

GONDIA EDUCATION SOCIETY'S

MANOHARBHAI PATEL COLLEGE OF ARTS, COMMERCE & SCIENCE

SADAK ARJUNI, GONDIA-441807

(AFFILIATED TO R.T.M.NAGPUR UNIVERSITY)



Cycle-1

**Assessment & Accreditation by
NAAC**

**CRITERION I:
CURRICULAR ASPECTS**

QnM-1.1.1: The Institution ensures effective curriculum delivery through a well planned and documented process

Gondia Education Society's



Estd. 2009

MANOHARBHAI PATEL COLLEGE OF ARTS, COMMERCE & SCIENCE

SADAK ARJUNI, Dist. Gondia.(Maharashtra) 441807

Affiliated to Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur

E-mail:mbpatelsadakarjuni@gmail.com

Phone (07199) 233224

Ref.No. MBPCI/ ³³⁶ 12022023

Date : 28/02/2023

Declaration

The information, reports, true copies of the supporting documents, numerical data, etc. furnished in this file is verified by IQAC and found correct.

Hence this certificate.

Mr. A. M. Patil
IQAC Coordinator
Manoharbai Patel College
Sadak Arjuni



Dr. A. S. Dwivedi
Chairman IQAC and Principal
Manoharbai Patel College
Sadak Arjuni

2016-17

**ANNUAL TEACHING PLAN
COMMERCE AND SCIENCE**



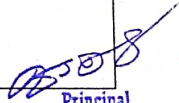
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Teaching Plan

AS PER TEACHERS DAILY DIARY

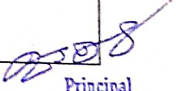
SUBJECT :- ENGLISH Annual Teaching Plan 2016 -2027

Name of Lecturer	Class	PaperNo & Subject	Weekly Workload
Shri A.M.PATIL	B.Com- Sem-I	Unit 1: Prose 1. Sreelakshmi Suresh 2. Why a Startup Needs to Find its Customers First- <i>Pranav Jain</i> 3. Devender Pal Singh Unit 2: Prose 1. The Model Millionaire- <i>Oscar Wilde</i> 2. The Monkey's Paw - <i>W.W.Jacobs</i> 3. The Lumber Room- <i>Saki</i>	3


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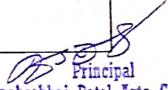


		<p>Unit 3: Poetry</p> <ol style="list-style-type: none">1. Invictus-William Earnest Henley2. The Builders- <i>Henry Wadsworth Longfellow</i>3. Stay Calm- <i>Grenville Kleiser</i> <p>Unit 4: Writing Skills</p> <ol style="list-style-type: none">1. Emails2. Speeches3. Views and Opinions	
Shri A.M.PATIL	B.Com Sem-II	<p>Unit 1: Prose</p> <ol style="list-style-type: none">1. Stephen Hawking2. How to be a Healthy User of Social Media-<i>Peggy Kern</i>3. Jadav Payeng <p>Unit 2: Prose</p> <ol style="list-style-type: none">1. Luck-<i>Mark Twain</i>2. How I Became a Public Speaker-<i>George Bernard Shaw</i>3. My Lord, the Baby-<i>Rabindranth Tagore</i> <p>Unit 3: Poetry</p> <ol style="list-style-type: none">1. Success is Counted Sweetest-<i>Emily Dickinson</i>2. The World is Too Much with Us-<i>William Wordsworth</i>	3


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		<p>3. No Man is an Island-<i>John Donne</i></p> <p>Unit 4: Writing Skills</p> <p>1. Weave Your Idea/Story 2. Interviews 3. Narrating an Experience</p>	
Shri A.M.PATIL	B.Com Sem-III	<p>Unit 1: Prose</p> <p>1. The Chicago Speeches-<i>Swami Vivekananda</i> 2. What Teenagers Need to Know about Cyber Security- <i>Sanjay Goel</i> 3. Values in Life-<i>Rudyard Kipling</i></p> <p>Unit 2: Prose</p> <p>1. Work Brings Solace-<i>A.P.J.Abdul Kalam</i> 2. Too Dear! - <i>Leo Tolstoy</i> 3. The Pleasures of Ignorance-<i>Robert Lynd</i></p> <p>Unit 3: Poetry</p> <p>1. The Tiger and the Deer-<i>Sri Aurobindo</i> 2. A Dream within a Dream- <i>Edgar Allan Poe</i> 3. Leisure-<i>W.H.Davies</i></p> <p>Unit 4: Writing Skills</p>	


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		<ol style="list-style-type: none">1. Application Letters2. Etiquette and Manners3. Writing Blogs	
Shri A.M.PATIL	B.Com Sem-IV	<p>Unit 1: Prose</p> <ol style="list-style-type: none">1. Gifts-Ralph Waldo Emerson2. India, What Can it Teach Us?-Max Muller3. Why We Travel-Pico Iyer <p>Unit 2: Prose</p> <ol style="list-style-type: none">1. The Doll's House- Katherine Mansfield2. The Globe of Gold-Bankim Chandra Chattopadhyay3. The Beggar-Anton Chekhov <p>Unit 3: Poetry</p> <ol style="list-style-type: none">1. The Ballad of Father Gilligan-William Butler Yeast2. God's Grandeur-Gerard Manley Hopkins3. The Soul's Prayer- Sarojini Naidu <p>Unit 4: Writing Skills</p> <ol style="list-style-type: none">1. Comprehension2. Summary Writing3. Writing Dialogue Group Discussion	

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COMMERCE



Annual Teaching Plan 2016-17

B. Com (First Sem)

Title of Subject: Financial Accounting- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Financial Accounting	15
2	August 2016	B. Com	Unit 2- Hire Purchase Accounting	15
3	September 2016	B. Com	Unit 3- Final Accounts of Co-operative Society	15
4	October 2016	B. Com	Unit 4- joint venture Accounting	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Organization

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Nature and Scope of Business	15
2	August 2016	B. Com	Unit 2- Forms of Business Units	15
3	September 2016	B. Com	Unit 3- Organization	15
4	October 2016	B. Com	Unit 4- Recent Trends in Business Organization	15
			Total	60

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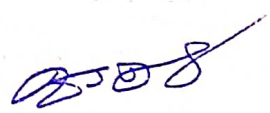


B. Com (First Semester)
Title of Subject: Company Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Introduction to Company law	15
2	August 2016	B. Com	Unit 2- MOA AOA	15
3	September 2016	B. Com	Unit 3-Share and Share Capital Debenture Capital	15
4	October 2016	B. Com	Unit 4- Membership in Company, Directors	15
			Total	60

B. Com (First Semester)
Title of Subject: Business Economics

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Nature and Scope of Business Economics	15
2	August 2016	B. Com	Unit 2- Theory of consumption	15
3	September 2016	B. Com	Unit 3- Theory of Production	15
4	October 2016	B. Com	Unit 4- Theory of cost and Revenue	15
			Total	60


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Annual Teaching Plan 2016-17

B. Com First Year (Second Sem)

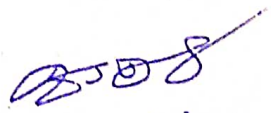
Title of Subject: Statistics and Business Mathematics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Statistics and Measurement of Central Tendency	15
2	Jan 2017	B. Com	Unit 2- Dispersion	15
3	Feb 2017	B. Com	Unit 3- Skewness	15
4	March 2017	B. Com	Unit 4- Business Mathematics	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Introduction	15
2	Jan 2017	B. Com	Unit 2- Planning	15
3	Feb 2017	B. Com	Unit 3- Delegation and Authority Coordination and Controlling	15
4	March 2017	B. Com	Unit 4- Recent Trends in Management	15
			Total	60


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B. Com First Year (Second Sem)

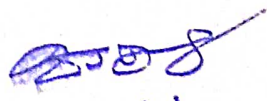
Title of Subject: Secretarial Practice

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Procedure for incorporation, Company Secretary, Directors	15
2	Jan 2017	B. Com	Unit 2- Voting and resolution, Circular resolution	15
3	Feb 2017	B. Com	Unit 3- Report Writing, E-governance	15
4	March 2017	B. Com	Unit 4- Managerial personnel, Remuneration, Provisions	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Economics -II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Market Structure	15
2	Jan 2017	B. Com	Unit 2- Perfect and Imperfect Competition Market	15
3	Feb 2017	B. Com	Unit 3- Theories of Distribution	15
4	March 2017	B. Com	Unit 4- Business cycles and national Income	15
			Total	60


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B. Com Second Year (Third Sem)

Title of Subject: Financial accounting II

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Consignment Accounting	15
2	August 2016	B. Com	Unit 2- Branch Accounting	15
3	September 2016	B. Com	Unit 3- Floatation of Joint stock company and their capital structure	15
4	October 2016	B. Com	Unit 4- Final Accounts of Joint stock Company	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Business Communication and Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Introduction	15
2	August 2016	B. Com	Unit 2- Business communication	15
3	September 2016	B. Com	Unit 3- Technology and business communication	15
4	October 2016	B. Com	Unit 4- MS office aided communication	15
			Total	60

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B. Com Second Year (Third Sem)

Title of Subject: Business Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Indian Contract Act	15
2	August 2016	B. Com	Unit 2-Sale of Goods Act	15
3	September 2016	B. Com	Unit 3- Negotiable Instrument	15
4	October 2016	B. Com	Unit 4- Consumer Protection Cyber Law	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Monetary Economics- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Money	15
2	August 2016	B. Com	Unit 2- Inflation and Deflation	15
3	September 2016	B. Com	Unit 3- Money market and Policies	5
4	October 2016	B. Com	Unit 4- Public finance	15
			Total	60

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B. Com Second Year (Fourth Sem)
Title of Subject: Financial accounting -III



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Final Accounts Of Banking Companies	15
2	Jan 2017	B. Com	Unit 2- Final Accounts of General Insurance Companies	15
3	Feb 2017	B. Com	Unit 3- Valuation Of Goodwill	15
4	March 2017	B. Com	Unit 4- Liquidation Of Companies	15
			Total	60

B. Com Second Year (Fourth Sem)
Title of Subject: Skill Development

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Introduction	15
2	Jan 2017	B. Com	Unit 2- Communication skills and personality development	15
3	Feb 2017	B. Com	Unit 3- Techniques in Personality development	15
4	March 2017	B. Com	Unit 4- Entrepreneurial skill development	15
			Total	60

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B. Com Second Year (Fourth Sem)

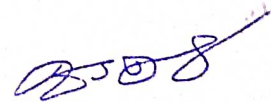
Title of Subject: Income Tax

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Introduction	15
2	Jan 2017	B. Com	Unit 2- Income From Salary	15
3	Feb 2017	B. Com	Unit 3- Income from House property	15
4	March 2017	B. Com	Unit 4- Income from Other sources	15
			Total	60

B. Com Second Year (Fourth Sem)

Title of Subject: Monetary Economics- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Commercial Banking	15
2	Jan 2017	B. Com	Unit 2- Banking and core Banking	15
3	Feb 2017	B. Com	Unit 3- Banks and customer relationship and services	15
4	March 2017	B. Com	Unit 4- Central Bank	15
			Total	60


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B. Com Third Year (Fifth Sem)

Title of Subject: Financial accounting -IV

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Amalgamation and Absorption of Companies	15
2	August 2016	B. Com	Unit 2- Reconstruction of Companies	15
3	September 2016	B. Com	Unit 3- Accounts of public Utility Companies	15
4	October 2016	B. Com	Unit 4- Valuation of Shares	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Cost accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Cost Accounting	15
2	August 2016	B. Com	Unit 2- Reconciliation of P/L shown by cost and financial accounting	15
3	September 2016	B. Com	Unit 3- Process cost Accounting	15
4	October 2016	B. Com	Unit 4- Contract Costing	15
			Total	60

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B. Com Third Year (Fifth Sem)

Title of Subject: Management Process

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Management and administration	15
2	August 2016	B. Com	Unit 2- Managerial development and group Dynamics	15
3	September 2016	B. Com	Unit 3- Managerial Style	15
4	October 2016	B. Com	Unit 4- Motivation	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Indian Economy-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Indian Economy and Planning	15
2	August 2016	B. Com	Unit 2- Indian Economy and Policy	15
3	September 2016	B. Com	Unit 3- Population and Unemployment	15
4	October 2016	B. Com	Unit 4- India's Public Finance	15
			Total	60

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B. Com Third Year (Fifth Sem)

Title of Subject: Marketing Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Introduction	15
2	August 2016	B. Com	Unit 2- Market and pricing Policy	15
3	September 2016	B. Com	Unit 3- Product planning and Distribution	15
4	October 2016	B. Com	Unit 4- Consumer behaviour and Promotion	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Auditing

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Com	Unit 1- Basic of Auditing	15
2	August 2016	B. Com	Unit 2- Audit working and Procedure	15
3	September 2016	B. Com	Unit 3- Audit Standards, vouching	15
4	October 2016	B. Com	Unit 4- Company audit and audit report	15
			Total	60

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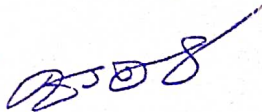


Annual Teaching Plan 2016-17
B. Com Third Year (Sixth Sem)
Title of Subject: Financial accounting -V

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Accounts of Holding Company	15
2	Jan 2017	B. Com	Unit 2- Insurance Claims	15
3	Feb 2017	B. Com	Unit 3- Investment Accounting	15
4	March 2017	B. Com	Unit 4- Profit prior to Incorporation	15
			Total	60

B. Com Third Year (Sixth Sem)
Title of Subject: Management accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Management Accounting	15
2	Jan 2017	B. Com	Unit 2- Business Budget and Budgetary Control	15
3	Feb 2017	B. Com	Unit 3- Ratio Analysis	15
4	March 2017	B. Com	Unit 4- Fund Flow Analysis	15
			Total	60


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B. Com Third Year (Sixth Sem)

Title of Subject: Advanced Statistics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Correlation	15
2	Jan 2017	B. Com	Unit 2- Regression Analysis	15
3	Feb 2017	B. Com	Unit 3- Index Number	15
4	March 2017	B. Com	Unit 4- Time series	15
			Total	60

B. Com Third Year (Sixth Sem)

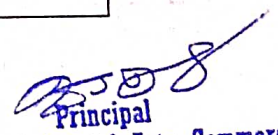
Title of Subject: Indian Economy- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Indian Agriculture	15
2	Jan 2017	B. Com	Unit 2- Indian Industry	15
3	Feb 2017	B. Com	Unit 3- Indian Service Sector	15
4	March 2017	B. Com	Unit 4- India's international Trade	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Human Resource Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Introduction	15
2	Jan 2017	B. Com	Unit 2- Recruitment Selection and	15


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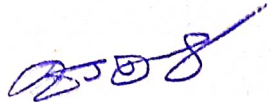


3	Feb 2017	B. Com	Training Unit 3- labour welfare and collective Bargaining	15
4	March 2017	B. Com	Unit 4- Human Resource planning and accounting	15
			Total	60

B. Com Third Year (Sixth Sem)

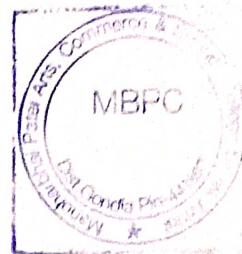
Title of Subject: Industrial Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Com	Unit 1- Indian factories Act Industrial dispute Act	15
2	Jan 2017	B. Com	Unit 2- Law relating to : wages, Bonus and gratuity, compensation, benefits	15
3	Feb 2017	B. Com	Unit 3- Child labour Act Trade union Act Contract labour Act	15
4	March 2017	B. Com	Unit 4- Industrial Estate Environment Protection Act Intellectual property rights	15
			Total	60


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ZOOLOGY

Annual Teaching Plan 2016-17



B. Sc First Year (First Sem)

Title of Subject: Paper – I : Life and Diversity of Animals - Nonchordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Sc	Unit 1- Protozoa, <i>Paramoecium, Plasmodium</i> Parasitic Protozoans of Man PRAC- Study of museum specimens	09
2	August 2016	B. Sc	Unit 2- Porifera, Sycon Coelenterata, Obelia PRAC- Study of museum specimens	09
3	Sept 2016	B. Sc	Unit 3- Helminthes, Ascaris, Taenia solium, parasitic adaptations in helminthes PRAC- Study of permanent slides	09
4	Octo 2016	B. Sc	Unit 4- Annelida, Leech Trochophore larva and its significance Vermiculture and its importance PRAC- Dissection	09
			Total	36

B. Sc First Year (First Sem)

Title of Subject: Paper – II : Environmental Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov – Dec 2016	B. Sc	Unit 1- AtmosphereHydrosphere,Lithosphere Renewable and non- renewable energy sources PRAC- Environmental Biology	09
2	Jan 2017	B. Sc	Unit 2- Ecosystem,study of pond ecosystemFood chain, food web and ecological pyramids Energy flow in an ecosystem PRAC-Environmental Biology	09
3	Feb 2017	B. Sc	Unit 3- Biodiversity and its conservation, Wildlife conservation actsHot spots of biodiversity in India PRAC-Environmental Biology	09
4	March 2017	B. Sc	Unit 4- control measures of air , water noise pollution, Toxic effect of heavy metals PRAC-Environmental Biology	09
			Total	36

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B. Sc First Year (Second Sem)

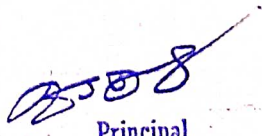
Title of Subject: Paper – III : Life and Diversity of Animals – Nonchordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Sc	Unit 1- Arthropoda, PRAC -Study of museum specimens	09
2	August 2016	B. Sc	Unit 2- Mollusca, Porifera, Sycon <i>Coelenterata, Obelia</i> PRAC -Study of museum specimens	09
3	Sept 2016	B. Sc	Unit 3- Echinodermata PRAC - Dissection	09
4	Octo 2016	B. Sc	Unit 4- Hemichordata PRAC –Mounting	09
			Total	36

B. Sc First Year (Second Sem)

Title of Subject: Paper – IV: Cell Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Sc	Unit 1- Ultrastructure of prokaryotic and eukaryotic cell PRAC-Cell Biology	09
2	Jan 2017	B. Sc	Unit 2- Ultrastructure of mitochondria PRAC- Cell Biology	09
3	Feb 2017	B. Sc	Unit 3- Nucleus, Chromosome PRAC - Cell Biology	09
4	March 2017	B. Sc	Unit 4- Ribosome PRAC Cell Biology	09
			Total	36


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B. Sc Second Year (Third Sem)

Title of Subject: Paper – V : Life and Diversity of Animals - Chordates



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Sc	Unit 1- Protochordata <i>Herdmania</i> <i>Amphioxus</i> Agnatha PRAC- Life and Diversity of Animals	09
2	August 2016	B. Sc	Unit 2- Pisces, Amphibia PRAC- Dissection of the locally culturable fish	09
3	Sept 2016	B. Sc	Unit 3- Gametogenesis and type of eggs Fertilization of egg , Post fertilization Types of scales of fishes, PRAC- Study of permanent slides of Frog embryology	09
4	Octo 2016	B. Sc	Unit 4- Frog Embryology Fate map, Morphogenetic movements in gastrula of frog , Development of Aortic arches of frog PRAC- Study of permanent slides of Frog embryology	09
			Total	36

B. Sc Second Year (Third Sem)

Title of Subject: Paper –VI : Genetics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov- Dec 2016	B. Sc	Unit 1- Mendelian Principles, Quantitative genetics, Interaction of genes, PRAC- Permanent stained preparation	09
2	Jan 2017	B. Sc	Unit 2- Cytoplasmic inheritance, Linkage and crossing over, Concepts of genes Cistron , muton and recon Genetic disorders PRAC- Genetics	09
3	Feb 2017	B. Sc	Unit 3- Sex determination Chromosomal aberrations, Gene mutations, Disorders, PRAC- Genetics	09
4	Mar 2017	B. Sc	Unit 4- Lethal genes PRAC- Genetics	09
			Total	36

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B. Sc Second Year (Forth Sem)

Title of Subject: Paper – VII : Life and Diversity of Animals – Chordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Sc	Unit 1- Reptilia, Aves , Mammals PRAC- Identification, classification	09
2	August 2016	B. Sc	Unit 2- Modern theories of evolution, Adaptations, Introduction to genetic basis of evolution, Races in Man PRAC- Study of skeleton of Rabbit and Fowl	09
3	Sept 2016	B. Sc	Unit 3- Comparative account of aortic arches and heart, Structure of hen's egg Development of chick PRAC- Study of permanent slides of chick embryology	09
4	Octo 2016	B. Sc	Unit 4- Blastocyst and implantation in Mammals, Stem cells, Biological clock, Diurnal and rhythmic behavior PRAC- Study of permanent slides	09
			Total	36

B. Sc Second Year (Forth Sem)

Title of Subject: Paper – VIII Molecular Biology and Immunology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Sc	Unit 1- DNA& RNA, Prokaryotic and eukaryotic gene structure, Recombination in Bacteria PRAC- Molecular Biology	09
2	Jan 2017	B. Sc	Unit 2- DNA replication, Genetic code: Protein synthesis, Gene regulation models PRAC- Molecular Biology	09
3	Feb 2017	B. Sc	Unit 3- Concepts of immunity, Antigen - Antibody- Antigen-antibody interaction PRAC- Molecular Biology	09
4	March 2017	B. Sc	Unit 4- Types of immune response, Types of immune response Complement system PRAC- Molecular Biology	09
			Total	36

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B. Sc Third Year (Fifth Sem)

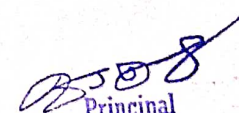
Title of Subject: Paper – IX : General Mammalian Physiology –I

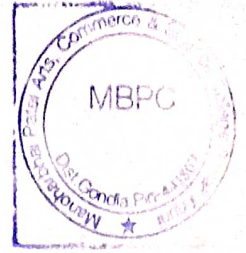
Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Sc	Unit 1- Enzymes PRAC- General Mammalian Physiology – I	09
2	August 2016	B. Sc	Unit 2- Nutrition and Digestion PRAC- General Mammalian Physiology – I	09
3	Sept 2016	B. Sc	Unit 3- Respiration PRAC- General Mammalian Physiology – I	09
4	Octo 2016	B. Sc	Unit 4- Circulation PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Fifth Sem)

Title of Subject: Paper – X : Applied Zoology-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Sc	Unit 1- Aquaculture PRAC- Applied Zoology – II (Biotechniques, Microtechnique)	09
2	Jan 2017	B. Sc	Unit 2- Prawn culture and Pearl culture Fabrication and setting up of aquarium and its maintenance , Breeding of aquarium fishes, Diseases caused by fungi, bacteria, protozoa and helminthes PRAC- Applied Zoology – II (Biotechnology)	09
3	Feb 2017	B. Sc	Unit 3- Economic Entomology (Methods of pest control) PRAC- Applied Zoology – II (Bioinformatics and Biostatistics)	09
4	March 2017	B. Sc	Unit 4- Economic Entomology PRAC- Visit to Biotechnology centre	09
			Total	36


