----	-----	-----	-----	SEC-II (MS) (Stats Lab)

AS: Dr. Amjad Shaikh  
MS: Mrs. Munzarin Sajjan  
SK: Mrs. Shaheen Khan

AA: Mr. Akhlaque Ahmed  
IS: Mrs. Ismat Shaikh  
SP: Mr. Saeed Patel

Dr. Amjad Shaikh  
Head

Dr. Iqbal N. Shaikh  
Vice Principal

Dr. Aftab Anwar Shaikh  
Principal

Department of Mathematics  
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# Poona College of Arts, Science & Commerce,

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Department of Computer Science

Time Table

Year 2022-23

Class: F.Y.B.Sc. (Computer Science) Division A

W.e.f. Date: 03/10/2022

F.Y.B.Sc (CS) Division-A Theory Time Table						
Day / Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:30am to 08:20am	ELC-112 Principles of Digital Electronics (Mrs. Swaleha Mulla)	MTC-111 Matrix Algebra (Mrs. Shaheen Khan)	ELC-111 Semiconductor Devices & Basic Electronic Systems (Mr. Abul Qais)	CSST-112 Mathematical Statistics (Mr. Akshay G.)	MTC-112 Discrete Mathematics (Mrs. Munzarin Sajjan)	CSST-111 Descriptive Statistics-I (Mr. Akshay G.)
08:20am to 09:10am	MTC-112 Discrete Mathematics (Mrs. Munzarin Sajjan)	CS-111 Problem Solving using Computer and 'C' Programming (Dr. Mahtab Alam)	CSST-111 Descriptive Statistics-I (Mr. Akshay G.)	ELC-111 Semiconductor Devices & Basic Electronic Systems (Mr. Abul Qais)	CSST-111 Descriptive Statistics-I (Mr. Akshay G.)	CS-112 Database Management Systems (Mr. M. A. Quddus)
09:10am to 10:00am	ELC-111 Semiconductor Devices & Basic Electronic Systems (Mr. Abul Qais)	CS-112 Database Management Systems (Mr. M. A. Quddus)	ELC-112 Principles of Digital Electronics (Mrs. Swaleha Mulla)	MTC-111 Matrix Algebra (Mrs. Shaheen Khan)	CSST-112 Mathematical Statistics (Mr. Akshay G.)	CSST-112 Mathematical Statistics (Mr. Akshay G.)
10:00am to 10:50am	CS-111 Problem Solving using Computer and 'C' Programming (Dr. Mahtab Alam)	MTC-112 Discrete Mathematics (Mrs. Munzarin Sajjan)	MTC-111 Matrix Algebra (Mrs. Shaheen Khan)	CS-111 Problem Solving using Computer and 'C' Programming (Dr. Mahtab Alam)	CS-112 Database Management Systems (Mr. M. A. Quddus)	ELC-112 Principles of Digital Electronics (Mrs. Swaleha Mulla)

Venue : Class Room Number: 101



Dr. Shabana Shaikh  
Incharge Head  
Department of Computer Science



Dr. Aftab Anwer Shaikh  
Principal  
Poona College, Pune

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Department of Computer Science

Time Table  
 Year 2022-23

Class: F.Y.B.Sc. (Computer Science) Division B

W.e.f. Date: 03/10/2022

Day / Time	F.Y.B.Sc (CS) Division-B Theory Time Table					
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:30am to 08:20am	MTC-112 Discrete Mathematics (Mrs. Munzarin Sajjan)	ELC-112 Principles of Digital Electronics (Mr. Mohammed Mushtak)	CSST-112 Mathematical Statistics (Mr. Akshay G.)	ELC-111 Semiconductor Devices & Basic Electronic Systems (Mr. Abul Qais)	CSST-111 Descriptive Statistics-I (Mr. Akshay G.)	MTC-111 Matrix Algebra (Mrs. Shaheen Khan)
08:20am to 09:10am	ELC-112 Principles of Digital Electronics (Mr. Mohammed Mushtak)	MTC-111 Matrix Algebra (Mrs. Shaheen Khan)	ELC-111 Semiconductor Devices & Basic Electronic Systems (Mr. Abul Qais)	CSST-111 Descriptive Statistics-I (Mr. Akshay G.)	MTC-112 Discrete Mathematics (Mrs. Munzarin Sajjan)	CSST-112 Mathematical Statistics (Mr. Akshay G.)
09:10am to 10:00am	CS-111 Problem Solving using Computer and 'C' Programming (Dr. Mahtab Alam)	ELC-111 Semiconductor Devices & Basic Electronic Systems (Mr. Abul Qais)	MTC-112 Discrete Mathematics (Mrs. Munzarin Sajjan)	ELC-112 Principles of Digital Electronics (Mr. Mohammed Mushtak)	CS-112 Database Management Systems (Mr. M. A. Qudus)	CS-112 Database Management Systems (Mr. M. A. Qudus)
10:00am to 10:50am	CS-112 Database Management Systems (Mr. M. A. Qudus)	CS-111 Problem Solving using Computer and 'C' Programming (Dr. Mahtab Alam)	CSST-111 Descriptive Statistics-I (Mr. Akshay G.)	MTC-111 Matrix Algebra (Mrs. Shaheen Khan)	CSST-112 Mathematical Statistics (Mr. Akshay G.)	CS-111 Problem Solving using Computer and 'C' Programming (Dr. Mahtab Alam)

Venue : Class Room Number: 102



Dr. Shabana Shaikh  
 Incharge Head  
 Department of Computer Science



Dr. Aftab Anwer Shaikh  
 Principal  
 Poona College, Pune

AKI's  
**Poona College of Arts, Science & Commerce,**  
 Camp, Pune-411001  
 Department of Computer Science  
**Time Table**  
**Year 2022-23**

Class: S.Y.B.Sc. (Computer Science) Division A&B

W.e.f. Date: 03/10/2022

S.Y.B.Sc (CS) Division-A & B Theory Time Table						
Day / Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10:50am to 11:40am	English Language Communication-I	English Language Communication-I	English Language Communication-I	ELC-231 Microcontroller Architecture & Programming (Mr. Mohammed Mushtak)	CS-231 Data Structures and Algorithms-I (Mr. Imran Qureshi)	CS-232 Software Engineering (Ms. Ishrat Baig)
11:40am to 12:30pm	ELC-231 Microcontroller Architecture & Programming (Mr. Mohammed Mushtak)	CS-232 Software Engineering (Ms. Ishrat Baig)	ELC-231 Microcontroller Architecture & Programming (Mr. Mohammed Mushtak)	CS-232 Software Engineering (Ms. Ishrat Baig)	ELC-232 Digital Communication and Networking (Mrs. Swaleha Mulla)	CS-231 Data Structures and Algorithms-I (Mr. Imran Qureshi)
12:30pm to 01:20pm	ELC-232 Digital Communication and Networking (Mrs. Swaleha Mulla)	MTC-232 Numerical Techniques	ELC-232 Digital Communication and Networking (Mrs. Swaleha Mulla)	CS-231 Data Structures and Algorithms-I (Mr. Imran Qureshi)	MTC-231 Groups and Coding Theory (Ms. Ismat Shaikh)	MTC-231 Groups and Coding Theory (Ms. Ismat Shaikh)
01:20pm to 02:10pm	MTC-232 Numerical Techniques	MTC-231 Groups and Coding Theory (Ms. Ismat Shaikh)	MTC-232 Numerical Techniques			

Venue : Class Room Number: 101



Dr. Shabana Shaikh  
 Incharge Head  
 Department of Computer Science



Dr. Aftab Anwer Shaikh  
 Principal  
 Poona College, Pune





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dranwarshaikh@gmail.com

## Department of Mathematics T.Y.B.Sc Sem-V (2022-23) Time Table

Hall No. 36

w.e.f: 27/10/2022

Time/Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:30-10:00	SEC-I (SK) (Stats Lab)					
10:00-10:50	DSE-1B P-II (MS)	DSE-3B P - VI (SK)	DSE-3B P - VI (SK)	DSE-1B P-II (MS)	DSE-1 LC-I (MS)	DSE-3 LC-III (SK)
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12:30-01:20	DSE-2A P - III (AA)	DSE-3A P-V (SP)	DSE-3 LC-III (SP)	DSE-3 LC-III (SK & SP)	DSE-3A P-V (SP)	DSE-2 LC-II (AA)
01:20-02:10	DSE-2 LC-II (IS)	DSE-2 LC-II (AA)	DSE-2B P-IV (IS)	DSE-2B P-IV-(IS)	-----	SEC-II (MS) (Stats Lab)
02:10-03:00	DSE-2 LC-II (IS)	DSE-2 LC-II (AA & IS)	DSE-1B P-II (MS)	DSE-2B P-IV-(IS)	DSE-3A P-V (SP)	SEC-II (MS) (Stats Lab)
3.00-3.50	-----	-----	-----	-----	-----	SEC-II (MS) (Stats Lab)

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MS: Mrs. Munzarin Sajjan  
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Principal

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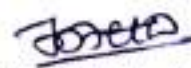
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## DEPARTMENT OF PHYSICS TIME TABLE : 2022-2023 TERM-I

