

**S. M. Joshi College, Hadapsar, Pune – 28**

**PROGRAM OUTCOMES (POs) OF COURSES**

Degree Program	Outcome
<p><b>Bachelor of Commerce (B. Com)</b></p>	<p>On successful completion of the program, the students will be able for</p> <p><b>PO 1: Primary Knowledge:</b> To provide adequate primary understanding about Commerce, Accounting &amp; Finance education to the students.</p> <p><b>PO 2: Self Employment:</b> To create additional avenue of Self Employment to the students &amp; to provide suitable &amp; trained persons for Financial Services Sector.</p> <p><b>PO 3: Practical Aspect:</b> To make aware about the practical aspect of the theoretical concepts.</p> <p><b>PO 4: Establish Co-ordination:</b> To establish strong co-ordination between the Industry &amp; the Institutions of Higher Education.</p> <p><b>PO 5: New Opportunities:</b> To prepare students to exploit opportunities being newly created in the accounting &amp; finance field.</p> <p><b>PO 6: Competitiveness:</b> To prepare graduates to compete with the degree holders of Private &amp; Other Universities.</p> <p><b>PO 7: Exposure:</b> To give adequate exposure to the operational environment in the field of accounting &amp; finance.</p>
<p><b>B. Sc. in Chemistry</b></p>	<p>On successful completion of the program, the students will be able for</p> <p>PO1. CRITICALTHINKING The curriculum is designed in such way that students should acquire the ability to observe the concepts accurately and think impartially, scientifically, independently and draw rational conclusions.</p> <p>PO2. EFFECTIVE COMMUNICATION The medium of instruction for this course is in English. English is an international language therefore students should become</p>

	<p>habitual to communicate in English while studying chemistry.</p> <p><b>PO3 SOCIAL INTERACTIONS</b> In these course students are made aware of environment related issues. They are made aware of optimal use of fertilizers, water, fuels and drugs.</p> <p><b>PS04 EFFECTIVE CITIZENSHIP</b></p> <p>In this program students are made aware of the pollution problems such as waste water management, water treatment etc. Also they made aware of significance of energy, water, food, fuels, general hygiene and cleanliness etc.</p> <p><b>PO5 ETHICS</b></p> <p>In this program students made alert regarding misuse of food adulteration, chemical technology, poisons, fungicides, pesticides and chemical and nuclear weapons</p> <p><b>PO6 ENVIRNMENT AND SUSTAINABILITY</b></p> <p>Being Chemistry students they become well conversant with various pollutants their sources and their impact on biosystem. So they become well-informed with protection and conservation of environment.</p> <p><b>PO7 SELF DIRECTED AND LIFE LONG LEARNING</b></p> <p>Program curriculum inculcates the curiosity and problem solving approach Which makes them self-directed and learning becomes a continuous process throughout the life.</p>
<p><b>B. Sc. in Electronic Science</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Understand fundamentals of electronics.</li> <li>3. Develop in depth knowledge of scientific and technological aspects of electronics</li> <li>4. Develop the practical skills related to electronic industries and market.</li> <li>5. Develop analytical abilities towards real world problems</li> </ol>

	<p>6. Build up a progressive and successful career in electronics.</p> <p>7. Foundation for research culture in electronics.</p>
<p><b>B. Sc. in Physics</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Understand fundamentals of Physics.</li> <li>3. Develop in depth knowledge of scientific and technological aspects of Physics.</li> <li>4. Develop the practical skills related to industries and market.</li> <li>5. Develop analytical abilities towards real world problems</li> <li>6. Build up a progressive and successful career in Physics.</li> <li>7. Foundation for research culture in Physics.</li> </ol>
<p><b>B. Sc. in Microbiology</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Develop in depth knowledge of scientific and technological aspects of microbiology</li> <li>3. Develop the practical skills related to microbiology.</li> <li>5. Get familiar with all the research activities along with good practical skills.</li> <li>6. Build up a progressive and successful career in microbiology.</li> </ol>

	<p>7. Students easily get absorb to the various paramedical fields.</p>
<p><b>B. Sc. in Botany</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Understand fundamentals of Botany.</li> <li>3. Develop in depth knowledge of scientific and technological aspects of Botany</li> <li>4. Develop the practical skills related to botanical industries and market.</li> <li>5. Develop analytical abilities towards real world problems</li> <li>6. Build up a progressive and successful career in Botany.</li> <li>7. Foundation for research culture in Botany.</li> </ol>
<p><b>B. Sc. in Mathematics</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Communicate mathematics effectively.</li> <li>2. Demonstrate a computational ability in solving a wide array of mathematical problems.</li> <li>3. Differentiate between valid and invalid mathematical reasoning.</li> <li>4. Develop mathematical ideas from basic axioms.</li> <li>5. Utilize mathematics to solve theoretical and applied problems.</li> <li>6. Identify applications of mathematics in other disciplines and in society.</li> </ol>

**B. Sc. in Zoology**

On successful completion of the program, the students will be able for

**PO1: Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

**PO2: Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

**PO3: Social Interaction:** Elicit views of others, mediate disagreements and help reach conclusion in group settings.

**PO4: Effective Citizenship:** Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

**PO5: Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

**PO6: Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.

	<p><b>PO7: Self-directed and Life-long Learning:</b> Acquire the ability to engage in independent and lifelong learning in the broadest context socio- technological changes.</p>
<p><b>B. A. in English</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Think critically</li> <li>2. Communicate effectively and confidently.</li> <li>3. Deep knowledge of English language and literature.</li> <li>4. Build up a progressive and successful career.</li> <li>5. Foundation for research culture in English Language and Literature</li> </ol>
<p><b>B. A. in History</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get the information about the cultural, social and agricultural condition in Shivaji Maharaj era.</li> <li>2. Understand the ideas of Shivaji Maharaj which are useful in modern World.</li> <li>3. Produce the historical analysis of documents and develop the ability to think critically</li> </ol>
<p><b>B. A. in Geography</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Recognize importance of nature and will become sensitive ideal citizens towards nature.</li> <li>2. Have up-to-date Geographical knowledge and cultivate interest about Earth Science.</li> <li>3. Understand recent trends in Geography and other</li> </ol>

	<p>related disciplines.</p> <ol style="list-style-type: none"> <li>4. Comprehend Travel Tourism and Natural Hazards</li> <li>5. Respect Environment.</li> </ol>
<p><b>B. A. in Economics</b></p>	<ul style="list-style-type: none"> <li>• Program in Economics help students to establish in-depth understanding of the functioning of domestic and global economies and to develop the necessary and portable skills to perform economic analysis for both public and private sector.</li> <li>• Economics is the study of how societies, governments, businesses, households, and individuals allocate their scarce resources. Our discipline has two important features. First, we develop conceptual models of behavior to predict responses to changes in policy and market conditions.</li> </ul>
<p><b>B. A. in Political Science</b></p>	<ol style="list-style-type: none"> <li>1. Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.</li> <li>2. Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.</li> <li>3. Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.</li> <li>4. Recognize different value systems including your</li> </ol>

	<p>own, understand the moral dimensions of your decisions, and accept responsibility for them.</p> <p>5. Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes</p>
<b>B. A. in Psychology</b>	<ol style="list-style-type: none"> <li>1. Understand basic concepts, principals and theories of Psychology and logic that helps to familiarized one with historical background, theoretical perspective and empirical findings within the subjects.</li> <li>2. Understand recent clarification, the causes, symptoms and treatment of various psychological disorders.</li> <li>3. Undertake an individual small research project related to social work.</li> </ol>
<p><b>Department of Computer Science</b></p> <p><b>BBA (CA)</b></p>	<ol style="list-style-type: none"> <li>1. BBA (CA) program prepares students with cutting-edge skills for research and innovation in the field of management. With Entrepreneurship, Leadership and Business Innovation modules integrated into the curriculum,</li> <li>2. Prepare to work effectively in a variety of organizational situations, administrators and managers must understand the complexities of organizational communication.</li> <li>3. Prepare to participate effectively with others in administrative and managerial groups</li> <li>4. The program provides the Communication skill techniques to handle business need with the knowledge of computer applications.</li> </ol>
<b>B.Sc. in Computer Science</b>	<ol style="list-style-type: none"> <li>1. Positively encourage students to participate in professional Project, Program and activities.</li> </ol>



	<ol style="list-style-type: none"> <li>2. Analyze, design, implement and evaluate computerized solutions to real life problems, using appropriate computing methods.</li> <li>3. Develop computer programs using functional programming and object-oriented programming paradigms.</li> <li>4. Support research and development of Project, Program and related standards.</li> <li>5. Acquire the knowledge, skills, experience and values to become lifelong learners able to obtain employment in a computer-related field or go on to graduate study.</li> <li>6. Differentiate among essential data structures used in computer programming, and explain how they work.</li> <li>7. Apply techniques of software validation and reliability analysis to the development of computer programs.</li> <li>8. Demonstrate the critical thinking and communication skills</li> </ol>
<p><b>B.C.A. (Under Science Faculty)</b></p>	<ol style="list-style-type: none"> <li>1. The B.C.A. program is a combination of computer and applied subjects from science stream.</li> <li>2. The computer related courses are being used to introduce techniques of programming, databases, web designing, system analysis, design tools and different computing environments.</li> <li>3. The applied courses including mathematics</li> </ol>

	<p>and electronics shall provide theoretical foundation for students of Computer Science.</p>
<p><b>PG Departments</b></p>	
<p><b>M. Sc. in Chemistry</b></p>	<p>It is intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing or evaluating information gathered from or generated by observations, experience, reflection, reasoning or communication as a guide to belief and action. The students of chemistry are progressively trained along these lines.</p> <p>It is two ways information sharing process which involves successfully delivering the intended message.</p> <p>Thus the students can deliver their knowledge of chemistry to the society using English or other suitable relevant language.</p> <p>In this post-graduate course students are made aware of environment related topics like drugs fertilizers, industrial chemicals etc. They are made aware of optimal use of these substances and are expected to spread this knowledge in the society.</p> <p>In this program students are made aware of pollution problems waste water management, water treatment etc. They are also made aware of importance of energy and water, food, fuels, general hygiene and cleanliness etc.</p> <p>It includes practice of moral principles that govern the</p>