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B. Sc Third Year (Sixth Sem)

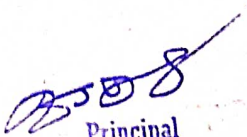
Title of Subject: Paper – XI : General Mammalian Physiology –II

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2016	B. Sc	Unit -1 Nerve and Muscle Physiology PRAC- General Mammalian Physiology – I	09
2	August 2016	B. Sc	Unit 2- Excretion PRAC- General Mammalian Physiology – I	09
3	Sept 2016	B. Sc	Unit 3- Endocrinology PRAC- General Mammalian Physiology – I	09
4	Octo 2016	B. Sc	Unit 4- Reproduction PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Sixth Sem)

Title of Subject: Paper – XII : Applied Zoology-II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2016	B. Sc	Unit 1- Biotechniques PRAC- Applied Zoology –I (Aquaculture and Economic Entomology)	09
2	Jan 2017	B. Sc	Unit 2- Separation of biomolecules PRAC- Dissection	09
3	Feb 2017	B. Sc	Unit 3- Separation of biomolecules PRAC- Fabrication and setting up of aquarium	09
4	March 2017	B. Sc	Unit 4- Microtechnique PRAC- Mounting, Visit	09
			Total	36


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B.Sc Sem-I & II

Title of Subject-ENGLISH

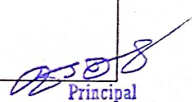


Sr. No.	Month	Class	Chapter/Topic	Period
1	Jun To August 2016	B.Sc Sem-I	Unit I - Prose Lessons 5. The House 6. The Boy Who Broke The Bank 7. Parveen 8. The Selfish Giant Unit II - Poems 5. Eyes Immortal 6. Elegy Written in a Country Churchyard 7. Ulysses 8. Ecology Unit III - Grammar 1. Tenses 2. Voice 3. Prepositions	3
2	Sep-2016	B.Sc Sem-I	Unit III - Grammar 1. Tenses 2. Voice 3. Prepositions	3
3	October-2016	B.Sc Sem-I	Unit IV - Composition, Comprehension &	

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			Vocabulary 1. Letter Writing 2. Comprehension 3. Synonyms and Antonyms	
4	Jan-2017 to march 2017	B.Sc Sem-II	Unit I - Prose Lessons 5. Maintaining Democracy 6. The Verger 7. Two Gentlemen of Verona 8. Freedom at Midnight Unit II - Poems 5. Where the Mind is without Fear 6. My Last Duchess 7. Up Hill 8. The Village Schoolmaster	3
5	April -2017	B.Sc Sem-II	Unit III - Grammar 1. Subject-Verb Agreement 2. Transformation of Sentences (Interchange of Degrees of Comparison, Affirmative and Negative Sentences, Interrogative and Assertive Sentences, Exclamatory and Assertive Sentences) 3. Exercises on Common Errors	3


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6	May-2017	B.Sc Sem-II	<i>Unit IV - Comprehension & Composition</i> 1. Comprehension 4. Curriculum Vitae	3
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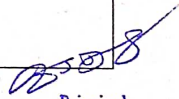


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B.Com Sem-I & II & III IV

Title of Subject-ENGLISH

Sr. No.	Month	Class	Chapter/Topic	Period
1	Jun2016-Aug-2016	B.sc Sem-I	Unit 1: Prose 4. Sreelakshmi Suresh 5. Why a Startup Needs to Find its Customers First- <i>Pranav Jain</i> 6. Devender Pal Singh Unit 2: Prose 4. The Model Millionaire- <i>Oscar Wilde</i> 5. The Monkey's Paw - <i>W.W.Jacobs</i> 6. The Lumber Room- <i>Saki</i>	3
2	Sep-2016	B.sc Sem-I	Unit 3: Poetry 1. Invictus-William Earnest Henley 2. The Builders- <i>Henry Wadsworth Longfellow</i> 3. Stay Calm- <i>Grenville Kleiser</i>	3


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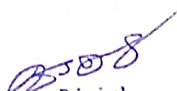


3	Oct-2016	B.sc Sem-I	Unit 4: Writing Skills 1. Emails 2. Speeches 3. Views and Opinions	3
4	Jan-2017-Mar-2017	B.sc Sem-II	Unit 1: Prose 4. Stephen Hawking 5. How to be a Healthy User of Social Media-Peggy Kern 6. Jadav Payeng Unit 2: Prose 4. Luck-Mark Twain 5. How I Became a Public Speaker-George Bernard Shaw 6. My Lord, the Baby-Rabindranth Tagore	3
5	April-2017	B.sc Sem-II	Unit 3: Poetry 1. Success is Counted Sweetest-Emily Dickinson 2. The World is Too Much with Us-William Wordsworth 3. No Man is an Island-John Donne	3


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6	May-2017	B.sc Sem-II	Unit 4: Writing Skills 1. Weave Your Idea/Story 2. Interviews 3. Narrating an Experience	3
6	Jun-2016-Aug-2016	B.sc Sem-III	Unit 1: Prose 4. The Chicago Speeches-Swami Vivekananda 5. What Teenagers Need to Know about Cyber Security- Sanjay Goel 6. Values in Life-Rudyard Kipling Unit 2: Prose 4. Work Brings Solace-A.P.J.Abdul Kalam 5. Too Dear! - Leo Tolstoy 6. The Pleasures of Ignorance-Robert Lynd	




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6	Sep-2016	B.sc Sem-III	Unit 3: Poetry 1. The Tiger and the Deer- <i>Sri Aurobindo</i> 2. A Dream within a Dream- <i>Edgar Allan Poe</i> 3. Leisure- <i>W.H.Davies</i> Unit 4: Writing Skills
6	Oct-2016	B.sc Sem-III	Unit 4: Writing Skills 1. Application Letters 2. Etiquette and Manners 3. Writing Blogs
6	Jan-2017-Mar-2017	B.sc Sem-IV	Unit 1: Prose 4. Gifts- <i>Ralph Waldo Emerson</i> 5. India, What Can it Teach Us?- <i>Max Muller</i> 6. Why We Travel- <i>Pico Iyer</i> Unit 2: Prose 4. The Doll's House- <i>Katherine Mansfield</i> 5. The Globe of Gold- <i>Bankim Chandra Chattopadhyay</i>

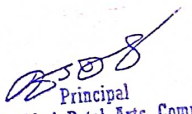


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			6. The Beggar-Anton Chekhov	
6	April-2017	B.sc Sem-IV	Unit 3: Poetry 1. The Ballad of Father Gilligan-William Butler Yeast 2. God's Grandeur-Gerard Manley Hopkins 3. The Soul's Prayer- Sarojini Naidu	
6	May-2017	B.sc Sem-IV	Unit 4: Writing Skills 1. Comprehension 2. Summary Writing 3. Writing Dialogue Group Discussion	


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2017-18

ANNUAL TEACHING PLAN

COMMERCE AND SCIENCE



Annual Teaching Plan 2017-18

B. Com (First Sem)

Title of Subject: Financial Accounting- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Financial Accounting	15
2	August 2017	B. Com	Unit 2- Hire Purchase Accounting	15
3	September 2017	B. Com	Unit 3- Final Accounts of Co-operative Society	15
4	October 2017	B. Com	Unit 4- joint venture Accounting	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Organization

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Nature and Scope of Business	15
2	August 2017	B. Com	Unit 2- Forms of Business Units	15
3	September 2017	B. Com	Unit 3- Organization	15
4	October 2017	B. Com	Unit 4- Recent Trends in Business Organization	15
			Total	60

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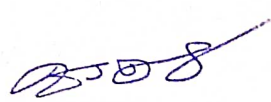
B. Com (First Semester)
Title of Subject: Company Law



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Introduction to Company law	15
2	August 2017	B. Com	Unit 2- MOA AOA	15
3	September 2017	B. Com	Unit 3-Share and Share Capital Debenture Capital	15
4	October 2017	B. Com	Unit 4- Membership in Company, Directors	15
			Total	60

B. Com (First Semester)
Title of Subject: Business Economics

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Nature and Scope of Business Economics	15
2	August 2017	B. Com	Unit 2- Theory of consumption	15
3	September 2017	B. Com	Unit 3- Theory of Production	15
4	October 2017	B. Com	Unit 4- Theory of cost and Revenue	15
			Total	60


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Annual Teaching Plan 2017-18

B. Com First Year (Second Sem)

Title of Subject: Statistics and Business Mathematics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Statistics and Measurement of Central Tendency	15
2	Jan 2018	B. Com	Unit 2- Dispersion	15
3	Feb 2018	B. Com	Unit 3- Skewness	15
4	March 2018	B. Com	Unit 4- Business Mathematics	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Introduction	15
2	Jan 2018	B. Com	Unit 2- Planning	15
3	Feb 2018	B. Com	Unit 3- Delegation and Authority Coordination and Controlling	15
4	March 2018	B. Com	Unit 4-Recent Trends in Management	15
			Total	60

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B. Com First Year (Second Sem)

Title of Subject: Secretarial Practice

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Procedure for incorporation, Company Secretary, Directors	15
2	Jan 2018	B. Com	Unit 2- Voting and resolution, Circular resolution	15
3	Feb 2018	B. Com	Unit 3- Report Writing, E- governance	15
4	March 2018	B. Com	Unit 4- Managerial personnel, Remuneration, Provisions	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Economics -II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Market Structure	15
2	Jan 2018	B. Com	Unit 2- Perfect and Imperfect Competition Market	15
3	Feb 2018	B. Com	Unit 3- Theories of Distribution	15
4	March 2018	B. Com	Unit 4- Business cycles and national Income	15
			Total	60

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Annual Teaching Plan 2017-18

B. Com Second Year (Third Sem)

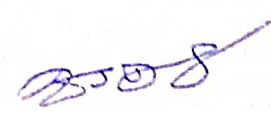
Title of Subject: Financial accounting II

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Consignment Accounting	15
2	August 2017	B. Com	Unit 2- Branch Accounting	15
3	September 2017	B. Com	Unit 3- Floatation of Joint stock company and their capital structure	15
4	October 2017	B. Com	Unit 4- Final Accounts of Joint stock Company	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Business Communication and Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Introduction	15
2	August 2017	B. Com	Unit 2- Business communication	15
3	September 2017	B. Com	Unit 3- Technology and business communication	15
4	October 2017	B. Com	Unit 4- MS office aided communication	15
			Total	60


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B. Com Second Year (Third Sem)

Title of Subject: Business Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Indian Contract Act	15
2	August 2017	B. Com	Unit 2-Sale of Goods Act	15
3	September 2017	B. Com	Unit 3- Negotiable Instrument	15
4	October 2017	B. Com	Unit 4- Consumer Protection Cyber Law	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Monetary Economics- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Money	15
2	August 2017	B. Com	Unit 2- Inflation and Deflation	15
3	September 2017	B. Com	Unit 3- Money market and Policies	5
4	October 2017	B. Com	Unit 4- Public finance	15
			Total	60

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B. Com Second Year (Fourth Sem)

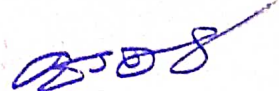
Title of Subject: Income Tax

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Introduction	15
2	Jan 2018	B. Com	Unit 2- Income From Salary	15
3	Feb 2018	B. Com	Unit 3- Income from House property	15
4	March 2018	B. Com	Unit 4- Income from Other sources	15
			Total	60

B. Com Second Year (Fourth Sem)

Title of Subject: Monetary Economics- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Commercial Banking	15
2	Jan 2018	B. Com	Unit 2- Banking and core Banking	15
3	Feb 2018	B. Com	Unit 3- Banks and customer relationship and services	15
4	March 2018	B. Com	Unit 4- Central Bank	15
			Total	60


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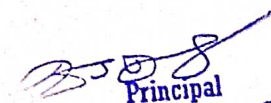
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B. Com Second Year (Fourth Sem)
Title of Subject: Financial accounting -III



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Final Accounts Of Banking Companies	15
2	Jan 2018	B. Com	Unit 2- Final Accounts of General Insurance Companies	15
3	Feb 2018	B. Com	Unit 3- Valuation Of Goodwill	15
4	March 2018	B. Com	Unit 4- Liquidation Of Companies	15
			Total	60

B. Com Second Year (Fourth Sem)
Title of Subject: Skill Development

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Introduction	15
2	Jan 2018	B. Com	Unit 2- Communication skills and personality development	15
3	Feb 2018	B. Com	Unit 3- Techniques in Personality development	15
4	March 2018	B. Com	Unit 4- Entrepreneurial skill development	15
			Total	60


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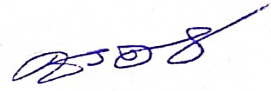


Annual Teaching Plan 2017-18
B. Com Third Year (Fifth Sem)
Title of Subject: Financial accounting -IV

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Amalgamation and Absorption of Companies	15
2	August 2017	B. Com	Unit 2- Reconstruction of Companies	15
3	September 2017	B. Com	Unit 3- Accounts of public Utility Companies	15
4	October 2017	B. Com	Unit 4- Valuation of Shares	15
			Total	60

B. Com Third Year (Fifth Sem)
Title of Subject: Cost accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Cost Accounting	15
2	August 2017	B. Com	Unit 2- Reconciliation of P/L shown by cost and financial accounting	15
3	September 2017	B. Com	Unit 3- Process cost Accounting	15
4	October 2017	B. Com	Unit 4- Contract Costing	15
			Total	60


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B. Com Third Year (Fifth Sem)
Title of Subject: Management Process

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Management and administration	15
2	August 2017	B. Com	Unit 2- Managerial development and group Dynamics	15
3	September 2017	B. Com	Unit 3- Managerial Style	15
4	October 2017	B. Com	Unit 4- Motivation	15
			Total	60

B. Com Third Year (Fifth Sem)
Title of Subject: Indian Economy-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Indian Economy and Planning	15
2	August 2017	B. Com	Unit 2- Indian Economy and Policy	15
3	September 2017	B. Com	Unit 3- Population and Unemployment	15
4	October 2017	B. Com	Unit 4- India's Public Finance	15
			Total	60

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B. Com Third Year (Fifth Sem)

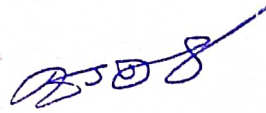
Title of Subject: Marketing Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Introduction	15
2	August 2017	B. Com	Unit 2- Market and pricing Policy	15
3	September 2017	B. Com	Unit 3- Product planning and Distribution	15
4	October 2017	B. Com	Unit 4- Consumer behaviour and Promotion	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Auditing

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Com	Unit 1- Basic of Auditing	15
2	August 2017	B. Com	Unit 2- Audit working and Procedure	15
3	September 2017	B. Com	Unit 3- Audit Standards, vouching	15
4	October 2017	B. Com	Unit 4- Company audit and audit report	15
			Total	60


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Annual Teaching Plan 2017-18

B. Com Third Year (Sixth Sem)

Title of Subject: Financial accounting -V

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Accounts of Holding Company	15
2	Jan 2018	B. Com	Unit 2- Insurance Claims	15
3	Feb 2018	B. Com	Unit 3- Investment Accounting	15
4	March 2018	B. Com	Unit 4- Profit prior to Incorporation	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Management accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Management Accounting	15
2	Jan 2018	B. Com	Unit 2- Business Budget and Budgetary Control	15
3	Feb 2018	B. Com	Unit 3- Ratio Analysis	15
4	March 2018	B. Com	Unit 4- Fund Flow Analysis	15
			Total	60

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B. Com Third Year (Sixth Sem)

Title of Subject: Advanced Statistics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Correlation	15
2	Jan 2018	B. Com	Unit 2- Regression Analysis	15
3	Feb 2018	B. Com	Unit 3- Index Number	15
4	March 2018	B. Com	Unit 4- Time series	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Indian Economy- II

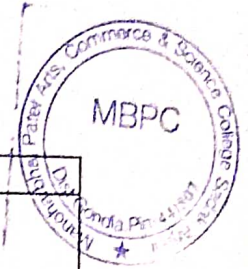
Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Indian Agriculture	15
2	Jan 2018	B. Com	Unit 2- Indian Industry	15
3	Feb 2018	B. Com	Unit 3- - Indian Service Sector	15
4	March 2018	B. Com	Unit 4- India's international Trade	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Human Resource Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Introduction	15
2	Jan 2018	B. Com	Unit 2- Recruitment Selection and	15

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			Training	
3	Feb 2018	B. Com	Unit 3- labour welfare and collective Bargaining	15
4	March 2018	B. Com	Unit 4- Human Resource planning and accounting	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Industrial Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Com	Unit 1- Indian factories Act Industrial dispute Act	15
2	Jan 2018	B. Com	Unit 2- Law relating to : wages, Bonus and gratuity, compensation, benefits	15
3	Feb 2018	B. Com	Unit 3- Child labour Act Trade union Act Contract labour Act	15
4	March 2018	B. Com	Unit 4- Industrial Estate Environment Protection Act Intellectual property rights	15
			Total	60

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B. Sc First Year (First Sem)



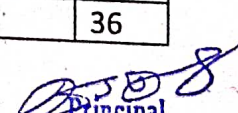
Title of Subject: Paper – I : Life and Diversity of Animals - Nonchordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Sc	Unit 1- Protozoa, <i>Paramoecium, Plasmodium</i> Parasitic Protozoans of Man PRAC- Study of museum specimens	09
2	August 2017	B. Sc	Unit 2- Porifera, Sycon Coelenterata, Obelia PRAC- Study of museum specimens	09
3	Sept 2017	B. Sc	Unit 3- Helminthes, Ascaris, Taenia solium, parasitic adaptations in helminthes PRAC- Study of permanent slides	09
4	Octo 2017	B. Sc	Unit 4- Annelida, Leech Trochophore larva and its significance Vermiculture and its importance PRAC- Dissection	09
			Total	36

B. Sc First Year (First Sem)

Title of Subject: Paper – II : Environmental Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov – Dec 2017	B. Sc	Unit 1- AtmosphereHydrosphere,Lithosphere Renewable and non- renewable energy sources PRAC- Environmental Biology	09
2	Jan 2018	B. Sc	Unit 2- Ecosystem,study of pond ecosystemFood chain, food web and ecological pyramids Energy flow in an ecosystem PRAC-Environmental Biology	09
3	Feb 2018	B. Sc	Unit 3- Biodiversity and its conservation, Wildlife conservation actsHot spots of biodiversity in India PRAC-Environmental Biology	09
4	March 2018	B. Sc	Unit 4- control measures of air , water noise pollution, Toxic effect of heavy metals PRAC-Environmental Biology	09
			Total	36


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B. Sc First Year (Second Sem)

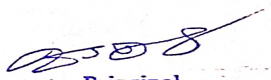
Title of Subject: Paper – III : Life and Diversity of Animals – Nonchordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Sc	Unit 1- Arthropoda, PRAC -Study of museum specimens	09
2	August 2017	B. Sc	Unit 2- Mollusca, Porifera, <i>Sycon</i> <i>Coelenterata, Obelia</i> PRAC -Study of museum specimens	09
3	Sept 2017	B. Sc	Unit 3- Echinodermata PRAC - Dissection	09
4	Octo 2017	B. Sc	Unit 4- Hemichordata PRAC –Mounting	09
			Total	36

B. Sc First Year (Second Sem)

Title of Subject: Paper – IV: Cell Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Sc	Unit 1- Ultrastructure of prokaryotic and eukaryotic cell PRAC-Cell Biology	09
2	Jan 2018	B. Sc	Unit 2- Ultrastructure of mitochondria PRAC- Cell Biology	09
3	Feb 2018	B. Sc	Unit 3- Nucleus, Chromosome PRAC - Cell Biology	09
4	March 2018	B. Sc	Unit 4- Ribosome PRAC Cell Biology	09
			Total	36


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B. Sc Second Year (Third Sem)

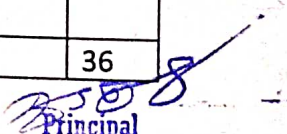
Title of Subject: Paper – V : Life and Diversity of Animals - Chordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Sc	Unit 1- Protochordata <i>Herdmania</i> <i>Amphioxus</i> Agnatha PRAC- Life and Diversity of Animals	09
2	August 2017	B. Sc	Unit 2- Pisces, Amphibia PRAC- Dissection of the locally culturable fish	09
3	Sept 2017	B. Sc	Unit 3- Gametogenesis and type of eggs Fertilization of egg , Post fertilization Types of scales of fishes, PRAC- Study of permanent slides of Frog embryology	09
4	Octo 2017	B. Sc	Unit 4- Frog Embryology Fate map, Morphogenetic movements in gastrula of frog , Development of Aortic arches of frog PRAC- Study of permanent slides of Frog embryology	09
			Total	36

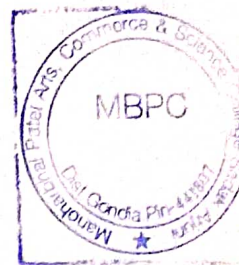
B. Sc Second Year (Third Sem)

Title of Subject: Paper –VI : Genetics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov- Dec 2017	B. Sc	Unit 1- Mendelian Principles, Quantitative genetics, Interaction of genes, PRAC- Permanent stained preparation	09
2	Jan 2018	B. Sc	Unit 2- Cytoplasmic inheritance, Linkage and crossing over, Concepts of genes Cistron , muton and recon Genetic disorders PRAC- Genetics	09
3	Feb 2018	B. Sc	Unit 3- Sex determination Chromosomal aberrations, Gene mutations, Disorders, PRAC- Genetics	09
4	Mar 2018	B. Sc	Unit 4- Lethal genes PRAC- Genetics	09
			Total	36


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B. Sc Second Year (Forth Sem)

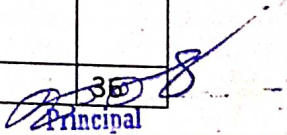
Title of Subject: Paper – VII : Life and Diversity of Animals – Chordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Sc	Unit 1- Reptilia, Aves , Mammals PRAC- Identification, classification	09
2	August 2017	B. Sc	Unit 2- Modern theories of evolution, Adaptations, Introduction to genetic basis of evolution, Races in Man PRAC- Study of skeleton of Rabbit and Fowl	09
3	Sept 2017	B. Sc	Unit 3- Comparative account of aortic arches and heart, Structure of hen's egg Development of chick PRAC- Study of permanent slides of chick embryology	09
4	Octo 2017	B. Sc	Unit 4- Blastocyst and implantation in Mammals, Stem cells, Biological clock, Diurnal and rhythmic behavior PRAC- Study of permanent slides	09
			Total	36

