Bhawabhuti Mahavidyalaya, Amgaon

DEPARTMENT OF PHYSICS

Teaching Plan

Practice followed in respect of curriculum delivery has been to teach entire course to students under the heads theory and practical's. Usually, teachers completed 90 % and above of the curriculum. A tentative schedule for effective delivery of entire curriculum used to be discussed among faculty. Over a semester 90 working days are allowed by the parent university. Faculty tried to teach 01 unit in 15 working days. Every theory paper spans over 04 units. In a semester, a student has to perform 10 experiments a minimum. Faculty of physics department has conducted 72 experiments in all the semesters which amount to 12 experiments per semester. At times extra classes were conducted.

Session 2017-18

Name of Teacher & Work-Load per week	Semester	Paper	Practical
Dr. A. M. Deshpande Theory: 09 Periods Practical: 09 Periods	I	II	Electricity and Magnetism
	III	II	Sound and Electronics
	V	I	CRO, Electronics and Probability
	II	I	Thermodynamics and Magnetism
	IV	II	Electronics
	VI	I	OPAMP, IC and Logic Gates
Dr. B. A. Shingade Theory: 09 Periods Practical: 09 Periods Tutorial: 02	I	I	Mechanics
	III	I	Optics
	V	II	Modern Physics, probability and Optics
	II	II	Oscillations
	IV	I	Lasers and Crystallography
	VI	II	Boolean Algebra, Diode applications, Digital Electronics

Session 2018-19

Name of Teacher & Work-Load per week	Semester	Paper	Practical
Dr. A. M. Deshpande Theory: 09 Periods Practical: 09 Periods	I	II	Electricity and Magnetism
	III	II	Sound and Electronics
	V	I	CRO, Electronics and Probability
	II	I	Thermodynamics and Magnetism
	IV	II	Electronics
	VI	I	OPAMP, IC and Logic Gates
Dr. B. A. Shingade Theory: 09 Periods Practical: 09 Periods Tutorial: 02	I	I	Mechanics
	III	I	Optics
	V	II	Modern Physics, probability and Optics
	II	II	Oscillations
	IV	I	Lasers and Crystallography
	VI	II	Boolean Algebra, Diode applications, Digital Electronics

Session 2019-20

Name of Teacher & Work-Load per week	Semester	Paper	Practical
Dr. A. M. Deshpande Theory: 09 Periods Practical: 09 Periods	I	II	Electricity and Magnetism
	III	II	Sound and Electronics
	V	I	CRO, Electronics and Probability
	II	I	Thermodynamics and Magnetism
	IV	II	Electronics
	VI	I	OPAMP, IC and Logic Gates
Dr. B. A. Shingade	I	I	Mechanics

Theory: 09 Periods Practical: 09 Periods Tutorial: 02	III	I	Optics
	V	II	Modern Physics, probability and Optics
	II	II	Oscillations
	IV	I	Lasers and Crystallography
	VI	II	Boolean Algebra, Diode applications, Digital Electronics
Mr. P. R. Bhendarkar Theory: 01Period Practical: 06 Periods	I	I & II 1 Unit Each	Theory Paper I :Unit: Elasticity Theory Paper II :Unit: Dielectrics
	II	I & II 1 Unit Each	Theory Paper I :Unit: Elasticity Theory Paper II :Unit: Dielectrics
	VI		OPAMP, IC and Logic Gates; Boolean Algebra, Diode applications, Digital Electronics

Session 2020-21

Name of Teacher & Work-Load per week	Semester	Paper	Practical
Dr. A. M. Deshpande Theory: 09 Periods Practical: 09 Periods	I	II	Electricity and Magnetism
	III	II	Sound and Electronics
	V	I	CRO, Electronics and Probability
	II	I	Thermodynamics and Magnetism
	IV	II	Electronics
	VI	I	OPAMP, IC and Logic Gates
Dr. B. A. Shingade Theory: 09 Periods Practical: 09 Periods Tutorial: 02	I	I	Mechanics
	III	I	Optics
	V	II	Modern Physics, probability and Optics
	II	II	Oscillations
	IV	I	Lasers and Crystallography
	VI	II	Boolean Algebra, Diode applications, Digital Electronics
Mr. P. R. Bhendarkar Clock Hour Basis Teacher Theory: 01 Period Practical: 06 Periods	I	I & II 1 Unit Each	Theory Paper I :Unit: Elasticity Theory Paper II :Unit: Dielectrics
	II	I & II 1 Unit Each	Theory Paper I :Unit: Elasticity Theory Paper II :Unit: Dielectrics
	VI		OPAMP, IC and Logic Gates; Boolean Algebra, Diode applications, Digital Electronics