	<p>person's behavior or conducting an activity. During the teaching of this course, properties of various chemicals (old and newly synthesized) are discussed and also their beneficial and/or adverse effects on the human race/living world are also discussed.</p> <p>It is state in which the demands placed in environment can be made without reducing its capacity to all the people to leave well now in future. In post graduate teaching a special course entitled Green Chemistry which especially stresses these issues considering the environmental friendly processes and products is discussed with the students.</p> <p>Program curriculum inculcates the curiosity; critical thinking and problem solving approach so as to reach the rational conclusions among the students making them self-directed and thus learning becomes a continuous process throughout their life.</p>
<p><b>M. A. in English</b></p>	<ol style="list-style-type: none"> <li>1. Prepare various types of documents in internationally acceptable English with accuracy and proficiency to achieve various requirement</li> <li>2. Develop catholicity of taste so as to understand and appreciate literary productions of different cultures both in terms of their unique singularity and implied universal appeal</li> <li>3. Analyze and interpret literary, political and socio-cultural writings of different nations to bring their ideological connotations and aesthetic values</li> <li>4. Demonstrate critical knowledge of literary texts ranging from the Anglo-Saxon period to the</li> </ol>

	present year of English literature period
<b>M. A. in History</b>	<ol style="list-style-type: none"> <li>1. Get knowledge of ancient civilization and culture in the past</li> <li>2. Enabled to know the importance of heritage and its management.</li> <li>3. Get research aptitudes in the subject of History</li> <li>4. Understand the undercurrents in national and international politics</li> <li>5. Prepare for competitive examination</li> </ol>
<b>M. A. in Marathi</b>	<p>After completion of the program, the students will able to</p> <ol style="list-style-type: none"> <li>1. Demonstrate the critical theories and their knowledge</li> <li>2. Show the research attitude and abilities</li> <li>3. Demonstrate creative impulse in writing works of literature</li> <li>4. Apply linguistic knowledge of Marathi language</li> </ol>
<b>Master of Commerce (M. Com.)</b>	<p><b>PO 1: Accept the Challenges:</b> To equip and train our post graduate students to accept the challenges of 21st Century.</p> <p><b>PO 2: Research Methodology:</b> To impart knowledge and develop understanding of research methodology and its Application.</p> <p><b>PO 3: Logical Thinking:</b> To develop independent logical thinking and facilitate personality development.</p> <p><b>PO 4: Career Opportunities:</b> To equip the students for seeking suitable employment and entrepreneurship ability.</p> <p><b>PO 5: Practical approach:</b> To inculcate training &amp; practical approach by using modern technology amongst the students in the field of Accounting &amp; Finance.</p> <p><b>PO 6: communication and analytical skills:</b> To study methods of Data Collection and its interpretations to develop communication and analytical skills in generalization of things, concepts and symbols used in business.</p> <p><b>PO 7: Specialization:</b> To make aware the students for acquiring the knowledge of specialized subjects.</p>



**S. M. Joshi College, Hadapsar, Pune – 28**

**PROGRAM SPECIFIC OUTCOMES (PSOs)**

<b>Degree Program</b>	<b>Outcome</b>
<b>B. Com. in Cost &amp; Works Accounting</b>	On successful completion of the Program the students will be able to: <ol style="list-style-type: none"><li>1. Understand the concepts and principle application of Overheads</li><li>2. Understanding various methods of costing and their applications.</li><li>3. Get knowledge regarding costing techniques.</li><li>4. Get training as regards concepts, procedures and legal Provisions of cost audit.</li></ol>
<b>B. Com. in Banking &amp; Finance</b>	On successful completion of the Program the students will be able to: <ol style="list-style-type: none"><li>1. Gain an insight into the functioning role of financial instructions in the Indian economy.</li><li>2. Understand of operations and developments in financial market in India.</li><li>3. Get acquainted with Banking Law and Practice in relation to the Banking system in India.</li><li>4. Understand the legal aspects of Banking transactions and its implications as Banker and Customer.</li><li>5. Become aware of the Banking Law and Practice in India.</li></ol>
<b>B. Com. in Marketing Management</b>	On successful completion of the Program the students will be able to: <ol style="list-style-type: none"><li>1. Understand detailing of Marketing Research.</li><li>2. Understand the role Brand and Distribution Management in marketing.</li><li>3. Understand Marketing and Economic Development.</li><li>4. Understands the importance of control on marketing activities.</li><li>5. Understand the concept and functioning of marketing planning and sales management.</li></ol>
<b>B. Com. in Business</b>	On successful completion of the Program the students will

<p><b>Entrepreneurship</b></p>	<p>be able to:</p> <ol style="list-style-type: none"> <li>1. Get equipped with necessary tools and techniques to set up their own business.</li> <li>2. Bring out their own business plan.</li> <li>3. Use knowledge and understand behavioral aspects of entrepreneurship</li> <li>4. Get acquainted with the behavioral aspects of members of the team or employees</li> </ol>
<p><b>B. Sc. in Chemistry</b></p>	<p>PSO1: Provide the basic principles of all branches of Chemistry, knowledge of chemical principles and make them independent for the effective application of it</p> <p>POS 2: Provide knowledge of laboratory skills so that students can prepare for the experimental setup, actual working of equipment, obtain experimental data and interpretation of it and interpret using theoretical principles</p> <p>PSO3: Make the students self-sufficient in understanding and handling the various issues that may arise while studying Chemistry</p>
<p><b>B. Sc. in Electronic Science</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Understand fundamentals of electronics.</li> <li>3. Develop in depth knowledge of scientific and technological aspects of electronics</li> <li>4. Develop the practical skills related to electronic industries and market.</li> <li>5. Develop analytical abilities towards real world problems</li> <li>6. Build up a progressive and successful career in electronics.</li> <li>7. Foundation for research culture in electronics.</li> </ol>

<p><b>B. Sc. in Physics</b></p>	<p>On successful completion of the Programme the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Understand fundamentals of Physics.</li> <li>3. Develop in depth knowledge of scientific and technological aspects of Physics.</li> <li>4. Develop the practical skills related to industries and market.</li> <li>5. Develop analytical abilities towards real world problems</li> <li>6. Build up a progressive and successful career in Physics.</li> <li>7. Foundation for research culture in Physics.</li> </ol>
<p><b>B. Sc. in Microbiology</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Develop in depth knowledge of scientific and technological aspects of microbiology</li> <li>3. Develop the practical skills related to microbiology.</li> <li>5. Get famillier with all the research activities along with good practical skills.</li> <li>6. Build up a progressive and successful career in microbiology.</li> <li>7. Students easily get absorb to the various paramedical field.</li> </ol>



<p><b>B. Sc. in Botany</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Get familiar with current and recent scientific and technological developments</li> <li>2. Understand fundamentals of Botany.</li> <li>3. Develop in depth knowledge of scientific and technological aspects of Botany</li> <li>4. Develop the practical skills related to botanical industries and market.</li> <li>5. Develop analytical abilities towards real world problems</li> <li>6. Build up a progressive and successful career in Botany.</li> <li>7. Foundation for research culture in Botany.</li> </ol>
<p><b>B. Sc. in Mathematics</b></p>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Communicate mathematics effectively.</li> <li>2. Demonstrate a computational ability in solving a wide array of mathematical problems.</li> <li>3. Differentiate between valid and invalid mathematical reasoning.</li> <li>4. Develop mathematical ideas from basic axioms.</li> <li>5. Utilize mathematics to solve theoretical and applied problems.</li> <li>6. Identify applications of mathematics in other disciplines and in society.</li> </ol>
<p><b>B. Sc. in Zoology</b></p>	<p><b>PSO1.</b> Understand the nature and basic concepts of cell biology, Physiology Taxonomy and Genetics, Applied Biology.</p> <p><b>PSO2.</b> Analyse the relationships among animals, plants and microbes.</p>

	<p><b>PSO3.</b> Perform procedures as per laboratory standards in the areas of, Anatomy, Physiology, Taxonomy, Economic,&amp; Applied Zoology.</p> <p><b>PSO4.</b> Understand the applications of biological sciences in Apiculture, Aquaculture, Sericulture, Agriculture and Medicine.</p> <p><b>PSO5.</b> Advanced concepts in the Zoology from first year to the second year shall inspire the students for pursuing higher studies in Zoology</p> <p><b>PSO6.</b> Students get subsidiary opportunities in the Biological research Institutes, companies, Educational Institutes and in the various concerning departments of State and Central Government based on subject Zoology.</p>
<b>B. A. in English</b>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Think critically</li> <li>2. Communicate effectively and confidently.</li> <li>3. Deep knowledge of English language and literature.</li> <li>4. Build up a progressive and successful career.</li> <li>5. Foundation for research culture in English Language and Literature</li> </ol>
<b>B.A. in Marathi</b>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge of Marathi literature with all its conceptual terminologies</li> <li>2. Recognize the use of key concepts and terms in literary criticism to interpret literary texts.</li> <li>3. Analyze structure of language at different levels ( phonological, morphological and syntactic)</li> <li>4. Display the skills and abilities for media and publication</li> </ol>
<b>B. A. in History</b>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Students can get the information about the</li> </ol>

	<p>cultural, social and agricultural condition in shivaji Maharaj era.</p> <p>2. It also helps the students to understand the ideas of shivaji Maharaj which are useful in modern World.</p>
<b>B. A. in Geography</b>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Recognize importance of nature and will become sensitive ideal citizens towards nature.</li> <li>2. Have up-to-date Geographical knowledge and cultivate interest about Earth Science.</li> <li>3. Understand recent trends in Geography and other related disciplines.</li> <li>4. Comprehend Travel Tourism and Natural Hazards</li> <li>5. Respect Environment.</li> </ol>
<b>B. A. in Economics</b>	<ul style="list-style-type: none"> <li>• Program in Economics help students to establish in-depth understanding of the functioning of domestic and global economies and to develop the necessary and portable skills to perform economic analysis for both public and private sector .</li> <li>• Economics is the study of how societies, governments, businesses, households, and individuals allocate their scarce resources. Our discipline has two important features. First, we develop conceptual models of behavior to predict responses to changes in policy and market conditions.</li> </ul>
<b>B. A. in Political Science</b>	<ol style="list-style-type: none"> <li>1. Take informed actions after identifying the assumptions that frame our thinking and actions,</li> </ol>

	<p>checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.</p> <ol style="list-style-type: none"> <li>2. Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.</li> <li>3. Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.</li> <li>4. Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.</li> <li>5. Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes</li> </ol>
<p><b>B. A. in Psychology</b></p>	<ol style="list-style-type: none"> <li>1. Understand basic concepts, principals and theories of Psychology and logic that helps to familiarized one with historical background, theoretical perspective and empirical findings within the subjects.</li> <li>2. Understand recent clarification, the causes, symptoms and treatment of various psychological disorders.</li> <li>3. Undertake an individual small research project related to social work.</li> </ol>