B. Sc Second Year (Forth Sem)

Title of Subject: Paper – VIII Molecular Biology and Immunology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Sc	Unit 1- DNA& RNA, Prokaryotic and eukaryotic gene structure, Recombination in Bacteria PRAC- Molecular Biology	09
2	Jan 2018	B. Sc	Unit 2- DNA replication, Genetic code: Protein synthesis, Gene regulation models PRAC- Molecular Biology	09
3	Feb 2018	B. Sc	Unit 3- Concepts of immunity, Antigen - Antibody- Antigen-antibody interaction PRAC- Molecular Biology	09
4	March 2018	B. Sc	Unit 4- Types of immune response, Types of immune response Complement system PRAC- Molecular Biology	09
			Total	36


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B. Sc Third Year (Fifth Sem)

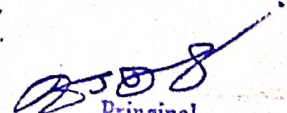
Title of Subject: Paper – IX : General Mammalian Physiology –I

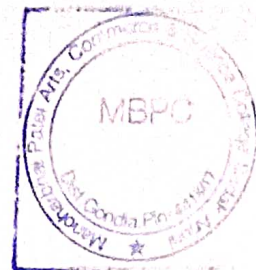
Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Sc	Unit 1- Enzymes PRAC- General Mammalian Physiology – I	09
2	August 2017	B. Sc	Unit 2- Nutrition and Digestion PRAC- General Mammalian Physiology – I	09
3	Sept 2017	B. Sc	Unit 3- Respiration PRAC- General Mammalian Physiology – I	09
4	Octo 2017	B. Sc	Unit 4- Circulation PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Fifth Sem)

Title of Subject: Paper – X : Applied Zoology-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Sc	Unit 1- Aquaculture PRAC- Applied Zoology – II (Biotechniques, Microtechnique)	09
2	Jan 2018	B. Sc	Unit 2- Prawn culture and Pearl culture Fabrication and setting up of aquarium and its maintenance , Breeding of aquarium fishes, Diseases caused by fungi, bacteria, protozoa and helminthes PRAC- Applied Zoology – II (Biotechnology)	09
3	Feb 2018	B. Sc	Unit 3- Economic Entomology (Methods of pest control) PRAC- Applied Zoology – II (Bioinformatics and Biostatistics)	09
4	March 2018	B. Sc	Unit 4- Economic Entomology PRAC- Visit to Biotechnology centre	09
			Total	36


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B. Sc Third Year (Sixth Sem)

Title of Subject: Paper – XI : General Mammalian Physiology –II

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2017	B. Sc	Unit -1 Nerve and Muscle Physiology PRAC- General Mammalian Physiology – I	09
2	August 2017	B. Sc	Unit 2- Excretion PRAC- General Mammalian Physiology – I	09
3	Sept 2017	B. Sc	Unit 3- Endocrinology PRAC- General Mammalian Physiology – I	09
4	Octo 2017	B. Sc	Unit 4- Reproduction PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Sixth Sem)

Title of Subject: Paper – XII : Applied Zoology-II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2017	B. Sc	Unit 1- Biotechniques PRAC- Applied Zoology –I (Aquaculture and Economic Entomology)	09
2	Jan 2018	B. Sc	Unit 2- Separation of biomolecules PRAC- Dissection	09
3	Feb 2018	B. Sc	Unit 3- Separation of biomolecules PRAC- Fabrication and setting up of aquarium	09
4	March 2018	B. Sc	Unit 4- Microtechnique PRAC- Mounting, Visit	09
			Total	36

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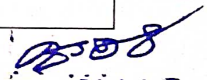
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BOTANY
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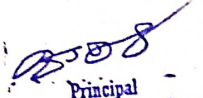
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Name of Lecturer	Class	Paper No & Subject	Weekly Workload
Shri. S. M. Akare	B.Sc. Sem-I	Paper -I (VIRUSES, PROKARYOTES AND ALGAE) Paper -I, Unit-I Introduction to Botany. Virus: General characteristics and nature of Viruses Ultra-structure of TMV, Structure and Multiplication of T4 - Bacteriophage. Economic importance. Mycoplasma : - Structure, Properties, Reproduction. Comparison between Archaeobacteria and Eubacteria.	9
Shri. S. M. Akare	B.Sc. Sem-I	Paper -I, Unit-II Bacteria: -Cell structure, Flagella. Reproduction: (Binary fission, Conjugation). Economic	


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		importance. Cyanobacteria: -General account, Economic Importance, Ultra cell structure, Reproduction. eg.Nostoc.	9
Ms. S. T. Raut	B.Sc. Sem-I	Paper – I, Unit – III Algae – General characteristics, Classification (Fritsch 1954), Life history of: - Oedogonium, Chara.	9
Ms. S. T. Raut	B.Sc. Sem-I	Paper – I, Unit- IV Algae - Life history of Vaucheria, Ectocarpus, and Economic importance of Algae.	9
Shri. S. M. Akare	B.Sc. Sem-I	Paper-II (FUNGI, LICHEN, PLANT PATHOLOGY, BRYOPHYTA) Paper –II, Unit-I Fungi:- General characteristics, Classification(Alexopoulos 1996), Economic importance Life history of: - Albugo, Mucor.	9
Shri. S. M. Akare	B.Sc. Sem-I	Paper –II, Unit-II Fungi- Life history of :- Puccinia, Cereospora Lichens :- Types, Reproduction and Economic importance	9


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Ms. H. M. Thakre	B.Sc. Sem-I	Paper –II, Unit-III 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	9
Ms. H. M. Thakre	B.Sc. Sem-I	Paper –II, Unit-IV Life history of:- Riccia, Anthoceros, Funaria	9
Shri. S. M. Akare Ms. S. T. Raut	B.Sc Sem-I	List of Practicals – I : Study of Bacterial forms from permanent micropreparation Gram staining of Bacteria, Ultrastructure of Bacteriophage from TEM photographs Study of Cyanobacteria: Nostoc. Study of Algal genera: Oedogonium, Chara, Vaucheria, Ectocarpus.	2
Shri. S. M. Akare Ms. H. M. Thakre	B.Sc Sem-I	List of Practicals – II : Study of Fungal genera:- Albugo, Mucor, Puccinia, Cercospora Study of Lichen: - Thallus structure, Types Plant pathology: – Leaf curl of Papaya, Red rot of Sugarcane, Citrus canker Study of Bryophytes :- Riccia, Anthoceros, Funaria	2



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Ms. H. M. Thakre	B.Sc Sem-II	<p align="center">Paper- I (PTERIDOPHYTA & GYMNOSPERMS)</p> <p>Unit - I Pteridophyta :- Classification system (Smith 1952), General characters (Psilopsida, Lycopside, Sphenopsida and Pteropsida), Economic importance, alternation of generation Life history of:- Rhynia, Selaginella</p>	9
Shri. S. M. Akare	B.Sc Sem-II	<p>Unit - II Life history of:- Equisetum, Apogamy, Apospory, Stelar system in pteridophytes, Concept of heterospory and seed habit</p>	9
Ms. H. M. Thakre	B.Sc Sem-II	<p>Unit - III Gymnosperms:- Classification (Stewart 1982), General characters, Economic importance, alternation of generation. Life cycle of the following:- Cycas.</p>	9
Shri. S. M. Akare	B.Sc Sem-II	<p>Unit - IV Life cycle of the:- Pinus. Cycadeoidea (morphology, anatomy of Stem and flower)</p>	9




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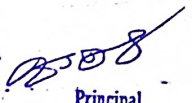
Ms. S. T. Raut	B.Sc Sem-II	<p>PAPER – II (PALAEOBOTANY & MORPHOLOGY OF ANGIOSPERMS)</p> <p>Unit - I</p> <p>Palaeobotany: Geological time scale</p> <p>Fossilization: Replacement theory, Infiltration theory</p> <p>Types of fossils: Impression, Compression, Petrification</p> <p>Fossil plants: Gymnosperms: Glossopteris (Leaf, Scutum),</p>	9
Ms. S. T. Raut	B.Sc Sem-II	<p>Unit - II</p> <p>Root Morphology - Tap root & adventitious roots, Modifications for storage, Respiration & reproduction.</p> <p>Stem Morphology:- shape, surface, texture, nature, Branching (Monopodial, Sympodial), modifications (Runner, Rhizome, Tuber, Bulb, cladode).</p> <p>Leaf Morphology:- Typical Leaf, Types (Simple, Compound), Phyllotaxy, Venation, and modifications of leaf (Tendrils, Phyllode)</p>	9
Shri. S. M. Akare	B.Sc Sem-II	<p>Unit - III</p> <p>Inflorescence: Simple (Racemose and Cymose type).</p> <p>Flower: Details of typical flower, Epigyny, Perigyny & Hypogyny, Androphore, Gynophore & Gynandrophore.</p> <p>Calyx & Corolla: - Cohesion, Forms of corolla and aestivation.</p>	9



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Shri. S. M. Akare	B.Sc Sem-II	Unit - IV Flower: Androecium: - Parts, Cohesion & Adhesion, Fixation, dehiscence. Gynoecium: - Parts, Cohesion, Adhesion, Placentation. Fruit: Classification of fruits, simple and aggregate fruits, Composite fruit.	3
Shri. S. M. Akare Ms. H. M. Thakre	B.Sc Sem-II	<p style="text-align: center;">List of Practicals-I</p> Study of Pteridophytes : Rhynia, Selaginella, Equisetum. Study of Gymnosperm: Cycas, Pinus, Cycadeoidea.	2



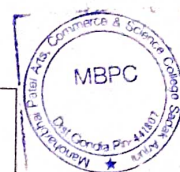

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Shri. S. M. Akare Ms. S. T. Raut	B.Sc Sem-II	<p style="text-align: center;">List of Practicals-II</p> <p>i. Fossils : Types, Glossopteris, Cycadoidea</p> <p>ii. Study of Root: Types, Modifications.</p> <p>iii. Study of Stem: shape, surface, texture, nature Branching, Modifications (Ex. Hibiscus, Ocimum, any grass).</p> <p>iv. Study of Leaf: Stipules, base, kind, shape, surface, margin, Apex, texture, Phyllotaxy, Venation & Modifications.</p> <p>v. Inflorescence: Types.</p> <p>vi. Flower: Parts, Thalamus, Calyx, Corolla, Androecium, Gynoccium.</p> <p>vii. Fruits: Types.</p>	2
Ms. S. T. Raut	B.Sc Sem-III	<p style="text-align: center;">Paper- I (ANGIOSPERM TAXONOMY)</p> <p>Unit - I 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).</p>	9

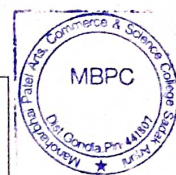

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Ms. S. T. Raut	B.Sc Sem-III	Unit - II Classification of angiosperms: Natural, Artificial, Phylogenetic system of classification. Systems of classification: Bentham & Hooker and Engler & Prantl (along with merits and demerits), Modern trends in Taxonomy : Cytotaxonomy (Karyotype), Phytochemistry (Proteins, flavonoids, Betalains) , Taximetrics to taxonomy.	9
Shri. S. M. Akare	B.Sc Sem-III	Unit-III Study of Families (Dicot): Malvaceae, Brassicaceae, Fabaceae (Papilionoideae, Caesalpinioideae, Mimosoideae)	9
Shri. S. M. Akare	B.Sc Sem-III	Unit -IV Study of Families (Dicot): Asteraceae, Asclepiadaceae, Euphorbiaceae Study of Families (Monocot): Poaceae	9
Ms. S. T. Raut	B.Sc Sem-III	PAPER – II (CELL BIOLOGY, PLANT BREEDING & GENETICS) Unit - I Structure of typical plant cell, Ultrastructure and functions of: Cell wall, Cell Membrane (Fluid mosaic model), Nucleus, Endoplasmic reticulum (RER and SER)	9




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Ms. S. T. Raut	B.Sc Sem-III	Unit – II Ultrastructure & Functions of: Golgi Complex, Vacuoles, Ribosomes (70S and 80S), Mitochondria, Chloroplasts,	9
Shri. S. M. Akare	B.Sc Sem-III	Unit - III 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.	9
Shri. S. M. Akare	B.Sc Sem-III	Unit - IV 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)	9
Ms. S. T. Raut	B.Sc Sem-III	List of Practicals - I Study of Families covered in the theory portion. Study of fossil Angiosperms micropreparation and specimens: Sahanianthus, Enigmocarpon	2

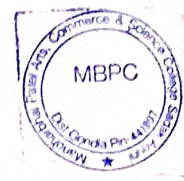


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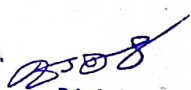


Ms. H. M. Thakre	B.Sc Sem-III	<p>List of Practicals - II</p> <p>Study of Cell organelles with the help of photographs/ Slides</p> <p>Study of mitosis in plant material</p> <p>Study of meiosis in plant material</p> <p>To calculate Mean, Mode, Median, standard error from the given data (At least 10 problems to be solved)</p> <p>To calculate the student's t-value from the given data (At least 10 problems to be solved)</p>	2
Ms. S. T. Raut	B.Sc Sem-IV	<p>PAPER – I (ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS)</p> <p>Unit-I</p> <p>Basic body plan & Modular type of Growth.</p> <p>Meristems : Classification of meristems based on origin and position. Permanent tissue and their functions: Simple tissue (parenchyma, collenchyma, sclerenchyma), Complex tissue (xylem and phloem).</p>	9
Ms. S. T. Raut	B.Sc Sem-IV	<p>Unit - II:</p> <p>Apical meristem of Root and Shoot: Apical cell theory, tunica-carpus theory, Types of root apex according to Newman.</p> <p>Primary structure of root in dicot (Sunflower) and monocot (Maize)</p> <p>Primary structure of stem in dicot (Sunflower) and monocot (Maize)</p> <p>Types of vascular bundles- dicots and monocots</p>	9

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		Cambium (structure, types, function)	
Ms. H. M. Thakre	B.Sc Sem-IV	Unit - III Periderm, growth ring, sap wood, heart wood Secondary growth (Sunflower stem) and anomalous secondary growth in Bignonia and Dracena stem. Anatomy of leaf: Dicot (Nerium), monocot (Maize). Senescence and abscission of leaves.	9
Ms. H. M. Thakre	B.Sc Sem-IV	Unit - IV Pollination: Types and adaptation, significance Structure of anther, Microsporogenesis, male gametophyte Types of ovules, structure of anatropous ovule Megasporeogenesis and female gametophyte (polygonum type) Double fertilization and triple fusion, endosperms and its types, Structure of dicot (Onagad) and monocot embryo.	9


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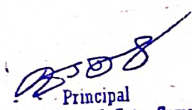


Paper-II (Genetics & Molecular Biology)			
Shri. S. M. Akare	B.Sc Sem-IV	Unit - I Mendelism: - Laws of inheritance (Law of segregation and independent assortment) Interaction of genes: Allelic- Incomplete dominance (1:2:1 ratio in <i>Mirabilis jalapa</i>); Nonallelic- Complementary (9:7 ratio) and Dominant epistasis (12:3:1 ratio) Linkage: Definition, Theory of linkage (Coupling and Repulsion theory), types (complete and incomplete), significance	9
Shri. S. M. Akare	B.Sc Sem-IV	Unit - II Crossing over: Definition, theories (Breakage and reunion), significance Variation in chromosome number: Polyploidy (auto- and allo-), aneuploidy (nullisomics, monosomics, trisomics and tetrasomics), significance Structural changes in chromosome: deficiency, duplication, significance of inversion and translocation.	9
Ms. H. M. Thakre	B.Sc Sem-IV	Unit - III Structure of DNA (Watson and Crick model) Semi conservative method of DNA replication in eukaryotes Concept of gene; Benzer's concept, cistron, mutons and recones, jumping gene. Mutation: Spontaneous and induced, physical and chemical mutagens, application of induced mutations in crop improvement DNA damage and repair: Photoreactivation, excision repair	9


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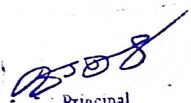


Ms. H. M. Thakre	B.Sc Sem-IV	Unit - IV Satellite and repetitive DNA Genetic code: Definition and characteristics t-RNA (Clover leaf model) Gene expression in prokaryotes: Transcription and translation Regulation of gene expression (Lac operon model).	9
Shri. S. M. Akare	B.Sc Sem-IV	List of practicals – I Study of simple tissue, complex tissue and secretory tissue from permanent slides Study of types of vascular bundles Study of internal structure of dicot and monocot root using hand section and prepare temporary mounts -Sunflower, Maize Study of internal structure of dicot and monocot stem using hand section and prepare temporary mounts -Sunflower, Maize Study the growth ring in woods-Teak wood Study of internal structure of secondary growth and anomalous secondary growth using hand section and prepare permanent micropreparations - Bignonia stem and Dracena stem. Study of internal structure of leaves- Nerium, Maize Study of types of ovules, anther structure, pollen grains, adaptations for pollination To calculate the percent pollen germination in the given specimen	2


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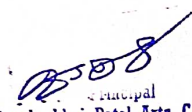


Ms. S. T. Raut	B.Sc Sem-IV	List of practicals -II To prove the Mendel's law of segregation with the help of coloured beads. To prove the Mendel's law of independent assortment with the help of coloured beads. From the given data workout the type of gene interaction in the given cross (Atleast 10 problems of each type mentioned in theory syllabus).	2
Ms. H. M. Thakre	B.Sc Sem-V	PAPER – I (BIOCHEMISTRY & PLANT PHYSIOLOGY-I) Unit - I 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: Nomenclature, 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)	6 9


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Ms. H. M. Thakre	B.Sc Sem-V	Unit - II 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	9
Shri. S. M. Akare	B.Sc Sem-V	Unit - III 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 .	9


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Shri. S. M. Akare	B.Sc Sem-V	UNIT-IV 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	9
Shri. S. M. Akare	B.Sc Sem-V	PAPER – II (PLANT ECOLOGY – I) Unit - I 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)	9
Shri. S. M. Akare	B.Sc Sem-V	Unit - II 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	9

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Ms. S. T. Raut	B.Sc Sem-V	Unit - III 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: analytical (quantitative- frequency, density, abundance; qualitative- Life forms, Raunkier's Biological spectrum) and synthetic characters (presence, fidelity, dominance)	9
Ms. S. T. Raut	B.Sc Sem-V	Unit - IV 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)	9
Shri. S. M. Akare	B.Sc Sem-V	List of practicals - I 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 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, CO ₂ concentration and temperature on	2

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		<p>rate of photosynthesis by suitable method.</p> <p>To determine osmotic potential of the cell sap by plasmolytic method.</p> <p>To study the activity of enzyme amylase, catalase and peroxidase. Miner Physiology experiment</p>	
Ms. H. M. Thakre	B.Sc Sem-V	<p>List of practicals -II</p> <p>To determine frequency, density, abundance of the community by quadrat method.</p> <p>To determine the homogeneity of vegetation by Raunkiaers frequency diagram.</p> <p>To determine the water holding capacity of the given soil samples</p> <p>To determine the water rising capacity of the given soil samples. To determine the soil moisture of the given samples</p>	2
Ms. H. M. Thakre	B.Sc Sem-VI	<p align="center">PAPER – I (PLANT PHYSIOLOGY-II & BIOTECHNOLOGY)</p> <p>Unit - I</p> <p>Growth: Concept, growth curve, phases of growth</p> <p>Phytochromes: Pr and Pfr forms, their role</p> <p>Circadian rhythms and biological clock</p> <p>Plant growth regulators: Role of auxin, cytokinins, gibberellins, ABA and ethylene</p> <p>Plant movements: Tropic and nastic movements</p>	9


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Ms. H. M. Thakre	B.Sc Sem-VI	Unit - II Photoperiodism: physiology of flowering, photoperiodism and vernalization, role of florigen Senescence and abscission Seed dormancy: Causes and role, methods to break seed dormancy Plant defence: Definition: Hypersensitive response and Systemic acquired resistance; Role of secondary metabolites (Terpenes and phenolic compounds)	9
Shri. S. M. Akare	B.Sc Sem-VI	Unit - III Plant tissue culture: definitions of- totipotency, explant, aseptic culture, in vitro, micropropagation; methods of sterilization (autoclaving, dry heat, chemicals), culture media (MS media) hormone requirement & applications of tissue culture. Callus and organ culture (shoot tip, anther) and its application, cybrid production and its application.	9
Shri. S. M. Akare	B.Sc Sem-VI	Unit IV Genetic engineering: Tools- Enzymes (Restriction enzymes, ligases, DNA polymerases), Plasmid as cloning vectors. DNA library: cDNA and genomic library. Agarobacterium tumefaciens mediated gene transfer, structure of Ti -plasmids Advantages and disadvantages of transgenic plants, example Bt cotton and golden rice.	9


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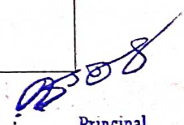


Ms. S. T. Raut	B.Sc Sem-VI	PAPER – II (PLANT ECOLOGY, TECHNIQUES & UTILIZATION OF PLANTS) Unit - I Plant succession: Definition, Causes of succession, Hydrosere, Xerosere Plant adaptations: Morphological, Anatomical & Physiological responses of Hydrophytes, Xerophytes, Halophytes (with one example)	9
Ms. S. T. Raut	B.Sc Sem-VI	Unit - II Environmental Pollution: Agricultural, noise and thermal pollution, Control of environmental pollution, Environmental management Natural resources - types (renewable and non-renewable), factors for depletion; conservation of forest and water resources	9
Shri. S. M. Akare	B.Sc Sem-VI	Unit - III Principle, types and application of: microscopy (Light, fluorescent, SEM, TEM), centrifugation, electrophoresis (SDS-PAGE and Agarose), spectroscopy (UV-Vis), chromatography (Paper chromatography, Thin layer chromatography)	9


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Shri. S. M. Akare	B.Sc Sem-VI	Unit - IV Utilization of Plants: Morphology, Utilization and Important chemical constituents of :- Food: Wheat; Oil: Ground nut; Fibre: Cotton; Spices: Clove; Beverages: Coffee; Medicinal: Neem; and Rubber. Ethnobotany: Introduction, definition, branches & importance of ethnobotany	9
Ms. S. T. Raut	B.Sc Sem-VI	List of Practicals -I To determine seed viability by a convenient method. Principle and working of: oven, autoclave, laminar air flow hood. To study the structure of following vectors on the basis of photographs and diagrams: plasmid vector, Binary vector. To study the effect of various plant growth regulators on the growth and development of plants. To study steps of genetic engineering from photograph example Bt cotton and golden rice.	2
Shri. S. M. Akare	B.Sc Sem-VI	List of Practicals -II To study the morphological and anatomical characteristics of anyone hydrophyte and xerophyte. To study the morphological characteristics of cladode, phylloclade, phyllode and pneumatophores.	2