Time	Mon	Tue	Wed	Thu	Fri	Sat
7:20-10:50 am	F.Y.B.Sc. Practical PAS		F.Y.B.Sc. Practical AMS	F.Y.B.Sc. Practical JAA		F.Y.B.Sc. Practical AMS
9:10- 10:00 am	S.Y.B.Sc. JAA	S.Y.B.Sc. JAA	S.Y.B.Sc. JAA	S.Y.B.Sc. FDA/PAS	S.Y.B.Sc. FDA/PAS	S.Y.B.Sc. FDA/PAS
10:00-10:50 am					T.Y.B.Sc. JAA	
10:50-11:40 am	T.Y.B.Sc. FDA	T.Y.B.Sc. FDA	T.Y.B.Sc. PAS	T.Y.B.Sc. FDA	T.Y.B.Sc. AMS	T.Y.B.Sc. JAA
11:40-12:30 pm	T.Y.B.Sc. AMS	T.Y.B.Sc. PAS	T.Y.B.Sc. JAA	T.Y.B.Sc. PAS	T.Y.B.Sc. PAS	T.Y.B.Sc. AMS
12:30-1:20 pm	T.Y.B.Sc. PAS	T.Y.B.Sc. AMS	T.Y.B.Sc. PAS	T.Y.B.Sc. AMS	T.Y.B.Sc. AMS	T.Y.B.Sc. PAS
1:20-2:10 pm	T.Y.B.Sc. AMS	T.Y.B.Sc. PAS	T.Y.B.Sc. AMS	T.Y.B.Sc. PAS		T.Y.B.Sc. AMS
12:30-1:20 pm	F.Y.B.Sc. FDA	F.Y.B.Sc. FDA	F.Y.B.Sc. FDA	F.Y.B.Sc. JAA	F.Y.B.Sc. JAA	F.Y.B.Sc. JAA
2:00-6:10 pm	S.Y.B.Sc. Practical AMS	S.Y.B.Sc. Practical FDA+PAS				
2:00-6:10 pm	T.Y.B.Sc. Practical -I B I- FDA	T.Y.B.Sc. Practical-II B I- JAA	T.Y.B.Sc. Practical-I B II- FDA	T.Y.B.Sc. Practical-III B I	T.Y.B.Sc. Practical III B II	T.Y.B.Sc. Practical-II B II- JAA

JAA: - Dr. Jahir Abbas Ahmed  
PAS: - Dr.Parvez Shaikh

FDA: - Dr. Fakir Mohd. Attar  
AMS- Arjina Shaikh

  
Dr. F. M. D. Attar  
HOD, Physics

Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
Camp, Poona - 411 001.



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## DEPARTMENT OF PHYSICS TIME TABLE : 2022-2023 TERM-II

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7:20-10:50 am	F.Y.B.Sc. Practical JAA		F.Y.B.Sc. Practical PAS	F.Y.B.Sc. Practical PAS		F.Y.B.Sc. Practical PAS
9:10- 10:00 am	S.Y.B.Sc. FDA	S.Y.B.Sc. JAA	S.Y.B.Sc. JAA	S.Y.B.Sc. JAA	S.Y.B.Sc. FDA	S.Y.B.Sc. FDA
10:00-10:50 am					T.Y.B.Sc. MAH	
10:50-11:40 am	T.Y.B.Sc. MAH	T.Y.B.Sc. MAH	T.Y.B.Sc. MAH	T.Y.B.Sc. MAH	T.Y.B.Sc. JAA	T.Y.B.Sc. MAH
11:40-12:30 pm	T.Y.B.Sc. JAA	T.Y.B.Sc. PAS	T.Y.B.Sc. JAA	T.Y.B.Sc. PAS	T.Y.B.Sc. PAS	T.Y.B.Sc. PAS
12:30-1:20 pm	T.Y.B.Sc. FDA	T.Y.B.Sc. FDA	T.Y.B.Sc. FDA	T.Y.B.Sc. FDA	T.Y.B.Sc. FDA	T.Y.B.Sc. FDA
1:20-2:10 pm	T.Y.B.Sc. JAA	T.Y.B.Sc. JAA	T.Y.B.Sc. JAA	T.Y.B.Sc. PAS		T.Y.B.Sc. PAS
12:30-1:20 pm	F.Y.B.Sc. PAS	F.Y.B.Sc. PAS	F.Y.B.Sc. PAS	F.Y.B.Sc. JAA	F.Y.B.Sc. JAA	F.Y.B.Sc. JAA
2:00-6:10 pm	S.Y.B.Sc. Practical PAS	S.Y.B.Sc. Practical FDA				
2:00-6:10 pm	T.Y.B.Sc. Practical -I B I- FDA	T.Y.B.Sc. Practical-III B I	T.Y.B.Sc. Practical-I B II- FDA	T.Y.B.Sc. Practical-III B II	T.Y.B.Sc. Practical-II B I- JAA	T.Y.B.Sc. Practical-II B II- JAA

JAA: - Dr. Jahir Abbas Ahmed  
PAS: - Dr. Parvez Shaikh

FDA: - Dr. Fakir Mohd. Attar  
MAH- Mohammed Abdul Haque

  
Dr. F. M. D. Attar  
HOD Physics

Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
Camp, Poona - 411 001.





Anjuman Khairul Islam's

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## Department of Physics Workload Distribution of Theory Papers and Practical Batches Academic Year : 2022-23 ( Term-1 )

Class	Course Code	Theory/ Practical	Name of Teacher
F. Y. B. Sc.	PHY-111	Mechanics and Properties of Matter	Dr. Fakir Mohd. Attar
	PHY-112	Physics Principles and Applications	Dr. Jahir Abbas Ahmed
	PHY-113	Physics Laboratory-1A	Dr.Parvez Shaikh (3 batches) Dr. Jahir Abbas Ahmed (1 batch)
S. Y. B. Sc.	PHY-231	Mathematical Methods in Physics I	Dr. Jahir Abbas Ahmed
	PHY-232A PHY-232B	Electronics I Instrumentation	Dr. Fakir Mohd. Attar Dr.Parvez Shaikh
	PHY-233	Physics Laboratory-2A	Dr. Fakir Mohd. Attar (2 batches) Dr.Parvez Shaikh (1 batch)
T. Y. B. Sc.	PHY- 351	Mathematical Methods in Physics II	Miss. Arjina Shaikh
	PHY- 352	Electrodynamics	Dr.Parvez Shaikh
	PHY- 353	Classical Mechanics	Miss. Arjina Shaikh
	PHY- 354	Atomic and Molecular Physics	Dr. Fakir Mohd. Attar
	PHY- 355	Computational Physics	Dr. Jahir Abbas Ahmed
	PHY-356(B)	Elements of Materials Science	Dr.Parvez Shaikh
	PHY- 357	Physics Laboratory-3A	Dr. Fakir Mohd. Attar (2 batches)
	PHY- 358	Physics Laboratory-3B	Dr. Jahir Abbas Ahmed (2 batches)
	PHY- 359	Project	Dr. Fakir Mohd. Attar Dr. Jahir Abbas Ahmed Dr. Jahir Abbas Ahmed
	PHY- 3510(H)	Energy studies	Dr.Parvez Shaikh
PHY- 3511(AC)	Physics Workshop Skill	Miss. Arjina Shaikh	

**Dr. F. M. D. Attar**  
**HOD Physics**

Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
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# Anjuman Khairul Islam's POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PUI/PN/ASC/023/1070
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College

K. B. Hidayatullah Road, Camp,  
Pune - 411001. (MS), India

+91-20-2645 4240 / 2644 6319.

www.poonacollege.edu.in  
principal@poonacollege.edu.in

## Department of Physics Workload Distribution of Theory Papers and Practical Batches Academic Year : 2022-23 ( Term-II )

Class	Course Code	Theory/ Practical	Name of Teacher
F. Y. B. Sc.	PHY-121	Heat and Thermodynamics	Dr.Parvez Shaikh
	PHY-122	Electricity and Magnetism	Dr. Jahir Abbas Ahmed
	PHY-123	Physics Laboratory-1B	Dr.Parvez Shaikh (3 batches) Dr. Jahir Abbas Ahmed (1 batch)
S. Y. B. Sc.	PHY-241	Oscillations, Waves and Sound	Dr. Jahir Abbas Ahmed
	PHY-242	Optics	Dr. Fakir Mohd. Attar
	PHY-243	Physics Laboratory-2B	Dr. Fakir Mohd. Attar (2 batches) Dr.Parvez Shaikh (1 batch)
T. Y. B. Sc.	PHY- 361	Solid State Physics	Dr.Parvez Shaikh
	PHY- 362	Quantum Mechanics	Dr. Jahir Abbas Ahmed
	PHY- 363	Thermodynamics and Statistical Physics	Dr. Jahir Abbas Ahmed
	PHY- 364	Nuclear Physics	Dr. Fakir Mohd. Attar
	PHY- 365	Electronics II /Advanced Electronics	Dr.Parvez Shaikh
	PHY-366(Q)	Physics of Nanomaterials	Mohammed Abdul Haque
	PHY- 367	Physics Laboratory-4A	Dr. Fakir Mohd. Attar (2 batches)
	PHY- 368	Physics Laboratory-4B	Dr. Jahir Abbas Ahmed (2 batches)
	PHY- 369	Project	Dr. Fakir Mohd. Attar Dr. Jahir Abbas Ahmed Dr. Jahir Abbas Ahmed
	PHY- 3610(X)	Solar PV System: Installation, Repairing and Maintenance	Mohammed Abdul Haque
PHY- 3611(AC)	Radiation Physics	Dr. Fakir Mohd. Attar	

**Dr. F. M. D. Attar**  
**HOD Physics**

Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
Camp, Pune - 411 001.