Session 2021-22

Name of Teacher & Work-Load per week	Semester	Paper	Practical
Dr. A. M. Deshpande Theory: 06 Periods Practical: 12 Periods	I	II	Electricity and Magnetism
	III	II	Sound and Electronics
	V	I	CRO, Electronics and Probability
	II	I	Thermodynamics and Magnetism
	IV	II	Electronics
	VI	I	OPAMP, IC and Logic Gates
Dr. B. A. Shingade Theory: 06 Periods Practical: 12 Periods Tutorial: 02	I	I	Mechanics
	III	I	Optics
	V	II	Modern Physics, probability and Optics
	II	II	Oscillations
	IV	I	Lasers and Crystallography
	VI	II	Boolean Algebra, Diode applications, Digital Electronics
Mr. P. R. Bhendarkar	III	I & II	Sound and Electronics and Optics

Clock Hour Basis Teacher Theory: 02 Periods Practical: 06 Periods Tutorial: 01		1 Unit Each	
	IV	I & II 1 Unit Each	Electronics, Lasers and Crystallography
Miss. M. S. Shiwankar Theory: 02 Periods Practical: 06 Periods Tutorial: 01	I	I & II 1 Unit Each	Electricity and Magnetism; Mechanics
	II	I & II 1 Unit Each	Oscillations & Thermodynamics and Magnetism

- Period means theory class of duration 48 minutes. A tutorial also is of same duration.

DEPARTMENT OF CHEMISTRY

	B. Sc. Semester I (Theory)				**(Practical)**
Name of Faculty	**Topic to be taught till first Unit test**	**Topic to be taught till Second Unit test**	**Topic to be taught till Third Unit test**	**Topic to be taught till Fourth Unit test**	**Topic to be taught**
Dr. P. K. Rahangdale.	Atomic Structure & Periodic Properties	Ionic bond & Covalent Bond	-	-	Practical- I (Inorganic Chemistry) Practical-II (Physical Chemistry)
Prof. V. T. Rathod.	-	-	s- block elements & Chemistry of Noble Gases	p-block elements & Food Adulteration and Detection:	Practical- I (Inorganic Chemistry) Practical-II (Physical Chemistry)
Prof M. G. Bawanthade.	Thermodynamics & Thermochemistry:	Gaseous State & Ideal and real gases	Liquid State & Properties of liquid	Surface Chemistry, Catalysis and Colloidal State	Practical- I (Inorganic Chemistry). Practical-II (Physical Chemistry)

	B. Sc. Semester II (Theory)				**(Practical)**
Name of Faculty	**Topic to be taught till first Unit test**	**Topic to be taught till Second Unit test**	**Topic to be taught till Third Unit test**	**Topic to be taught till Fourth Unit test**	**Topic to be taught**
Dr. P. K. Rahangdale	Structure and Bondings & Mechanism of organic reacton	Stereochemistry of Organic Compounds & Geometrical isomerism		.	Practical –I (Organic chemistry): Qualitative Analysis & Preparation Practical –II (Physical chemistry)
Prof. V. T. Rathod	-	-	Alkanes, cycloalkane & Alkenes	Dienes, Aromatic compounds and aromaticity & fuel chemistry	Practical –I (organic chemistry): Qualitative Analysis & Preparation Practical –II (Physical chemistry)
Sau. M. G. Bawanthade	Thermodynamics second Law	Phase Equilibria and Solutions of Liquids in Liquids	Chemical kinetics and theories of reaction rates	Nuclear chemistry and pollution and its control	Practical –I (organic chemistry): Qualitative Analysis & Preparation Practical –II (Physical chemistry)