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	<p>Principle and working of: spectrophotometer, microscope etc.</p> <p>To determine the DO of water samples different sources.</p> <p>To study the dust holding capacity of leaves.</p> <p>To estimate transparency, pH and temperature of different water bodies</p> <p>To estimate salinity (chlorides) of different water samples.</p> <p>To determine the percent leaf-area injury of different leaf samples collected around polluted sites.</p> <p>Utilization of Plants: Morphology, Utilization and Important chemical constituents of plants mentioned in theory.</p> <p>To study the plants of ethnobotanical importance.</p> <p>Microchemical Tests: Lipid, Proteins, starch, Lignin, Carbohydrates, Cellulose.</p> <p>Electrophoretic /chromate graphic separation of amino acids carbohydres</p>	
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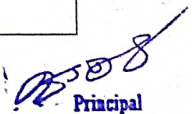
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B.Sc. Sem-I, II

Title of Subject - Botany



Sr. No.	Month	Class	Chapter/Topic	Period
1	Jun to August 2019	B.Sc. Sem-I	Paper -I Unit-I Introduction to Botany. Virus, Mycoplasma, Comparison between Archaeobacteria and Eubacteria Paper -I Unit-II Bacteria, Cyanobacteria Paper -II, UNIT-I: Fungi Paper -II Unit-II Fungi, Lichen. Laboratory Course Practical- I : Bacterial forms, Bacteriophage, Cyanobacteria	9
2	Sep-2019	B.Sc. Sem-I	Paper -I, Unit - III Algae & Paper -II, Unit- III Plant pathology, Bryophyta Practical- II, fungal genera, Lichen, Plant pathology	9
3	October-2019	B.Sc. Sem-I	Paper -I, Unit - IV Algae & Paper -II, Unit- IV Riccia, Anthoceros, Funaria	9
4	Jan -2020 to March -2020	B.Sc. Sem-II	Paper- I, Unit-I: Pteridophyta – Rhynia, Seleginella Unit – II: Equisetum, Apospory, Apogamy, Stellar system, Concept of heterospory and seed habit Paper-II UNIT- I: Palaeobotany. UNIT-II: Root, Stem, Leaf & Practical-I Pteridophytes, Gymnosperm	9
5	April -2020	B.Sc. Sem-II	Paper- I Unit – III, Gymnosperm Paper-II Unit-III Inflorescence, flower;, Practical-II: Fossils, Root, Stem, Leaf, Inflorescence	9
6	May-2020	B.Sc. Sem-II	Paper- I Unit – IV, Gymnosperm, Paper-II UNIT-IV: Flower, fruit & Practical-II, flower, fruit	9


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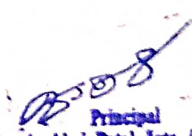
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B.Sc. Sem-III, IV

Title of Subject - Botany



Sr. No.	Month	Class	Chapter/Topic	Period
1	Jun to August 2019	B.Sc Sem-III	Paper- I, Unit – I Angiosperm Taxonomy, Unit- II: Classification of Angiosperm; Paper- II Unit –I Cell organelles, Unit – II Cell organelles ; Practical-I	9
2	Sep-2019	B.Sc Sem-III	Paper –I, Unit III: Study of families Paper –II Unit III Chromosomes, Practical-II	9
3	October-2019	B.Sc Sem-III	Paper- I Unit – IV Study of Dicot families; Paper II UNIT-IV Plant breeding; Practical-II	9
4	Jan -2020 to March -2020	B.Sc Sem-IV	Paper- I, Unit-I: Anatomy, Unit- II: Anatomy: Paper- II, Unit-I: Genetics, UNIT –II: Genetics Practical-I	9
5	April -2020	B.Sc Sem-IV	Paper- I Unit- III Paper- I Unit- III; Practical-II	9
6	May-2020	B.Sc Sem-IV	Paper- I Unit- IV Paper- I Unit- IV; Practical-II	9


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B.Sc. Sem- V, VI

Title of Subject - Botany

Sr. No.	Month	Class	Chapter/Topic	Period
1	Jun to August 2019	B.Sc Sem-V	Paper-I, UNIT- I, UNIT – II Biochemistry, Paper- II Unit –I, Ecology, Unit II : Physiographic factor, Practical - I	9
2	Sep-2019	B.Sc Sem-V	Paper- I, UNIT-III Mineral nutrition, Respiration; Paper- II, Unit III:Ecosystems; Practical-II	9
3	October-2019	B.Sc Sem-V	Paper- I, UNIT-IV – Photosynthesis, Paper- II UNIT- IV: Principles of phytogeography, Practical-II	9
4	Jan -2020 to March -2020	B.Sc Sem-VI	Paper-I, Unit- I & Unit-II Plant physiology; Paper-II UNIT-I, Plant succession, UNIT- II, Pollution; Practical- I	9
5	April -2020	B.Sc Sem-VI	Paper-I, Unit III Plant tissue culture, Paper-II, Unit III lab.Technique, Practical-II	9
6	May-2020	B.Sc Sem-VI	Paper-I, Unit IV Genetic engineering, Paper-II, Unit IV Utilization of plants, Ethnobotany, Practical-II	9


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2018-19

ANNUAL TEACHING PLAN

COMMERCE AND SCIENCE



Annual Teaching Plan 2018-19

B. Com (First Sem)

Title of Subject: Financial Accounting- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Financial Accounting	15
2	August 2018	B. Com	Unit 2- Hire Purchase Accounting	15
3	September 2018	B. Com	Unit 3- Final Accounts of Co-operative Society	15
4	October 2018	B. Com	Unit 4- joint venture Accounting	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Organization

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Nature and Scope of Business	15
2	August 2018	B. Com	Unit 2- Forms of Business Units	15
3	September 2018	B. Com	Unit 3- Organization	15
4	October 2018	B. Com	Unit 4- Recent Trends in Business Organization	15
			Total	60


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B. Com (First Semester)
Title of Subject: Company Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Introduction to Company law	15
2	August 2018	B. Com	Unit 2- MOA AOA	15
3	September 2018	B. Com	Unit 3-Share and Share Capital Debenture Capital	15
4	October 2018	B. Com	Unit 4- Membership in Company, Directors	15
			Total	60

B. Com (First Semester)
Title of Subject: Business Economics

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Nature and Scope of Business Economics	15
2	August 2018	B. Com	Unit 2- Theory of consumption	15
3	September 2018	B. Com	Unit 3- Theory of Production	15
4	October 2018	B. Com	Unit 4- Theory of cost and Revenue	15
			Total	60

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B. Com First Year (Second Sem)

Title of Subject: Statistics and Business Mathematics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Statistics and Measurement of Central Tendency	15
2	Jan 2019	B. Com	Unit 2- Dispersion	15
3	Feb 2019	B. Com	Unit 3- Skewness	15
4	March 2019	B. Com	Unit 4- Business Mathematics	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Introduction	15
2	Jan 2019	B. Com	Unit 2- Planning	15
3	Feb 2019	B. Com	Unit 3- Delegation and Authority Coordination and Controlling	15
4	March 2019	B. Com	Unit 4-Recent Trends in Management	15
			Total	60

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B. Com First Year (Second Sem)
Title of Subject: Secretarial Practice

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Procedure for Incorporation, Company Secretary, Directors	15
2	Jan 2019	B. Com	Unit 2- Voting and resolution, Circular resolution	15
3	Feb 2019	B. Com	Unit 3- Report Writing, E- governance	15
4	March 2019	B. Com	Unit 4- Managerial personnel, Remuneration, Provisions	15
			Total	60

B. Com First Year (Second Sem)
Title of Subject: Business Economics -II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Market Structure	15
2	Jan 2019	B. Com	Unit 2- Perfect and Imperfect Competition Market	15
3	Feb 2019	B. Com	Unit 3- Theories of Distribution	15
4	March 2019	B. Com	Unit 4- Business cycles and national Income	15
			Total	60

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B. Com Second Year (Third Sem)

Title of Subject: Financial accounting II

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Consignment Accounting	15
2	August 2018	B. Com	Unit 2- Branch Accounting	15
3	September 2018	B. Com	Unit 3- Floatation of Joint stock company and their capital structure	15
4	October 2018	B. Com	Unit 4- Final Accounts of Joint stock Company	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Business Communication and Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Introduction	15
2	August 2018	B. Com	Unit 2- Business communication	15
3	September 2018	B. Com	Unit 3- Technology and business communication	15
4	October 2018	B. Com	Unit 4- MS office aided communication	15
			Total	60

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B. Com Second Year (Third Sem)

Title of Subject: Business Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Indian Contract Act	15
2	August 2018	B. Com	Unit 2-Sale of Goods Act	15
3	September 2018	B. Com	Unit 3- Negotiable Instrument	15
4	October 2018	B. Com	Unit 4- Consumer Protection Cyber Law	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Monetary Economics- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Money	15
2	August 2018	B. Com	Unit 2- Inflation and Deflation	15
3	September 2018	B. Com	Unit 3- Money market and Policies	5
4	October 2018	B. Com	Unit 4- Public finance	15
			Total	60

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B. Com Second Year (Fourth Sem)
Title of Subject: Financial accounting -III

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Final Accounts Of Banking Companies	15
2	Jan 2019	B. Com	Unit 2- Final Accounts of General Insurance Companies	15
3	Feb 2019	B. Com	Unit 3- Valuation Of Goodwill	15
4	March 2019	B. Com	Unit 4- Liquidation Of Companies	15
			Total	60

B. Com Second Year (Fourth Sem)
Title of Subject: Skill Development

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Introduction	15
2	Jan 2019	B. Com	Unit 2- Communication skills and personality development	15
3	Feb 2019	B. Com	Unit 3- Techniques in Personality development	15
4	March 2019	B. Com	Unit 4- Entrepreneurial skill development	15
			Total	60

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B. Com Second Year (Fourth Sem)

Title of Subject: Income Tax

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Introduction	15
2	Jan 2019	B. Com	Unit 2- Income From Salary	15
3	Feb 2019	B. Com	Unit 3- Income from House property	15
4	March 2019	B. Com	Unit 4- Income from Other sources	15
			Total	60

B. Com Second Year (Fourth Sem)

Title of Subject: Monetary Economics- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Commercial Banking	15
2	Jan 2019	B. Com	Unit 2- Banking and core Banking	15
3	Feb 2019	B. Com	Unit 3- Banks and customer relationship and services	15
4	March 2019	B. Com	Unit 4- Central Bank	15
			Total	60

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B. Com Third Year (Fifth Sem)

Title of Subject: Financial accounting -IV

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Amalgamation and Absorption of Companies	15
2	August 2018	B. Com	Unit 2- Reconstruction of Companies	15
3	September 2018	B. Com	Unit 3- Accounts of public Utility Companies	15
4	October 2018	B. Com	Unit 4- Valuation of Shares	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Cost accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Cost Accounting	15
2	August 2018	B. Com	Unit 2- Reconciliation of P/L shown by cost and financial accounting	15
3	September 2018	B. Com	Unit 3- Process cost Accounting	15
4	October 2018	B. Com	Unit 4- Contract Costing	15
			Total	60

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B. Com Third Year (Fifth Sem)
Title of Subject: Management Process

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Management and administration	15
2	August 2018	B. Com	Unit 2- Managerial development and group Dynamics	15
3	September 2018	B. Com	Unit 3- Managerial Style	15
4	October 2018	B. Com	Unit 4- Motivation	15
			Total	60

B. Com Third Year (Fifth Sem)
Title of Subject: Indian Economy-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Indian Economy and Planning	15
2	August 2018	B. Com	Unit 2- Indian Economy and Policy	15
3	September 2018	B. Com	Unit 3- Population and Unemployment	15
4	October 2018	B. Com	Unit 4- India's Public Finance	15
			Total	60

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B. Com Thlrd Year (Fifth Sem)

Title of Subject: Marketing Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Introduction	15
2	August 2018	B. Com	Unit 2- Market and pricing Policy	15
3	September 2018	B. Com	Unit 3- Product planning and Distribution	15
4	October 2018	B. Com	Unit 4- Consumer behaviour and Promotion	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Auditing

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Com	Unit 1- Basic of Auditing	15
2	August 2018	B. Com	Unit 2- Audit working and Procedure	15
3	September 2018	B. Com	Unit 3- Audit Standards, vouching	15
4	October 2018	B. Com	Unit 4- Company audit and audit report	15
			Total	60

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Annual Teaching Plan 2018-19
B. Com Third Year (Sixth Sem)
Title of Subject: Financial accounting -V

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Accounts of Holding Company	15
2	Jan 2019	B. Com	Unit 2- Insurance Claims	15
3	Feb 2019	B. Com	Unit 3- Investment Accounting	15
4	March 2019	B. Com	Unit 4- Profit prior to Incorporation	15
			Total	60

B. Com Third Year (Sixth Sem)
Title of Subject: Management accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Management Accounting	15
2	Jan 2019	B. Com	Unit 2- Business Budget and Budgetary Control	15
3	Feb 2019	B. Com	Unit 3- Ratio Analysis	15
4	March 2019	B. Com	Unit 4- Fund Flow Analysis	15
			Total	60

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B. Com Third Year (Sixth Sem)

Title of Subject: Advanced Statistics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Correlation	15
2	Jan 2019	B. Com	Unit 2- Regression Analysis	15
3	Feb 2019	B. Com	Unit 3- Index Number	15
4	March 2019	B. Com	Unit 4- Time series	15
			Total	60

B. Com Third Year (Sixth Sem)

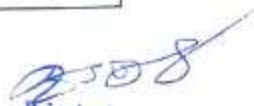
Title of Subject: Indian Economy- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Indian Agriculture	15
2	Jan 2019	B. Com	Unit 2- Indian Industry	15
3	Feb 2019	B. Com	Unit 3- - Indian Service Sector	15
4	March 2019	B. Com	Unit 4- India's international Trade	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Human Resource Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Introduction	15
2	Jan 2019	B. Com	Unit 2- Recruitment Selection and	15


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3	Feb 2019	B. Com	Training Unit 3- labour welfare and collective Bargaining	15
4	March 2019	B. Com	Unit 4- Human Resource planning and accounting	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Industrial Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Com	Unit 1- Indian factories Act Industrial dispute Act	15
2	Jan 2019	B. Com	Unit 2- Law relating to : wages, Bonus and gratuity, compensation, benefits	15
3	Feb 2019	B. Com	Unit 3- Child labour Act Trade union Act Contract labour Act	15
4	March 2019	B. Com	Unit 4- Industrial Estate Environment Protection Act Intellectual property rights	15
			Total	60

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Annual Teaching Plan 2018-19

B. Sc First Year (First Sem)



Title of Subject: **Paper – I : Life and Diversity of Animals - Nonchordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Sc	Unit 1- Protozoa, Paramoecium, Plasmodium Parasitic Protozoans of Man PRAC- Study of museum specimens	09
2	August 2018	B. Sc	Unit 2- Porifera, Sycon Coelenterata, Obelia PRAC- Study of museum specimens	09
3	Sept 2018	B. Sc	Unit 3- Helminthes, Ascaris, Taenia solium, parasitic adaptations in helminthes PRAC- Study of permanent slides	09
4	Octo 2018	B. Sc	Unit 4- Annelida, Leech Trochophore larva and its significance Vermiculture and its importance PRAC- Dissection	09
			Total	36

B. Sc First Year (First Sem)

Title of Subject: **Paper – II : Environmental Biology**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov – Dec 2018	B. Sc	Unit 1- AtmosphereHydrosphere,Lithosphere Renewable and non- renewable energy sources PRAC- Environmental Biology	09
2	Jan 2019	B. Sc	Unit 2- Ecosystem,study of pond ecosystemFood chain, food web and ecological pyramids Energy flow in an ecosystem PRAC-Environmental Biology	09
3	Feb 2019	B. Sc	Unit 3- Biodiversity and its conservation, Wildlife conservation actsHot spots of biodiversity in India PRAC-Environmental Biology	09
4	March 2019	B. Sc	Unit 4- control measures of air , water noise pollution, Toxic effect of heavy metals PRAC-Environmental Biology	09
			Total	36


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B. Sc First Year (Second Sem)

Title of Subject: Paper – III : Life and Diversity of Animals – Nonchordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Sc	Unit 1- Arthropoda, PRAC -Study of museum specimens	09
2	August 2018	B. Sc	Unit 2- Mollusca, Porifera, <i>Sycon</i> <i>Coelenterata, Obelia</i> PRAC -Study of museum specimens	09
3	Sept 2018	B. Sc	Unit 3- Echinodermata PRAC - Dissection	09
4	Octo 2018	B. Sc	Unit 4- Hemichordata PRAC –Mounting	09
			Total	36

B. Sc First Year (Second Sem)

Title of Subject: Paper – IV: Cell Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Sc	Unit 1- Ultrastructure of prokaryotic and eukaryotic cell PRAC-Cell Biology	09
2	Jan 2019	B. Sc	Unit 2- Ultrastructure of mitochondria PRAC- Cell Biology	09
3	Feb 2019	B. Sc	Unit 3- Nucleus, Chromosome PRAC - Cell Biology	09
4	March 2019	B. Sc	Unit 4- Ribosome PRAC Cell Biology	09
			Total	36

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Annual Teaching Plan 2018-19

B. Sc Second Year (Third Sem)

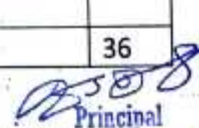
Title of Subject: **Paper – V : Life and Diversity of Animals - Chordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Sc	Unit 1- Protochordata <i>Herdmania</i> <i>Amphioxus</i> Agnatha PRAC- Life and Diversity of Animals	09
2	August 2018	B. Sc	Unit 2- Pisces, Amphibia PRAC- Dissection of the locally culturable fish	09
3	Sept 2018	B. Sc	Unit 3- Gametogenesis and type of eggs Fertilization of egg , Post fertilization Types of scales of fishes, PRAC- Study of permanent slides of Frog embryology	09
4	Octo 2018	B. Sc	Unit 4- Frog Embryology Fate map, Morphogenetic movements in gastrula of frog , Development of Aortic arches of frog PRAC- Study of permanent slides of Frog embryology	09
			Total	36

B. Sc Second Year (Third Sem)

Title of Subject: **Paper –VI : Genetics**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov- Dec 2018	B. Sc	Unit 1- Mendelian Principles, Quantitative genetics, Interaction of genes, PRAC- Permanent stained preparation	09
2	Jan 2019	B. Sc	Unit 2- Cytoplasmic inheritance, Linkage and crossing over, Concepts of genes Cistron , muton and recon Genetic disorders PRAC- Genetics	09
3	Feb 2019	B. Sc	Unit 3- Sex determination Chromosomal aberrations, Gene mutations, Disorders, PRAC- Genetics	09
4	Mar 2019	B. Sc	Unit 4- Lethal genes PRAC- Genetics	09
			Total	36


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B. Sc Second Year (Forth Sem)

Title of Subject: **Paper – VII : Life and Diversity of Animals – Chordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Sc	Unit 1- Reptilia, Aves , Mammals PRAC- Identification, classification	09
2	August 2018	B. Sc	Unit 2- Modern theories of evolution, Adaptations, Introduction to genetic basis of evolution, Races in Man PRAC- Study of skeleton of Rabbit and Fowl	09
3	Sept 2018	B. Sc	Unit 3- Comparative account of aortic arches and heart, Structure of hen's egg Development of chick PRAC- Study of permanent slides of chick embryology	09
4	Octo 2018	B. Sc	Unit 4- Blastocyst and implantation in Mammals, Stem cells, Biological clock, Diurnal and rhythmic behavior PRAC- Study of permanent slides	09
			Total	36

B. Sc Second Year (Forth Sem)

Title of Subject: **Paper – VIII Molecular Biology and Immunology**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Sc	Unit 1- DNA& RNA, Prokaryotic and eukaryotic gene structure, Recombination in Bacteria PRAC- Molecular Biology	09
2	Jan 2019	B. Sc	Unit 2- DNA replication, Genetic code: Protein synthesis, Gene regulation models PRAC- Molecular Biology	09
3	Feb 2019	B. Sc	Unit 3- Concepts of immunity, Antigen - Antibody- Antigen-antibody interaction PRAC- Molecular Biology	09
4	March 2019	B. Sc	Unit 4- Types of immune response, Types of immune response Complement system PRAC- Molecular Biology	09
			Total	36

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B. Sc Third Year (Fifth Sem)


Title of Subject: **Paper – IX : General Mammalian Physiology –I**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Sc	Unit 1- Enzymes PRAC- General Mammalian Physiology – I	09
2	August 2018	B. Sc	Unit 2- Nutrition and Digestion PRAC- General Mammalian Physiology – I	09
3	Sept 2018	B. Sc	Unit 3- Respiration PRAC- General Mammalian Physiology – I	09
4	Octo 2018	B. Sc	Unit 4- Circulation PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Fifth Sem)

Title of Subject: **Paper – X : Applied Zoology-I**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Sc	Unit 1- Aquaculture PRAC- Applied Zoology – II (Biotechniques, Microtechnique)	09
2	Jan 2019	B. Sc	Unit 2- Prawn culture and Pearl culture Fabrication and setting up of aquarium and its maintenance , Breeding of aquarium fishes, Diseases caused by fungi, bacteria, protozoa and helminthes PRAC- Applied Zoology – II (Biotechnology)	09
3	Feb 2019	B. Sc	Unit 3- Economic Entomology (Methods of pest control) PRAC- Applied Zoology – II (Bioinformatics and Biostatistics)	09
4	March 2019	B. Sc	Unit 4- Economic Entomology PRAC- Visit to Biotechnology centre	09
			Total	36


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B. Sc Third Year (Sixth Sem)

Title of Subject: **Paper – XI : General Mammalian Physiology –II**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2018	B. Sc	Unit -1 Nerve and Muscle Physiology PRAC- General Mammalian Physiology – I	09
2	August 2018	B. Sc	Unit 2- Excretion PRAC- General Mammalian Physiology – I	09
3	Sept 2018	B. Sc	Unit 3- Endocrinology PRAC- General Mammalian Physiology – I	09
4	Octo 2018	B. Sc	Unit 4- Reproduction PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Sixth Sem)