<p><b>Department of Computer Science</b></p> <p><b>BBA (CA)</b></p>	<ol style="list-style-type: none"> <li>1. BBA (CA) program prepares students with cutting-edge skills for research and innovation in the field of management. With Entrepreneurship, Leadership and Business Innovation modules integrated into the curriculum,</li> <li>2. Prepare to work effectively in a variety of organizational situations, administrators and managers must understand the complexities of organizational communication.</li> <li>3. Prepare to participate effectively with others in administrative and managerial groups</li> <li>4. The program provides the Communication skill techniques to handle business need with the knowledge of computer applications.</li> </ol>
<p><b>B.Sc. in Computer Science</b></p>	<ol style="list-style-type: none"> <li>1. Positively encourage students to participate in professional Project, Program and activities.</li> <li>2. Analyze, design, implement and evaluate computerized solutions to real life problems, using appropriate computing methods.</li> <li>3. Develop computer programs using functional programming and object-oriented programming paradigms.</li> <li>4. Support research and development of Project, Program and related standards.</li> <li>5. Acquire the knowledge, skills, experience and values to become lifelong learners able to obtain employment in a computer-related field or go on to graduate study.</li> <li>6. Differentiate among essential data structures used in computer programming, and explain how they work.</li> <li>7. Apply techniques of software validation and</li> </ol>

	<p>reliability analysis to the development of computer programs.</p> <p><b>8.</b> Demonstrate the critical thinking and communication skills</p>
<b>B.C.A. (Under Science Faculty)</b>	<ol style="list-style-type: none"> <li>1. The B.C.A. program is a combination of computer and applied subjects from science stream.</li> <li>2. The computer related courses are being used to introduce techniques of programming, databases, web designing, system analysis, design tools and different computing environments.</li> <li>3. The applied courses including mathematics and electronics shall provide theoretical foundation for students of Computer Science.</li> </ol>
<b>PG Departments</b>	
<b>M. Sc. in Chemistry</b>	<p>It is intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing or evaluating information gathered from or generated by observations, experience, reflection, reasoning or communication as a guide to belief and action. The students of chemistry are progressively trained along these lines.</p> <p>It is two ways information sharing process which involves successfully delivering the intended message.</p> <p>Thus the students can deliver their knowledge of</p>

chemistry to the society using English or other suitable relevant language.

In this post-graduate course students are made aware of environment related topics like drugs fertilizers, industrial chemicals etc. They are made aware of optimal use of these substances and are expected to spread this knowledge in the society.

In this program students are made aware of pollution problems waste water management, water treatment etc. They are also made aware of importance of energy and water, food, fuels, general hygiene and cleanliness etc.

It includes practice of moral principles that govern the person's behavior or conducting an activity. During the teaching of this course, properties of various chemicals (old and newly synthesized) are discussed and also their beneficial and/or adverse effects on the human race/living world are also discussed.

It is state in which the demands placed in environment can be made without reducing its capacity to all the people to leave well now in future. In post graduate teaching a special course entitled Green Chemistry which especially stresses these issues considering the environmental friendly processes and products is discussed with the students.

Program curriculum inculcates the curiosity; critical thinking and problem solving approach so as to reach the

	<p>rational conclusions among the students making them self-directed and thus learning becomes a continuous process throughout their life.</p>
<b>M. A. in English</b>	<ol style="list-style-type: none"> <li>1. Prepare various types of documents in internationally acceptable English with accuracy and proficiency to achieve various requirement</li> <li>2. Develop catholicity of taste so as to understand and appreciate literary productions of different cultures both in terms of their unique singularity and implied universal appeal</li> <li>3. Analyze and interpret literary, political and socio-cultural writings of different nations to bring their ideological connotations and aesthetic values</li> <li>4. Demonstrate critical knowledge of literary texts ranging from the Anglo-Saxon period to the present year of English literature period</li> </ol>
<b>M. A. in Marathi</b>	<p>On successful completion of the Program the students will be able to:</p> <ol style="list-style-type: none"> <li>1. Demonstrate the critical theories and their knowledge</li> <li>2. Show the research attitude and abilities</li> <li>3. Demonstrate creative impulse in writing works of literature</li> <li>4. Apply linguistic knowledge in Marathi</li> </ol>
<b>M. A. in History</b>	<ol style="list-style-type: none"> <li>1. Get knowledge of ancient civilization and culture in the past</li> <li>2. Enabled to know the importance of heritage and its management.</li> <li>3. Get research aptitudes in the subject of History</li> <li>4. Understand the undercurrents in national and international politics</li> </ol>



	5. Prepare for competitive examination
<b>Master of Commerce (M. Com.)</b>	<p><b>PO 1: Accept the Challenges:</b> To equip and train our post graduate students to accept the challenges of 21st Century.</p> <p><b>PO 2: Research Methodology:</b> To impart knowledge and develop understanding of research methodology and its Application.</p> <p><b>PO 3: Logical Thinking:</b> To develop independent logical thinking and facilitate personality development.</p> <p><b>PO 4: Career Opportunities:</b> To equip the students for seeking suitable employment and entrepreneurship ability.</p> <p><b>PO 5: Practical approach:</b> To inculcate training &amp; practical approach by using modern technology amongst the students in the field of Accounting &amp; Finance.</p> <p><b>PO 6: communication and analytical skills:</b> To study methods of Data Collection and its interpretations to develop communication and analytical skills in generalization of things, concepts and symbols used in business.</p> <p><b>PO 7: Specialization:</b> To make aware the students for acquiring the knowledge of specialized subjects.</p>

Rayat Shishan Sanstha's

**S. M. Joshi College, Hadapsar, Pune - 28**

## Course Outcomes

Subject	Program and Course	Course Outcomes
<b>English</b>	<b>F.Y. B. A. Compulsory English</b>	<ul style="list-style-type: none"><li>a) Get familiarized with excellent pieces of prose and poetry in English and will be realized the beauty and communicative power of English</li><li>b) Understand native cultural experiences and situations and develop humane values and social awareness</li><li>c) Acquire overall linguistic competence and communicative skills</li></ul>
	<b>English General</b>	<ul style="list-style-type: none"><li>a) Understand the basics of literature and language</li><li>b) Get familiarized with different types of literatures in English, the literary devices and terms</li><li>c) Understand the literary merit, beauty and creative use of language</li><li>d) Become aware of the technical aspects and their practical usage</li><li>e) Get prepared to go for detailed study and understanding of literature</li><li>f) Get integrated view about language and literature in them</li></ul>
	<b>F. Y. B. Com. Compulsory English</b>	<ul style="list-style-type: none"><li>a) Realize the beauty and communicative power of English</li><li>b) Understand the importance and utility of English language</li><li>c) Get overall linguistic competence and communicative skills</li></ul>
	<b>S. Y. B. A. Compulsory English</b>	<ul style="list-style-type: none"><li>a) Get competence for self-learning</li><li>b) Realize the beauty and communicative power of English</li><li>c) Develop interest in reading literary pieces</li><li>d) Acquire overall linguistic competence and communicative skills</li></ul>

**English General G2**

- a) Understand the basics of short story, one of the literary forms
- b) Get familiarized with different types of short stories in English
- c) Perceive the literary merit, beauty and creative use of language
- d) Become aware of the technical aspects and their practical usage

**English Special P. I**

- a) Get acquainted with the terminology in Drama Criticism (i.e. the terms used in Critical Analysis and Appreciation of Drama)
- b) Understand few sample masterpieces of English Drama from different parts of the world
- c) Acquire ability to appreciate and analyze drama independently

**English Special P. II**

- a) Understand the terminology in poetry criticism (i.e. the terms used in critical analysis and appreciation of poems)
- b) Understand a few sample masterpieces of English poetry
- c) Acquire ability to read, appreciate and critically evaluate the poetry independently

**T. Y. B. A. English Compulsory**

- a) Get introduced to the best uses of language in literature.
- b) Get familiarized with the communicative power of English
- c) Become competent users of English in real life situations
- d) Develop overall personality by improving their communicative and soft skills

**English General**

- a) Understand some of the best samples of Indian English Poetry
- b) Understand how Indian English poetry expresses the ethos and culture of India
- c) Become aware of creative uses of language in Indian English Poetry
- d) Comprehend some advanced areas of language study

a) Acquire integrated view about language and literature

**English Special III**

- a) Understand the basics of novel as a literary form
- b) Get Knowledge of the historical development and nature of novel
- c) Become aware of different types and aspects of novel
- d) Develop literary sensibility and sense of cultural diversity

**English Special IV**

- a.) Understand the basics of literary criticism
- b) Comprehend the nature and historical development of criticism
- c) Get familiar with the significant critical approaches and terms
- d) Ability to interpret literary works in the light of the critical approaches

**M. A. Part I English Literature from 1550-1798**

- a) Get introduced to major movements and figures of English Literature
- b) Develop literary sensibility and emotional response to the literary texts and implant sense of appreciation of literary texts
- c) Understand the artistic and innovative use of language employed by the writers
- d) Enhanced literary and linguistic competence

**English Literature from 1798-2000**

- a) Grasp major movements and figures of English Literature
- b) Get literary sensibility for appreciation and also get exposed to artistic and innovative use of language by writers and to various world views
- c) Enhanced literary and linguistic competence

**Contemporary Studies in English Language**

- a) Understand the basic tools essential for systematic study of language
- b) Get acquainted with the basic concepts and issues in linguistics
- c) Get introduced to various sub-disciplines

of linguistics

d) Acquire ability to apply the acquired linguistic skills in real life situations

**Literary Criticism and Theory**

a) Get introduced to the nature, function and relevance of literary criticism and theory

b) Acquire knowledge of various important critical approaches and their tenets

c) Get ability to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability

d) Become sensible and competent for practical application of critical approach to literary texts

**M. A. Part II Indian Writing in English (Core Paper)**

a) Understand major movements and figures of Indian Literature in English through the study of selected literary texts

2) Acquire literary sensibility and learn to respond emotionally to the literary texts

3) Master the artistic and innovative use of language employed by the writers

4) Acquire literary and linguistic competence

**English Language and Literature Teaching**

a) Get acquainted with different theoretical and practical aspects of language and literature teaching.

b) Understand different approaches, methods and techniques of teaching English language and literature.

c) Become sensitized to the major issues in ELLT in the Indian context

**Drama in English**

a) Master major movements related to drama, works and dramatists

b) Acquire literary sensibility for appreciation and get exposed to artistic and innovative use of language by writers and to various worldviews

c) Acquire literary and linguistic competence

**Research Methodology**

a) Get introduced to the concept of research

**History**

**FYBA History General  
Paper-1 (G1)**

- b) Understand the stages of research
- c) Understand the procedures involved in research
- d) Become sensitized to the requirements of cohesion and coherence in continuous composition.
- e) Understand the significance of systematic planning and execution of research activity.
- f) Master the use of various tools and techniques of research.