	B. Sc. Semester III (Theory)				(Practical)
Name of Faculty	**Topic to be taught till first Unit test**	**Topic to be taught till Second Unit test**	**Topic to be taught till Third Unit test**	**Topic to be taught till Fourth Unit test**	**Topic to be taught**
Sau. M. G. Bawanthade	Valence shell electron pair repulsion (VSEPR) theory & MO theory	Chemistry of elements of first transition series. & Chemistry of elements of second and third transition series.		Errors in chemical analysis & Soil chemistry	Practical- I (Inorganic Chemistry). Practical-II (Organic Chemistry).
Prof V. T. Rathod.	-	-	Chemistry of Lanthanides. & Chemistry of Actinides	-	Practical- I (Inorganic Chemistry). Practical-II (Organic Chemistry).
Dr. P. K. Rahangdale	Orientation & Alkyland Aryl halides. Polyhalogen compounds.	Alcohols: classification and nomenclature. Dihydric alcohols and trihydric alcohols. Phenols.	-	-	Practical- I (Inorganic Chemistry). Practical-II (Organic Chemistry).
Prof V. T. Rathod.	-	-	Aldehydes and Ketones. & Mechanism of nucleophilic addition to carbonyl group.	Carboxylic Acids,dicarboxylic acids ,carboxylic acid derivatives. & Agrochemicals..	Practical- I (Inorganic Chemistry). Practical-II (Organic Chemistry).

	B. Sc. Semester IV (Theory)				(Practical)
Name of Faculty	**Topic to be taught till first Unit test**	**Topic to be taught till Second Unit test**	**Topic to be taught till Third Unit test**	**Topic to be taught till Fourth Unit test**	**Topic to be taught**
Prof. M. G. Bawanthade	Coordination compounds.	Isomerism in coordination compounds. & Oxidation and reduction.	-	-	Practical- I (Inorganic Chemistry). Practical-II (Physical Chemistry).
Prof V. T. Rathod.	-	-	Colorimetry and Spectrophotometry & Separation techniques	Inorganic polymers. & Water analysis.	Practical- I (Inorganic Chemistry). Practical-II (Physical Chemistry).
Dr. P. K. Rahangdale	-	Electrochemistry	-	Quantum chemistry	Practical- I (Inorganic Chemistry). Practical-II (Physical Chemistry).
Prof V. T. Rathod	Solid state.	-	Molecular spectroscopy Rotational spectra and vibrational spectra.	-	Practical- I (Inorganic Chemistry). Practical-II (Physical Chemistry).

	B. Sc. Semester V (Theory)				(Practical)
Name of Faculty	Topic to be taught till first Unit test	Topic to be taught till Second Unit test	Topic to be taught till Third Unit test	Topic to be taught till Fourth Unit test	Topic to be taught
Dr. P. K. Rahangdale	Organic compounds of Nitrogen & Amines.	Heterocyclic compounds.	Quantitative analysis and organometallic compounds.	Spectroscopy electromagnetic spectrum & I.R. Absorption spectroscopy pharmaceutical chemistry..	Practical- I (Organic Chemistry). Practical-II (Physical Chemistry).
Prof V. T. Rathod.	Electrochemistry.	Quqntunm chemistry and molecular orbital theory.	Photochemistry and Raman spectroscopy.	Colligative properties and macromolecules	Practical- I (Organic Chemistry). Practical-II (Physical Chemistry).

	B. Sc. Semester VI (Theory)				(Practical)
Name of Faculty	Topic to be taught till first Unit test	Topic to be taught till Second Unit test	Topic to be taught till Third Unit test	Topic to be taught till Fourth Unit test	Topic to be taught
Dr. P. K. Rahangdale	NMR Spectroscopy & I.R.Spectroscopy.	Organic synthesis via enolates & carbohydrates.	Amino acids peptides, proteins and nucleic acids & Fats,oil soaps and detergents.	Synthetic dyes,synthetic polymers & green chemistry.	Practical- I (Inorganic Chemistry). Practical-II (Organic Chemistry).
Prof V. T. Rathod.	Metal ligand bondings in transition metal complexes.& electronic spectra of transition metal complexes.	Magnetic properties of transition metal complexes & thermodynamic and kinetic aspect of metal complexes.	Organometallic chemistry& metal carbonyls.	Bioinorganic chemistry & hard and soft acid & bases.	Practical- I (Inorganic Chemistry). Practical-II (Organic Chemistry).