Title of Subject: **Paper – XII : Applied Zoology-II**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2018	B. Sc	Unit 1- Biotechniques PRAC- Applied Zoology –I (Aquaculture and Economic Entomology)	09
2	Jan 2019	B. Sc	Unit 2- Separation of biomolecules PRAC- Dissection	09
3	Feb 2019	B. Sc	Unit 3- Separation of biomolecules PRAC- Fabrication and setting up of aquarium	09
4	March 2019	B. Sc	Unit 4- Microtechnique PRAC- Mounting, Visit	09
			Total	36

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2019-20

ANNUAL TEACHING PLAN

COMMERCE AND SCIENCE

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CHEMISTRY
Teaching Plan

AS PER TEACHERS DAILY DIARY

Annual Teaching Plan 2019 -2020

Name of Lecturer	Class	Paper No & Subject	Weekly Workload
Shri R.N.Huse	B.Sc Sem-I	<p>CH - 101 Paper -I Unit-I</p> <p>(A) Atomic structure-Idea of de-Broglie matter Waves, Heisenberg's uncertainty principle. Schrodinger wave equation, significance of \square and $\square 2$, Quantum numbers, shapes of s, p, and d orbitals, Aufbau principle, Pauli's exclusion principle and Hund's rule of maximum multiplicity. Electronic Configuration of elements and ions ($Z = 1$ to 30)</p> <p>(B) Periodic Properties: Atomic and ionic radii, ionization energy, electron affinity and electronegativity- Definition, trends in periodic table. Factors affecting ionization potential. Pauling's and Muliken's scale of electronegativity. Effective nuclear charge and Slater's rule with some numericals.</p>	9

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Shri.C.V.Bisen	B.Sc Sem-I	CH - 101 Paper-I Unit-II (A) Covalent Bond: Valence Bond Theory, Formation of Hydrogen molecule with Potential energy diagram Limitations of VBT, directional characteristics of covalent bond, overlap criterion and bond strength. Bond energy, bond length, Bond order and Bond angle. Various types of hybridization involving s, p, d orbitals and shape of inorganic molecules. (B) Ionic solids: Ionic structures with respect to NaCl and CsCl, Lattice energy and Born- Haber cycle with numericals. Solvation energy and solubility of ionic solids, polarizing power and polarisability of ions, Fajans rule.	9
Shri R.N.Huse	B.Sc Sem-I	CH - 101 Unit - III (A) s- block elements- Electronic configuration, Comparative study with respect to atomic and ionic radii, Ionization potential, reducing properties. Diagonal Relationships (Li-Mg). Hydrogen bonding .Classification and effect of Hydrogen bonding on viscosity, solubility, M.pt. and B.pt. (B) Chemistry of Noble Gases: Chemical properties of the noble gases, Preparation, chemical properties, structures, bonding and applications of Xenon fluorides (XeF_2 , XeF_4 , XeF_6). Structure and bonding in $XeOF_2$ and $XeOF_4$	9
Shri.C.V.Bisen	B.Sc Sem-I	CH - 101 Unit-IV (A) p-block elements - Introduction to p-block elements. Comparative study of groups 15, 16 and 17 with respect to their Atomic and ionic radii,	9

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		<p>Ionization potential, electron affinity, electronegativity, redox properties and oxidation state. Diagonal relationship (B-Si).</p> <p>(B) Hydrides: Comparative study with respect to structure of NH_3, PH_3, AsH_3 and SbH_3.</p> <p>Oxides: Structure of P_2O_3, P_2O_5</p> <p>Oxyacids of Phosphorous: Structure of H_3PO_3 and H_3PO_4</p> <p>Peroxyacids of sulphur: Preparation and structure of Caro's and Marshall's acids.</p>	
Shri.C.V.Bisen	B.Sc Sem-I	<p>Hydrides of boron: Structure and bonding of diborane, structure of borazine</p> <p>CH-102 Paper -II UNIT-I: Thermodynamics</p> <p>(A) Definitions of some common thermodynamic terms: system, surrounding etc. Types of systems (closed, open & isolated). Homogeneous and Heterogeneous systems, extensive and intensive properties, thermodynamic processes (isothermal, adiabatic, isobaric, isochoric, cyclic, reversible & irreversible). State & path functions and their differentiation, concept of heat & work.</p> <p>(B) Statements of first law of thermodynamics, definition of internal energy & enthalpy. Heat capacity, heat capacity at constant volume and at constant pressure & their relationship. Joule- Thomson experiment, Joule-Thomson coefficient & inversion temperature, calculations of w, q, ΔE & ΔH in isothermal & adiabatic expansion of ideal gases for reversible process.</p> <p>(C) Thermo chemistry: Standard states, Standard enthalpy of formation. Hess's law of constant heat of summation & its applications. Heat of reaction, relation between heat of reaction at constant volume and constant pressure. Average bond energy, bond dissociation energy and its calculations from thermo chemical data. Numerical problems.</p>	9

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		<p>Ionization potential, electron affinity, electronegativity, redox properties and oxidation state. Diagonal relationship (B-Si).</p> <p>(B) Hydrides: Comparative study with respect to structure of NH_3, PH_3, AsH_3 and SbH_3.</p> <p>Oxides: Structure of P_2O_3, P_2O_5</p> <p>Oxyacids of Phosphorous: Structure of H_3PO_3 and H_3PO_4</p> <p>Peroxyacids of sulphur: Preparation and structure of Caro's and Marshall's acids.</p>	
Shri.C.V.Bisen	B.Sc Sem-I	<p>Hydrides of boron: Structure and bonding of diborane, structure of borazine</p> <p>CH-102 Paper -IIUNIT-I: Thermodynamics</p> <p>(A) Definitions of some common thermodynamic terms: system, surrounding etc. Types of systems (closed, open & isolated). Homogeneous and Heterogeneous systems, extensive and intensive properties, thermodynamic processes (isothermal, adiabatic, isobaric, isochoric, cyclic, reversible & irreversible). State & path functions and their differentiation, concept of heat & work.</p> <p>(B) Statements of first law of thermodynamics, definition of internal energy & enthalpy. Heat capacity, heat capacity at constant volume and at constant pressure & their relationship. Joule- Thomson experiment, Joule-Thomson coefficient & inversion temperature, calculations of w, q, ΔE & ΔH in isothermal & adiabatic expansion of ideal gases for reversible process.</p> <p>(C) Thermo chemistry: Standard states, Standard enthalpy of formation. Hess's law of constant heat of summation & its applications. Heat of reaction, relation between heat of reaction at constant volume and constant pressure. Average bond energy, bond dissociation energy and its calculations from thermo chemical data. Numerical problems.</p>	9



Shri R.N.Huse	B.Sc Sem-I	CH-102 Paper –II Unit-II Gaseous State. A) Postulates of kinetic theory of gases, derivation of kinetic gas equation, deduction of various gas laws from kinetic gas equation (Boyle's, Charle's, Avogadro's, Graham's, Dalton's law and ideal gas equation). Qualitative discussion of the Maxwell- Boltzmann distribution of molecular velocities. Effect of temperature on molecular velocities. Different types of molecular velocities (most probable, R.M.S. and average and expressions for them), their inter relationships. Definitions of collision diameter, collision number and Mean free path. (B) Ideal gas and real gases, Difference between an ideal and real gases. Deviations from ideal behavior. Explanation of the terms – Compressibility factors and Boyle temperature. Causes of deviation from ideal behaviors. Vander Wall's equation of state, explanation of behavior of real gases by Van der Waal's equation. Andrew's experiment on critical phenomenon of isotherms of CO ₂ . Continuity of states. The isotherms of Van der Waal's equation, Relationship between critical constants and Van der Wall's constants. Reduced equation of state and law of corresponding states. Numerical problems	9
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Shri.C.V.Bisen	B.Sc Sem-I	<p>CH-102 Paper –II Unit- III Liquid State</p> <p>A) Intermolecular forces, structure of liquids (a qualitative description), structural differences between solids, liquids and gases, liquid crystals, Difference between liquid crystals, solids and liquids. Classification, structure of Nematic and Cholesteric phases. Thermography and seven segment cell.</p> <p>B) Properties of liquid:</p> <p>i) Surface tension: Explanation, measurement of surface tension, Capillary rise method and drop number method, Parachor value and its application.</p> <p>ii) Viscosity: Explanation, coefficient of viscosity, Effect of temperature on Viscosity, relative viscosity, specific viscosity, intrinsic viscosity and reduced viscosity. Method of determination of viscosity (Ostwald viscometer method).</p> <p>iii) Refractive index: Definition. Method for determination of refractive index (Abbe's Refractometer).specific refraction, molar refractions. Numerical problems.</p>	9
Shri R.N.Huse	B.Sc Sem-I	<p>CH-102 Paper –II Unit- IV Surface Chemistry and Catalysis:</p> <p>A) Adsorption- Introduction, Factors affecting adsorption of Gases by Solids, Difference between physical and chemical adsorptions. Adsorption Isotherms: Freundlich Adsorption Isotherm, Langmuir Adsorption Isotherm, B.E.T. Equation (no derivation), Application of B.E.T. Equation in Determination of Surface Area of Adsorbent, Application of Adsorption.</p>	9


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		B) Catalysis: - Introduction, Positive and negative catalysis. General characteristics of catalyst. Promoters & Inhibitors. Action of catalytic promoters and Inhibitors. Homogeneous & Heterogeneous Catalysis, Enzyme catalysis, auto catalysis. Kinetics of Enzyme Catalyzed Reactions- Machaelis-Menten Equation. Numerical problems.	
Shri.C.V.Bisen Shri R.N.Huse	B.Sc Sem-I	CH-103: Laboratory Course Practical- I (Inorganic Chemistry): Semi micro Qualitative Analysis Qualitative analysis of inorganic salt mixture containing two acidic radicals of different group and two basic radicals of same groups. (At least six mixtures to be analyzed)	2
Shri.C.V.Bisen Shri R.N.Huse	B.Sc Sem-I	Practical- II (Physical Chemistry) 1) To determine the heat of solution of potassium nitrate calorimetrically. 2) To determine the heat of ionization of acetic acid calorimetrically 3) Determination of viscosity of unknown liquid by Ostwald viscometer. 4) To determine the percentage composition of given binary mixture (Ethanol-water) by viscosity method. 5) Determination of surface tension of a given liquid by drop number method (Stalagmometer method) 6) To compare cleansing power of two samples of detergent. 7) To determine refractive index, specific and molar refraction of	2



		given liquids by Abbe's refractometer. 8) To study the adsorption of oxalic acid on activated charcoal and verify the Freundlich adsorption isotherm.	
Shri.C.V.Bisen	B.Sc Sem-II	Uni-I CH – 201: Paper- I (Organic Chemistry) Structure and Bonding: Hybridization in case of Methane, Ethane, Ethylene and Acetylene. Bond lengths, bond angles and bond energies. Elementary ideas of Inductive effect, Electromeric effect. Resonance effect, Hyperconjugation (definition and examples). Hydrogen bonding in organic compounds (with reference to alcohol) and its consequences. A) Mechanism of Organic Reactions: Homolytic & heterolytic bond fission with examples. Electrophiles & nucleophiles - definition and example both neutral and charged. Types of organic reactions - addition, substitution, elimination, rearrangement. Reactive intermediates - Definition: carbocations, carbanions, free radicals, carbenes, formation, geometry (orbital structure), stability.	9
Shri R.N.Huse	B.Sc Sem-II	Unit - II Stereochemistry of Organic Compounds: Concept of isomerism. Types of isomerism with suitable examples. Optical isomerism-elements of	9

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		<p>symmetry, molecular chirality, enantiomers, stereogenic centre (lactic acid as example). Optical activity, chiral and achiral molecules with two stereogenic centres (Tartaric acid) diastereo-isomers, meso-compound. Resolution of enantiomers biological and chemical methods. Inversion, retention and racemisation. Asymmetric synthesis. Relative and absolute configuration, sequence rules- D & L and R & S system of nomenclature.</p> <p>Geometrical isomerism: E & Z system of nomenclature, geometric isomerism in maleic acid, fumaric acid and 2-butene.</p> <p>Conformational isomerism: Conformational analysis of ethane and n-butane. Newman's projection and sawhorse formulae. Difference between configuration and conformation.</p>	
Shri.C.V.Bisen	B.Sc Sem- II	<p>Unit - III</p> <p>A) Alkanes: IUPAC nomenclature of branched and unbranched alkanes. Alkyl group, methods of formation (Ethane) - Wurtz reaction, Kolbe's reaction, decarboxylation of carboxylic acid. Physical properties and chemical reactions of alkanes: halogenation, nitration, sulphonation, isomerization, cyclization, aromatization, pyrolysis, cracking and oxidation. L. P. G., Octane number. Mechanism of free radical chlorination of methane.</p> <p>Cycloalkanes: Nomenclature. Baeyer's strain theory and its limitations. Ring strain in small rings cyclopropane and cyclobutane. Theory of strainless rings. Conformational analysis of cyclohexane, axial and equatorial bonds.</p> <p>B) Alkenes: Nomenclature of alkenes, methods of formation (ethylene &</p>	9



		propylene) – dehydrogenation of alkane, dehydrohalogenation of alkyl halides, dehydration of alcohol, dehalogenation of dihalides. Chemical reactions of alkenes (ethylene and propylene) - hydroboration, oxidation KMnO_4 , HIO_4 , Epoxidation, Ozonolysis, Hydroxylation, Polymerization, Substitution in allylic position of alkenes. Markownikoff's Rule and peroxide effect. Ionic Mechanism of addition of Br_2 to ethene and HBr to propene Free radical mechanism of addition of HBr to propene.	
Shri R.N.Huse	B.Sc Sem-II	Unit - IV A) Dienes: Nomenclature and classification of dienes. Methods of formation of 1, 3 - butadiene. Chemical reactions of butadiene - 1, 2 and 1, 4 additions, Diels-Alder reaction. Alkynes: Nomenclature, structure and bonding in Alkynes. Methods of formation of acetylene from - calcium carbide, dehydrohalogenation of dihalides .Chemical reaction - hydroboration, oxidation ,metal ammonia reduction & polymerization. Oxyacetylene flame. Acidity of alkynes. B) Aromatic compounds and Aromaticity: Nomenclature of Benzene derivatives. Structure of benzene - Molecular formula and Kekule structure, Resonance structure, MO picture. Huckel rule – aromaticity, aromatic ions (cyclopentadienyl anion and cycloheptatrienyl cation). Aromatic electrophilic substitution mechanism with energy profile diagram (e.g. nitration and sulphonation).	9

Shri R.N.Huse	B.Sc Sem- II	<p>CH – 202: Paper- II UNIT- I: Thermodynamics</p> <p>(A) Second law of thermodynamics : Need for second law of thermodynamics, statements of second law of thermodynamics, Carnot's cycle and its efficiency, Carnot theorem, thermodynamic scale of temperature, concept of entropy, entropy change in reversible and irreversible processes, entropy change of the universe, entropy change for an ideal gas with change in P, V & T, entropy change during physical change, physical significance of entropy, entropy as criteria of spontaneity & equilibrium of a process.</p> <p>(B)Free energy functions: Work function (A) and Gibb's free energy (G), Variation of work function with T and V, variation of Gibb's free energy with T and P. A and G as criteria for spontaneity and equilibrium of a process. Gibb's – Helmholtz equation & its applications.</p> <p>(C) Chemical equilibrium: Law off mass action, law of chemical equilibrium, relationship between k_p and k_c. Van't-Hoff's reaction isotherm, relation between standard free energy change & equilibrium constant, effect of temperature on equilibrium constant (reaction isochor), integrated form of Van't Hoff equation. Numerical problems.</p>	9
Shri.C.V.Bisen	B.Sc Sem- II	<p>UNIT-II: Phase Equilibra</p> <p>Phase rule: Statement and meaning of the terms: Phase, component and degree of freedom, Derivation of Gibb's Phase rule. Applications of phase rule to one component system i) water system, ii) Sulphur system.</p>	9



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		<p>Need of reduced phase rule equation. Application of phase rule to two component system: Lead silver system, Pattinson's process for desilverization of lead.</p> <p>(A) Liquid-Liquid mixtures: Raoult's law of ideal solutions, ideal liquid mixtures, Henry's law, non-ideal systems, azeotropes (HCl - H₂O & C₂H₅OH - H₂O system). Partial miscible liquids, lower & upper consolute temperature, (phenol-water system, trimethylamine-water and nicotine-water systems), effect of impurity on consolute temperature, Nernst distribution law, conditions for the validity of Nernst distribution law (Association and dissociation). Numerical problems.</p> <p>(B)</p>	
Shri R.N.Huse	B.Sc Sem- II	<p>UNIT-III: Nuclear chemistry and molecular structure:</p> <p>A) Nuclear chemistry Composition of Nucleus, Mass defects, Nuclear binding energy, Average binding energy per nucleon, explanation of nuclear stability on the basis of graph between average binding energy per nucleon and atomic mass number.</p> <p>Nuclear reactions: Fission and fusion.</p> <p>Nuclear models: Shell model and Liquid drop model, comparison between them. Bohr-Wheeler theory. Applications of radioisotopes in medicine, agriculture, carbon dating and structure determination.</p> <p>(B) Molecular structure:</p> <p>Dipole moment, polar and non-polar covalent bond, Electrical polarization of</p>	9


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		molecules, Orientation of dipoles in an electric field. Determination of dipole moment. Application of dipole moment to %age ionic character, Geometry of molecules, study of geometrical isomers and substituted benzene molecules. Numerical problems.	
Shri R.N.Huse	B.Sc Sem-II	UNIT-IV: Chemical Kinetics (A) Rate of reaction, factors affecting the rate of a reaction (concentration, temperature, pressure, solvent, light and catalyst). Order and molecularity of reaction. Reactions of zero order. Mathematical expression for rate constant of first and second order reactions, their characteristics. Pseudo unimolecular reactions. Methods of determination of order of reaction: Integration method, differential method, graphical method, half life period and isolation method. (B) Theories of chemical kinetics: concepts of activation energy. Arrhenius equation, Effect of temperature on rate of reaction. Collision theory of bimolecular reactions (hard sphere model). Transition state theory (equilibrium hypothesis). Expression for rate constant based on equilibrium constant and thermodynamic aspects. Lindeman's theory of unimolecular reactions. Numerical problems.	9
Shri.C.V.Bisen	B.Sc Sem-II	CH-203: Laboratory Course Practical I (Organic Chemistry):	2


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		<p>A) Qualitative Analysis: Element detection (N, Cl, Br, F & S), Identification of functional groups (-COOH, Phenolic -OH, -CHO, Aromatic -NH₂, -CONH₂), determination of M.P & B.P.</p> <p>B) Preparation: i) Hydrolysis : Preparation of Benzoic acid from Benzamide ii) Oxidation: Preparation of Benzoic acid from Benzaldehyde iii) Bromination of Phenol</p>	
Shri R.N.Huse	B.Sc Sem-II	<p>Practical II (Physical Chemistry):</p> <ol style="list-style-type: none">1. To determine the integral heat of solution of a salt at two concentrations and hence determine the integral heat of dilution.2 To determine the solubility of benzoic acid at different temperatures and to determine heat of solution of benzoic acid.3. To construct the phase diagram of three component system (Acetic acid-chloroform-water)4. To determine the critical solution temperature of two partially miscible liquids (phenol-water systems).5. To study the distribution coefficient of Iodine between Water and Carbon tetrachloride/Kerosene6. To determine molecular state of benzoic acid in benzene by distribution method.7. To determine the rate constant of hydrolysis of methyl acetate in presence of acid.8. To determine the specific reaction rate of hydrolysis of ethyl acetate catalyzed by NaOH (saponification)	2


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Shri R.N.Huse	B.Sc Sem- III	CH – 301: Paper- I Unit – I: (A) Valence Shell Electron pair repulsion (VSEPR) Theory: Structure with respect to H_2O , NH_3 , NH_4^+ , ClF_3 , SF_4 , ICl_4^- . Preparation, properties and structure of Interhalogen compounds. Polyhalides (Structure of I_3^- , I_5^- , ICl_4^-) (B) MO theory: LCAO approximation, wave equation for molecular orbitals. Difference between bonding and anti bonding MO in terms of energy and electron density distribution curves, order of energy levels in MO. Molecular Orbital diagrams for homonuclear diatomic molecules of elements (with $Z = 1$ to 9). Concepts of nonbonding MO in HF molecule. Coulson's MO diagram of CO and NO diatomic molecule.	9
Shri.C.V.Bisen	B.Sc Sem- III	Unit- II: A) Chemistry of elements of first transition series: Characteristic properties of the elements of first transition series with reference to their: Electronic configuration, Atomic and ionic radii, Ionization potential, Variable oxidation states, Magnetic properties, Colour, Complex formation tendency and catalytic activity. (B) Chemistry of elements of second and third transition series: Electronic configuration of 4d and 5d transition series .Comparative treatment with their 3d- analogous (Group Cr-Mo-W, Co-Rh-Ir,) in respect of oxidation states and magnetic behavior.	9


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Shri R.N.Huse	B.Sc Sem- III	Unit III: A) Errors in Chemical Analysis: i) Random and Systematic errors, Explanation of terms: Accuracy and Precision, Uncertainty, Absolute and Relative errors, Mean , Median, Average and Standard deviations, Significant figures, numerical problems. ii) Statistical Test of Data: Q-test, 2.5d and 4d Rules for rejection of data. Numerical problems. B) Non-aqueous solvents: Classification of solvents and characteristic reactions(acid base, redox & precipitation reactions) in Non-aqueous solvents with reference to i)Liquid Ammonia and ii) Liquid Sulphur dioxide.	9
Shri.C.V.Bisen	B.Sc Sem- III	Unit – IV: A) Chemistry of Lanthanides: Position in periodic table, electronic configuration, Oxidation states, Atomic and ionic radii, Lanthanide contraction and its consequences, Complex forming tendency. Occurrence and separation of lanthanides (ion exchange and solvent extraction). B) Chemistry of Actinides: Position in periodic table, electronic configuration, Oxidation states, Atomic and ionic radii. Actinide contraction.	9