1. Learn innovative study techniques in the study of History of Maratha to make it value based, conceptual and thought provocative.
2. Understand the importance of past in exploration of present context.
4. Understand the Socio –economic, cultural and political background of 17th century Maharashtra.
5. Acquire the spirit of healthy Nationalism & Secularism among the student.

**SYBA History General  
Paper-II (G2)**

1. Students get knowledge of History of freedom movement of India, aims, objectives, problems and progress of Independent India.
2. Understand the processes of rise of modern India.
3. Get acquainted with fundamental aspects of Modern Indian History.
4. Understand the basic concepts/ concerns/ frame work of Indian History

**SYBA History Special  
Paper-I (S1)**

1. Survey the sources of History of medieval India.
2. Understand the social, economic, religious bases of medieval India.
3. Study medieval Indian art & architecture.

**TYBA History General  
Paper III (G3)**

1. Get knowledge of Modern World and also acquainted with the Socio- economic & Political developments in other countries.
2. Get familiarized with political history of Modern World.
3. Get acquainted with the main developments in the Contemporary World (Understand the important development in the 20th century World.)

**TYBA History Special  
Paper III (S3)**

**History of Asia in  
20<sup>th</sup> Century (1914-  
1992) (3179)**

**MA Part 1: History and  
its theory**

**Evolution of ideas and  
institutions in ancient  
India**

**Maratha polity**

**Social background of  
Dalit movement in  
Maharashtra**

4. Understand the economic transition in World during the 20th Century.

1. Understand how history is studied, written and understood.

2. Understand the meaning of Evolution of Historiography.

3. Get acquainted with the Various Views and approaches to Historiography.

1. Get familiarized with political history of Asia.

2. Understand the economic transition in Asia during 20th Centuries.

3. Understand the important developments in the 20th century Asia in a thematic approach.

4. Get ability to cope with the challenges of globalization.

1. Understand history and its forces in a better way

2. Gets ability to interrogate existing paradigms and challenge

3. Understand research in terms of formulating hypotheses and develop broad frames of interaction with other social sciences and attain certain level of interdisciplinary approach.

1. Understand of the social, economic and institutional bases of ancient India.

2. Understand ancient Indian history is crucial to understand Indian history as a whole.

1. Get acquainted with the administrative system of the Marathas in an analytical way

2. Get acquainted with the nature of Maratha polity.

3. Understand basic components of the Maratha administrative structure, Maratha polity.

1. Get acquainted with a relatively neglected part of social history and the history of the oppressed.

2. Understand various concepts.

3. Get knowledge of the caste system and evil practices like untouchability and its rigidification in ancient and medieval times.

History and its practice ii

Evolution of ideas and institutions in medieval India

Socio-Economic History of the Marathas

Nature of Dalit Movement in Maharashtra ii

M.A Part II: Debates in Indian History

4. Understand the earlier forms of protest by Buddhism, Jainism and later by Bhakti movement, in the medieval period especially in Maharashtra.

1. Understand history and its forces and learn to interrogate existing paradigms and challenge the outdated.

1. Understand the nature of medieval Indian society, economy, state formations, and the main religious currents of the time

2. Understand the nature of society and the problems of the challenge to that society, through colonialism, at a later stage

1. The purpose of the course is to study socio-economic history of the Marathas in an analytical way.

2. To acquaint the student with the components of social structure and their functions

3. To understand the relationship between religion, caste, customs, traditions, class in 17<sup>th</sup> and 18<sup>th</sup> century Maratha Society .

4. To enable the student to understand aspects of economic life, to trace the determinants of changes in social and economic life.

1. The paper intends to provide an understanding of the changing position of Dalit at conceptual and practical level of social transformation, from 19<sup>th</sup> century till today.

2. This paper also lays emphasis on Ambedkarian Movement, which marks an evolutionary phase in Dalit emancipation.

3. It highlights the constitutional rights for safeguarding the interests of the oppressed

4. It takes into account Dalit literature, which provides space for understanding of Dalit consciousness and adds new dimensions in understanding 'Dalit

1. Get acquainted to some of the issues that have been debated by historians

2. Get knowledge of some perspectives with reference to Indian history.



Economic History of  
Modern India

1. Get acquainted with structural and conceptual changes in Indian economy after coming of the British.
2. Become aware of the exploitative nature of the British rule.
3. Understand the process of internalization by Indians of new economic Ideas, principle and practices .

Maharashtra in the 19<sup>th</sup>  
Century

1. Learn the history of modern Maharashtra from an analytical perspective.
2. Understand the dialectical relationship between continuity and change in Maharashtra.
3. Get knowledge of the ideas, institutions, forces and movements that contributed to the structural changes in Maharashtra.
4. Get acquainted with various interpretative perspectives and ability to articulate their own ideas and views leading to orientation for research.
5. Get introduced to regional history within a broad national framework.

British Administrative  
Policies in India( 1765-  
1892)

1. Understand various aspects of British administrative policies in India.
2. Understand British law policy and administration system.

History of modern India (   
1857-1971)

1. Understand the history of modern India from an analytical perspective.
2. Become aware of the multi dimensionality of modern India .
3. Understand the ideas, institutions forces and movements that contributed to the shaping Indian modernity .

World After world war II  
(1945-2000)

1. Get acquainted with post world war II Scenario
2. Understand contemporary world from the historical perspective.

The History of  
Maharashtra 20<sup>th</sup> century

1. Understand the history of modern Maharashtra with an analytical perspective and also the ideas, institutions forces and movements in 20<sup>th</sup> century Maharashtra .
2. Get introduced the students to the regional history within a broad national frame work .

History of Modern India

1. Understand the history of 'Modern India'

(1857-1971)

**Intellectual History of the  
Modern West**

**World after World War II  
(1945-2000)**

**History of Maharashtra in  
the 20th Century**

**Marathi**

**FYBA Marathi General  
Paper-1 (G1)**

**SYBA Marathi General  
Paper-2 (G2)**

from an analytical perspective;

2. Get aware of the multi-dimensionality of Modern India.

3. Understand the forces and movements that contributed to the shaping of Indian modernity

4. Learn to articulate own ideas and views leading to research orientation.

1. Understand a prerequisite for understanding the concepts that are used in history, both of west Europe and India.

2. Get acquainted with the intellectual activity that played an important role in shaping events; the transition from medieval to modern times.

1. Get acquainted with the post-World War II scenario

2. Understand contemporary world from the historical perspective.

1. Understand the history of modern Maharashtra with an analytical perspective and also the ideas, institutions, forces and movements in 20th century Maharashtra.

2. Get introduced to the regional history within a broad national framework.

1. Get introduced to Marathi literature, language and culture.

2. Create interest in Marathi literature.

3. Develop the literary taste

4. Get ability to appreciate literature.

5. Connect literature to real life experience.

6. Understand various branches and movements of Marathi literature.

7. Develop linguistic skills to meet the requirements in the age of globalization.

1. Get introduced to standard writing practices.

2. Develop the skill of translation.

3. Understand aspects of Biography and Autobiography.

4. Develop ability to appreciate and evaluate selected Biographies and Autobiographies in modern Marathi

literature.

**SYBA Marathi Special  
Paper-1 (S1) Marathi  
Sahityatil Vividh  
Sahityaprakar**

1. Get basic knowledge of Marathi literature.
2. Get introduced to literary classics of different historical periods.
3. Create and cultivate taste in Marathi literature.
4. Understand to analyze, evaluate and appreciate literary texts.
5. Develop ability for in-depth study of literature.

**SYBA Marathi Special  
Paper-2 (S2)**

1. Understand the history of Marathi literature.
2. Get the concept of literary history Clarified.
3. Get introduced to the nature, source and types of Marathi literature from 1818 to 1960.
4. Get acquainted to the major Marathi writers and their works from 1818 to 1960.

**TYBA Marathi General  
Paper-3 (G3)**

1. Get acquainted to various movements in Modern Marathi literature.
2. Generate interest in modern Marathi literature
3. Get introduced to media.
4. Develop skill in preparing materials for media including Newspaper, Radio and TV.

**TYBA Marathi Special  
Paper-3 (S3)**

1. Understand the nature and function of literature.
2. Understand the nature of the process of literary creation and the concept of literary genus.
3. Acquire ability to analyze the process of literary appreciation.
4. Get acknowledged to some fundamental concepts in literary appreciation.

**TYBA Marathi Special  
Paper-4 (S4)**

1. Understand the original development of Marathi language in the light of linguistic theories.
2. Understand the evolution of Marathi language.
3. Get acquainted to the basic features of Marathi language.
4. Get introduced to historical and descriptive linguistics.

**MA Marathi Part I and II**

1. Acquire writing skills for newspaper and media
2. Master the skills of Marathi language
3. Understand the importance of media in society
4. Increase understanding of literature and critical theories
5. Comprehend the concepts in criticism
6. Become familiar with value added concepts in criticism
7. Understand the tradition of critics and criticism in Marathi Literature
8. Enrich critical aptitude
9. Awarred about nature and scope of interdisciplinary research
10. Understand the tradition of researchers in Marathi literature
11. Comprehend the relation between the creative writer and his age
12. Understand the contribution of various creative artists
13. Comprehend the nature of folk literature and its types

Hindi

**FYBA Hindi General Paper-1 (G1)**

1. Get familiarized to basic writing in Hindi.
2. Generate interest in Hindi literature.
3. Get familiarized various types of literature

**SYBA Hindi General Paper-2 (G2)**

1. Acquire ability to appreciate stories, poems and plays in Hindi.
2. Understand various genres in Hindi literature.
3. Get acquainted with the socio-political contexts of various Hindi writers.
4. Understand nationalistic values through the study of Hindi literature.

**TYBA Hindi General Paper-III (G-3)**

1. Get acquainted with literary critical terminology used in Hindi language.
2. Augment translation skill of various types of texts from different languages.
3. Acquire skills of drafting official and scientific documents in Hindi.

Political  
Science

**FYBA G-I Indian  
Government And  
Politics**

1. Understand the political processes and the actual functioning of the political system
2. Get acquainted to the political structure both Constitutional and Administrative.
3. Understand local influences that derive from social stratification of castes and jatis, from language, religion, ethic and economic determinants and its impact on the political processes.