AKI'S  
POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE  
Camp, Pune-411001 (YEAR-2022-2023)  
INDIVIDUAL WORKLOAD

**Department of Political Science**

Name of the Lecturer: - DR. AHMAD SHAMSHAD

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7.30	P				Pol. Sc. G-1(A)	Pol. Sc. G-1(A)	Pol. Sc. G-1(A)
	C				FYBA	FYBA	FYBA
	H				28	28	28
8.20	P				Pol.Thought Spl-1	Pol.Thought Spl-1	Pol.Thought Spl-1
	C				SYBA	SYBA	SYBA
	H				38	38	38
9.10	P	SPL-3	SPL-3	SPL-3			
	C	TYBA	TYBA	TYBA			
	H	23	23	23			
10	P	G-3	G-3	G-3			
	C	TYBA	TYBA	TYBA			
	H	23	23	23			
11.40	P						
	C						
	H						
Timing Available on the Campus	7.30, am to 01.30, pm						

**\*P- Paper/Subject**

**C-Class/Division**

**H-Hall No.**

*Ahmad Shamschad. Ahmad Shamschad.*

**Sign. Of the Lecturer**

**Head of Dept.**



**Principal**

AKI'S  
POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE  
Camp, Pune-411001 (YEAR-2022-2023)  
INDIVIDUAL WORKLOAD

**Department of Political Science**

Name of the Lecturer: - Mr. Mukhtar Ahmad Arif Shaikh

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7.30	<b>P</b>				Pol. Sc. G-1(B)	Pol. Sc. G-1(B)	Pol. Sc. G-1(B)
	<b>C</b>				FYBA	FYBA	FYBA
	<b>H</b>				38	38	38
8.20	<b>P</b>	SPL-2	SPL-2	SPL-2			
	<b>C</b>	SYBA	SYBA	SYBA			
	<b>H</b>	38	38	38			
9.10	<b>P</b>				SPL-4	SPL-4	SPL-4
	<b>C</b>				TYBA	TYBA	TYBA
	<b>H</b>				23	23	23
10	<b>P</b>						
	<b>C</b>						
	<b>H</b>						
11.40	<b>P</b>	G-2	G-2	G-2			
	<b>C</b>	SYBA	SYBA	SYBA			
	<b>H</b>	38	38	38			
Timing Available on the Campus	7.30, am to 01.30, pm						

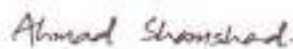
**\*P- Paper/Subject**

**C-Class/Division**

**H-Hall No.**



**Sign. Of the Lecturer**



**Head of Dept.**



**Principal**

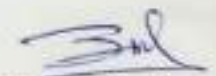


**AKI's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
**(Year 2022-23)**

Name of the Lecturer: Mr. Akhlaque Ahmed


Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:20am	P			Practical (MT-113)			
to	C			F.Y.B.Sc. Batch F2,F6			
10:40am	H			Stats Lab			
10:00am	P	MT - 231	MT - 231				MT - 231
to	C	S.Y.B.Sc.	S.Y.B.Sc.				S.Y.B.Sc.
10:50am	H	13	13				13
10.50 am	P	FMG-1	FMG-1	FMG-1			
to	C	FYBA	FYBA	FYBA			
11.40 am	H	49	49	49			
11.40 am	P				MT - 353	MT - 353	
to	C				T.Y.B.Sc.	T.Y.B.Sc.	
12.30 pm	H				36	36	
12.30 pm	P	MT - 353					MT-353 Lab C
to	C	T.Y.B.Sc.					T.Y.B.Sc.
1.20 pm	H	36					36
1.20 pm	P		MT-358 Lab C				
To	C		T.Y.B.Sc.				
2.10 pm	H		36 (AA / IS)				
2.10 pm	P		MT-358 Lab C		MT - 112		MT - 112
to	C		T.Y.B.Sc.		F.Y.B.Sc.		F.Y.B.Sc.
3.00 pm	H		36		11		11
3.00 pm	P					MT - 112	
to	C					F.Y.B.Sc.	
3.50 pm	H					11	
Timing Available on the Campus		10.00 am to 4.00 pm	10.00 am to 4.00 pm	7.20 am to 1.20 pm	10.00 am to 4.00 pm	10.00 am to 4.00 pm	10.00 am to 4.00 pm

\*P - Paper / Subject  
 C - Class / Division  
 H - Hall No.

  
 Head of the Dept.

Head Department of Informatics  
 Poona College  
 of Arts, Science and Commerce,  
 Camp, Pune - 411001

Principal

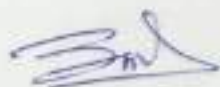
  
 Sign. of the Lecturer

AKI's  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
 (Year 2022-23)

Name of the Lecturer: Mr. Akhlaque Ahmed

Class/ Division	Subject / Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
F.Y.B.Sc	MT-112 : Calculus-I	35	3	
S.Y.B.Sc	MT-231: Calculus of Several Variables	32	3	
T.Y.B.Sc	MT-353: Group Theory	11	3	
F.Y.B.A.	FMG-1: Financial Mathematics-1	03	4	
<b>Practicals:</b>				
F.Y.B.Sc	Practical Lab Course MT - 113	16	3.9	
T.Y.B.Sc	Practical Lab Course – II MT 358	11	2.6	
<b>Remission:</b>				

**Total Workload per week: 19.5**



**Head of the Dept.**

Head Department of Mathematics

Address: Pimpri Chinchwad  
**Poona College**  
 of Arts, Science and Commerce,  
 Camp, Pune - 411001

**Principal**



**Sign. of the Lecturer**

AKI's  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
 (Year 2022-23)

Name of the Lecturer: Mrs. Munzarin Ashfaque Ahmed Sajjan

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:30am	P	MTC - 112				MTC - 112	
to	C	F.Y.B.SC(CS)				F.Y.B.SC(CS)	
08:20am	H	102				101	
08:20am	P	MTC - 112				MTC - 112	
to	C	F.Y.B.SC(CS)				F.Y.B.SC(CS)	
09:10am	H	101				102	
09:10am	P			MTC - 112			
to	C			F.Y.B.SC(CS)			
10:00am	H			102			
10:00am	P	P-II	MTC - 112		P-II	DSE-1	
to	C	TYBSc	F.Y.B.SC(CS)		TYBSc	TYBSc	
10:50am	H	36	101		36	36	
10.50 am	P					DSE-1	
to	C					TYBSc	
11.40 am	H					36	
11.40 am	P						DSE-1
to	C						TYBSc
12.30 pm	H						36
1.20 pm	P						SEC-II
To	C						TYBSc
2.10 pm	H						Stats Lab
2.10 pm	P			P-II			SEC-II
to	C			TYBSc			TYBSc
3.00 pm	H			36			Stats Lab
3.00 pm							SEC-II
to							TYBSc
3.50 pm							Stats Lab
11.00 am	P		MTC - 113		MTC - 113		
to	C		F.Y.B.SC(CS)		F.Y.B.SC(CS)		
02.00 pm	H		CS Lab - I		CS Lab - I		
<b>Timing Available on the Campus</b>		07:30 am to 01:30 pm	09:30 am to 03:30 pm	09:00 am to 03:00 pm	09:30 am to 03:30 pm	07:30 am to 01:30 pm	10:30 am to 04:30 pm

\*P - Paper / Subject  
 C - Class / Division  
 H - Hall No.

  
 Head of the Dept.

Head Department of Mathematics  
 Asjuman Khadim Islam's  
**Poona College**  
 of Arts, Science and Commerce,  
 Camp, Pune - 411001

Principal

  
 Sign. of the Lecturer

AKI's -  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE 1**  
**INDIVIDUAL WORKLOAD**

(Year 2022-23)

Name of the Lecturer: Mrs. Munzarin Ashfaque Ahmed Sajjan

Class/ Division	Subject / Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
F.Y.B.Sc(CS) (A)	Discrete Mathematics MTC - 112	88	03	
F.Y.B.Sc(CS) (B)	Discrete Mathematics MTC - 112	88	03	
T.Y.B.Sc	Real Analysis 35112	14	03	
T.Y.B.Sc	Latex for Scientific Writing	14	03	
<b>Practical's:</b>				
F.Y.B.Sc(CS)	Batch B1 Mathematics Practical MTC - 113	44	3.9	
F.Y.B.Sc(CS)	Batch B2 Mathematics Practical MTC - 113	44	3.9	
T.Y.B.Sc	Lab Course - I	14	2.6	
<b>Remission:</b>				

Total Workload per week: 22.4

  
 3/11/22  
**Head of the Dept.**

Head Department of Mathematics  
 Adyar, Pune - 411004  
**Poona College**  
 of Arts, Science and Commerce,  
 Camp, Pune - 411001

Principal

  
 Sign. of the Lecturer

AKI's  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
 (Year 2022-23)

Name of the Lecturer: Ismat Shaikh

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7.20 am	P		MTC- 113 Mathematics Practical				
to	C		F.Y.B.Sc (Batch: F1, F8)				
10.40 am	H		Stats Lab				
12.30 pm	P		MTC-231 P-I			MTC-231 P-I	MTC-231 P-I
1.20 pm	H		S.Y.B.Sc(CS) 101			S.Y.B.Sc(CS) 101	S.Y.B.Sc(CS) 101
1.20 pm		DSE-II	DSE-II	P-IV	P-IV	P-IV	
To		T.Y.B.Sc 36	T.Y.B.Sc 36	T.Y.B.Sc 36	T.Y.B.Sc 36	T.Y.B.Sc 36	
2.10 pm	P	DSE-II					
to	C	T.Y.B.Sc 36			P-IV		
3.00 pm	H				T.Y.B.Sc 36		
2.30 pm	P			MTC- 233 Mathematics Practical		MTC- 233 Mathematics Practical	
To	C			S.Y.B.Sc(CS) (Batch-A1)		S.Y.B.Sc(CS) (Batch-A2)	
5.30 pm	H			CS Lab-I		CS Lab-I	
Timing Available on Campus		10.30 am to 4.30 pm	7.20 am to 2.10 pm	12.00 noon to 6.00 pm	10.30 am to 4.30 pm	12.00 noon to 6.00 pm	10.00 am to 4.00 pm

\*P - Paper / Subject  
 C - Class / Division  
 H - Hall No.

  
 Head of the Dept.