DEPARTMENT OF COMMERCE

B.com-First Year (Sem-I)

Subject- Business Economics

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
July	UNIT-I	Nature And Scope of Business Economics, Theory of Consumption	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Seminar	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the aim of identifying and solving problem	Unit Test, Questionnaire, Internal Assessment
August	UNIT-II	Theory of Production and Cost	(T+E) 15+1			
September	UNIT-III	Theory of cost and Revenue and Markets	(T+E) 15+1			
October	UNIT-IV	Pricing of Products	(T+E) 15+1			
November	UNIT-I,II,III,IV	Nature And Scope of Business Economics, Theory of	Revision			

		Consumption , Theory of Production and Cost, Theory of cost and Revenue and Markets, Pricing of Products				

B.com-First Year (Sem-II)
Subject- Business Economics

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
December	UNIT-I	Market Structure	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Seminar	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the aim of identifying and solving problem	Unit Test, Questionnaire, Internal Assessment
January	UNIT-II	Perfect & Imperfect Competition Markets	(T+E) 15+1			
February	UNIT-III	Theories of Distribution	(T+E) 15+1			
March	UNIT-IV	Business Cycles and National Income	(T+E) 15+1			
April	UNIT-I,II,III,IV	Market Structure, Perfect & Imperfect Competition Markets, Theories of Distribution, Theories of Distribution Business Cycles and National Income	Revision			

B.com-Second Year (Sem-III)
Subject- Business Communication and Management

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
July	UNIT-I	Business communication: concept, objective, elements, purpose	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Seminar,Computer	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the aim of identifying and solving problem	Unit Test, Questionnaire, Internal Assessment
August	UNIT-II	Communication media: Types, characteristics, advantages	(T+E) 15+1			
September	UNIT-III	Word processing	(T+E) 15+1			
October	UNIT-IV	Spreadsheet	(T+E)			

		Package, Power point	15+1			
November	UNIT-I,II,III,IV	Business communication: concept, objective, elements, purpose , Communication media: Types, characteristics, advantages, Word processing, Spreadsheet Package, Power point	Revision			

B.com-Second Year (Sem-IV)
Subject- Skill Development

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
December	UNIT-I	Basic of personality	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Seminar	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the aim of identifying and solving problem	Unit Test, Questionnaire, Internal Assessment
January	UNIT-II	Communication skills and Personality Development:	(T+E) 15+1			
February	UNIT-III	Techniques in Personality development	(T+E) 15+1			
March	UNIT-IV	Entrepreneurial skill development	(T+E) 15+1			
April	UNIT-I,II,III,IV	Basic of personality , Communication skills and Personality Development, Techniques in Perso, Entrepreneurial skill development nality development	Revision			

B.com-Third Year (Semester-V)
Subject- Computerized Accounting

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
July	UNIT-I	Introduction - Computerized Accounting,	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Computer,Seminar	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the	Unit Test, Questionnaire, Internal Assessment
August	UNIT-II	Account Software	(T+E) 15+1			
September	UNIT-III	Accounts Info Menu, Account Groups	(T+E) 15+1			

October	UNIT-IV	Inventory Info, Features of Inventory Info. Configure	(T+E) 15+1		aim of identifying and solving problem	
November	UNIT-V	Introduction - Computerized Accounting , Account Software, Accounts Info Menu, Account Groups, Inventory Info, Features of Inventory Info. Configure	(T+E) 15+1			