**SYBA G – 2 Political  
Theory & Concepts**

1. Understand the concepts, ideas and theories in political theory.
2. Comprehend the evolution and usage of concepts, ideas and theories with reference to individual thinkers both historically and analytically.
3. Understand different ideological standpoints with regard to various concepts and theories
4. Get acquainted to the continuing relevance of concepts today and also how an idea and theory of yesterday gains prominence in contemporary political theory.

**TYBA G-3 local Self  
Government in  
Maharashtra**

1. Get introduced to the structure of Local Self Government of Maharashtra.
2. Become aware of the various Local Self Institutions, their functions, compositions and importance.
3. Recognize the role of Local Government and Local Leadership in development.

**Geography**

**F. Y. B. A.  
Elements of  
Geomorphology (G-1)**

1. Understand the basic concepts in Geomorphology
2. Comprehend latest concept in Geomorphology
3. Get acquainted with the utility and application of Geomorphology in different regions and environment.
4. Get awareness of the need of protection and conservation of different landforms

**S. Y. B. A  
Elements of  
Climatology and  
Oceanography (G2)**

1. Understand the basic principles and concepts in Climatology and Oceanography.

2. Get acquainted with the applications of Climatology and Oceanography in different areas and environment.
3. Get awareness of the Planet Earth

### **Tourism Geography (S-1)**

1. Understand basic concepts of Geography & Tourism
2. Comprehend the utility and application of Tourism
3. Understand the interrelationship between tourism and employment generation opportunities.
4. Understand the impact of tourism on Physical and Human Environments.

### **FUNDAMENTALS OF GEOGRAPHICAL ANALYSIS**

1. Learn to use various Projections and Cartographic Techniques.
2. Get acquainted with basic of Statistical data.
3. Understand the principles of surveying, its importance and utility in the geographical study.

### **Techniques of Spatial Analysis (S-4)**

1. Acquire the Knowledge of Toposheet reading / interpretation.
2. Become familiar with the weather instruments and their applications in Geographical phenomenon.
3. Get acquainted with IMD weather maps and also gain the knowledge of weather map reading / interpretation.
4. Become trained in elementary statistics as an essential part of geography.
5. Awareness about GIS

### **Regional Geography of India (G-3)**

1. Understand geography of our Nation.
2. Comprehend the magnitude of problems and Prospects at National level.
3. Understand the inter relationship between the subject and the society.
4. Understand the recent trends in regional studies.

**Agricultural Geography  
(S-3)**

1. Realize Agricultural activities and its relation with Geography.
2. Comprehend new modern technical methods and their applications in Agricultural activities.
3. Acquire ability to apply previous knowledge in Problems and Prospects in agriculture

**Economics**

**FYBA (G1) Indian  
Economy Problem and  
Prospects**

1. Become aware about the Economy
2. Get knowledge about Population of India.
3. Understand Problem of Poverty and unemployment.

**SYBA (G2) Modern  
Banking (2158)**

1. Understand Modern Banking System.
2. Realize how monetary forces operate through a multitude of channels- market, non-market, institutions and among others, the state.
3. Understand New Technology in Banking

**F.Y. B.Com. Business  
Economics (Micro)**

1. Comprehend concepts in basic micro economic and inculcate an analytical approach to the subject matter.
2. Realize the relevance and use of various economic theories.
3. Learn to apply economic reasoning to problems of business.

**S.Y.B.Com. Business  
Economics**

1. Comprehend the behavior of the economy as a whole.
2. Understand the relationship among broad aggregates.
3. Learn apply economic reasoning to problems of the economy.

**T.Y. B.Com. Indian &  
Global Economic  
Development**

1. Understand a new approach to the study of the Indian Economy.
2. Ability to analyze the present status of

<b>Psychology</b>	FYBA G1: General Psychology	<p>the Indian Economy.</p> <ol style="list-style-type: none"> <li>3. Understand the process of integration of the Indian Economy with other economies of the world.</li> <li>4. Get acquainted with the emerging issues in policies of India's foreign trade.</li> </ol>
	SYBA G2: Social Psychology	<ol style="list-style-type: none"> <li>1. Understand the basic principles of psychology.</li> <li>2. Comprehend the historical trends in psychology, major concepts, theoretical Perspectives and empirical findings.</li> <li>3. Get an overview of the applications of psychology.</li> <li>5. Understand the importance of better mental health in life.</li> </ol>
	TYBA G3: Industrial and Organizational Psychology	<ol style="list-style-type: none"> <li>1. Understand the basic concepts, methods and theories in social Psychology</li> <li>2. Comprehend the process of attitude formation.</li> <li>3. Realize the nature, causes and prevention of aggression</li> <li>4. Understand the causes and consequences of group behavior.</li> </ol>
<b>BBA</b>		<ol style="list-style-type: none"> <li>1. Comprehend the emergence of Industrial and Organizational Psychology.</li> <li>2 Get acquainted with the work done in Industrial and Organizational Psychology.</li> <li>3 Understand the significance of training, performance appraisal, leadership models.</li> <li>4 Realize the importance of Engineering Psychology.</li> </ol>
<b>B.Sc.</b>		<ol style="list-style-type: none"> <li>1. Get familiar with basics of Financial Accounting and e-commerce.</li> <li>2. Acquire programming languages like C,C++,VB. Net, Java.</li> <li>3. Understand the importance of computers in day to day life using different soft-wares.</li> <li>4. Acquire professional skills to get good jobs in software industries.</li> </ol>
		<ol style="list-style-type: none"> <li>1. Get familiar with programming</li> </ol>



## Computer Science

languages like C, C++,Java and PHP.

2. Understand Software Engineering and its importance.
3. Get the knowledge of networking concepts such as operating system installation, different cables, LAN Connections etc. and its importance.
4. Understand Databases using Database management system, Relational DBMS.
5. Develop the Graphics and animation skills, Communication skills, System Programming Concepts.
6. Improve soft-ware skills.

## Commerce

### F.Y.B.COM Financial Accounting

Students understand:

1. The concepts, nature and purpose of financial statements in relationship to decision making.
2. How to use the fundamental accounting equation to analyze the effect of business transactions on an organization's accounting records and financial statements.
3. How to use a basic accounting system to create the data needed to solve a variety of business problems.
4. How to use accounting information to solve a variety of business problems.

### Business Economics (Micro):

Students understand:

1. The fundamental conceptual foundations of microeconomics.
2. How to analyze the behavior of consumers in terms of the demand for products.
3. How to evaluate the factors affecting firm behavior, such as production and costs. How to analyze the performance of firms under different market structures.

### Business Mathematics and Statistics:

Students understand:

1. How to apply mathematical tools in business decision.
2. How to do comparative study of two or more observations and understand relation between them.

3. The basic concepts of statistics and its use in business.

### Banking & Finance

Students understand:

1. The Banking and financial system in India.
2. About commercial banks and its products.
3. How to build customer relationship in banking sector.
4. The modern banking services e.g. e-banking, m-banking and internet banking

### Marketing & Salesmanship

Students understand:

1. The core concepts of marketing and the role of marketing in business and society.
2. The Knowledge about social, legal, ethical and technological forces on marketing decision-making.
3. How to develop marketing strategies based on product, price, place and promotion objectives.
4. Concepts of buyer behavior and market segmentation.

### Organizational Skill Development:

Students understand:

1. The concept of Organization and Modern Office.
2. The role and Functions of Office Manager.
3. How to develop the insights regarding Organizational Skills for Office Managers.
4. The functioning of Modern office appliances equipments and e- format records.

### Business Environment & Entrepreneurship

Students understand:

1. The Business Environment and its factors.
2. How to become a successful entrepreneur.
3. The importance of entrepreneurship as career.
4. The legal and financial conditions for starting a business venture.

### Computer Concepts and Applications

Students understand:

1. Various basic concepts related to computer.
2. The basics of Operating System and business communication tools.
3. Basics and use of Network, Internet and related concepts.
4. Use of applications of Internet in Commerce.
5. How to develop their own web site and use of HTML.

### S.Y.B.COM

#### Business Communication

Students understand:

1. The concept, process and importance of communication.
2. The new technologies in business communication.
3. How to use various soft skills in business.
4. How to draft various letters in business.
5. Business communication skills through the application and exercises.

#### Corporate Accounting

Students understand:

1. Corporate Accounting in conformity with the provisions of Companies Act and Accounting as per Indian Accounting Standards.
2. The conceptual aspect of corporate accounting.
3. Various skills about Computerized Accounting and Accounting Standards.
4. Various concepts related to companies i.e. liquidation, amalgamation, absorption, re-construction and holding company.

#### Business Economics (Macro):

Students understand:

1. How to compute different measures of macroeconomic activity such as the national income accounts, inflation and deflation.
2. How to analyze the forces that affect the aggregate level of economic activity and the Trade cycle.
3. How monetary and fiscal policy can be used to achieve business goals.

### Business Management

Students understand:

1. The importance of management and various management principles and thoughts.
2. The functional areas of business management including planning, decision making, organizing, staffing, direction, communication, direction, coordination and control. .
3. How to apply best practices of business administration in the functional areas of business.
4. The recent trends in Business Management i.e. Business Ethics, Corporate Governance, CSR

### Elements of Company Law

Students understand:

1. The knowledge of fundamentals of Company Law.
2. The provisions and the changes of the Companies Act of 2013.
3. New concepts involving in company law regime.
4. The duties and responsibilities of Key Managerial Personnel.

### Cost & Works Accounting: I

Students understand:

1. The basic cost concepts and difference between Financial Accounting and Cost Accounting.
2. The concept of classification of costs and its types.
3. How to prepare Cost Sheet, Tender and Quotations.
4. Various aspects of material accounting and control.

### Banking & Finance: I

Students understand:

1. Role and structure of Indian banking system.
2. Various types of banks and their special features.
3. The reforms and other developments in the Indian Banking.
4. The functions and role of Reserve Bank

of India.

**Marketing Management:  
I**

Students understand:

1. Recent trends in marketing management.
2. How to create awareness about marketing of eco friendly products in the society.
3. Various aspects of marketing management and its practical approach.
4. Importance and use of E-Commerce in competitive environment.
5. Various factors influencing consumer behavior and buying decision.

**Business  
Entrepreneurship: I**

Students understand:

1. The basic theories and concepts of business entrepreneurship.
2. How to become a successful entrepreneur and Various Entrepreneurial opportunities.
3. The various qualities required to become a successful entrepreneur.
4. How to enhance Entrepreneurial competencies.