Head Department of Mathematics  
 Arjunan K. and Ismaty  
**Poona College**  
 of Arts, Science and Commerce,  
 Camp, Pune - 411004

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 Sign. of the Lecturer

AKI's  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE 1**  
**INDIVIDUAL WORKLOAD**

(Year 2022-23)

Name of the Lecturer:

Class/ Division	Subject / Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
S.Y.B.Sc(CS) (A+B)	Groups and Coding Theory (MTC 231)	88	03	
T.Y.B.Sc	Ordinary Differential Equation (35114)	11	03	
<b>Practical's:</b>				
S.Y.B.Sc(CS) Batch A1	Mathematics Practical (MTC 233)	44	5.2	
S.Y.B.Sc(CS) Batch A2	Mathematics Practical (MTC 233)	44	5.2	
F.Y.B.Sc Batch F1 & F8	Mathematics Practical (MTC 113)	19	3.9	
T.Y.B.Sc	Lab Course II	11	2.6	
<b>Remission:</b>				

**Total Workload per week: 22.9**



**Head of the Dept.**

**Principal**



**Sign. of the Lecturer**

**Head Department of Mathematics**

Anjuman Khairul Islam's

**Poona College**

of Arts, Science and Commerce,  
 Camp, Pune - 411001

**AKI's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
**(Year 2022-23)**

Name of the Lecturer: Mrs. Shaheen Salman Khan

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
07:30am	P	MT-3510	MTC-111				
to	C	T.Y.B.Sc	F.Y.B.SC(CS)				MTC-111
08:20am	H	Statistic Lab	101				F.Y.B.SC(CS)
08:20am	P	MT-3510	MTC-111				102
to	C	T.Y.B.Sc	F.Y.B.SC(CS)				
09:10am	H	Statistic Lab	102				
09:10am	P	MT-3510			MTC-111		
to	C	T.Y.B.Sc			F.Y.B.SC(CS)		
10:00am	H	Statistic Lab			101		
10:00am	P	MTC-111	MT-356(B)	MT-356(B)	MTC-111		MT-359
to	C	F.Y.B.SC(CS)	T.Y.B.Sc	T.Y.B.Sc	F.Y.B.SC(CS)		T.Y.B.Sc
10:50am	H	101	36	36	102		36
10.50 am	P						
to	C						MT-359
11.40 am	H						T.Y.B.Sc
11.40 am	P	MT-356(B)					36
to	C	T.Y.B.Sc					
12.30 pm	H	36					
12.30 pm	P						
to	C				MT-359		
1.20 pm	H				T.Y.B.Sc		
11.00 am	P				36		
to	C			MTC - 113		MTC - 113	
02.00 pm	H			F.Y.B.SC(CS)		F.Y.B.SC(CS)	
				CS Lab - I		CS Lab - I	
Timing Available on the Campus		07:30 am to 01:30 pm	07:30 am to 01:30 pm	09:00 am to 03:00 pm	08:30 am to 02:30 pm	09:00 am to 03:00 pm	07:30 am to 01:30 pm

\*P - Paper / Subject  
C - Class / Division  
H - Hall No.

  
Head of the Dept.

Head Department of Mathematics  
Anjuman Khairul Uloom's  
**Poona College**  
of Arts, Science and Commerce,  
Camp, Pune - 411001

Principal

  
Sign. of the Lecturer

AKI's  
POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE 1  
INDIVIDUAL WORKLOAD

(Year 2022-23)

Name of the Lecturer: Mrs. Shaheen Salman Khan

Class/ Division	Subject / Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
F.Y.B.Sc(CS) (A)	Matrix Algebra MTC - 112	88	03	
F.Y.B.Sc(CS) (B)	Matrix Algebra MTC - 112	88	03	
T.Y.B.Sc	Number Theory	14	03	
T.Y.B.Sc	Programming in Python I	14	03	
<b>Practical's:</b>				
F.Y.B.Sc(CS)	Batch A1 Mathematics Practical MTC - 113	44	3.9	
F.Y.B.Sc(CS)	Batch A2 Mathematics Practical MTC - 113	44	3.9	
T.Y.B.Sc	Lab Course - III	14	2.6	
<b>Remission:</b>				

Total Workload per week: 22.4

  
Head of the Dept.

Principal

  
Sign. of the Lecturer



**AKI's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
**(Year 2022-23)**

Name of the Lecturer: Mr. Saeed Anwar Patel

Lecture Timing	*	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10:00am	P						
to	C						
10:50am	H						
10.50 am	P						
to	C						
11.40 am	H						
11.40 am	P			MT 359			
to	C			T.Y.B.Sc			
				36			
12.30 pm	H						
12.30 pm	P		MT 355(A)	MT 359	MT 359	MT 355(A)	
to	C		T.Y.B.Sc	T.Y.B.Sc	T.Y.B.Sc	T.Y.B.Sc	
1.20 pm	H		36	36	36	36	
1.20 pm	P	MTC-232	MTC-232	MTC-232			
To	C	S.Y.B.SC(CS)	S.Y.B.SC(CS)	S.Y.B.SC(CS)			
2.10 pm	H	101	101	101			
2.10 pm	P					MT 355(A)	
to	C					T.Y.B.Sc	
3.00 pm	H					36	
1.20 pm	P				MT - 233		
to	C				S.Y.B.SC		
3.20 pm	H				Stats Lab		
2.30 pm	P	MTC-233					MTC-233
to	C	S.Y.B.SC(CS) Batch B2					S.Y.B.SC(CS) Batch B1
5.30 pm	H	CS Lab - 1					CS Lab - 1
Timing Available on the Campus		11.30 am to 5.30 pm	11.00 am to 5.00 pm	11.00 am to 5.00 pm	11.00 am to 5.00 pm	11.00 am to 5.00 pm	11.30 am to 5.30 pm

\*P - Paper / Subject  
C - Class / Division  
H - Hall No.

  
**Head of the Dept.**  
**Head Department of Mathematics**  
Ajayman Phalraj Patil  
**Poona College**  
of Arts, Science and Commerce,  
Camp - Pune - 411001

**Principal**

  
**Sign. of the Lecturer**



Y & M Anjuman Khairul Islam's  
**POONA COLLEGE**

AKI's  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE**  
**INDIVIDUAL WORKLOAD**  
(Year 2022-23)

Name of the Lecturer: Mr. Saeed Anwar Patel

Class/ Division	Subject / Paper	No. of Students	No. of Lectures	Remarks
<b>Theory:</b>				
S.Y.B.Sc(CS) (A&B)	Numerical Techniques MTC - 232	166	3	
T.Y.B.Sc	Operations Research MT 355(A)	11	3	
<b>Practicals:</b>				
S.Y.B.Sc(CS)	Batch B1 Mathematics Practical MTC - 233	44	5-2	
S.Y.B.Sc(CS)	Batch B2 Mathematics Practical MTC - 233	44	5-2	
T.Y.B.Sc	Practical Lab Course - III MT 359	11	3	
S.Y.B.Sc	Practical Lab Course MT - 233	32	2.6	
<b>Remission:</b>				

Total Workload per week: 22

Head of the Dept.

Head Department of Mathematics

Anjuman Khairul Islam's

**Poona College**

of Arts, Science and Commerce,  
Camp, Pune - 411001

Principal

Sign. of the Lecturer



## INDIVIDUAL TIME – TABLE

(Year 2022-2023) Term I  
20/06/2022 to 08/11/2022

M.Com Part II, Sem III

Name of the Lecturer: : Dr. Syed Hamed Hashmi

Lecturer Timing		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7:30	P				Business Finance	Business Finance	Business Finance
To	C				M.Com II	M.Com II	M.Com II
8:20	H				21	21	21
8:20	P	Adv. Auditing	Adv. Auditing	Adv. Auditing	Specialised Auditing	Specialised Auditing	Specialised Auditing
To	C	M.Com-II	M.Com-II	M.Com-II	M.Com II	M.Com II	M.Com II
9:10	H	14	14	14	13	13	13
9:10	P				C&WA-II	C&WA-II	C&WA-II
To	C				TYBCOM-B	TYBCOM-B	TYBCOM-B
10:00	H				36	36	36
10:00	P			C&WA-II			
To	C			TYBCOM-B			
10:50	H			36			
11:40					Adv. Auditing	Adv. Auditing	Adv. Auditing
To					M.Com-II	M.Com-II	M.Com-II
12:30					14	14	14
12:30		Business Finance	Business Finance	Business Finance			
To		M.Com-II	M.Com-II	M.Com-II			
1:20		21	21	21			

P- Paper/Subject

C- Class/Division

H- Hall No



Head of the Dept.



Principal



Sign. Of the Lecture

**INDIVIDUAL TIME – TABLE**

**(Year 2022-2023 ) Term II**

**26/12/2022 to 04/05/2023**

**M.Com Part II Sem IV**

**Name of the Lecturer: : Dr. Syed Hamed Hashmi**

Lecturer Timing		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7:30	P				Capital Market & Fin.ser	Capital Market & Fin.ser	Capital Market & Fin.ser
To	C				M.Com II	M.Com II	M.Com II
8:20	H				21	21	21
8:20	P	Recent Adv. in Auditing	Recent Adv. in Auditing	Recent Adv. in Auditing	Project work in Accounting	Project work in Accounting	Project work in Accounting
To	C	M.Com-II	M.Com-II	M.Com-II	M.Com II	M.Com II	M.Com II
9:10	H	14	14	14	13	13	13
9:10	P				C&WA-II	C&WA-II	C&WA-II
To	C				TYBCOM-B	TYBCOM-B	TYBCOM-B
10:00	H				36	36	36
10:00	P	Capital Market & Financial Services	Capital Market & Financial Services	Capital Market & Financial Services			
To	C	M.Com-II	M.Com-II	M.Com-II			
10:50	H	21	21	21			
11:40	P	C&WA-II(TT)			Recent Advances in Auditing	Recent Advances in Auditing	Recent Advances in Auditing
To	C	TYBCOM-B			M.Com-II	M.Com-II	M.Com-II
12:30	H	36			14	14	14
Timing Available on the Campus	7:30 a.m . to 1:30 p.m						

P- Paper/Subject

C- Class/Division

H- Hall No

Head of the Dept.

Principal

Sign. Of the Lecture

## INDIVIDUAL TIME – TABLE

(Year 2022-2023) Term I

Name of the Lecturer: : **Dr. Syed Hamed Hashmi**

Class/ Division	Subject/Paper	No. of Student	No. of Lecturer	Remarks
<b>Theory:</b>				
M.com-II	Adv. Accounting		06	
M.com-II	Bus. Finance		06	
TYBCOM-B	C&WA-II		04	
TYBCOM-C	Specialised Auditing		06	
<b>Practical's</b>				
<b>Remission:</b>				


Total workload per week: 22



Head of the Dept.



Principal



Sign. Of the Lecturer

## INDIVIDUAL TIME – TABLE

(Year 2022-2023) Term II

Name of the Lecturer: : **Dr. Syed Hamed Hashmi**

Class/ Division	Subject/Paper	No. of Student	No. of Lecturer	Remarks
<b>Theory:</b>				
M.com-II	Recent Advances in Auditing		06	
M.com-II	Capital Market & Financial Services		06	
TYBCOM-B	C&WA-II		04	
TYBCOM-C	Project Work		06	
<b>Practical's</b>				
<b>Remission:</b>				

Total workload per week: 22



Head of the Dept.