B.com-Third Year (Semester-V)
Subject- Financial Accounting

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
July	UNIT-I	Amalgamation of Companies, Absorption of Companies	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Seminar	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the aim of identifying and solving problem	Unit Test, Questionnaire, Internal Assessment
August	UNIT-II	Reconstruction of Companies.	(T+E) 15+1			
September	UNIT-III	Accounts of Public Utility Companies (Electricity, Gas and Water Supply	(T+E) 15+1			
October	UNIT-IV	Accounts of Public Utility Companies (Electricity, Gas and Water Supply	(T+E) 15+1			
November	UNIT-V	Amalgamation of Companies, Absorption of Companies, Reconstruction of Companies, Accounts of Public Utility Companies (Electricity, Gas and Water Supply , Accounts of Public Utility Companies (Electricity, Gas and Water Supply	(T+E) 15+1			

B.Com. Third Year (Semester-VI)
Subject - Financial Accounting

Month	Syllabus	Topic	Period	Method	Characteristics	Evaluation
	Semester- I					
December	UNIT-I	Accounts of Holding Company	(T+E) 15+1	Lecturing, Discussion, Revision, Using Black Board , WhatsApp Notes, Seminar	Verbal Transmission of knowledge and Information, Share Thinking through discussion and debate with the aim of identifying and solving problem	Unit Test, Questionnaire, Internal Assessment
January	UNIT-II	Insurance Claims	(T+E) 15+1			
February	UNIT-III	Investment Accounts	(T+E) 15+1			
March	UNIT-IV	Profit prior to incorporation	(T+E) 15+1			
April	UNIT-V	Accounts of Holding Company, Insurance Claims , Investment Accounts, Profit prior to incorporation	(T+E) 15+1			

DEPARTMENT OF ENGLISH
Mr. Omendra I. Thakur

Class and Subject	Units	Teaching Method
B.A.III Compulsory English	Unit I: Prose Prescribed Lessons 1. The Golden Touch 2. Tight Corner 3. How I Became a Public Speaker 4. The Labour Of Love 5. A Confession 6. Mr. Know All	Interactive and Discussion, Reading Practice, Question Answer, Translation and Interpretation
	Unit II: Poetry 1. The Village School Master 2. Invitation 3. If 4. The Darkling Thrush 5. To Daffodils	Loud Reading, Question Answer, Situational, Translation and Interpretation.
	Unit III: One- Act Play The Dear Departed	Reading Practice, Discussion, Question Answer, Translation and Interpretation.
	Unit IV: Grammar&Writing Skill 1. Tense 2. Punctuation 3. Writing an Advertisement Copy 4. E-mail Writing 5. Application For Job 6 Writing Curriculum Vitae 7. Essay Writing	Duster and Chalk, Interactive and Discussion.

Class and Subject	Units	Teaching Method
B.Com 4th Sem Compulsory	Unit I: Prose Prescribed Lessons 1. Gifts 2. India , What can it Teach Us? 3. Why We Travel	Interactive and Discussion, Reading Practice, Question Answer, Translation and Interpretation

English	Unit II: Prose 1. The Dolls House 2. The Globe of Gold 3. The Beggar	. Interactive and Discussion, Reading Practice, Question Answer, Translation and Interpretation
	Unit II: Poetry 1. The Ballad Of Father Gilligan 2. God's Grandeur 3. The Soul's Prayer	Loud Reading, Question Answer, Situational, Translation and Interpretation.
	Unit IV: Writing skills 1. Comprehensions 2. Summary Writing 3. Writing Dialogue 4. Group Discussion	Duster and Chalk, Interactive and Discussion.
	Unit V : Language Study 1. Voice 2. Direct/Indirect (Narattion)	Duster and Chalk, Interactive and Discussion.

Class and Subject	**Units**	**Teaching Method**
B.Com 3rd Sem Compulsory English	Unit I: Prose Prescribed Lessons 1. The Chicago Speeches 2. What Teenagers Need to Know About Cyber Security 3. Values In Life	Interactive and Discussion, Reading Practice, Question Answer, Translation and Interpretation
	Unit II: Prose 1. Work Brings Solace 2. Too Dear! 3. The Pleasure Of Ignorance	. Interactive and Discussion, Reading Practice, Question Answer, Translation and Interpretation
	Unit II: Poetry 1. The Tiger and the Deer 2. A dream within a dream 3. leisure	Loud Reading, Question Answer, Situational, Translation and Interpretation.
	Unit IV: Writing skills 1. Application Letters 2. Etiquette and Manners 3. Writing Blogs	Duster and Chalk, Interactive and Discussion.
	Unit V : Language Study 1. Types of Sentences 2. Tenses	Duster and Chalk, Interactive and Discussion.