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Shri R.N.Huse	B.Sc Sem- III	<p>CH-302: Paper- II Unit –I</p> <p>Orientation: Activating ($-\text{OH}$, $-\text{NH}_2$) & deactivating ($-\text{Cl}$, $-\text{NO}_2$, $-\text{COOH}$) substituent's, their orientation and directive influence on further electrophilic substitution, o/p ratio. Methods of formation and chemical reactions of alkyl benzene (Toluene) and biphenyl.</p> <p>Alkyl halides: Nomenclature, classification, methods of formation, chemical reactions. Mechanism of nucleophilic substitution reactions of alkyl halides SN^1 and SN^2 with energy profile diagrams.</p> <p>Polyhalogen compounds: Chloroform and carbon tetrachloride – formation and chemical reactions.</p> <p>Nuclear and side chain halogen derivatives of benzene (Aryl halides): Chlorobenzene and benzyl chloride preparation and reactions. Relative reactivity of alkyl halides vs aryl halides. Synthesis and uses of DDT and BHC.</p>	9
Shri.C.V.Bisen	B.Sc Sem- III	<p>Unit – II</p> <p>A) Alcohols: Classification and nomenclature,</p> <p>Dihydric alcohols: Nomenclature, methods of formation, chemical reactions of vicinal glycols, oxidative cleavage ($\text{Pb}(\text{Oac})_4$ and HIO_4) and Pinacol – pinacolone rearrangement with mechanism.</p> <p>Trihydric alcohols : Nomenclature and methods of formation of Glycerol from (i) Propene and (ii) Hydrolysis of oils and fats, chemical reactions of glycerol - with oxalic acid at two different temperatures, HI, HNO_3, dehydration.</p> <p>(B) Phenols: Nomenclature, structure and bonding. Preparation of phenols</p>	9


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		from cumene, chlorobenzene (Dows and Raschig process) and diazonium salts. Physical properties and acidic character, Resonance stabilization of phenoxide ion, Reactions of phenols, Electrophilic aromatic substitution, acetylation and carboxylation, Claisen rearrangement, Gatterman synthesis, Reaction Mechanism of i) Fries Rearrangement, ii) Reimer-Tiemann reaction.	
Shri R.N.Huse	B.Sc Sem- III	Unit – III Aldehydes and ketones: Nomenclature, structure of the carbonyl group, synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides and ketones from nitriles. Mechanism of nucleophilic additions to carbonyl group with particular emphasis on Benzoin, aldol, Perkin and Knoevenagel condensation. Wittig reaction, Mannich reaction, oxidation of aldehydes (by KMnO_4 , Tollen's reagent and Fehlings solution), Baeyer-Villiger oxidation of Ketones, Cannizaro reaction, (with mechanism) ,MPV, Clemmensen, Wolf-Kishner, LiAlH_4 and NaBH_4 reductions.	9


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Shri.C.V.Bisen	B.Sc Sem- III	<p>Unit IV</p> <p>A) Carboxylic Acids: Nomenclature, structure & bonding. Physical properties, acidity of carboxylic acids, effect of substituent's on acid strengths , preparation of carboxylic acids(from Grignard Reagent and cyanides), Reactions of carboxylic acids, Hell-Volhard-Zelinsky reactions. Reduction of carboxylic acids, Mechanism of decarboxylation with soda lime. Methods of formation and chemical reactions of unsaturated monocarboxylic acids (crotonic acid and cinnamic acid).</p> <p>Dicarboxylic acids: Methods of formation of succinic acid from ethylene dibromide and Phthalic acid from o-xylene. Effect of heat and dehydrating agents. (Succinic acid, Phthalic acid).</p> <p>(B) Carboxylic acid derivatives : Structure & nomenclature of acid chlorides, esters, amides and acid anhydrides. Interconversion of acid derivatives by nucleophilic acyl substitution. Preparation of carboxylic acid derivatives, Chemical reactions, Mechanism of esterification and hydrolysis (acidic and basic).</p>	9
Shri.C.V.Bisen	B.Sc Sem- III	<p>CH- 303: Laboratory Course Practical-I</p> <p>(Inorganic Chemistry): Volumetric Analysis (All 5 Expts. to be performed) Preparation of standard solution by weighing is compulsory</p> <ol style="list-style-type: none">1) Estimation of Fe(II) by dichromate using internal indicator.2) Determination of acetic acid in commercial vinegar using NaOH	2


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		<p>3) Determination of alkali content in antacid tablet using HCl</p> <p>4) Determination of Zn by complexometric titration with EDTA</p> <p>5) Determination of total Hardness of water (permanent and Temporary) by EDTA</p>	
Shri R.N.Huse	B.Sc Sem-III	<p>Practical- II(Organic Chemistry):</p> <p>Complete analysis of simple organic compound involving following steps :-</p> <p>(i) Preliminary examination ii) Detection of elements iii) Detection of functional group iv) Determination of M.P. / B.P. v) Preparation of derivative and its M.P./B.P. vi) Performance of specific test if any</p>	2
Shri.C.V.Bisen	B.Sc Sem-IV	<p>CH – 401: Paper- I Unit-I:</p> <p>Coordination compounds:</p> <p>Distinction among simple salts, double salts and coordination compounds. Werner's Coordination theory and its experimental verification. Sidgwick's electronic interpretation, EAN rule with examples, Nomenclature of Coordination compounds. Chelates: Classification and their application, Valence Bond Theory of transition metal complexes.</p>	
Shri R.N.Huse	B.Sc Sem-IV	<p>Unit- II:</p> <p>A) Isomerism in coordination compounds:</p> <p>Structural isomerism and Stereoisomerism in coordination compounds with respect to C.N. 4 & 6</p> <p>B) Oxidation and reduction:</p>	



		Concept of oxidation and reduction. Balancing of redox reactions by Electron method numericals. EMF series and its applications. Use of redox potential data: Analysis of Redox cycle, redox stability in water, Latimer diagram of Chlorine and Oxygen, Construction and explanation of Frost diagram. Frost diagram of Nitrogen and Oxygen. Pourbaix diagram of Iron.	
Shri.C.V.Bisen	B.Sc Sem- IV	Unit- III: 7.5 Hrs A) Colorimetry and Spectrophotometry: colorimeter and spectrophotometer in quantitative analysis with reference to estimation of Cu(II) as Cu- ammonia complex. B) Separation Techniques: a) Chromatography: Classification, Principle, Technique and Application of Paper and Column Chromatography. b) Ion- Exchange: Types of ion exchange resins, Equilibria and ion exchange capacity, Application in separation of binary mixtures. c) Solvent Extraction: Principle and Classification, Factors influencing extraction and application in chemistry.	
Shri R.N.Huse	B.Sc Sem- IV	Unit- IV Inorganic Polymers: Silicones: Introduction, Nomenclature, preparation, properties and uses, General introduction to Silicon oils, Silicone Elastomers and Silicon Resins Phosphonitrilic halide polymers: Introduction, Preparation, properties and uses. Structure and bonding in $(NPCl_2)_3$ and $(NPCl_2)_4$	


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Shri R.N.Huse	B.Sc Sem- IV	<p>CH - 402: Paper- II Unit-I Solid State</p> <p>Solids and their classification, Difference between crystalline and amorphous solids, classification of crystalline solids. Laws of crystallography: Law of constancy of interfacial angles, Law of rationality of indices, Law of symmetry, elements of a crystal. Space lattice, Unit cell, Bravais lattices, crystal systems, identification of crystal planes, interplanar distance in cubic systems, X-ray diffraction by crystal, derivation of Bragg's equation. Determination of crystal structure of NaCl, KCl and CsCl, Laue's method and powder method.</p>
Shri.C.V.Bisen	B.Sc Sem- IV	<p>UNIT -II: Electrochemistry</p> <p>A) Electrical transport : Conductance in metals (electronic) & in electrolyte solutions (ionic conductance), specific, equivalent and molar conductance, measurement of electrolytic conductance, variation of equivalent, specific & molar conductance with dilution, Kohlrausch's law, Arrhenius theory of electrolyte dissociation & its limitation, Ostwald's dilution law, validity and importance of Ostwald's dilution law.</p> <p>Debye-Huckel theory (elementary treatment).Relaxation effect, Electrophoretic effect, Onsager equation.</p> <p>B) Transport number, determination of transport number by Hittorf's method & moving boundary method, factors affecting transport number of ions, relation between ionic conductance & transport number. Applications of Kohlrausch's law & conductance measurements: determination of equivalent conductance at infinite dilution for weak electrolytes, determination of</p>

		degree of dissociation, determination of solubility and solubility product of sparingly soluble salts. Conductometric titrations (Acid-base & precipitation titrations). Numerical problems.	
Shri R.N.Huse	B.Sc Sem-IV	<p>Unit-III: Spectroscopy</p> <p>A) Rotational Spectroscopy: Rotational spectra of diatomic molecules. Energy levels of rigid rotor. Selection rule for transition between energy levels. Expression for wave number of spectral lines in terms of rotational constant (B) and rotational quantum number (J). Intensity of spectral lines. Types of molecules showing rotational spectra. Application of rotational spectra for determination of moment of inertia and bond length. Introduction to non-rigid rotor.</p> <p>B) Vibrational Spectra: Vibrational energy levels of simple harmonic oscillator, selection rules. Types of molecules showing vibrational spectra. Vibrational energy level of anharmonic oscillator, selection rule, idea of overtones. Vibrational - Rotational spectra. P, Q and R branches of the vibrational - rotational spectra. Structural information from infrared spectra. Numerical problems.</p>	



Shri.C.V.Bisen	B.Sc Sem- IV	<p>Unit IV: Quantum Chemistry I</p> <p>A) Failure of classical mechanics, Explanation of Black body radiation, Photoelectric effect, and heat capacity of solids on the basis of classical mechanics. Bohr's model of Hydrogen atom, spectrum of hydrogen atom, Plank's quantum theory. De Broglie's hypothesis (Derivation and experimental proof). Heisenberg's uncertainty principle (Explanation and experimental proof).</p> <p>B) Introduction to wave functions (ψ), Schrodinger wave equation. Eigen values and Eigen functions, well behaved wave functions. Interpretation of wave function (ψ) and its square (ψ^2), Normalized and orthogonal wave functions. Postulates of quantum mechanics, Derivation of Schrodinger wave equation from postulates of quantum mechanics. Application of Schrodinger wave equation for a particle in one dimensional box and three dimensional box. Concept of degeneracy. Numerical problems.</p>	
Shri.C.V.Bisen	B.Sc Sem- IV	<p style="text-align: center;">CH-403:</p> <p>Laboratory Course Practical-I</p> <p>(Inorganic Chemistry):</p> <p>A) Preparation of following complexes and Comments on its VBT structure, magnetic properties and colors</p> <p>a) $[\text{Cu}(\text{NH}_3)_4(\text{H}_2\text{O})_2]\text{SO}_4$ b) $[\text{Ni}(\text{NH}_3)_6]\text{SO}_4$ c)</p> <p>Trans $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{Cl}$ d) $\text{K}_3[\text{Fe}(\text{C}_2\text{O}_4)_3] \cdot \text{H}_2\text{O}$</p>	





		B) Chromatographic separation of binary mixtures(at least Two) containing Cu(II), Co(II) and Ni(II) ions by paper chromatography and determination of Rf values.	
Shri R.N.Huse	B.Sc Sem- IV	Practical-II (Physical Chemistry): 1. To construct various crystal lattices. 2. To determine the strength of the given acid (HCl or CH ₃ COOH) conductometrically using standard alkali (NaOH) solution. 3. To determine the strength of strong acid and a weak acid in a given mixture conductometrically against a standard alkali solution. 4. To determine the solubility and solubility product of a sparingly soluble salt conductometrically. 5. To determine the ionization constant of weak acid conductometrically. 6. To determine heat of solution of solid calcium chloride and calculate lattice energy of calcium chloride from its enthalpy change data using Born-Haber cycle. 7. To determine the molar volume of ethanol at room temperature in dilute aqueous solution	

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		<p>determine the equilibrium constant of the reaction, $KI + I_2 \rightleftharpoons KI_3$ by distribution method.</p>	
Shri R.N.Huse	B.Sc Sem-V	<p>CH- 501:Paper- I UNIT- I Organic compounds of Nitrogen : Preparation of nitroalkanes and nitrobenzene, chemical reactions of nitroalkanes. Mechanism of nucleophilic substitution in nitrobenzene and their reduction in acidic, neutral and alkaline media. Picric acid- preparation and uses, Amines : Structure and nomenclature of amines, Physical properties, stereochemistry of amines, separation of mixture of 1°, 2° and 3° amines by Hoffmann's method, structural features affecting basicity of amines, preparation of alkyl & aryl amines (reduction of nitro compounds and nitriles), reductive amination of aldehydic and ketonic compounds, Gabriel phthalimide reaction, Hofmann bromamide reaction, Reactions of amines, Preparation and synthetic transformations of aryl diazonium salts.</p>	9
Shri.C.V.Bisen	B.Sc Sem-V	<p>UNIT – II - HETEROCYCLIC COMPOUNDS: Molecular orbital picture and aromaticity of furan, thiophene, pyrrole and pyridine. Methods of synthesis of pyridine (i) from hexamethylene diamine and (ii) Picoline. Mechanism of electrophilic and nucleophilic substitution reaction of pyridine. Chemical reaction of pyridine. Structure of pyridine.</p>	9


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		Comparison of basicity of pyrrole and pyridine. Introduction to condensed five and six membered heterocycles. Preparation and reactions of Indole, Quinoline and Isoquinoline with special reference to Fischer Indole synthesis, Skraup synthesis and Bischler Napieralski synthesis.	
Shri R.N.Huse	B.Sc Sem- V	UNIT-III A) Quantitative Analysis : Estimation of carbon, hydrogen, nitrogen, sulphur and halogens (only principles and calculations). Calculation of Empirical and molecular formula with Numericals B) Organometallic compounds : Organomagnesium compound : Grignard reagent formation, chemical reactions and structure. Organozinc compounds : Formation and chemical reactions. Organolithium compounds: Formation and chemical reactions.	9
Shri.C.V.Bisen	B.Sc Sem- V	UNIT-IV - SPECTROSCOPY : A) Electromagnetic spectrum : Absorption spectra, Ultraviolet absorption spectroscopy, Absorption laws(Beer Lambert law), molar absorptivity, Presentation and analysis of UV spectra, Types of electronic transitions, Effect of conjugation, concept of chromophores and auxochromes, Bathochromic, hypsochromic, hyperchromic and hypochromic shifts. UV spectra of conjugated dienes and enones. B) Infrared (IR) absorption spectroscopy : Molecular vibrations, Hook's	9


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		law, Selection rules, Intensity and position of IR bands, measurement of IR spectrum. Fingerprint region, characteristic absorptions of various functional groups and application of IR spectra.	
Shri R.N.Huse	B.Sc Sem- V	CH- 502: Paper- II Unit –I Electrochemistry (A) Galvanic cells, irreversible & reversible cells, emf of cell & its measurement, relation between electrical energy and chemical energy, calculation of thermodynamic quantities of a cell reactions (ΔG , ΔH & ΔS & equilibrium constant) (B) Types of reversible electrodes : metal-metal ion electrode, gas electrode, metal insoluble salt- anion electrode, redox electrodes, amalgam electrode, Nernst equation, calculation of cell emf from single electrode potential, reference electrodes, standard electrode potential, concentration cells with & without transference, liquid-junction potential, salt bridge & its functions. Applications of emf measurements in : (i) pH- determination using hydrogen electrode, quinhydrone electrode & glass electrode (ii) Potentiometric titration(Acid –Base and Redox titrations). Numericals Problems.	9


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Shri.C.V.Bisen	B.Sc Sem- V	Unit II : Quantum Chemistry and Molecular Orbital Theory: A) Quantum Chemistry Schrodinger wave equation for H-atom, separation in to three equations (without derivation), quantum numbers and their importance,. Hydrogen like wave functions, radial wave functions and angular wave functions. Concept of orbital, shapes of orbital. Radial probability distribution curves for 1s, 2s, 2p, 3p and 3d orbitals. B) Molecular orbital theory : Born-Oppenheimer approximation, Criteria for forming M. O. from A. O., LCAO-MO method for H^+ ion, Physical pictures of bonding and antibonding wave functions. Calculation of energy from wave functions. Comparison of bonding and antibonding molecular orbitals. Introduction to M. O. theory for H_2 molecule. Introduction to Valance bond theory for H_2 molecule. Similarities and differences of valence bond and molecular orbital models.	9
Shri R.N.Huse	B.Sc Sem- V	Unit III:Photochemistry and Raman Spectroscopy A) Photochemistry : Interaction of radiation with matter, difference between thermal and photochemical reactions, Laws governing absorption of light. Laws of photochemistry. Jablonski diagram depicting various processes, quantum yield, determination of quantum yield of reactions, reasons for low and high quantum yields. Some examples of photochemical reactions (e.g. Photochemical decomposition of Hydrogen iodide, Photosynthesis of HBr from H_2 and Br_2 and photosynthesis of HCl from H_2 and Cl_2)	9


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Photosensitization, Photosensitized reactions. Numericals Problems.

B) Raman Spectroscopy :

Raman Effect, explanation of Rayleigh's lines, Stoke's lines and anti-stoke's lines, Experimental set up of Raman spectrometer. Pure rotational Raman spectra of diatomic molecules, rotational- vibration Raman spectra of diatomic molecules. Advantages of Raman spectroscopy over infra red spectroscopy.

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UNIT-IV: Colligative properties and Macromolecules

A) Colligative properties: Methods of expressing concentration of solutions, Raoult's law, Relative lowering of vapour pressure, determination of molecular mass from relative lowering of vapour pressure, Osmosis and osmotic pressure of solution. Measurement of osmotic pressure by Berkeley and Hartley method. Determination of molecular mass from osmotic pressure. Elevation of boiling point of solvent, determination of molecular mass from elevation of boiling point. Depression of freezing point of the solvent. Determination of molecular mass from depression of freezing point. Van't Hoff factor, degree of dissociation and association of solute.

B) Macromolecules: Macromolecules, classification of polymers, molar masses of polymers: number average and weight average molar masses, determination of molar masses of macromolecules: viscometry, Osmometry and light scattering method. Kinetics of polymerization.

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		addition and condensation polymerization. Electronically conducting polymers: poly(acetylene) poly(sulphyrnitride), poly(para-phenylene), poly(aniline). Numericals Problems.	
Shri R.N.Huse	B.Sc Sem-V	CH-503: Laboratory Course Practical I (Organic Chemistry): Estimations i) Estimation of Glucose ii) Estimation of Amide iii) Estimation of Nitro group iv) Estimation of Carboxylic group v) Saponification of oil	2
Shri.C.V.Bisen	B.Sc Sem-V	Practical II (Physical Chemistry): 1. To determine the strength of given acid (HCL or CH ₃ COOH) potentiometrically using standard alkali solution 2. To determine the dissociation constant of weak acid potentiometrically by titrating it against alkali. 3. To titrate potentiometrically ferrous ammonium sulphate against potassium dichromate and calculate redox potential of Fe ²⁺ /Fe ³⁺ system.	2


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		<p>4. To verify Beer-Lambert law using calorimeter and determine the concentration of given solution.</p> <p>5. To determine molecular mass of a non-volatile solute by Rast method.</p> <p>6. To determine the molecular weight of polymer by Viscometric method.</p> <p>.To determine the specific rotation of a given optically active compound and the concentration of an unknown solution polarimetrically.</p> <p>2. To study the rate of acid catalysed iodination of acetone.</p>	
Shri.C.V.Bisen	B.Sc Sem-VI	<p>CH - 601: Paper- I Unit- I</p> <p>A) Metal ligand bonding in Transition Metal Complexes: of Crystal field Stabilisation Energy of octahedral and tetrahedral complexes. High spin low spin complexes on the basis of π o and pairing energy in octahedral complexes. (Numericals)</p> <p>B) Electronic spectra of Transition Metal Complexes: Jahn-Teller Effect, Conditions of distortion with respect to CFT configuration. Selection Rules (Laporte and Spin selection Rules). Hole Formalism Principle with respect to d^1 and d^9 ions.</p> <p>Electronic spectrum of $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ and $[\text{Cu}(\text{H}_2\text{O})_6]^{2+}$ complex ions with respect to position of the band, intensity of the band, symmetry of the band and bandwidth.</p>	


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Shri R.N.Huse	B.Sc Sem- VI	Unit-II: A) Magnetic Properties of Transition Metal Complexes: Method of determination of Magnetic Susceptibility by Gouy's Method. Spin only formula and orbital contribution to magnetic moment. Magnetic properties of Octahedral and Tetrahedral complexes with respect to CFT. Numericals on magnetic moments. B) Thermodynamic and Kinetic aspect of metal complexes: Thermodynamic and Kinetic stability of metal complexes, their relation. Stepwise stability and overall stability constant and their relationship, Factors affecting the Stability of complexes. Determination of composition of Fe(III)-SSA complex by Mole Ratio and Job's Method.	
Shri.C.V.Bisen	B.Sc Sem- VI	Unit III: A) Organometallic Chemistry Definition, Nomenclature and Classification of Organometallic compounds. Preparation properties and application of Alkyl and Aryls of Li and Al. A brief account of metal ethylenic complexes (Structure only). Homogeneous Hydrogenation (Wilkinson's Catalyst reaction). B) Metal carbonyls: Definition, preparation, properties. Structure and bonding in mononuclear carbonyls- Ni(CO) ₄ , Fe(CO) ₅ and Cr(CO) ₆ with respect to back π -bonding.	


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Shri R.N.Huse	B.Sc Sem- VI	Unit -IV: A) Bioinorganic Chemistry: Essential and Trace elements in biological processes, Metalloporphyrins with special reference to structure and role of Haemoglobin and Myoglobin in transport of Oxygen. Biological role of Na^+ and K^+ and Ca^{2+} metal ions. Sodium and potassium pump. Hypo and hyper calcimia. Calcium triggering and calcium pump. B) Hard and Soft Acids and Bases: Classification of Acids and Bases as Hard and Soft. Pearson's HSAB Concept and its applications. Symbiosis, Antagonism.	
Shri.C.V.Bisen	B.Sc Sem- VI	CH- 602: Paper- II UNIT- I : NMR Spectroscopy: Nuclear Magnetic Resonance (NMR) spectroscopy. Proton Magnetic Resonance spectroscopy. Nuclear shielding and deshielding, chemical shift, Spin-spin splitting and Coupling constant. Areas of signals. Interpretation of NMR spectra of organic molecules such as ethyl bromide, ethanol, acetaldehyde, 1,2 dibromoethane, ethyl acetate, toluene, acetophenone, acetyl acetone. Problem pertaining to the structure elucidation of simple organic molecules by NMR technique.	