Principal



Sign. Of the Lecturer

**Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE**  
Camp., Pune-411001.

**COURSE COMPLETION CERTIFICATE**  
For the First Term of the academic year 2022-2023

Name of the Teacher : Dr. Sayyed Iliyas  
Department : Botany


I have satisfactorily completed the following courses assigned to me during **First /**  
Second Term / Semester I / II / III / IV of the academic year 2022-2023.

Sr. No.	Subjects / Paper	Class & Div.	Remark
1	Practical (Paper- III)	F. Y. B.Sc	
	Plant Life and Utilization I (Paper I)	F. Y. B.Sc	
2	Practical (Paper-III)	S.Y. B.Sc.	
3	Archegoniate (Paper-V)	T.Y. B.Sc	
4	Practical (Paper-I)	T.Y. B.Sc	
5			

I/C H.O.D.

HEAD

Date: Department of Botany  
Poona College of Arts, Science & Commerce  
Camp. Pune-411001

  
Signature of the Teacher

Date:

**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp, Pune- 411001.**

(Faculty of Arts, Science & Commerce)

**Course Completion Certificate**

First Term

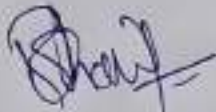
Academic Year: 2022-2023

**Name of the Teacher: Dr. Shaikh Rafik Usman**

**Subject - Botany**

Have satisfactorily completed the following courses assigned to me during Term I of the academic year 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	F.Y. B.Sc	B	Plant Morphology and Anatomy(Paper- II)	
2.	F.Y. B.Sc	B	Practical (Paper - III)	
3.	S.Y. B.Sc	B	Practical (Paper - III)	
4.	T.Y. B.Sc		Spermatophyta and Paleobotany (Paper - IV)	
5.	T.Y. B.Sc		Medicinal Botany (Paper-X)	



Signature of the Teacher



Counter Signature of H.O.D.

Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001



**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp, Pune-411001.**

(Faculty of Arts, Science & Commerce)

**Course Completion Certificate**


First Term

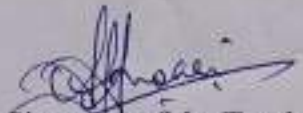
Academic Year – 2022-2023

**Name of the Teacher: Dr. (Mrs) Aafreen Abrar Ahmed**

**Subject - Botany**

Have satisfactorily completed the following courses assigned to me during Term I of the academic year 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	F.Y. B.Sc	B	Practical (Paper - III)	
2.	S.Y. B.Sc	B	Taxonomy of Angiosperms and Plant Ecology (Paper- I)	
3.	S.Y. B.Sc	B	Practical (Paper - III)	
4.	T.Y. B.Sc	-	Plant Ecology (Paper-IV)	
5.	T.Y. B.Sc		Plant Diversity and Human Health (Paper-VIII)	
6.	T.Y. B.Sc		Practical (Paper - II)	

  
Signature of the Teacher

  
Counter Signature of H.O.D.

HEAD  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001

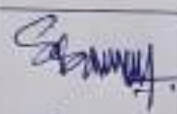
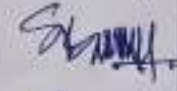
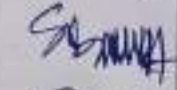
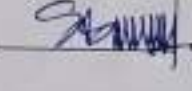
**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp. Pune-411001.**  
(Faculty of Arts, Science & Commerce)

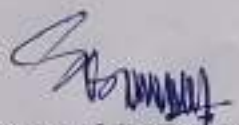
**Course Completion Certificate**

First Term

Academic Year – 2022-2023

Name of the Teacher : **Dr. Shafikh. M. Shaikh** **Subject - Botany**  
Have satisfactorily completed the following courses assigned to me during First / Second Term /  
Semester I / II / III / IV of the academic year. 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	S.Y. B.Sc	B	Plant physiology (Paper-II)	
2	T.Y.B.Sc		Cell & molecular Biology (Paper-V)	
3	F.Y.B.Sc	B	Practical (Paper - III)	
4.	S.Y.B.Sc	B	Practical (Paper - III)	

  
Signature of the Teacher

  
Counter Signature of H.O.D.

HEAD  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001

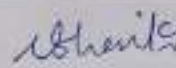
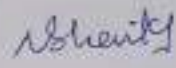
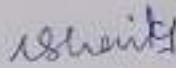
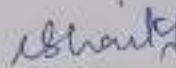
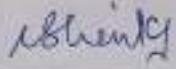
**Y&M Anjuman Khairul Islam's  
POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,  
Camp, Pune-411001.  
(Faculty of Arts, Science & Commerce)**

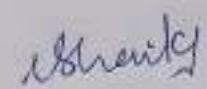
**Course Completion Certificate**

First Term/ First Semester

Academic Year – 2022-2023

Name of the Teacher : **Ms. Nabila.M. Shaikh** **Subject - Botany**  
Have satisfactorily completed the following courses assigned to me during First / Second Term /  
Semester I / II / III / IV of the academic year. 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	T.Y. B.Sc		Algae & Fungi (Paper-I)	
2	T.Y.B.Sc		Genetics (Paper-VI)	
3	F.Y.B.Sc	B	Practical (Paper - III)	
4	S.Y.B.Sc	B	Practical (Paper - III)	
5	T.Y.B.Sc	B	Practical (Paper - III)	

  
Signature of the Teacher

  
Counter Signature of H.O.D.

**HEAD**  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001

Anjuman Khairul Islam's  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE**  
Camp, Pune-411001.

**COURSE COMPLETION CERTIFICATE**  
For the Second Term of the academic year 2022-2023

Name of the Teacher : Dr. Sayyed Iliyas  
Department : Botany

I have satisfactorily completed the following courses assigned to me during First /  
**Second Term** / Semester I / II / III / IV of the academic year 2022-2023.

Sr. No.	Subjects / Paper	Class & Div.	Remark
1	Practical (Paper- III)	F. Y. B.Sc	
	Plant Life and Utilization II (Paper I)	F. Y. B.Sc	
2	Practical (Paper-III)	S.Y. B.Sc.	
3	Biochemistry (Paper-II)	T.Y. B.Sc	
4	Advanced Plant Biotechnology (Paper V)	T.Y. B.Sc.	
5	Practical (Paper-I)	T.Y. B.Sc	

I/C H.O.D.

**HEAD**  
Date: **Department of Botany**  
**Poona College of Arts, Science & Commerce**  
Camp, Pune



Signature of the Teacher

Date:

**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp, Pune- 411001.**

(Faculty of Arts, Science & Commerce)

**Course Completion Certificate**

Second Term

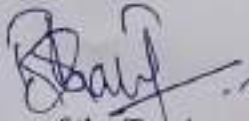
Academic Year: 2022-2023

**Name of the Teacher: Dr. Shaikh Rafik Usman**

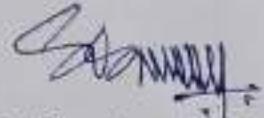
**Subject - Botany**

Have satisfactorily completed the following courses assigned to me during Term II of the academic year 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1.	F.Y. B.Sc	B	Principles of Plant Sciences (Paper- II)	
2.	F.Y. B.Sc	B	Practical (Paper - III)	
3.	S.Y. B.Sc	B	Practical (Paper - III)	
4.	T.Y. B.Sc	-	Plant Physiology and Metabolism (Paper -I)	



Signature of the Teacher



Counter Signature of H.O.D.


HEAD  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001


**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp, Pune-411001.**  
(Faculty of Science)

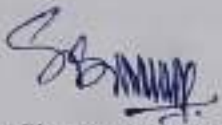
**Course Completion Certificate**

Second Term  
Academic Year – 2022-2023

**Name of the Teacher: Dr. (Mrs) Aafreen Abrar Ahmed** **Subject - Botany**  
Have satisfactorily completed the following courses assigned to me during Term II of the  
academic year 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	S.Y. B.Sc	B	Plant Anatomy and Embryology (Paper- I)	
2.	S.Y. B.Sc	B	Practical (Paper - III)	
3.	T.Y. B.Sc	-	Plant Breeding and Seed Technology (Paper – VI)	
4.	T.Y. B.Sc	-	Nursery and Gardening Management (Paper-X)	
5.	F.Y. B.Sc	-	Practical (Paper - III)	
6.	S.Y. B.Sc	B	Practical (Paper - III)	
7.	T.Y. B.Sc	B	Practical (Paper - III)	

  
Signature of the Teacher

  
Counter Signature of H.O.D.  
HEAD  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001

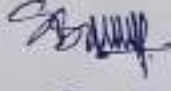
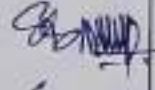
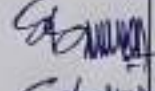

**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp. Pune-411001.**  
(Faculty of Arts, Science & Commerce)

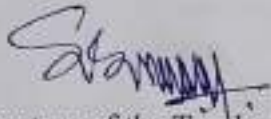
**Course Completion Certificate**

Second Term

Academic Year – 2022-2023

Name of the Teacher : **Dr. Shafikh. M. Shaikh** Subject - Botany  
Have satisfactorily completed the following courses assigned to me during First / Second Term /  
Semester I / II / III / IV of the academic year. 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	S.Y. B.Sc		Plant Biotechnology (Paper-II)	
2	T.Y.B.Sc		Plant Pathology (Paper-III)	
3	F.Y.B.Sc		Practical (Paper - III)	
4	S.Y.B.Sc		Practical (Paper - III)	

  
Signature of the Teacher

  
Counter Signature of H.O.D.