Class and Subject	**Units**	**Teaching Method**
B.Com 2nd Sem Compulsory English	Unit I: Prose Prescribed Lessons 1. Stephen Hawking 2. How To Be A Healthy User Of Social Media 3. Jadav Payeng	Interactive And Discussion, Reading Practice, Question Answer, Translation And Interpretation
	Unit Ii: Prose 1. Luck 2. How I Become A Public Speaker 3. My Lord, The Baby	Interactive And Discussion, Reading Practice, Question Answer, Translation And Interpretation
	Unit Iii: Poetry 1. Success Is Counted Sweetest	. Loud Reading, Question Answer,

	2. The World Is Too Much With Us 3. No Man Is An Island	Situational, Translation And Interpretation.
	Unit Iv: Writing Skill 1. Weave Your Idea 2. Interviews 3. Narrating And Experience	Duster And Chalk, Interactive And Discussion.
	Unit V : Language Study • Articles,Prepositions,Conjunctions And Interjections	Duster And Chalk, Interactive And Discussion.

Class and Subject	**Units**	**Teaching Method**
B.Com. 1st Sem Compulsory English	Unit I: Prose Prescribed Lessons 1. Shreelaxhmi Suresh 2. Why A Startup Needs To Find Its Customers First 3. Devendra Pal Singh	Interactive And Discussion, Reading Practice, Question Answer, Translation And Interpretation
	Unit Ii: Prose 1. The Model Millionaire 2. The Monkey's Paw 3. The Lumber Room	Interactive And Discussion, Reading Practice, Question Answer, Translation And Interpretation
	Unit Iii: Poetry 1. Invictus 2. The Builders 3. Stay Calm	Loud Reading, Question Answer, Situational, Translation And Interpretation.
	Unit Iv: Writing Skill 1. Emails 2. Speeches 3. Views And Opinions	Duster And Chalk, Interactive And Discussion.
	Unit V : Language Study • Nouns,Pronouns,Verbs,Adjectives,Adverbs,Prefixes, Suffixes And Root Word	Duster And Chalk, Interactive And Discussion.

DEPARTMENT OF BOTANY

Session 2018-19

	B. Sc. Semester I (Theory)				**Practical**
Name of Faculty	Topic to be taught till first Unit test	Topic to be taught till Second Unit test	Topic to be taught till Third Unit test	Topic to be taught till Fourth Unit test	Topic to be taught
Dr. S. M. Bhuskute	-	-	-		-
Dr. M. G. Awaley	General Characteristic and Nature of Viruses, Ultrastructure of TMV, Structure and multiplication of T4 Bacteriophage, Economic Importance of Viruses, Structure, Properties and Reproduction of Mycoplasma, Comparison between Archaebacteria and Eubacteria	Bacteria:-Cell structure, Flagella. Reproduction: (Binary fission, Conjugation). Economic, Importance. Cyanobacteria: - General account, Economic Importance, Ultra cell structure, Reproduction. eg.Nostoc. Unit III Algae – General characteristics, Classification (Fritsch 1954), Life history of: - Oedogonium, Chara.	Algae – General characteristics, Classification (Fritsch 1954), Life history of: - Oedogonium, Chara.	Algae - Life history of Vaucheria, Ectocarpus, and Economic importance of Algae.	Study of Bacterial forms from permanent micropreparation Gram staining of Bacteria, ultrasturcture of Bacteriophage from TEM photographs