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Shri R.N.Huse	B.Sc Sem- VI	<p>UNIT- II</p> <p>A) ORGANIC SYNTHESIS VIA ENOLATES: Acidity of α-hydrogens, Reactivity of methylene group. Malonic ester preparation and reaction- Acetoacetic ester - synthesis by Claisen condensation reactions, Keto - enol tautomerism of acetoacetic ester, Preparation of acetic acid, succinic acid, crotonic acid and heterocyclic compounds.</p> <p>B) CARBOHYDRATES: Definition, classification and reaction of glucose. Mechanism of osazone formation. Determination of structure of glucose. Determination of ring size of monosaccharides. Epimerisation, mutarotation, conversion of glucose into fructose and vice-versa. Chain lengthening and shortening of aldoses(Wohl's degradation).Introduction to structures of maltose, sucrose, lactose, starch , cellulose, ribose and deoxyribose without involving structure determination.</p>
Shri.C.V.Bisen	B.Sc Sem- VI	<p>UNIT-III</p> <p>A) AMINO ACIDS, PEPTIDES, PROTEINS & NUCLEIC ACIDS: Classification, structure and stereochemistry of amino acids. Acids base behavior, isoelectric point and electrophoresis. Structure and nomenclature of peptides and protein. Classification of proteins. Protein denaturation. Structure determination of proteins (primary and secondary).</p> <p>B) NUCLEIC ACIDS: Introduction, constituents of nucleic acid. Ribonucleosides and Ribonucleotides. Double helical structure of DNA. FATS, OILS AND</p>



		DETERGENTS : Natural fats, edible and industrial oils of vegetable origin, Glycerides, hydrogenation of unsaturated oils, Definition of Saponification value, Iodine value, Acid value, Soaps, Synthetic detergents, Alkyl and aryl sulfonates.	
Shri R.N.Huse	B.Sc Sem- VI	UNIT- IV A) SYNTHETIC DYES: Colour and constitution (Witt theory, electronic concept) Classification of Dyes based on chemical constitution. Synthesis and uses of Congo red, Crystal violet, Phenolphthalein and Alizarin dye. B) SYNTHETIC DRUGS: Definition, Classification, Preparation, properties and uses of: Aspirin, aracetamol, Dettol, Chloroquine, Phenobarbitone, Chloramphenicol, Chloramine T. C) SYNTHETIC POLYMERS: Addition or chain growth polymerization, free radical. Vinyl polymerization, Ionic vinyl polymerization, Ziegler - Natta polymerization .Condensation or step growth polymerization. Polyesters, polyamides,	
Shri R.N.Huse	B.Sc Sem- VI	<u>CH-603: Laboratory Course</u> Practical-I (Inorganic Chemistry): A) Gravimetric Analysis i) Estimation of Ba^{2+} as $BaSO_4$.	


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		<p>ii) Estimation Ni^{2+} as Ni-DMG</p> <p>B) Colorimetry</p> <p>i) Colorimetric or spectrophotometric estimation of copper (II) in commercial copper sulphate sample as ammonia complex.</p> <p>ii) Jobs method of determination of composition of Fe- SSA complex</p> <p>Mole Ratio Method of determination of composition of Fe- SSA complex</p>	
Shri.C.V.Bisen	B.Sc Sem- VI	<p>Practical-II (Organic Chemistry):</p> <p>Separation of an organic mixture containing two solid components using $\text{NaOH} / \text{NaHCO}_3$ for separation , identification of the components and preparation of suitable derivatives (minimum five mixtures)</p>	


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B.Sc Sem-I

Title of Subject-Chemistry

Sr. No.	Month	Class	Chapter/Topic	Period
1	Jun To August 2019	B.Sc Sem-I	CH – 101 Paper –I Unit-I Atomic structure Periodic Properties CH – 101 Paper –I Unit-II Covalent Bond Ionic solids CH-102 Paper –II UNIT-I: Thermodynamics CH-102 Paper –II Unit-II Gaseous State. Laboratory Course Practical- I (Inorganic Chemistry): Semi micro Qualitative Analysis	9
2	Sep-2019	B.Sc Sem-I	Paper –I CH – 101 Unit – III & CH-102 Paper –II Unit- III Liquid State & Practical- II (Physical Chemistry)	9
3	October-2019	B.Sc Sem-I	Paper –I CH – 101 Unit – III & CH-102 Paper –II Unit- IV Surface Chemistry and Catalysis:	9
4	Jan-2020 to march 2020	B.Sc Sem-II	CH – 201: Paper- I (Organic Chemistry) Uni-I Unit - II Stereochemistry of Organic Compounds CH – 202: Paper- II UNIT- I: Thermodynamics UNIT- II: Phase Equilibria & Practical I (Organic Chemistry):	9
5	April -2020	B.Sc Sem-II	Paper- I Unit – III Paper II Unit-III Practical II (Physical Chemistry)	9
6	May-2020	B.Sc Sem-II	Paper- I Unit – IV Paper II UNIT-IV: Chemical Kinetics & Practical II (Physical Chemistry)	9


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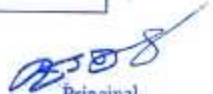
Annual Teaching plan 2019-2020

B.Sc Sem-I

Title of Subject-Chemistry



Sr. No.	Month	Class	Chapter/Topic	Period
1	JunTo August 2019	B.Sc Sem-III	CH – 301: Paper- I Unit – I Unit- II CH-302: Paper- II Unit –I Orientation Unit – II Alcohols	9
2	Sep-2019	B.Sc Sem-III	Paper –I Unit III Errors in Chemical Analysis Paper –II Unit III Aldehydes and ketones	9
3	October-2019	B.Sc Sem-III	Paper- I Unit – IV Chemistry of Lanthanides Paper II UNIT-IV Carboxylic Acids	9
4	Jan-2020 to march 2020	B.Sc Sem-IV	CH – 401: Paper- I Unit-I: Coordination compounds Unit- II: Isomerism in coordination compounds CH – 402: Paper- II Unit-I Solid State UNIT –II: Electrochemistry CH-403 Laboratory Course Practical-I (Inorganic Chemistry)	9
5	April -2020	B.Sc Sem-IV	Paper- I Unit- III Paper- I Unit- III Practical-II (Physical Chemistry)	9
6	May-2020	B.Sc Sem-IV	Paper- I Unit- IV Paper- I Unit- IV Practical-II (Physical Chemistry)	9


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Annual Teaching plan 2019-2020

B.Sc Sem-I

Title of Subject-Chemistry

Sr. No.	Month	Class	Chapter/Topic	Period
1	JunTo August 2019	B.Sc Sem-III	CH – 301: Paper- I Unit – I Unit- II CH-302: Paper- II Unit –I Orientation Unit – II Alcohols	9
2	Sep-2019	B.Sc Sem-III	Paper –I Unit III Errors in Chemical Analysis Paper –II Unit III Aldehydes and ketones	9
3	October-2019	B.Sc Sem-III	Paper- I Unit – IV Chemistry of Lanthanides Paper II UNIT-IV Carboxylic Acids	9
4	Jan-2020 to march 2020	B.Sc Sem-IV	CH – 401: Paper- I Unit-I: Coordination compounds Unit- II: Isomerism in coordination compounds CH – 402: Paper- II Unit-I Solid State UNIT –II: Electrochemistry CH-403 Laboratory Course Practical-I (Inorganic Chemistry)	9
5	April -2020	B.Sc Sem-IV	Paper- I Unit- III Paper- I Unit- III Practical-II (Physical Chemistry)	9
6	May-2020	B.Sc Sem-IV	Paper- I Unit- IV Paper- I Unit- IV Practical-II (Physical Chemistry)	9


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B.Sc Sem-I

Title of Subject-Chemistry

Sr. No.	Month	Class	Chapter/Topic	Period
1	JunTo August 2019	B.Sc Sem-V	CH- 501:Paper- I UNIT- I UNIT – II - HETEROCYCLIC COMPOUNDS CH- 502: Paper- II Unit –I Electrochemistry Unit II : Quantum Chemistry and Molecular Orbital Theory CH-503 Laboratory Course Practical I (Organic Chemistry)	9
2	Sep-2019	B.Sc Sem-V	CH- 501:Paper- I UNIT-III CH- 502: Paper- II Unit III:Photochemistry and Raman Spectroscopy Practical II (Physical Chemistry)	9
3	October-2019	B.Sc Sem-V	CH- 501:Paper- I UNIT-IV – SPECTROSCOPY CH502Paper- II UNIT-IV: Colligative properties and Macromolecules Practical II (Physical Chemistry)	9
4	Jan-2020 to march 2020	B.Sc Sem-VI	CH – 601: Paper- I Unit- I Unit-II CH- 602: Paper- II UNIT- I : NMR Spectroscopy UNIT- II CH- 603 Laboratory Course Practical I (Organic Chemistry)	9
5	April -2020	B.Sc Sem-VI	CH – 601Unit III CH- 602 Unit III CH- 603 Laboratory Course Practical I (Physical Chemistry)	9
6	May-2020	B.Sc Sem-VI	CH – 601Unit IV CH- 602 Unit IV CH- 603 Laboratory Course Practical I (Physical Chemistry)	9

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Teaching Plan


AS PER TEACHERS DAILY DIARY

SUBJECT :- ENGLISH Annual Teaching Plan 2019 -2020

Name of Lecturer	Class	PaperNo & Subject	Weekly Workload
Smt A.M.PATIL	B.Sc Sem-I	<p>Unit I - Prose Lessons</p> <ol style="list-style-type: none">1. The House2. The Boy Who Broke The Bank3. Pervase4. The Selfish Giant <p>Unit II - Poems</p> <ol style="list-style-type: none">1. Eyes Immortal2. Empty Wither in a Country Churchyard3. Ulysses4. Ecology <p>Unit III - Grammar</p> <ol style="list-style-type: none">1. Tenses2. Voice	3



		<p>3. Prepositions</p> <p>Unit IV – Composition, Comprehension & Vocabulary</p> <ol style="list-style-type: none">1. Letter Writing2. Comprehension3. Synonyms and Antonyms	
Shri A.M.PATIL	B.Sc Sem-II	<p><i>Unit I - Prose Lessons</i></p> <ol style="list-style-type: none">1. Maintaining Democracy2. The Verger3. Two Gentlemen of Verona4. Freedom at Midnight <p><i>Unit II - Poems</i></p> <ol style="list-style-type: none">1. Where the Mind is without Fear2. My Last Duchess3. Up Hill4. The Village Schoolmaster <p><i>Unit III - Grammar</i></p> <ol style="list-style-type: none">1. Subject-Verb Agreement2. Transformation of Sentences (Interchange of Degrees of Comparison, Affirmative and Negative Sentences, Interrogative and Assertive Sentences, Exclamatory and Assertive Sentences)3. Exercises on Common Errors <p><i>Unit IV - Comprehension & Composition</i></p> <ol style="list-style-type: none">1. Comprehension	3


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		<p>2. Curriculum Vitae</p> <p>3. Make sentences of your own from the words given. (Words shall be from the prescribed lessons.)</p>	
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Annual Teaching Plan 2019-20

B. Com (First Sem)

Title of Subject: Financial Accounting- I



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Financial Accounting	15
2	August 2019	B. Com	Unit 2- Hire Purchase Accounting	15
3	September 2019	B. Com	Unit 3- Final Accounts of Co-operative Society	15
4	October 2019	B. Com	Unit 4- joint venture Accounting	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Organization

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Nature and Scope of Business	15
2	August 2019	B. Com	Unit 2- Forms of Business Units	15
3	September 2019	B. Com	Unit 3- Organization	15
4	October 2019	B. Com	Unit 4- Recent Trends in Business Organization	15
			Total	60

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B. Com (First Semester)
Title of Subject: Company Law



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Introduction to Company law	15
2	August 2019	B. Com	Unit 2- MOA AOA	15
3	September 2019	B. Com	Unit 3-Share and Share Capital Debenture Capital	15
4	October 2019	B. Com	Unit 4- Membership in Company, Directors	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Economics

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Nature and Scope of Business Economics	15
2	August 2019	B. Com	Unit 2- Theory of consumption	15
3	September 2019	B. Com	Unit 3- Theory of Production	15
4	October 2019	B. Com	Unit 4- Theory of cost and Revenue	15
			Total	60


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B. Com First Year (Second Sem)

Title of Subject: Statistics and Business Mathematics



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Statistics and Measurement of Central Tendency	15
2	Jan 2020	B. Com	Unit 2- Dispersion	15
3	Feb 2020	B. Com	Unit 3- Skewness	15
4	March 2020	B. Com	Unit 4- Business Mathematics	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Introduction	15
2	Jan 2020	B. Com	Unit 2- Planning	15
3	Feb 2020	B. Com	Unit 3- Delegation and Authority Coordination and Controlling	15
4	March 2020	B. Com	Unit 4-Recent Trends in Management	15
			Total	60

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B. Com First Year (Second Sem)

Title of Subject: Secretarial Practice



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Procedure for incorporation, Company Secretary, Directors	15
2	Jan 2020	B. Com	Unit 2- Voting and resolution, Circular resolution	15
3	Feb 2020	B. Com	Unit 3- Report Writing, E-governance	15
4	March 2020	B. Com	Unit 4- Managerial personnel, Remuneration, Provisions	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Economics -II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Market Structure	15
2	Jan 2020	B. Com	Unit 2- Perfect and Imperfect Competition Market	15
3	Feb 2020	B. Com	Unit 3- Theories of Distribution	15
4	March 2020	B. Com	Unit 4- Business cycles and national Income	15
			Total	60

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Annual Teaching Plan 2019-20

B. Com Second Year (Third Sem)

Title of Subject: Financial accounting II



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Consignment Accounting	15
2	August 2019	B. Com	Unit 2- Branch Accounting	15
3	September 2019	B. Com	Unit 3- Floatation of Joint stock company and their capital structure	15
4	October 2019	B. Com	Unit 4- Final Accounts of Joint stock Company	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Business Communication and Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Introduction	15
2	August 2019	B. Com	Unit 2- Business communication	15
3	September 2019	B. Com	Unit 3- Technology and business communication	15
4	October 2019	B. Com	Unit 4- MS office aided communication	15
			Total	60


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B. Com Second Year (Third Sem)

Title of Subject: Business Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Indian Contract Act	15
2	August 2019	B. Com	Unit 2-Sale of Goods Act	15
3	September 2019	B. Com	Unit 3- Negotiable Instrument	15
4	October 2019	B. Com	Unit 4- Consumer Protection Cyber Law	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Monetary Economics- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Money	15
2	August 2019	B. Com	Unit 2- Inflation and Deflation	15
3	September 2019	B. Com	Unit 3- Money market and Policies	5
4	October 2019	B. Com	Unit 4- Public finance	15
			Total	60

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B. Com Second Year (Fourth Sem)
Title of Subject: Financial accounting -III



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Final Accounts Of Banking Companies	15
2	Jan 2020	B. Com	Unit 2- Final Accounts of General Insurance Companies	15
3	Feb 2020	B. Com	Unit 3- Valuation Of Goodwill	15
4	March 2020	B. Com	Unit 4- Liquidation Of Companies	15
			Total	60

B. Com Second Year (Fourth Sem)
Title of Subject: Skill Development

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Introduction	15
2	Jan 2020	B. Com	Unit 2- Communication skills and personality development	15
3	Feb 2020	B. Com	Unit 3- Techniques in Personality development	15
4	March 2020	B. Com	Unit 4- Entrepreneurial skill development	15
			Total	60


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B. Com Second Year (Fourth Sem)

Title of Subject: Income Tax



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Introduction	15
2	Jan 2020	B. Com	Unit 2- Income From Salary	15
3	Feb 2020	B. Com	Unit 3- Income from House property	15
4	March 2020	B. Com	Unit 4- Income from Other sources	15
			Total	60

B. Com Second Year (Fourth Sem)

Title of Subject: Monetary Economics- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Commercial Banking	15
2	Jan 2020	B. Com	Unit 2- Banking and core Banking	15
3	Feb 2020	B. Com	Unit 3- Banks and customer relationship and services	15
4	March 2020	B. Com	Unit 4- Central Bank	15
			Total	60

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B. Com Third Year (Fifth Sem)

Title of Subject: Financial accounting -IV



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Amalgamation and Absorption of Companies	15
2	August 2019	B. Com	Unit 2- Reconstruction of Companies	15
3	September 2019	B. Com	Unit 3- Accounts of public Utility Companies	15
4	October 2019	B. Com	Unit 4- Valuation of Shares	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Cost accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Cost Accounting	15
2	August 2019	B. Com	Unit 2- Reconciliation of P/L shown by cost and financial accounting	15
3	September 2019	B. Com	Unit 3- Process cost Accounting	15
4	October 2019	B. Com	Unit 4- Contract Costing	15
			Total	60

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B. Com Thrd Year (Fifth Sem)
Title of Subject: Management Process



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Management and administration	15
2	August 2019	B. Com	Unit 2- Managerial development and group Dynamics	15
3	September 2019	B. Com	Unit 3- Managerial Style	15
4	October 2019	B. Com	Unit 4- Motivation	15
			Total	60

B. Com Third Year (Fifth Sem)
Title of Subject: Indian Economy-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Indian Economy and Planning	15
2	August 2019	B. Com	Unit 2- Indian Economy and Policy	15
3	September 2019	B. Com	Unit 3- Population and Unemployment	15
4	October 2019	B. Com	Unit 4- India's Public Finance	15
			Total	60

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B. Com Third Year (Fifth Sem)
Title of Subject: Marketing Management



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Introduction	15
2	August 2019	B. Com	Unit 2- Market and pricing Policy	15
3	September 2019	B. Com	Unit 3- Product planning and Distribution	15
4	October 2019	B. Com	Unit 4- Consumer behaviour and Promotion	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Auditing

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Com	Unit 1- Basic of Auditing	15
2	August 2019	B. Com	Unit 2- Audit working and Procedure	15
3	September 2019	B. Com	Unit 3- Audit Standards, vouching	15
4	October 2019	B. Com	Unit 4- Company audit and audit report	15
			Total	60

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B. Com Third Year (Sixth Sem)

Title of Subject: Financial accounting -V



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Accounts of Holding Company	15
2	Jan 2020	B. Com	Unit 2- Insurance Claims	15
3	Feb 2020	B. Com	Unit 3- Investment Accounting	15
4	March 2020	B. Com	Unit 4- Profit prior to Incorporation	15
			Total	60

B. Com Third Year (Sixth Sem)

Title of Subject: Management accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Management Accounting	15
2	Jan 2020	B. Com	Unit 2- Business Budget and Budgetary Control	15
3	Feb 2020	B. Com	Unit 3- Ratio Analysis	15
4	March 2020	B. Com	Unit 4- Fund Flow Analysis	15
			Total	60

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			Bargaining	
4	March 2020	B. Com	Unit 4- Human Resource planning and accounting	15
			Total	60



B. Com Third Year (Sixth Sem)

Title of Subject: Industrial Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Com	Unit 1- Indian factories Act Industrial dispute Act	15
2	Jan 2020	B. Com	Unit 2- Law relating to : wages, Bonus and gratuity, compensation, benefits	15
3	Feb 2020	B. Com	Unit 3- Child labour Act Trade union Act Contract labour Act	15
4	March 2020	B. Com	Unit 4- Industrial Estate Environment Protection Act Intellectual property rights	15
			Total	60

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RAKESH

- सूचना -

दि. 07/02/2018

हिंदी विभाग में कार्यरत सभी प्राध्यापकों को सूचित किया जाता है कि शैक्षिक वर्ष 2018-19 के द्वितीय सत्र की रूप-रेखा निश्चयित होना समा का आयोजन किया गया है सभी से अनुरोध है कि वक्त पर उपस्थित रहकर अपने विचार व्यक्त करें।

स्थान - हिंदी विभाग
दि. 07-02-2018 ठिक 1.30 बजे

प्रधान
(प्रा. पठान. जे. एम्.)
हिंदी विभागाध्यक्ष

प्रा. मुंडे एस. एम.

Amulke

Prasanna

Selva

Sh
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B. Sc First Year (First Sem)

Title of Subject: Paper – I : Life and Diversity of Animals - Nonchordates



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Sc	Unit 1- Protozoa, <i>Paramecium, Plasmodium</i> Parasitic Protozoans of Man PRAC- Study of museum specimens	09
2	August 2019	B. Sc	Unit 2- Porifera, Sycon Coelenterata, Obelia PRAC- Study of museum specimens	09
3	Sept 2019	B. Sc	Unit 3- Helminthes, Ascaris, Taenia solium, parasitic adaptations in helminthes PRAC- Study of permanent slides	09
4	Octo 2019	B. Sc	Unit 4- Annelida, Leech Trochophore larva and its significance Vermiculture and its importance PRAC- Dissection	09
			Total	36

B. Sc First Year (First Sem)

Title of Subject: Paper – II : Environmental Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov – Dec 2019	B. Sc	Unit 1- AtmosphereHydrosphere,Lithosphere Renewable and non- renewable energy sources PRAC- Environmental Biology	09
2	Jan 2020	B. Sc	Unit 2- Ecosystem,study of pond ecosystemFood chain, food web and ecological pyramids Energy flow in an ecosystem PRAC-Environmental Biology	09
3	Feb 2020	B. Sc	Unit 3- Biodiversity and its conservation, Wildlife conservation actsHot spots of biodiversity in India PRAC-Environmental Biology	09
4	March 2020	B. Sc	Unit 4- control measures of air , water noise pollution, Toxic effect of heavy metals PRAC-Environmental Biology	09
			Total	36



B. Sc First Year (Second Sem)


Title of Subject: Paper III : Life and Diversity of Animals – Nonchordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Sc	Unit 1- Arthropoda. PRAC - Study of museum specimens	09
2	August 2019	B. Sc	Unit 2- Mollusca, Porifera, Sycon Coelenterata, Obelia PRAC - Study of museum specimens	09
3	Sept 2019	B. Sc	Unit 3- Echinodermata PRAC - Dissection	09
4	Octo 2019	B. Sc	Unit 4- Hemichordata PRAC - Mounting	09
			Total	36

B. Sc First Year (Second Sem)

Title of Subject: Paper – IV: Cell Biology

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Sc	Unit 1- Ultrastructure of prokaryotic and eukaryotic cell PRAC- Cell Biology	09
2	Jan 2020	B. Sc	Unit 2- Ultrastructure of mitochondria PRAC- Cell Biology	09
3	Feb 2020	B. Sc	Unit 3- Nucleus, Chromosome PRAC - Cell Biology	09
4	March 2020	B. Sc	Unit 4- Ribosome PRAC Cell Biology	09
			Total	36


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B. Sc Second Year (Third Sem)

Title of Subject: **Paper – V : Life and Diversity of Animals - Chordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Sc	Unit 1- Protochordata <i>Herdmania</i> <i>Amphioxus</i> Agnatha PRAC- Life and Diversity of Animals	09
2	August 2019	B. Sc	Unit 2- Pisces, Amphibia PRAC- Dissection of the locally culturable fish	09
3	Sept 2019	B. Sc	Unit 3- Gametogenesis and type of eggs Fertilization of egg , Post fertilization Types of scales of fishes, PRAC- Study of permanent slides of Frog embryology	09
4	Octo 2019	B. Sc	Unit 4- Frog Embryology Fate map, Morphogenetic movements in gastrula of frog , Development of Aortic arches of frog PRAC- Study of permanent slides of Frog embryology	09
			Total	36