HEAD  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001

**Y&M Anjuman Khairul Islam's**  
**POONA COLLEGE OF ARTS, SCIENCE & COMMERCE,**  
**Camp. Pune-411001.**  
(Faculty of Arts, Science & Commerce)

**Course Completion Certificate**

Second Term/ Sixth Semester

Academic Year – 2022-2023

Name of the Teacher : Ms. Nabila.M. Shaikh Subject - Botany  
Have satisfactorily completed the following courses assigned to me during First / Second Term /  
Semester I / II / III / IV of the academic year. 2022-2023

Sr. No.	Class	Division	Subjects Taught	Signature
1	T.Y. B.Sc		Evolution & Population Genetics (Paper-IV)	<i>Nabila M. Shaikh</i>
2	T.Y.B.Sc		Biofertilizers (Paper-XI)	<i>Nabila M. Shaikh</i>
3	F.Y.B.Sc	B	Practical (Paper - III)	<i>Nabila M. Shaikh</i>
4	S.Y.B.Sc	B	Practical (Paper - III)	<i>Nabila M. Shaikh</i>
5	T.Y.B.Sc		Practical (Paper - II)	<i>Nabila M. Shaikh</i>

*Nabila M. Shaikh*  
Signature of the Teacher

*[Signature]*  
Counter Signature of H.O.D.

HEAD  
Department of Botany  
Poona College of Arts, Science & Commerce  
Camp, Pune-411001



AKI's  
POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE - 411 001  
Department of Chemistry (Post-Graduate & Research Center)  
**Course Completion Certificate**  
**Academic Year: 2022-23 (Sem -I)**

Date: 12/05/2023

To,

The Principal,  
Poona College of Arts, Science & Commerce,  
Pune - 411001

Sir,


This is to certify that I, Dr. Fakir Mohammad Attar, have completed the syllabus of course(s) for the F.Y.B.Sc./S.Y.B.Sc./T.Y.B.Sc. Classes during the academic year 2022-23 assigned to me in time and to the best satisfaction of the students.

Sr. No.	Class	Paper / Course No.	Paper /Course Title
1	F.Y. B.Sc.	Paper I (PHY-111)	Mechanics and Properties of matter
2	S.Y. B.Sc.	Practical (PHY-233)	Physics Practical (1 Batch)
3	S.Y. B.Sc.	Paper-II (PHY-232 A)	Electronics II
4	T.Y. B.Sc.	Practical Paper I	Physical Practical I (PHY-357) (2 Batches)
5	T.Y. B.Sc.	Paper IV (PH-354)	Atomic and Molecular Physics
6	T.Y. B.Sc.	Project I (PH-359)	Project-I (10 students)

Thanking you,

Yours faithfully,

  
Signature of Teacher  
(Dr. Fakir Mohammad Attar)

  
Head,  
Department of Physics,  
Poona College, Pune-1.  
Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
Camp, Poona - 411 001.

AKI's  
POONA COLLEGE OF ARTS, SCIENCE & COMMERCE, CAMP, PUNE - 411 001  
Department of Chemistry (Post-Graduate & Research Center)

**Course Completion Certificate**  
**Academic Year: 2022-23 (Sem -II)**

Date: 12/05/2023

To,

The Principal,  
Poona College of Arts, Science & Commerce,  
Pune - 411001

Sir,


This is to certify that I, Dr. Fakir Mohammad Attar, have completed the syllabus of course(s) for the F.Y.B.Sc./S.Y.B.Sc./T.Y.B.Sc. Classes during the academic year 2022-23 assigned to me in time and to the best satisfaction of the students.

Sr. No.	Class	Paper / Course No.	Paper /Course Title
1	S.Y. B.Sc.	Practical (PHY-243)	Physics Practical (2 Batches)
2	S.Y. B.Sc.	Paper-II (PHY-242)	Optics
3	T.Y. B.Sc.	Practical Paper I	Physical Practical I (PHY-367) (2 Batches)
4	T.Y. B.Sc.	Paper IV (PH-364)	Nuclear Physics
5	T.Y. B.Sc.	Paper VIII [PH-3611 (AC)]	Radiation Physics
6	T.Y. B.Sc.	Project I (PH-359)	Project-I (10 students)

Thanking you,

Yours faithfully,

  
Signature of Teacher  
(Dr. Fakir Mohammad Attar)

  
Head,  
Department of Physics,  
Poona College, Pune-1.

Head Department of Physics  
Poona College of Arts, Sci & Comm.  
Camp, Poona - 411 001.



# Anjuman Khairul Islam's POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PNI/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College

K. B. Hidayatullah Road, Camp,  
Pune - 411001. (MS), India



+91-20-2645 4240 / 2644 6319.



www.poonacollege.edu.in  
principal@poonacollege.edu.in

Faculty of Science

Department of Physics

## COURSE COMPLETION CERTIFICATE

Academic year – 2022-23 (Semester : I/III/V)

Certified that I \_\_\_\_\_ Dr. JAHIR ABBAS AHMED \_\_\_\_\_  
have satisfactorily completed the following courses assigned to me during the First Term of the  
academic year 2022-23.

Sr. No.	Course Code	Title of the Course	Class	First/ Second Term/ Semester I/ II/ III/ IV/V/VI
1.	PHY-112	Physics Principles and Applications	F.Y.B.Sc.	Semester I
2.	PHY-113	Physics Laboratory 1B	F.Y.B.Sc.	Semester I
3.	PHY-231	Mathematical Methods in Physics-I	S.Y.B.Sc.	Semester III
4.	PHY-233	Physics Laboratory 2A	S.Y.B.Sc.	Semester III
5.	PHY-355	Computational Physics	T.Y.B.Sc.	Semester V
6.	PHY-358	Physics Laboratory-3B	T.Y.B.Sc.	Semester V

Name and signature of teacher:

Dr. Jahir A. Ahmed

Signature of Head, Department of Physics:

Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
Camp, Poona - 411 001.



# Anjuman Khairul Islam's POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PN/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College



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Pune - 411001. (MS), India



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principal@poonacollege.edu.in

Faculty of Science

Department of Physics

COURSE COMPLETION CERTIFICATE

Academic year – 2022-23 (Semester : II/IV/VI)

Certified that I \_\_\_\_\_ **Dr. JAHIR ABBAS AHMED** \_\_\_\_\_  
have satisfactorily completed the following courses assigned to me during the Second Term of  
the academic year 2022-23.

Sr. No.	Course Code	Title of the Course	Class	First/ Second Term/ Semester I/ II/ III/ IV/V/VI
1.	PHY-122	Electricity and Magnetism	F.Y.B.Sc.	Semester II
2.	PHY-123	Physics Laboratory 1B	F.Y.B.Sc.	Semester II
3.	PHY-241	Oscillations, Waves and Sound	S.Y.B.Sc.	Semester IV
4.	PHY-362	Quantum Mechanics	T.Y.B.Sc.	Semester VI
5.	PHY-363	Thermodynamics and Statistical Physics	T.Y.B.Sc.	Semester VI
6.	PHY-368	Physics Laboratory-4B	T.Y.B.Sc.	Semester VI

Name and signature of teacher:

*Dr. Jahir A. Ahmed*

Signature of ~~Vice-Principal~~ **HOD, PHYSICS**



Anjuman Khairul Islam's

# POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PN/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institution
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College



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Pune - 411001. (MS), India



+91-20-2645 4240 / 2644 6319.



www.poonacollege.edu.in  
principal@poonacollege.edu.in

Faculty of Science

Department of Physics

## COURSE COMPLETION CERTIFICATE

Academic year – 2022-23 (Semester : I/III/V)

Certified that I Dr. PARVEZ ABDUL AJIJ SHAIKH  
have satisfactorily completed the following courses assigned to me during the First Term of the  
academic year 2022-23.

Sr. No.	Course Code	Title of the Course	Class	First/ Second Term/ Semester I/ II/ III/ IV/V/VI
1.	PHY-113	Physics Laboratory IA	F.Y.B.Sc.	Semester I
2.	PHY-232 (B)	Instrumentation	S.Y.B.Sc.	Semester III
3.	PHY-233	Physics Laboratory 2A	S.Y.B.Sc.	Semester III
4.	PHY-352	Electrodynamics	T.Y.B.Sc.	Semester V
5.	PHY-3510 (I)	Energy Studies	T.Y.B.Sc.	Semester V
6.	PHY-356 (B)	Elements of Materials Science	T.Y.B.Sc.	Semester V

P.A.S.  
Name and signature of teacher:

[Signature]  
Signature of Head, Department of Physics:

Head Department of Physics  
Poona College of Arts, Sci. & Comm.  
Camp, Poona - 411 001.



Anjuman Khairul Islam's

# POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

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Faculty of Science

Department of Physics

## COURSE COMPLETION CERTIFICATE

Academic year – 2022-23 (Semester : II/IV/VI)

Certified that I Dr. PARVEZ ABDUL AJIJ SHAIKH  
have satisfactorily completed the following courses assigned to me during the Second Term of  
the academic year 2022-23.

Sr. No.	Course Code	Title of the Course	Class	First/ Second Term/ Semester I/ II/ III/ IV/V/VI
1.	PHY-121	Heat and Thermodynamics	F.Y.B.Sc.	Semester II
2.	PHY-123	Physics Laboratory 1B	F.Y.B.Sc.	Semester II
3.	PHY-243	Physics Laboratory -2(B)	S.Y.B.Sc.	Semester IV
4.	PHY-361	Solid State Physics	T.Y.B.Sc.	Semester VI
5.	PHY-365	Electronics-II	T.Y.B.Sc.	Semester VI
6.	PHY-369	Project-II	T.Y.B.Sc.	Semester VI

P.A.S.  
Name and signature of teacher:

[Signature]  
Signature of Vice-Principal:

### List of Departmental Library Books

Sr. No	Title of Book	Publisher	ISBN No.
1	Higher Mathematical Physics	H.K Dass, Dr. Rama Verma	978-93-83746-77-4
2	Matrices and Tensors in Physics	A.W. Joshi (3 <sup>rd</sup> Edition)	81-224-0563-0
3	Digital Principles and Applications	Albert Paul Malvino, Donald P. Leach (4 <sup>th</sup> Edition)	0-07-462231-8
4	Electronic Principles	Albert Paul Malvino (3 <sup>rd</sup> Edition)	0-07-099479-X
5	Electronic Fundamentals and applications	John D. Ryder (5 <sup>th</sup> Edition)	0-87692-082-2
6	Atomic and Nuclear Physics	T.A. Littlefield, N. Throley (2 <sup>nd</sup> Edition)	442-04828-9
7	Nuclear Physics ( An Introduction)	S. B. Patel	81-224-0125-2
8	Nuclear and particle Physics	W. E. Burcham, M. Jobes	0-582-45088-8
9	Modern Atomic and Nuclear Physics	A.B. Gupta	978-93-84294-69-4
10	Concepts of Atomic Physics	S. P. Kuila	978-93-5255-083-8
11	Optics and Atomic Physics	D.P. Khandelwal	-
12	Fundamental of Solid State Physics	B.S. Saxena , R.C. Gupta (4 <sup>th</sup> Edition)	-
13	Electrodynamics	Gupta, Kumar, Sharma	987-93-5140-394-4
14	Classical Electrodynamics	J.D. Jackson (2 <sup>nd</sup> Edition)	0-85226-421-6
15	Theory and Experiments on Thermal Physics	P.K Chakrabarti	81-7381-504-6
16	Fundamentals of Physics	David Halliday, Robert Resnick, Jearl Walker	9971-51-228-9
17	B.Sc Practical Physics	Harnam Singh, Dr. P.S Heme	81-219-0469-2
18	A Textbook of Practical Physics	Dr. S.K Ghosh	978-81-7381-760-9
19	Non- Conventional Energy Sources	G.D. Rai	81-7409-073-8
20	Introduction to Solid State Physics	Charles Kittel (5 <sup>th</sup> Edition)	0-85226-469-0
21	Quantum Physics	L.I Schiff (3 <sup>rd</sup> Edition)	0-07-085643-5
22	Mechanics	Prof. D.S Mathur, Dr. P.S. Hemne	81-219-0599-0
23	Systematic Physics	B.M. Garje	-
24	Physics -Principles and Applications	Dr. M.K Deore, Dr. A.B Rahane	978-93-85664-73-1

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## List of Departmental Library Books

Sr. No	Title of Book (F.Y.B.Sc)	Publisher
1	Elementary theory and Thermodynamics	R.D. Bhide, D.B. Kulkarni
2	Elementary theory and Thermodynamics	Naroda D.S, G.Y. Bhat, S.B. Chaudhary
3	College Physics (Mathematical Methods)	V. P.Nene, P.Bhausar, H.V. Modak, Fulpagare
4	Elementary Kinetic Theory and Thermodynamics	R. D. Bhide, D.B. Kulkarni
5	College Physics	V.P.Nene, B.G. Lagu, V.A Puntambekar, K.R. Kulkarni
6	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
7	Electricity and Magnetism	G.Y. Gambhir, V.D. Joshi, M.K Yeole, N.K. Patil, M.G.Gaikwad
8	College Physics (Mathematical Methods)	V.P.Nene, G.P. Bhoraskar, Fulpagare
9	College Physics (Mathematical Methods)	V.P.Nene, G.P. Bhoraskar, Fulpagare
10	College Physics (Mathematical Methods)	V.P.Nene, G.P. Bhoraskar, Fulpagare
11	Practical Course in Physics	H.V. Modak, G.Y.Bhat, D.S. Namde
12	Methods of Theoretical Physics with Manual	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
13	Methods of Theoretical Physics with Manual	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
14	Methods of Theoretical Physics with Manual	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
15	Methods of Theoretical Physics with Manual	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
16	Methods of Theoretical Physics	D.B.Kulkarni, R.D. Bhide
17	Methods of Theoretical Physics	D.B.Kulkarni, R.D. Bhide
18	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
19	Methods of Theoretical Physics with Manual	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
20	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
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22	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
23	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
24	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
25	College Physics	V.P.Nene, B.G. Lagu, V.A Puntambekar, K.R. Kulkarni



Sr. No	Title of Book (F.Y.B.Sc)	Publisher
26	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
27	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
28	Physics- Electricity and Magnetism	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
29	Elementary Kinetic theory and Thermodynamics	R. D. Bhide, D.B. Kulkarni
30	Zoology: Function anatomy of chordates	Kishore Pawar
31	Organic and Inorganic Chemistry	Bahtwadekar, Gokhale, Kulkarni, Bagwan
32	Physical and Inorganic Chemistry	Salunke, Gokhale, Deogadkar, Tatile, Bhavaskar, Kulkarni
33	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
34	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
35	Methods of Theoretical Physics	Kulkarni, Bhide
36	Methods of Theoretical Physics	Kulkarni, Bhide
38	Experiment in Physics	D.V. Wagh, D.B. Kulkarni
39	Organic and Inorganic Chemistry	Bahtwadekar, Gokhale, Kulkarni, Bagwan
40	Physical and Inorganic Chemistry	Salunke, Gokhale, Deogadkar, Tatile, Bhavaskar, Kulkarni
41	Elementary Kinetic theory and Thermodynamics	G.Y. Gambhir, V.D. Joshi, M.K Yeole, B.D. Kotkar
42	Methods of Theoretical Physics	Kulkarni, Bhide
43	Physics- Electricity and Magnetism	D.S Namde, G.Y.Bhat, S.B. Chaudhary, H.V. Modak
44	Methods of Theoretical Physics	Kulkarni, Bhide
45	Practical Course in Physics	H.V. Modak, G.Y.Bhat, D.S. Namde
46	Practical Course in Physics	H.V. Modak, G.Y.Bhat, D.S. Namde
47	College Physics	V.P.Nene, B.G. Lagu, V.A Puntambekar, K.R. Kulkarni
48	Electricity and Magnetism	G.Y. Gambhir, V.D. Joshi, M.K Yeole, N.K. Patil, M.G.Gaikwad
49	College Physics	V.P.Nene, B.G. Lagu, V.A Puntambekar, K.R. Kulkarni
50	College Physics	V.P.Nene, B.G. Lagu, V.A Puntambekar, K.R. Kulkarni
51	Electricity and Magnetism	G.Y. Gambhir, V.D. Joshi, M.K Yeole, N.K. Patil, M.G.Gaikwad
52	Advance Examples in Physics	D.V.wagh
53	Physics	Kulkarni, Joshi, S.K.Kshirsagar
54	A modern Textbook of parasitology	A.N. Latey

55	Physics (Electromagnetics)	S.Y. Gambhir
56	Physics Textbook	K.R. Kulkarni, S.K. Kshirsagar, P.L.Kale
57	Physics Textbook	K.R. Kulkarni, S.K. Kshirsagar, P.L.Kale

Sr. No	Title of Book (S.Y.B.Sc)	Publisher
1	Physics Textbooks, Mathematical Methods, Optics and Laser	K.R. Kulkarni, S.K. Kshirsagar, P.L.Kale
2	Physics Textbooks, Mathematical Methods, Optics and Laser	K.R. Kulkarni, S.K. Kshirsagar, P.L.Kale
3	Physics Textbooks, Mathematical Methods, Optics and Laser	K.R. Kulkarni, S.K. Kshirsagar, P.L.Kale
4	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
5	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
6	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
7	Waves and Oscillations -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
8	Waves and Oscillations -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
9	Waves and Oscillations -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
10	Waves and Oscillations -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
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12	Waves and Oscillations -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
13	Waves and Oscillations -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
14	Waves and Oscillations (Sem-II)	Gambhir, Kulkarni, Bhide, Ujagare, Honap
15	A Textbook Of Botany (Taxonomy of Angiosperm)	T. N. More, K.K.Dhumal, M.A. Munole
16	A Textbook Of Botany (Horticulture)	T. N. More, K.K.Dhumal, M.A. Munole
17	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
18	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
19	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
20	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
21	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
22	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak

23	Modern Physics	V.D. Joshi, M.K.Yeole, K.K.Patil, S.K. Kshirsagar
24	Physics- Optics	G.Y. Bhat, Namde, S.B. Chaudhary, B.D. Chaure, H.V. Modak
25	Electronics -1	V.P. Nene, Marathe, D.M. Ujagare, A. Saraf, Bhandari.
26	Waves and Oscillations	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
27	Electronics with manual	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
28	Physics -(Electronics with manual)	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
29	Modern Physics	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
30	Physics- Optics	G.Y. Bhat, Namde, S.B. Chaudhary, B.D. Chaure, H.V. Modak
31	Electricity and Magnetism	G.Y. Gambhir, V.D. Joshi, M.K.Yeole, N.K. Patil, M.G.Galkwad
32	Modern Physics	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
33	Optics -I	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
34	Waves and Oscillations	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
35	Modern Physics	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
36	Modern Physics	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
37	Modern Physics	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
38	Waves and Oscillations (With Manual)	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
39	Waves and Oscillations	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
40	Modern Physics	V.D. Joshi, M.K.Yeole, S.K. Kshirsagar, Patil
41	Waves and Oscillations	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
42	Waves and Oscillations	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
43	Practical Course In Physics	V.P. Nene, V.K. Wagh, Y.D. nandkar, L.R. Chaudhary
44	Practical Course In Physics	V.P. Nene, V.K. Wagh, Y.D. nandkar, L.R. Chaudhary
45	Instrumentation -I	S.K. Kshirsagar
46	Physical And Analytical Chemistry	Pande, Adhave, Pole, Date.