Mr. J. G. Nakade	Fungi:- General charachteristics, Classification(Alexopoulos 1996), Economic importance Life history of: - Albugo, Mucor.	Fungi- Life history of :- Puccinia, Cercospora Lichens :- Types, Reproduction and Economic importance	Plant pathology:– Host, pathogen, symptoms, Causes and Control of following diseases:- Leaf curl of Papaya, Citrus canker and Red rot of Sugarcane Bryophyta:– Classification (Proskauer 1957), General characters (Hepaticopsida, Anthocerotopsida and Bryopsida), Economic importance, and alteration of generation	Life history of:- Riccia, Anthoceros, Funaria	Plant pathology: – Leaf curl of Papaya, Red rot of Sugarcane, Citrus canker Study of Bryophytes :- Riccia, Anthoceros, Funaria
Mr. C. K. Patle					Plant pathology: – Leaf curl of Papaya, Red rot of Sugarcane, Citrus canker Study of Bryophytes :- Riccia, Anthoceros, Funaria
Mr. K. B. Bahekar					Study of Cyanobacteria: Nostoc. Study of Algal genera: Oedogonium, Chara, Vaucheria, Ectocarpus
Mr. R. R. Bhelave					Study of Bacterial forms from permanent micropreparation Gram staining of Bacteria, ultrasturcture of Bacteriophage from TEM photographs
Contributory Teacher					Study of Cyanobacteria: Nostoc. Study of Algal genera: Oedogonium, Chara, Vaucheria, Ectocarpus

	B. Sc. Semester III (Theory)				**Practical**
Name of Faculty	Topic to be taught till first Unit test	Topic to be taught till Second Unit test	Topic to be taught till Third Unit test	Topic to be taught till Fourth Unit test	Topic to be taught
Dr. S. M. Bhuskute					Study of Families covered in the theory portion.

					Study of fossil Angiosperms micropreparation and specimens: Sahanianthus, Enigmocarpon
Dr. M. G. Awaley	Structure of typical plant cell, Ultrasturcture and functions of: Cell wall, Cell Membrane (Fluid mosaic model), Nucleus, Endoplasmic reticulum (RER and SER)	Ultrastructure & Functions of: Golgi Complex, Vacuoles, Ribosomes (70S and 80S), Mitochondria, Chloroplasts,	Chromosome organization: Morphology (chromatid, chromomere, centromere, telomere, secondary constriction, satellite, karyotype), Molecular organization (Nucleosome model) Sex Chromosome : Structure of sex chromosome in plants (XY type in Melandrium) Cell division in plants: Mitosis, Meiosis and their significance.		l To calculate Mean, Mode, Median, standard error from the given data (At least 10 problems to be solved) To calculate the student's t-value from the given data (At least 10 problems to be solved
Mr. J. G. Nakade	Origin of Angiosperms (Benettitalean theory). Phylogeny of Angiosperm: Homology, monophyly, polyphyly, Clads. Fossil Angiosperms: Flower (Sahanianthus). Angiosperm Taxonomy: Floras, Herbarium, keys (Indented and Bracketed), Holotype, Lectotype, Neotype. Botanical Nomenclature: Principles (rank and ending of taxa, principle of priority),	taxonomy	Study of Families (Dicot): Malvaceae, Brassicaceae, Fabaceae (Papilionoideae, Caesalpinioideae, Mimosoideae)	Study of Families (Dicot): Asteraceae, Asclepiadaceae , Euphorbiaceae Study of Families (Monocot): Poaceae	Study of Families covered in the theory portion.
Mr. C. K. Patle	Plant Breeding- Definition and objective, Pure line selection, Hybridization (emasculation, bagging, crossing, labelling), Colonal selection, Heterosis (Definition and scope) Biostatistics- Mean, Mode, Median, Standard deviation, Standard error, Student's t-test Evolution- Origin of life (Millers theory),				Study of fossil Angiosperms micropreparation and specimens: Sahanianthus, Enigmocarpon
Mr. K. B. Bahekar	Classification of angiosperms: Natural, Artificial, Phylogenetic system of classification. Systems of classification: Bentham & Hooker and Engler &Prantl (along with merits and				Study of Cell organelles with the help of photographs/ Slides Study of mitosis in plant material Study of meiosis in

	demerits), Modern trends in Taxonomy : Cytotaxonomy (Karyotype), Phytochemistry (Proteins, flavonoids, Betalains) , Taximetrics to				plant materia