**Compulsory Subjects:**

Students understand:

**Business Regulatory  
Framework  
(Mercantile Law):**

1. The basic concepts, terms & provisions of Mercantile and Business Laws.
2. How affect these laws on business, trade and commerce.
3. The concept of Intellectual Property Rights: (IPRs) and its various legal aspects.

**Advanced Accounting:**

Students understand:

1. The various advanced accounting concepts and its Practical approach.
2. Nature of Banking Company and its Financial Statements.
3. The practical approach of account writing using Software.
4. Concept of analysis of financial statements.

**Indian & Global  
Economic Development:**

Students understand:

1. The process of integration of the Indian Economy with other economics of the world.
2. The emerging issues in policies of India's foreign trade.
3. The present status of the Indian Economy.
4. A new approach to the study of the Indian and Global Economy.

**Auditing & Taxation:**

Students understand:

1. The concept and principles of Auditing, Audit process, Assurance Standards, Tax Audit, and Audit of computerized Systems.
2. How to prepare the Audit report and its importance.
3. Computation of Taxable Income under the different Heads of Income.
4. The process of Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection.

**Special Subject – Paper II**

(Same special subject  
offered at S.Y. B.Com.)

**Cost & Works  
Accounting: II**

Students understand:

1. The concepts, application and accounting of Overheads.
2. Various methods of costing and their applications.
3. The concepts and features of contract process and service costing.

**Banking & Finance: II**

Students understand:

1. The Financial Markets and its various segments.
2. The operations and developments in financial markets in India.
3. The functioning and role of financial institutions in the Indian Economy.
4. Organization Functions & Working of Regulatory Institutions in Financial Market.

**Marketing Management:  
II**

Students understand:

1. The concept and functioning of marketing planning and sales management.

<p>Business Entrepreneurship: II</p>	<ol style="list-style-type: none"> <li>2. How to formulate marketing strategies that incorporate psychological and sociological factors which influence consumers.</li> <li>3. Importance of Marketing Regulations in Marketing.</li> <li>4. Marketing in 21st Century and Impact of Globalization on marketing.</li> </ol>
<p>Special Subject – Paper III</p>	<p>Students understand:</p> <ol style="list-style-type: none"> <li>1. The basic concepts of entrepreneurship and preparing a business plan to start a small Industry.</li> <li>2. How to use Knowledge and understanding in Creating and managing new venture.</li> <li>3. The necessary tools and techniques to set up their own business venture.</li> <li>4. How to bring out their own business plan.</li> </ol>
<p>(Same special subject offered at S.Y. B.Com.) Cost &amp; Works Accounting: III</p>	<p>Students understand:</p> <ol style="list-style-type: none"> <li>1. Concepts, procedures and legal Provisions of cost audit and costing techniques.</li> <li>2. Application of Marginal Costing Technique.</li> <li>3. Management information system in Costing.</li> <li>4. Cost Accounting Standards issued by Institute of Cost and Management of India.</li> </ol>
<p>Banking &amp; Finance: III</p>	<p>Students understand:</p> <ol style="list-style-type: none"> <li>1. Banking Law and Practice in relation to the Banking system in India.</li> <li>2. The legal aspects of Banking transactions and its implications as Banker and Customer.</li> <li>3. The Banking Law and Practice in India.</li> </ol>
<p>Marketing Management: III</p>	<p>Students understand:</p> <ol style="list-style-type: none"> <li>1. How to perform a market segmentation analysis, determine the organization's target market and define the consumer behavior of each segment.</li> </ol>

2. How to develop an integrated advertising and Marketing communications plan and persuasively present and defend it.
3. How to evaluate the effectiveness of integrated advertising and marketing communications initiatives.
4. How to develop creative solutions to address advertising and marketing communications challenges.

**Business  
Entrepreneurship: III**

Students understand:

1. Individual and Organizational behavioral aspects of entrepreneurship.
2. The behavioral aspects of members of the team or employees.
3. How to become a successful entrepreneur through study of autobiographies of various Entrepreneurs.
4. How to develop group and creating high performance team.

**M. Com- Part I  
(Semester- I)  
Compulsory Subjects**

Students understand:

**1. Management  
Accounting:**

1. The concepts, methods and techniques of management accounting.
2. How to develop competence with their usage in managerial decision making and control.
3. Preparation and uses of Fund Flow and Cash Flow Statement.
4. Various components of working capital.

**2. Strategic Management:**

Student understands:

1. How to formulate, analyze and implement the strategy in organization.
2. Strategic Planning and how to make it effective.
3. How to formulate various functional strategies.
4. How to identify and assess a company's strengths and weaknesses, and match them with its opportunities and threats to suggest four alternative strategies.

**Special Subjects: Group  
A**



(Advanced Accounting & Taxation- Paper I & II)

1. Advanced Accounting-I:

2. Income Tax- II:

Special Subjects: Group B

(Advanced Banking & Finance- Paper I & II)

1. Legal Framework of Banking:

2. Central Banking:

M. Com- Part I (Semester- II)

Compulsory Subjects

1. Financial Analysis and Control:

2. Industrial Economics:

Students understand:

1. Theoretical foundation of Accounting and Accounting Standards.
2. How to solve problems relating to Company Accounts, Valuations and special types of situations.
3. How to prepare Statement of affairs including deficiency /surplus account.

Student understands:

1. Various concepts related to Income Tax.
2. How to calculate the taxable income under various Heads of income.
3. Various slabs of income tax and how to use the slabs to calculate the tax liability.
4. Various tax authorities in India

Students understand:

1. The Legal framework in which the Indian banking is working today.
2. The latest developments in the field of banking law.
3. Modern banking practices.
4. How to establish a link between the legal provisions and the practical aspects of banking.

Students understand:

1. The functions of Reserve Bank of India.
2. The Regulation and supervision of Reserve Bank over Commercial banks
3. Monetary policy and its instruments.

Students understand:

1. The concepts, methods and techniques of Capital Budgeting.
2. Various types of budgets with their usage in financial decision making and control.

Students understand:

1. The basic concepts of Industrial

Economics.

2. The significance and problems of Industrialization.
3. How to impact of Industrialization on Indian Economy.
4. Various measures adopted by the Indian Government to improve industrial productivity, efficiency, and reduce industrial Imbalance.

Special Subjects: Group A

(Advanced Accounting & Taxation Paper III & IV)

1.Specialized Areas in Accounting-III:

2. Business Tax Assessment & Planning-IV:

Students understand:

1. How to solve problems relating Special areas in accounting including accounting for Services Sector.
2. Corporate Financial Reporting Practices.
3. Procedure of accounting for Taxation.

Student understands:

1. Direct Taxes including Rules pertaining thereto and their application to different business situations.
2. Principles underlying the Service Tax.
3. The basic concepts of VAT, Excise Duty and Customs Duty.
4. Tax Planning considerations in relation to Business.

Special Subjects: Group B

(Advanced Banking & Finance Special Paper III & IV)

1. Banking Law & Practices: III

2. Monetary Policy: IV

Students understand:

1. The importance and functioning of Prevention of Money Laundering Act, 2002.
2. How to develop Banker customer relationship.
3. Hi-tech banking and Mergers and Acquisition in banking sector.

Student understands:

1. RBI's role in Money supply measures and monetary management.
2. Various Instruments of monetary policy.
3. Development and promotional role of the Reserve Bank of India in Financial Inclusion and its implications.

M. Com- Part II  
(Semester- III)

Compulsory Subjects

§ 1. Business Finance

2. Research Methodology  
for Business:

Special Subjects: Group  
A

(Advanced Accounting  
& Taxation Paper V &  
VI)

1. Advanced Auditing: V

2. Specialized Areas in  
Auditing: VI

Special Subjects: Group  
B

(Advanced Banking &  
Finance Paper V & VI)

1. Foreign Exchange-V

2. International Finance-

Students understand:

1. The concepts, nature and structure of business finance.
2. The importance of corporate securities and sources of long term finance.
3. How to use Short term finance and working capital in organization.

Students understand:

1. Various areas of Business Research Activities.
2. How to conduct the research in the field of business and social sciences.
3. How to develop the most appropriate methodology for their research studies.
4. The art of using different research methods and techniques.

Students understand:

1. Methods of auditing and their application.
2. Audit under Computerized Information System (CIS) Environment.
3. Standards on Auditing issued by the ICAI.

Students understand:

1. Various methods of audit in specialized areas.
2. Government System of Audit.
3. Tax laws in India and its provisions related to audit.

Students understand:

1. Various aspects of foreign exchange market and financing of foreign trade.
2. The Exchange rate mechanism and factors affecting exchange rates.
3. Development in foreign exchange market.

VI

Students understand:

1. The concepts of international financial market.
2. The functioning of International monetary system.
3. Operations and importance of international Financial Institutions.
4. Various theories in exchange rate behavior.

M. Com- Part II  
(Semester- IV)

Compulsory Subjects

Students understand:

1. Capital Market and  
Financial Services:

1. The concept and structure of capital market and financial services.
2. Working and importance of National Stock Exchange and Over the Counter Exchange of India (OTECEI).
3. Recent changes & emerging trends of Securities and Exchange Board of India (SEBI).

2. Industrial Economic  
Environment:

Student Understands:

1. The basic concepts of Industrial Finance.
2. The major issues, growth & present position of IT Industries in India.
3. The labor policy reforms and its impact on industries.
4. Major environmental issues in the process of industrialization.
5. How to effects New Economic Policy on Indian industry.

Special Subjects: Group  
A

(Advanced Accounting &  
Taxation Paper VII &  
VIII)

Students understand:

1. Recent Advances in  
Accounting, Taxation,  
and Auditing-VII:

1. The latest developments in Accounting, Taxation and Auditing.
2. How to develop the habit of referring to various periodicals and publications in the given subject, apart from text books and reference books.
3. How to develop the ability to read, understand, interpret and Summarize various articles from newspapers, journals etc.

2. Project Work/ Case  
Studies: VIII

Students understand:

1. The basic knowledge of research

methodology.

2. How to choose topic for research project and write qualitative project report.
3. How to develop analytical and interpretable skill.
4. Various problems in the field of accounting, taxation and auditing.

Special Subjects: Group B

(Advanced Banking & Finance Paper VII & VIII)

1. Recent Advances in Banking and Finance: VII

2. Project Work/Case Studies: VIII

Students understand:

1. Various new developments in banking industry.
2. Various technological developments in Banks.
3. Recent Developments in Money Market and capital Market.
4. Various innovative practices introduced in day to day banking.