47	Physical And Analytical Chemistry	Pande, Adhave, Pole, Date.
48	Physical and Inorganic Chemistry	Adhave, Pole, Date, Kulkarni
49	Practical Course in Physics	H.V. Modak, G.Y.Bhat, D.S. Namde
50	Electronics- I	M.L Ugalapurkar, A.S. Inamdar
51	Modern Physics	V.D. Joshi, M.K Yeole, S.K. Kshirsagar, Patil
52	Optics -I	G.Y. Gambhir, Kulkarni, Bhide, Ujagare
53	Optics -I	G.Y. Gambhir, Kulkarni, Bhide, Ujagare
54	Optics -I	G.Y. Gambhir, Kulkarni, Bhide, Ujagare
55	Optics -I	G.Y. Gambhir, Kulkarni, Bhide, Ujagare
56	Optics -I	G.Y. Gambhir, Kulkarni, Bhide, Ujagare
57	Waves and Oscillations	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
58	Waves and Oscillations	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
59	Waves and Oscillations	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
60	Waves and Oscillations	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
61	Optics -I	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
62	Modern Physics	G.Y. Gambhir, Kulkarni, Bhide, Ujagare
63	Modern Physics	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
64	Modern Physics	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
65	Modern Physics	V. D. Joshi, M.K.Yeole, N.K.Patil, S.K. Kshirsagar
66	Practical Course in Physics	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
67	Physics-Waves and Oscillations	K.R. Kulkarni, S.K. Kshirsagar, V.D. Joshi, M.R. Modak
68	Practical Chemistry	Adhav, Pande, Date, Pol, Kulkarni, Bhave
69	Electronics-I	V.P. Nene, Marathe, D.M. Ujagare, A. Saraf, Bhandari.
70	Electronics with Manual	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
71	Question Bank Physics	-
72	Question Bank Physics	-

Sr. No	Title of Book (T.Y.B.Sc)	Publisher
1	Nuclear Physics : P-II	M.K.Yeole
2	Nuclear Physics : P-II	M.K.Yeole
3	Nuclear Physics : P-II	M.K.Yeole
4	Nuclear Physics : P-II	M.K.Yeole
5	Nuclear Physics : P-II	M.K.Yeole
6	Nuclear Physics : P-II	M.K.Yeole
7	Nuclear Physics : P-II	M.K.Yeole
8	Atomic and Molecular Physics (P-I)	M.K.Yeole
9	Atomic and Molecular Physics (P-I)	M.K.Yeole
10	Atomic and Molecular Physics (P-I)	M.K.Yeole
11	A Textbook of Sound- (For Degree Classes)	R.L.Singhal
12	Electronics With Manual	G. Y. Bhat, B.D. Chaure, H.V. Modak, Namde, Chaudhari
13	Nuclear Physics With Manual	A.S Nigawekar, S.K Kshirsagar, M.K.Yeole, A.V. Pimple
14	Atoms and Nuclei with Manual	A.S Nigawekar, S.K Kshirsagar, M.K.Yeole, A.V. Pimple
15	Nuclear Physics : P-II	M.K.Yeole
16	Mathematical Methods In Physics	V.P. Nene, G.P. Bhavaskar, A.D. Fulpagare
17	Introduction to Classical Mechanics	P.V. Panat, G.Y. Bhat, S.B. Ogale, R.K.Pathak
18	Atoms And Nuclei with manual	A.S. Nigawekar, S.K.Kshirsagar, M.K.Yeole, A.V.Pimple
19	Nuclear Physics With Manual	A.S Nigawekar, S.K Kshirsagar, M.K.Yeole, A.V. Pimple
20	Introduction to Classical Mechanics	P.V. Panat, G.Y. Bhat, S.B. Ogale, R.K.Pathak
21	Mathematical Methods In Physics with Manual	V.D.Joshi, V.K.Wagh, Mandke, V.V. Agashe
22	Atoms And Nuclei	G.Y.Bhat, P.V. Panat, S.B. Ogale
23	Mathematical Methods In Physics	B.M.Laware, G.Q. Pansare, P.S.Tambde, V.M.Harpale
24	Classical Electrodynamics	B.M.Laware, G.Q. Pansare, P.S.Tambde, Wagh, Chaudhari
25	Quantum Mechanics	G.Y.Bhat, P.V. Panat, S.B. Ogale
26	Pragati- Mathematical Physics- I	Kulkarni
27	Classical Mechanics	S.K.Kshirsagar, Kulkarni
28	Pragati- Mathematical Physics- I	Kulkarni
29	Pragati- Quantum Mechanics	Kulkarni
30	Atoms And Nuclei	A.S. Nigawekar, S.K.Kshirsagar, M.K.Yeole, A.V.Pimple
31	Pragati- Classical Mechanics	Kulkarni
32	Nuclear Physics	M.K.Yeole
33	Atomic and Molecular Physics (P-I)	M.K.Yeole

34	Principles of Statistics	M.L.Jain
35	Preparation of Problem (Oriented learning material)	Virendra, Tripathi, V. N. Singh
36	Nuclear Physics	M.K.Yeole
37	Mathematical Methods In Physics	V.D.Joshi, V.K.Wagh, Mandke, V.V. Agashe
38	Introduction to Probability and statistical Applications (2 <sup>nd</sup> Edition)	L. Meyer



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## Department of Botany

### Departmental Library

The department of Botany has departmental library having various reference and text books. The lists of books available as in academic year **2022-23** are as follows:

Sr. No.	Title of the book	Author/s	Number of Copies
1	Botany for degree students Algae	B.R. Vashishta	05
2	Algae	G.L. Chopra	01
3	Botany for degree students Gymnosperm	P.C. Vashishta	01
4	A text book of Botany Vol-1	Saxena & Sarabhai	01
5	Botany for degree Students Bryophyta	B.R. Vashishta	01
6	Practical Manual of Bryophyta	S. Sundara Rajan	01
7	Introductory Mycology (II Edition)	Alexopoulos	01
8	Plant Anatomy	R.C. Grewal	01
9	Morphology & Anatomy (FY B.Sc. P-I) II Term	Dr. B.A. Patil	01
10	Outlines of Microtechniques	M.K. Prasad	01
11	Plant Biotechnology (SY B.Sc. P-I) II Term	Dr. K.N. Dhumal	01
12	Advances in Biotechnology	S.N. Jogdand	01
13	Plant Biotechnology	Dr. D.N. Khairnar	01
14	Plant Biotechnology	Dr. S.D. Pingle	03
15	Plant biotechnology (S.Y.B.Sc.) P-I, Sem II	Dr. B.A. Patil	02
16	A text book of Botany Biotechnology (S.Y.B.Sc., P-I) Sem II	Dr. S.D. Pingale	01
17	Fundamental of Plant Biotechnology	Dr. Hema Sane	01
18	Botany Cytology (Sem- I)	Mujawar S.B	01



19	Cell Biology and Environmental Biology	Dr. S.N. Pathan	01
20	Fundamental of Cytology	Lester w. sharp	01
21	A text book of Botany FY B.Sc. Paper-II	Dr. M.R. Khan	01
22	Poona College library Poona-I Text book	R.D. Nandurkar	01
23	Text Book on fundamental of botany Vol- II	R.K. Kar	01
24	Objective botany	Dr. A.K. Sharma	01
25	College Botany Vol-II	S. Sundara Rajan	01
26	College Botany Vol-III	S. Sundara Rajan	01
27	A Text Book of Higher Cryptogams SY B.Sc. Botany, P-I (Revised June-1993)	Dr. D.R. Mahajan	01
28	Botany FY B.Sc. Part-II P-I, Section II Cryptogams (Bryophyta and Pteridophyta)	J.K. Shah	01
29	Text book Of Botany (Diversity of microbes and cryptogams)	Singh, Pande, Jain	01
30	A Text Book of Spermatophyta SY B.Sc Botany Paper-II revised June -1993	Prof. G.M. Acharya	01
31	A Text book of Botany (SY B.Sc. P-I, term –I) Taxonomy of Angiosperms	Dr. T. N. More	01
32	Taxonomy of Angiosperms (SY B.Sc, P-I, Term –I)	S.D. Bhagwal	02
33	Taxonomy of Angiosperms (SY B.Sc. P-I)	Dr. S.D Pingle	01
34	A text Book of Botany Gymnosperms	J.K. Shah	01
35	Taxonomy of Angiosperms SY B.Sc. Sem-I (New Syllabus 2003)	Dr. B.A. Patil	01
36	Phytochemistry SY B.Sc. Botany (Revised) Paper -I Term -I	Dr. S.N. Pathan	01
37	Idol (Botany) Molecular Biology TY B.Sc. Sem-III	Prof. Ashwini Soman	01
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40	Pragati (Question Answers) FY B.Sc., Paper -I	Prof. Kulkarni	01
41	Botany for Degree Students Course –I: Diversity of Microbes and cryptogams Course –II: Cell Biology and Genetics	Dr. B. R. Pandey	01

42	Fundamentals of Botany FY B.Sc. (Term -I Paper –I)	S.D. Bhagwat	02
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45	Morphology & Anatomy FY B.Sc. (Paper –I, Sem-II)	Dr. K.N. Dhumal	01
46	Plant Diversity & Plant Resources Management & Utilization FY B.Sc. (Paper -I & II, Term –II)	Dr. K. N. Dhumal	01
47	Plant Diversity Part -II FY B.Sc. (Term -II , Paper –I)	Dr. K.N. Dhumal	01
48	Applied Botany FY B.Sc. Paper -II (Term -II)	Dr. K.N. Dhumal	01
49	Fundamentals of Botany FY B.Sc. (P-I, Term -I & II)	Dr. Rekha Gupta	01
50	Plant Resources Managements & Utilization FY B.Sc., (P-II, Term –II)	Dr. B.A. Patil	02
51	Applied Botany FY B.Sc. (Paper –II, Term -II)	Dr. B.A. Patil	01
52	Plant Diversity & Plants and Human Botany Paper -II	Dr. K.N. Dhumal	01
53	Fundamentals of Botany FY B.Sc. Term –II Plants and Human Welfare	S.D. Bhagwat	01
54	Fundamental Botany (Plant Diversity) FY B.Sc.( P-I, Term –I)	Dr. K.N. Dhumal	01
55	Applied Botany FY B.Sc. (Paper –II, Sem-II)	Prof. R.N. Zaware	01
56	Plant Diversity FY B.Sc. (Term -II, Paper –I)	Dr. B.A. Patil	01
57	Studies in Botany	Mitra Guha	02
58	A text Book of Botany SY B.Sc. (Sem- IV)	Dr. D.D. Wani	01
59	A text Book of Applied Botany SY B.Sc. P-II	Prof. A.B. Kulkarni	01
60	Idol Botany -I (Taxonomy of Angiosperms and plant community SY B.Sc. (Sem -II)	Dr. Prema Johari	01
61	A text Book of Botany Plant Physiology SY BSc (Sem -II, P-II)	Dr. K.N. Dhumal	01
62	Structural Botany	Dr. Sane	01

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94	Plant Ecology FYBSC (P-I, Sem-II)	Prof. M.V. Deore	01
95	Fundamental of Plant Systematics and plant Ecology SY B.Sc. (Sem-I, P-I)	Dr. T.N. More	01
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