	B. Sc. Semester V (Theory)				**Practical**
Name of Faculty	Topic to be taught till first Unit test	Topic to be taught till Second Unit test	Topic to be taught till Third Unit test	Topic to be taught till Fourth Unit test	Topic to be taught
Dr. S. M. Bhuskute					
Dr. M. G. Awaley	Carbohydrates: Definition, properties and role; Classification: Aldoses and ketoses; monosaccharides, disaccharides and polysaccharides; Structure of Glucose and starch Lipids: Definition, properties and role; fatty acids, oils and waxes, beta oxidation. Aminoacids- Chemistry of amino acids present in proteins (Classification), peptide bond Basics of Enzymology: Nomencleture, Characteristics and properties of Enzymes, factors affecting enzyme activity, Holoenzyme, Apoenzyme, Co-enzymes& Co-factors, Regulation of Enzyme Activity (Enzyme-Substrate Complex Theory), Mechanism of Action (Lock & Key Model, Induced Fit Model)	Plant-water relations: Properties of water, diffusion, diffusion pressure deficit and its significance; Osmosis: Concept, types, osmotic potential and its significance; Imbibition: concept and significance Water conduction through xylem: Root pressure theory, cohesion-adhesion theory; transpiration; stomatal opening mechanism with reference to K+ -malate hypothesis Phloem transport: Munch hypothesis	Mineral nutrition: Role and deficiency symptoms of macro- and micro- nutrients (N, P, Fe, Mn, B , Ca); Solute transport: passive (Donnan's equilibrium), active (carrier concept) Lipid metabolism: Respiration: Types (aerobic and anaerobic respiration), respiratory substrates and Respiration quotient, glycolysis, Kreb's cycle, oxidative phosphorylation (ETS); fermentation (alcohol and lactic acid), photorespiration . Glyoxylate cycle	Photosynthesis: concept, definition, significance, photosynthetic pigments and their role, action spectra, Emerson's enhancement effect, red drop mechanism; photolysis of water (Hill's reaction), cyclic and non-cyclic photophosphorylation, Light independent reactions: C3, C4 and CAM pathways and their significance; factors affecting photosynthesis Nitrogen metabolism: Mechanism of biological nitrogen fixation, importance of nitrate reductase	To study the effect of various chemicals on permeability of membranes. To study the ascent of sap in suitable plant material. To separate chlorophyll pigment by paper chromatography . To determine the RQ of given plant material. To determine osmotic potential of the cell sap by plasmolytic method. To study the activity of enzyme amylase, catalase and peroxidase. Miner Physiology experiments
Mr. J. G. Nakade	Ecology: definition, branches and significance of ecology Climatic Factors: Atmospheric (Gaseous composition), Light & Temperature (effect on vegetation). Edaphic Factor :Pedogenesis, Soil profile, Soil properties (physical and chemical)	Physiographic factor- Biotic Factor: Interactions between plants and animals and human, Interaction between plants growing in a community, Interactions between plants and soil microorganisms. Biogeochemical Cycles: Nitrogen, phosphorous	Ecosystem: Biotic and Abiotic components, Food chain, Food web, Ecological pyramids Autecology (definition, importance), ecad, ecotype-characteristics and importance Synecology (or community ecology)- Study of community:	Principles of Phytogeography, Distribution (wides, endemics, discontinuous species), Theories (Landbridge and continental drift), Climatic regions of India, Phytogeographic regions of India (Chatterjee 1962; Name, distribution area, typical vegetation)	To determine frequenct, density, abundance of the community by quadrate method. To determine the homogeneity of vegetation by Raunkiers frequency diagram. To determine the water holding capacity of the given soil samples.

			analytical (quantitative- frequency, density, abundance; qualitative- Life forms, Raunkier's Biological spectrum) and synthetic characters (presence, fidelity, dominance)		
Mr. C. K. Patle					To perform microchemical tests for determination of reducing and non-reducing sugars, starch, cellulose, oils and proteins. To study the effect of light intensity and quality, CO2 concentration and temperature on rate of photosynthesis by suitable method.
Mr. K. B. Bahekar					To determine the water rising capacity of the given soil samples. To determine the soil moisture of the given samples.