Students understand:

1. The basic knowledge of research methodology.
2. How to choose topic for research project and write qualitative project report.
3. How to develop analytical and interpretable skill.
4. Various problems in the field of banking and finance.

Special Subjects: Group B

(Advanced Banking & Finance Paper VII & VIII)

1. Recent Advances in Banking and Finance: VII

2. Project Work/Case Studies: VIII

Students understand:

1. Various new developments in banking industry.
2. Various technological developments in Banks.
3. Recent Developments in Money Market and capital Market.
4. Various innovative practices introduced in day to day banking.

Students understand:

1. The basic knowledge of research methodology.
2. How to choose topic for research project and write qualitative project report.

## **Physics**

3. How to develop analytical and interpretable skill.
4. Various problems in the field of banking and finance.

1. Comprehend the pursuit of Physics, its history and methodology.
2. Learn the importance of measurement and the methodology of using different measuring devices which is central to physics.
3. Acquire engineering skills and practical knowledge, theoretical basis for doing experiments in related areas, which help the student in their everyday life.
4. Gain basic knowledge for their higher studies.
5. Foundation in optics and photonics is gained by this course and which which prepare the students for an intensive study of advanced topics at a later stage.
6. The physical principles and applications of Electronics which is most necessary for a Physics student is understood by this course.
7. Knowledge of various communication systems and its working is learned.
8. The course creates concern among the students on energy conservation and environmental protection.

## **Botany**

1. Get familiar with basics of ecological studies.
2. Understanding of food chain, food web difference and importance
3. To make sure the importance of botany in day to day life.
4. The plant tissue culture expertise are required for advance biotechnological studies.
8. The mushroom cultivation course will surely make candidate self-sustainable by knowing the commercial significance of plant studies.

## **Zoology**

**F.Y.B.Sc / S.Y.B.Sc**

1. Get thorough knowledge about various animal sciences from primitive to highly evolved animal group shightly evolved animal groups
2. Become aware of applications of Zoology subject in various industries
3. Become ready to be an entrepreneur
4. Acquire skills related to laboratory as well as field based Studies
5. Become aware about conservation and sustainable use of biodiversity
6. Get equipped for further studies in Zoology
7. Understand the socio-economical challenges related to animal sciences
8. Acquire all skills for taking up and shaping a successful career in Zoology

**Mathematics**

**F.Y.B.Sc.**

1. Recognize that mathematics permeates the world around us.
2. Appreciate the usefulness, power and beauty of mathematics.
3. Enjoy mathematics and develop patience and persistence when solving problems.
4. Understand and be able to use the language, symbols and notation of mathematics
5. Develop mathematical curiosity and use inductive and deductive reasoning when solving problems.
6. Become confident in using mathematics to analyse and solve problems both in school and in real-life situations.
7. Develop the knowledge, skills and attitudes necessary to pursue further studies in mathematics.
8. Develop abstract, logical and critical thinking and the ability to reflect critically upon their work and the work of others.
9. Develop a critical appreciation of the use of information and communication technology in mathematics.
10. Appreciate the international dimension of mathematics and its multicultural and historical perspectives.

**S.Y.B.Sc.**

Students understand :

Definition and examples of vector space.  
Concepts of vector space & linear independence.  
Basis and dimension of a vector space.  
Definition and example of linear transformation.  
The inner product spaces.  
Concepts of Eigen values and Eigen vectors.  
Concepts of errors .  
Concept of fitting of polynomial  
The different types of operators.  
Definition and examples of limits & continuity.  
Partial derivative and chain rule .

## Chemistry

F.Y.B.Sc.

Paper I Physical &  
Inorganic Chemistry

Students master laws regarding states of matter, structure of atom, surface chemistry, Catalysis and thermodynamics. Students are also made aware of mole concept, derivations and periodic properties of the elements, depictions and problem solving, including the preliminary theories of bonding, oxidation and reduction.

Paper II Organic &  
Inorganic Chemistry

Enable to understand fundamental concepts of organic and inorganic chemistry which govern the structure, bonding, properties, structural effects, acid-base theories, preparation methods, reactivity and stereochemistry of organic molecules. It also includes chemistry of S block element periodic trend and application.

Paper III Practical  
chemistry

Achieve the basic skills required for understanding the concepts, authenticating the basic laws and principles of chemistry & helps in the development of practical skills of the students. The practical syllabus includes preparation, qualitative and qualitative analysis.

S.Y.B.Sc.



CH211- Physical &  
Analytical Chemistry

Learn kinetics of chemical reactions, photochemical laws, distribution law and extraction process. Students are introduced to analytical chemistry in which they made aware of inorganic qualitative analysis and analysis of organic compounds (Qualitative & Quantitative). Along with it they also study error in quantitative analysis & ways to minimize them.

CH212 -Organic  
&Inorganic Chemistry

Learn stereochemistry of different stereo isomers & organic reaction mechanism in which they study different types of reagents, reactions and their mechanisms. Students are introduced to metallurgy to understand chemical reactions and processes occurred in metallurgy. The corrosion & passivity is also included in the syllabus.

CH221 Physical &  
Analytical Chemistry

Comprehend concepts of Helmholtz free energy & Gibbs free energy as well as free energy of chemical reactions & physical transformation. Students also study different modes of concentration, distillation of solutions of liquid in liquid, partially immiscible liquids & distillation of immiscible liquids. Students introduced to volumetric analysis wherein they study non-instrumental volumetric analysis which comprises with the study of various titrations, indicators used in it & some theoretical aspects related with titrations.

Organic & Inorganic  
Chemistry

Understand various biomolecules, their role & structural aspects. Students also study different oxidizing and reducing reagents, their selectivity to different substrates, heterocycles, their preparation & reactions. Learn organometallic chemistry & use of organometallic compounds in synthesis of organic as well as inorganic compounds. They also study chemical toxicology to know adverse effects of chemicals.

S. Y. B.Sc.

Chemistry Practical course

Ability to determine the rate constant of chemical reactions, heat of solution, heat of neutralization, critical solution temperature of partially miscible system & distribution coefficient. Students trained for quantitative analysis of different samples such as  $\text{Na}_2\text{CO}_3$  in washing soda, Aspirin in APC tablet, Aluminium in Alum, strength of  $\text{H}_2\text{O}_2$ , Copper in Brass & iodometric methods. Students are trained for organic & inorganic qualitative analysis. They are also trained for preparation of organic compounds & chromatographic techniques like TLC.

T. Y. B.Sc.  
Semester III  
CH-331 Physical Chemistry

Learn methods to determine order of reaction, Arrhenius equation and graphical evaluation of energy of activation. Students are introducing principle and applications of rotational, vibrational, Raman and electronic spectroscopy. Students will get familiar with electrolytic conductance phase rule, phase diagram of one and two component systems.

CH-332 Inorganic Chemistry

Learn the principles of various theories of bonding like Sidgwick model, Werner's theory VBT, CFT, MOT. They are also made aware of the principles of isomerism, nomenclature and structures of inorganic complexes.

CH 333 Organic Chemistry

Learn fundamental concepts like acidity, basicity of organic molecules, electrophile, nucleophile and leaving groups. Students aware with stereochemistry of disubstituted cyclohexane. Students are able to understand mechanism of organic reaction. Arrow drawing concept which is important part of reaction mechanism is explained thoroughly in this course. Students are able to identify different types of organic reactions and also they can understand reactivity profile of organic molecules

CH 334 Analytical Chemistry

Learn quantitative and qualitative chemical analysis using the techniques like gravimetry, polarography, AAS, FES and

CH-335 Industrial  
Chemistry

spectrophotometer at the levels of macro, micro and trace analysis of metals and non-metals from industrial and natural samples.

Learn use of agrochemicals like pesticide, insecticides, fungicides, fertilizers and their environmental impact. It include the study of food industry makes them aware of food adulteration, storage and processing of food. This course provides opportunity to students in agrochemicals, food chemicals on industrial level. Students learn manufacturing the basic chemicals such as Ammonia, Sulphuric acid and Nitric acid. The syllabus include study of petrochemicals and eco- friendly fuels, where in students study processing of petrochemical fuels, properties of fuels and applications of fuels, non-conventional energy. Syllabus also includes study of cement and glass industry.

CH-336 (D)

Understand soil, air and water pollution. The Environmental and green Chemistry pollutants and their effect, sources and method to minimize or prevent the pollution. It also include principle of green Chemistry, new environmental methodology for synthesis, replace toxic concentrated chemical by less hazards alternative chemicals.

T. Y. B.Sc. Semester IV  
CH-341 Physical  
Chemistry

Understand applications of electrochemical Cells, Nuclear Chemistry, Crystal structure and Quantum Chemistry.

Learn thermodynamics and EMF, Chemical cell with and without transference, application of EMF measurement such as pHdetermination, determination of solubility and solubility product

CH- 342 Inorganic  
Chemistry

Learn chemistry of f block elements (lanthanides and actinides), principles and applications of catalysis, organometallic chemistry and the principles and applications of metals, semiconductors and superconductors. It also includes the ionic solid and bioinorganic chemistry.

CH -343 Organic Chemistry	Learn carbanions and their reactions and new retro synthetic analysis concepts are explained to students. learn to differentiate organic compounds with the help of these spectroscopic techniques.
CH 344 Analytical Chemistry	Learn the techniques of separation, identification of purification using chromatographic techniques like TLC, GC, HPLC, electrophoresis etc. It also include nephelometry and turbidimetry analysis and solvent extraction. This knowledge enables them to be good analysis of Quality control chemist in various fields.
CH-345 Industrial Chemistry	Learn properties, ways to manufacture or process and application of different types of polymer, paints, pigments, dyes, soaps, detergents and cosmetics. It also includes theoretical aspects of manufacturing of sugar and fermentation industry. The syllabus further includes study of Pharmaceutical industry where students are introduced to general aspects of drug action, manufacturing of some drugs and its usage. In the last three topics we discuss problems caused by industry such as pollution and generation of waste and what are the ways which can prevent or minimize them.
CH-336 (D) Environmental and green Chemistry	Learn water treatment, effluent management, soil and solid waste management. It also include instrumental method in environmental analysis minimize the environmental pollution. Students are making aware of green house effect, Global warming, energy and renewable energy sources.
CH- 347 Physical Chemistry Practical	Become trained in the techniques such as pH metry, Conductometry, Potentiometry, Colorimetry, Spectrophotometry, Refractometry and G. M. Counter. They learn to use these techniques in order to understand various chemical reactions.
CH- 348 Inorganic Chemistry Practical	Become trained in the IQA of different mixtures of inorganic compounds, and the separation of the metal ions using chromatographic techniques and inorganic

quantitative analysis using the techniques of gravimetry, volumetry, colorimetry.