B. Sc Second Year (Third Sem)

Title of Subject: **Paper –VI : Genetics**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov- Dec 2019	B. Sc	Unit 1- Mendelian Principles, Quantitative genetics, Interaction of genes, PRAC- Permanent stained preparation	09
2	Jan 2020	B. Sc	Unit 2- Cytoplasmic inheritance, Linkage and crossing over, Concepts of genes Cistron , muton and recon Genetic disorders PRAC- Genetics	09
3	Feb 2020	B. Sc	Unit 3- Sex determination Chromosomal aberrations, Gene mutations, Disorders, PRAC- Genetics	09
4	Mar 2020	B. Sc	Unit 4- Lethal genes PRAC- Genetics	09
			Total	36


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B. Sc Second Year (Forth Sem)

Title of Subject: **Paper – VII : Life and Diversity of Animals – Chordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Sc	Unit 1- Reptilia, Aves , Mammals PRAC- Identification, classification	09
2	August 2019	B. Sc	Unit 2- Modern theories of evolution, Adaptations, Introduction to genetic basis of evolution, Races in Man PRAC- Study of skeleton of Rabbit and Fowl	09
3	Sept 2019	B. Sc	Unit 3- Comparative account of aortic arches and heart, Structure of hen's egg Development of chick PRAC- Study of permanent slides of chick embryology	09
4	Octo 2019	B. Sc	Unit 4- Blastocyst and implantation in Mammals, Stem cells, Biological clock, Diurnal and rhythmic behavior PRAC- Study of permanent slides	09
			Total	36

B. Sc Second Year (Forth Sem)

Title of Subject: **Paper – VIII Molecular Biology and Immunology**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Sc	Unit 1- DNA& RNA, Prokaryotic and eukaryotic gene structure, Recombination in Bacteria PRAC- Molecular Biology	09
2	Jan 2020	B. Sc	Unit 2- DNA replication, Genetic code: Protein synthesis, Gene regulation models PRAC- Molecular Biology	09
3	Feb 2020	B. Sc	Unit 3- Concepts of immunity, Antigen - Antibody- Antigen-antibody interaction PRAC- Molecular Biology	09
4	March 2020	B. Sc	Unit 4- Types of immune response, Types of immune response Complement system PRAC- Molecular Biology	09
			Total	36

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B. Sc Third Year (Fifth Sem)

Title of Subject: **Paper – IX : General Mammalian Physiology –I**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Sc	Unit 1- Enzymes PRAC- General Mammalian Physiology – I	09
2	August 2019	B. Sc	Unit 2- Nutrition and Digestion PRAC- General Mammalian Physiology – I	09
3	Sept 2019	B. Sc	Unit 3- Respiration PRAC- General Mammalian Physiology – I	09
4	Octo 2019	B. Sc	Unit 4- Circulation PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Fifth Sem)

Title of Subject: **Paper – X : Applied Zoology-I**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Sc	Unit 1- Aquaculture PRAC- Applied Zoology – II (Biotechniques, Microtechnique)	09
2	Jan 2020	B. Sc	Unit 2- Prawn culture and Pearl culture Fabrication and setting up of aquarium and its maintenance , Breeding of aquarium fishes, Diseases caused by fungi, bacteria, protozoa and helminthes PRAC- Applied Zoology – II (Biotechnology)	09
3	Feb 2020	B. Sc	Unit 3- Economic Entomology (Methods of pest control) PRAC- Applied Zoology – II (Bioinformatics and Biostatistics)	09
4	March 2020	B. Sc	Unit 4- Economic Entomology PRAC- Visit to Biotechnology centre	09
			Total	36


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B. Sc Third Year (Sixth Sem)

Title of Subject: **Paper – XI : General Mammalian Physiology –II**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2019	B. Sc	Unit -1 Nerve and Muscle Physiology PRAC- General Mammalian Physiology – I	09
2	August 2019	B. Sc	Unit 2- Excretion PRAC- General Mammalian Physiology – I	09
3	Sept 2019	B. Sc	Unit 3- Endocrinology PRAC- General Mammalian Physiology – I	09
4	Octo 2019	B. Sc	Unit 4- Reproduction PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Sixth Sem)

Title of Subject: **Paper – XII : Applied Zoology-II**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2019	B. Sc	Unit 1- Biotechniques PRAC- Applied Zoology –I (Aquaculture and Economic Entomology)	09
2	Jan 2020	B. Sc	Unit 2- Separation of biomolecules PRAC- Dissection	09
3	Feb 2020	B. Sc	Unit 3- Separation of biomolecules PRAC- Fabrication and setting up of aquarium	09
4	March 2020	B. Sc	Unit 4- Microtechnique PRAC- Mounting, Visit	09
			Total	36


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2020-21

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B. Sc First Year (First Sem)

Title of Subject: **Paper – I : Life and Diversity of Animals - Nonchordates**



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Sc	Unit 1- Protozoa, <i>Paramoecium, Plasmodium</i> Parasitic Protozoans of Man PRAC- Study of museum specimens	09
2	August 2020	B. Sc	Unit 2- Porifera, Sycon Coelenterata, Obelia PRAC- Study of museum specimens	09
3	Sept 2020	B. Sc	Unit 3- Helminthes, Ascaris, Taenia solium, parasitic adaptations in helminthes PRAC- Study of permanent slides	09
4	Octo 2020	B. Sc	Unit 4- Annelida, Leech Trochophore larva and its significance Vermiculture and its importance PRAC- Dissection	09
			Total	36

B. Sc First Year (First Sem)

Title of Subject: **Paper – II : Environmental Biology**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov – Dec 2020	B. Sc	Unit 1- AtmosphereHydrosphere,Lithosphere Renewable and non- renewable energy sources PRAC- Environmental Biology	09
2	Jan 2021	B. Sc	Unit 2- Ecosystem,study of pond ecosystemFood chain, food web and ecological pyramids Energy flow in an ecosystem PRAC-Environmental Biology	09
3	Feb 2021	B. Sc	Unit 3- Biodiversity and its conservation, Wildlife conservation actsHot spots of biodiversity in India PRAC-Environmental Biology	09
4	March 2021	B. Sc	Unit 4- control measures of air , water noise pollution, Toxic effect of heavy metals PRAC-Environmental Biology	09
			Total	36

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B. Sc First Year (Second Sem)


Title of Subject: **Paper- III : Life and Diversity of Animals – Nonchordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Sc	Unit 1- Arthropoda, PRAC - Study of museum specimens	09
2	August 2020	B. Sc	Unit 2- Mollusca, Porifera, Sycon Coelenterata, Obelia PRAC - Study of museum specimens	09
3	Sept 2020	B. Sc	Unit 3- Echinodermata PRAC - Dissection	09
4	Octo 2020	B. Sc	Unit 4- Hemichordata PRAC - Mounting	09
			Total	36

B. Sc First Year (Second Sem)

Title of Subject: **Paper – IV: Cell Biology**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Sc	Unit 1- Ultrastructure of prokaryotic and eukaryotic cell PRAC- Cell Biology	09
2	Jan 2021	B. Sc	Unit 2- Ultrastructure of mitochondria PRAC- Cell Biology	09
3	Feb 2021	B. Sc	Unit 3- Nucleus, Chromosome PRAC - Cell Biology	09
4	March 2021	B. Sc	Unit 4- Ribosome PRAC Cell Biology	09
			Total	36


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B. Sc Second Year (Third Sem)

Title of Subject: Paper – V : Life and Diversity of Animals - Chordates

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Sc	Unit 1- Protochordata <i>Herdmania</i> <i>Amphioxus</i> Agnatha PRAC- Life and Diversity of Animals	09
2	August 2020	B. Sc	Unit 2- Pisces, Amphibia PRAC- Dissection of the locally culturable fish	09
3	Sept 2020	B. Sc	Unit 3- Gametogenesis and type of eggs Fertilization of egg , Post fertilization Types of scales of fishes, PRAC- Study of permanent slides of Frog embryology	09
4	Octo 2020	B. Sc	Unit 4- Frog Embryology Fate map, Morphogenetic movements in gastrula of frog , Development of Aortic arches of frog PRAC- Study of permanent slides of Frog embryology	09
			Total	36

B. Sc Second Year (Third Sem)

Title of Subject: Paper –VI : Genetics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov- Dec 2020	B. Sc	Unit 1- Mendelian Principles, Quantitative genetics, Interaction of genes, PRAC- Permanent stained preparation	09
2	Jan 2021	B. Sc	Unit 2- Cytoplasmic inheritance, Linkage and crossing over, Concepts of genes Cistron , muton and recon Genetic disorders PRAC- Genetics	09
3	Feb 2021	B. Sc	Unit 3- Sex determination Chromosomal aberrations, Gene mutations, Disorders, PRAC- Genetics	09
4	Mar 2021	B. Sc	Unit 4- Lethal genes PRAC- Genetics	09
			Total	36


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B. Sc Second Year (Forth Sem)

Title of Subject: **Paper – VII : Life and Diversity of Animals – Chordates**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Sc	Unit 1- Reptilia, Aves , Mammals PRAC- Identification, classification	09
2	August 2020	B. Sc	Unit 2- Modern theories of evolution, Adaptations, Introduction to genetic basis of evolution, Races in Man PRAC- Study of skeleton of Rabbit and Fowl	09
3	Sept 2020	B. Sc	Unit 3- Comparative account of aortic arches and heart, Structure of hen's egg Development of chick PRAC- Study of permanent slides of chick embryology	09
4	Octo 2020	B. Sc	Unit 4- Blastocyst and implantation in Mammals, Stem cells, Biological clock, Diurnal and rhythmic behavior PRAC- Study of permanent slides	09
			Total	36

B. Sc Second Year (Forth Sem)

Title of Subject: **Paper – VIII Molecular Biology and Immunology**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Sc	Unit 1- DNA& RNA, Prokaryotic and eukaryotic gene structure, Recombination in Bacteria PRAC- Molecular Biology	09
2	Jan 2021	B. Sc	Unit 2- DNA replication, Genetic code: Protein synthesis, Gene regulation models PRAC- Molecular Biology	09
3	Feb 2021	B. Sc	Unit 3- Concepts of immunity, Antigen - Antibody- Antigen-antibody interaction PRAC- Molecular Biology	09
4	March 2021	B. Sc	Unit 4- Types of immune response, Types of immune response Complement system PRAC- Molecular Biology	09
			Total	36

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B. Sc Third Year (Fifth Sem)

Title of Subject: **Paper – IX : General Mammalian Physiology –I**

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Sc	Unit 1- Enzymes PRAC- General Mammalian Physiology – I	09
2	August 2020	B. Sc	Unit 2- Nutrition and Digestion PRAC- General Mammalian Physiology – I	09
3	Sept 2020	B. Sc	Unit 3- Respiration PRAC- General Mammalian Physiology – I	09
4	Octo 2020	B. Sc	Unit 4- Circulation PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Fifth Sem)

Title of Subject: **Paper – X : Applied Zoology-I**

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Sc	Unit 1- Aquaculture PRAC- Applied Zoology – II (Biotechniques, Microtechnique)	09
2	Jan 2021	B. Sc	Unit 2- Prawn culture and Pearl culture Fabrication and setting up of aquarium and its maintenance , Breeding of aquarium fishes, Diseases caused by fungi, bacteria, protozoa and helminthes PRAC- Applied Zoology – II (Biotechnology)	09
3	Feb 2021	B. Sc	Unit 3- Economic Entomology (Methods of pest control) PRAC- Applied Zoology – II (Bioinformatics and Biostatistics)	09
4	March 2021	B. Sc	Unit 4- Economic Entomology PRAC- Visit to Biotechnology centre	09
			Total	36


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B. Sc Third Year (Sixth Sem)

Title of Subject: Paper – XI: General Mammalian Physiology –II

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Sc	Unit -1 Nerve and Muscle Physiology PRAC- General Mammalian Physiology – I	09
2	August 2020	B. Sc	Unit 2- Excretion PRAC- General Mammalian Physiology – I	09
3	Sept 2020	B. Sc	Unit 3- Endocrinology PRAC- General Mammalian Physiology – I	09
4	Octo 2020	B. Sc	Unit 4- Reproduction PRAC- Study of histological slides of Mammal	09
			Total	36

B. Sc Third Year (Sixth Sem)

Title of Subject: Paper – XII : Applied Zoology-II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Sc	Unit 1- Biotechniques PRAC- Applied Zoology –I (Aquaculture and Economic Entomology)	09
2	Jan 2021	B. Sc	Unit 2- Separation of biomolecules PRAC- Dissection	09
3	Feb 2021	B. Sc	Unit 3- Separation of biomolecules PRAC- Fabrication and setting up of aquarium	09
4	March 2021	B. Sc	Unit 4- Microtechnique PRAC- Mounting, Visit	09
			Total	36


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Annual Teaching Plan 2020-21

B. Com (First Sem)

Title of Subject: Financial Accounting- I



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Financial Accounting	15
2	August 2020	B. Com	Unit 2- Branch Accounting	15
3	September 2020	B. Com	Unit 3- Final Accounts of Co-operative Society	15
4	October 2020	B. Com	Unit 4- joint venture Accounting	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Organization

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Nature and Scope of Business	15
2	August 2020	B. Com	Unit 2- Forms of Business Units	15
3	September 2020	B. Com	Unit 3- Organization	15
4	October 2020	B. Com	Unit 4- Recent Trends in Business Organization	15
			Total	60

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B. Com (First Semester)
Title of Subject: Company Law



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Introduction to Company law	15
2	August 2020	B. Com	Unit 2- MOA AOA	15
3	September 2020	B. Com	Unit 3-Share and Share Capital Debenture Capital	15
4	October 2020	B. Com	Unit 4- Membership in Company, Directors	15
			Total	60

B. Com (First Semester)

Title of Subject: Business Economics

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Nature and Scope of Business Economics	15
2	August 2020	B. Com	Unit 2- Theory of consumption	15
3	September 2020	B. Com	Unit 3- Theory of Production	15
4	October 2020	B. Com	Unit 4- Theory of cost and Revenue	15
			Total	60

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B. Com First Year (Second Sem)

Title of Subject: Statistics and Business Mathematics



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Statistics and Measurement of Central Tendency	15
2	Jan 2021	B. Com	Unit 2- Dispersion	15
3	Feb 2021	B. Com	Unit 3- Skewness	15
4	March 2021	B. Com	Unit 4- Business Mathematics	15
			Total	60

B. Com First Year (Second Sem)

Title of Subject: Business Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Introduction	15
2	Jan 2021	B. Com	Unit 2- Planning	15
3	Feb 2021	B. Com	Unit 3- Delegation and Authority Coordination and Controlling	15
4	March 2021	B. Com	Unit 4-Recent Trends in Management	15
			Total	60

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B. Com First Year (Second Sem)
Title of Subject: Secretarial Practice



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Procedure for Incorporation, Company Secretary, Directors	15
2	Jan 2021	B. Com	Unit 2- Voting and resolution, Circular resolution	15
3	Feb 2021	B. Com	Unit 3- Report Writing, E-governance	15
4	March 2021	B. Com	Unit 4- Managerial personnel, Remuneration, Provisions	15
			Total	60

B. Com First Year (Second Sem)
Title of Subject: Business Economics -II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Market Structure	15
2	Jan 2021	B. Com	Unit 2- Perfect and Imperfect Competition Market	15
3	Feb 2021	B. Com	Unit 3- Theories of Distribution	15
4	March 2021	B. Com	Unit 4- Business cycles and national income	15
			Total	60

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B. Com Second Year (Third Sem)

Title of Subject: Financial accounting II



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Consignment Accounting	15
2	August 2020	B. Com	Unit 2- Hire Purchase	15
3	September 2020	B. Com	Unit 3- Floatation of Joint stock company and their capital structure	15
4	October 2020	B. Com	Unit 4- Final Accounts of Joint stock Company	15
			Total	60

B. Com Second Year (Third Sem)

Title of Subject: Business Communication and Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Introduction	15
2	August 2020	B. Com	Unit 2- Business communication	15
3	September 2020	B. Com	Unit 3- Technology and business communication	15
4	October 2020	B. Com	Unit 4- MS office aided communication	15
			Total	60

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B. Com Second Year (Third Sem)
Title of Subject: Business Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Indian Contract Act	15
2	August 2020	B. Com	Unit 2-Sale of Goods Act	15
3	September 2020	B. Com	Unit 3- Negotiable Instrument	15
4	October 2020	B. Com	Unit 4- Consumer Protection Cyber Law	15
			Total	60

B. Com Second Year (Third Sem)
Title of Subject: Monetary Economics- I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Money	15
2	August 2020	B. Com	Unit 2- Inflation and Deflation	15
3	September 2020	B. Com	Unit 3- Money market and Policies	5
4	October 2020	B. Com	Unit 4- Public finance	15
			Total	60

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 B. Com Second Year (Fourth Sem)
 Title of Subject: Financial accounting -III



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Final Accounts Of Banking Companies	15
2	Jan 2021	B. Com	Unit 2- Final Accounts of General Insurance Companies	15
3	Feb 2021	B. Com	Unit 3- Valuation Of Goodwill	15
4	March 2021	B. Com	Unit 4- Liquidation Of Companies	15
			Total	60

B. Com Second Year (Fourth Sem)
 Title of Subject: Skill Development

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Introduction	15
2	Jan 2021	B. Com	Unit 2- Communication skills and personality development	15
3	Feb 2021	B. Com	Unit 3- Techniques in Personality development	15
4	March 2021	B. Com	Unit 4- Entrepreneurial skill development	15
			Total	60

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B. Com Second Year (Fourth Sem)

Title of Subject: Income Tax



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Introduction	15
2	Jan 2021	B. Com	Unit 2- Income From Salary	15
3	Feb 2021	B. Com	Unit 3- Income from House property	15
4	March 2021	B. Com	Unit 4- Income from Other sources	15
			Total	60

B. Com Second Year (Fourth Sem)

Title of Subject: Monetary Economics- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Commercial Banking	15
2	Jan 2021	B. Com	Unit 2- Banking and core Banking	15
3	Feb 2021	B. Com	Unit 3- Banks and customer relationship and services	15
4	March 2021	B. Com	Unit 4- Central Bank	15
			Total	60

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B. Com Third Year (Fifth Sem)

Title of Subject: Financial accounting -IV



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Amalgamation and Absorption of Companies	15
2	August 2020	B. Com	Unit 2- Reconstruction of Companies	15
3	September 2020	B. Com	Unit 3- Accounts of public Utility Companies	15
4	October 2020	B. Com	Unit 4- Valuation of Shares	15
			Total	60

B. Com Third Year (Fifth Sem)

Title of Subject: Cost accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Cost Accounting	15
2	August 2020	B. Com	Unit 2- Reconciliation of P/L shown by cost and financial accounting	15
3	September 2020	B. Com	Unit 3- Process cost Accounting	15
4	October 2020	B. Com	Unit 4- Contract Costing	15
			Total	60

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B. Com Third Year (Fifth Sem)
Title of Subject: Management Process



Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Management and administration	15
2	August 2020	B. Com	Unit 2- Managerial development and group Dynamics	15
3	September 2020	B. Com	Unit 3- Managerial Style	15
4	October 2020	B. Com	Unit 4- Motivation	15
			Total	60

B. Com Third Year (Fifth Sem)
Title of Subject: Indian Economy-I

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Indian Economy and Planning	15
2	August 2020	B. Com	Unit 2- Indian Economy and Policy	15
3	September 2020	B. Com	Unit 3- Population and Unemployment	15
4	October 2020	B. Com	Unit 4- India's Public Finance	15
			Total	60


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B. Com Third Year (Fifth Sem)
Title of Subject: Marketing Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Introduction	15
2	August 2020	B. Com	Unit 2- Market and pricing Policy	15
3	September 2020	B. Com	Unit 3- Product planning and Distribution	15
4	October 2020	B. Com	Unit 4- Consumer behaviour and Promotion	15
			Total	60

B. Com Third Year (Fifth Sem)
Title of Subject: Auditing

Sr. No.	Month	Class	Chapter Topic	Period
1	Jun-July 2020	B. Com	Unit 1- Basic of Auditing	15
2	August 2020	B. Com	Unit 2- Audit working and Procedure	15
3	September 2020	B. Com	Unit 3- Audit Standards, vouching	15
4	October 2020	B. Com	Unit 4- Company audit and audit report	15
			Total	60

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B. Com Third Year (Sixth Sem)
Title of Subject: Financial accounting -V



Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Accounts of Holding Company	15
2	Jan 2021	B. Com	Unit 2- Insurance Claims	15
3	Feb 2021	B. Com	Unit 3- Investment Accounting	15
4	March 2021	B. Com	Unit 4- Profit prior to Incorporation	15
			Total	60

B. Com Third Year (Sixth Sem)
Title of Subject: Management accounting

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Management Accounting	15
2	Jan 2021	B. Com	Unit 2- Business Budget and Budgetary Control	15
3	Feb 2021	B. Com	Unit 3- Ratio Analysis	15
4	March 2021	B. Com	Unit 4- Fund Flow Analysis	15
			Total	60

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B. Com Third Year (Sixth Sem)
Title of Subject: Advanced Statistics

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Correlation	15
2	Jan 2021	B. Com	Unit 2- Regression Analysis	15
3	Feb 2021	B. Com	Unit 3- Index Number	15
4	March 2021	B. Com	Unit 4- Time series	15
			Total	60

B. Com Third Year (Sixth Sem)
Title of Subject: Indian Economy- II

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Indian Agriculture	15
2	Jan 2021	B. Com	Unit 2- Indian Industry	15
3	Feb 2021	B. Com	Unit 3- - Indian Service Sector	15
4	March 2021	B. Com	Unit 4- Contribution of Indian Economic Thinkers	15
			Total	60

B. Com Third Year (Sixth Sem)
Title of Subject: Human Resource Management

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Introduction	15
2	Jan 2021	B. Com	Unit 2- Recruitment Selection and Training	15
3	Feb 2021	B. Com	Unit 3- labour welfare and collective	15

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			Bargaining	
4	March 2021	B. Com	Unit 4- Human Resource planning and accounting	15
			Total	60



B. Com Third Year (Sixth Sem)

Title of Subject: Industrial Law

Sr. No.	Month	Class	Chapter Topic	Period
1	Nov-Dec 2020	B. Com	Unit 1- Indian factories Act Industrial dispute Act	15
2	Jan 2021	B. Com	Unit 2- Law relating to : wages, Bonus and gratuity, compensation, benefits	15
3	Feb 2021	B. Com	Unit 3- Child labour Act Trade union Act Contract labour Act	15
4	March 2021	B. Com	Unit 4- Industrial Estate Environment Protection Act Intellectual property rights	15
			Total	60

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