**CH-349 Organic  
Chemistry Practical**

Achieve the basic skills required for understanding the reactivity of organic molecules and validating the basic principles. It helps in development of practical skills of the students & understanding the importance of chemical safety and also explains the factors affecting reaction outcomes and yields.

**M Sc. Organic  
Chemistry  
CH-110 Fundamentals of  
Physical Chemistry**

Learn the concept of Gibbs and Helmholtz energies, Chemical potential and Expressing Chemical equilibrium in terms of chemical potential. Elements of quantum chemistry, wave particle duality, uncertainty principle, wave function and its interpretation, well behaved functions, ortho normal functions, Schrodinger equation, particle in a box, degeneracy, quantum mechanical harmonic oscillator and quantum tunneling are introduced. Students are made aware of Chemical kinetics and reaction dynamics topics such as Reversible reactions, principle of microscopic reversibility, steady state approximation and elucidating mechanism using SSA. Arrhenius theory, enzyme catalysis and Michaelis-Menten mechanism.

**CH -130 Molecular  
Symmetry**

Ability to interpret the properties like Chemistry of Main group elements dipole moment, optical activity, and signals in IR and Raman spectroscopy. Students are also made to understand the properties of main group elements and their applications in fields like catalysis, industry, human metabolism and medicines etc. It also explains organometallic compounds of Si, Sn, Pb, Ga, As, Sb, Bi etc and their synthesis and reactions.

**CH-150 Basic Organic  
Chemistry**

Improve basic organic concepts

CH-190 Safety in  
Chemical Laboratory and  
Good Laboratory  
Practices

know stereochemistry of carbon compounds, how to write structure of molecules & their reactivity. Student should aware about reaction mechanism.

Are aware of necessary guidelines of safety in chemical laboratory and good laboratory practice. Students get acquainted with different types of hazards at work place, use of personal protective.

Are aware about types of fire extinguisher inventory management, storage and disposal material safety data sheets, Students should know how to handle first Aid as while working different chemicals are in contact with the skin, eyes and inhalation and ingestion.

CH-210 Fundamentals of  
Physical Chemistry II

learn basic elements of rotational, vibrational, raman and electronic spectroscopy. Nuclear and radiation Chemistry concepts are introduced. Get familiar with Chemical Bonding: Valence Bond theory, hybrid orbital, geometry and hybridization, Molecular Orbital Theory, linear variation method, Approximations underlying Huckel theory, bond order, Aromaticity, Applications of Huckel theory.

CH- 230 Coordination  
and Bioinorganic  
Chemistry

Become aware of spectral and magnetic properties of d and f block elements, spectrophotometric analysis of metals like Cr, Mn, Ni and magnetic behavior of various complexes of f block elements in MRI and as TV phosphors.

Made aware of a role of metal ion in biologically active compounds like Hb, Mb cytochromes and use of anticancer drugs i.e. platinum complexes.

CH-250 Synthetic  
Organic Chemistry &  
Spectroscopy

Master various basic organic reactions with mechanism, reagent and ylides and various spectroscopic methods like UV, <sup>1</sup>H-NMR, <sup>13</sup>CNMR, IR, Mass spectrometry and their applications.

CH-290 General  
Chemistry-II :A) Modern  
Separation

Understand the importance and properties of mass spectrometry, gas chromatography and high performance liquid Methods and Hyphenated Techniques.

CH-107 Physical  
Chemistry

Get familiar with concept of analytical chemistry like data handling and spreadsheets, Sampling, Standardization and calibration, Separation by precipitation, distillation, extraction and ion exchange chromatography.

trained to use the techniques such as pH metry, Conductometry, Potentiometry, Colorimetry, Spectrophotometry, Refractometry and G. M. Counter.

Can work as quality control chemist in various labs and such organizations.

CH -127 Inorganic  
Chemistry Practical

Get the knowledge of basic preparation of various solutions, synthesis of various inorganic complexes and their characterization

Become trained for handling of natural materials and their quantitative analysis which involves disintegration, separation and individual estimations.

CH- 247 Organic  
Chemistry Practical

Become aware of different organic techniques like purification, crystallization, distillation, TLC, M.P./B.P

develop scientific views, organic synthesis and also give knowledge of separation of ternary organic mixtures

get knowledge of chemistry software likes, MOPAC, ISIS draw, Chemdraw office.

M.Sc. –II Semester III  
CHO-350 Organic  
reaction mechanism

learn and understand the basic concept in reaction mechanism.

Understand the role of recent reagent, catalyst in mechanism of reaction.

Improve the thinking ability of the students towards reaction mechanism.

CHO-351 Spectroscopic  
Methods in Structure  
Determination

learn the basic of spectroscopic methods like UV, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, IR, Mass spectrometry and their application

Understand structure determination of known and unknown organic molecules by using spectroscopic data.

CHO-352 Organic  
Stereochemistry

Understand the stereochemistry of organic reactions

Learn stereochemistry of alicyclic rings, fused, bridge and caged rings

CH-353 Photochemistry,  
pericyclic Reactions and  
Heterocyclic Chemistry

Get ability to predict stereochemistry of  
organic compounds

Improve their imagination power

Understand synthesis of different  
heterocyclic derivatives.

Master fundamental and theoretical  
understanding of heterocyclic chemistry

Semester IV

CHO-450 Chemistry of  
Natural products

Learn the different pathways of synthesis of  
natural products it also helps  
stereochemistry and structure determination  
of some natural products

Develop the synthetic strategies to prepare  
different important natural compounds in  
the laboratory

Master multistep synthesis of coumarins,  
flavonoids, isoflavonoids and terpenoids.

Develop students' ideas in organic synthesis

CHO-451 Advanced  
Synthetic Organic  
Chemistry

CHO: 452 Carbohydrate  
and Chiron Approach,  
Chiral Drugs and  
Medicinal chemistry

Become aware of the chemistry of  
biomolecules and basic concept of  
retrosynthetic strategy and synthesis of  
chiral drugs

Understands pharmacokinetics and  
pharmacodynamics of the drugs and drug  
targets.

CHO-453 Designing  
organic Synthesis and  
Asymmetric Synthesis.

know the use of Cram rule, Felkin-Anh rule,  
Cram chelate model, use of chiral auxiliary  
and chiral reagents in organic synthesis

Ability to predict the chiral products in  
organic synthesis

Understand the designing of organic  
synthesis

M.Sc. –II

CHO-347 Single stage  
preparations

Develop the skilled practical hand of the  
students in laboratory.

CHO-447 Two stage  
Preparations

Master multistep synthesis of organic  
compounds and heterocycles

Improve the techniques like workup of  
reactions, purification, TLC, M.P / B.P  
etc.

Improve practical skill and practice of  
micro scale preparation.



**Electronic  
Science**

CHO-448 Green  
Chemistry

Become aware of roll of green chemistry in  
organic synthesis.green chemistry

Ph.D.

Develops the sense of curiosity and courage  
to question the existing information and  
knowledge  
Learn to exercise imagination and  
innovative ideas.  
Sudents understand:

F.Y.B.Sc.

Basic circuit elements and passive  
components  
DC circuit theorems and their use in circuit  
analysis  
Characteristic features of semiconductor  
devices  
Elementary electronic circuits and  
applications  
Basics of operational amplifiers.  
Concepts of digital electronics  
Number systems and their representation  
Basic logic gates, boolean algebra and k-  
maps  
Arithmetic circuits, combinational circuits  
and sequential circuits  
Comparative aspects of logic families.

S.Y.B.Sc.

Sudents understand:  
Basic principles of amplifiers and  
oscillators.  
The working of various analog circuits.  
Analog circuit design skills.  
The knowledge of analog circuits in  
different applications.  
K-maps in the design of combinational  
circuits.  
The design principles of sequential circuits.  
The design and working of various data  
converters  
The digital circuits in system interfacing  
and applications.  
The block diagram of electronic instruments  
The working principles of frequently used  
instruments.  
Important technical specifications of an

**T.Y.B.Sc.**

instruments.

The operating procedure of instruments.

Basics of communication systems and telephone system.

Amplitude and Frequency Modulation.

Basics of AM and FM Receivers.

The digital communication system.

Students understand:

Architecture of 8-bit microcontroller.

How to use instruction set and addressing modes of microcontroller.

How to develop assembly language programming skills.

Interface memory and I/O devices.

The practical design aspects while using Opamps

The basic application circuits of Opamps

The specifications and selection criterion for linear ICs

Different special purpose ICs and their applications

How to refer and understand data manuals.

Crystal structure with reference to semiconductors

The theory of metal-semiconductor and p-n junctions

The characteristics of semiconductor devices

Theoretical background of BJT and FETs

Fundamentals of C language.

How to develop algorithm/flowcharts for problem solving and writing programs.

How to use functions, arrays, pointers and file handling in C language.

Different types of algorithm.

The principles of fiber optic communication system.

How to measure different parameter of optical fibers.

Essential optical components of Fiber Optic Communication.

The applications of fiber optic communication systems.

22. Use of 'C' language for programming the microcontrollers

	<p>How to use Timers, Interrupts and Serial Communication in Microcontroller.  How to apply the knowledge in real world applications  Basics of power electronics and familiar with Power Electronic Devices, circuits and applications  Power devices and protections of devices  Various types of power circuits  Applications of power electronics  Essential principles of Electromagnetics  The principles of quantum mechanical aspects  The basics of nanoelectronics.  Features of MATLAB as a programming tool.  33. To promote new teaching model that will help to develop programming skills and technique to solve mathematical problems.</p>
<p><b>Microbiology</b></p>	<p>Understand the definition of Microbiology and Microorganisms.  Get ability to differentiate between different types of microorganisms.  Get ability to explain the importance and applications of microbiology in our life or society.  Ability to identify and name microorganisms with their genus and species.</p>
<p>F.Y.B.Sc.  Paper I:  Introduction to  Microbiology</p>	<p>Get ability define and state the principles of various techniques used in microbiology.  Understand the methods, requirements to grow different type of microorganisms.  Understand how to describe the basic techniques in microscopy and how to visualize the microorganisms using various types of microscope.</p>
<p>Paper II: Basic  techniques in  Microbiology</p> <p>Practicals</p>	<p>Comprehend the basic techniques of microbiology like staining, cultivation of microorganisms. They will be able to identify different types of microorganisms using staining or morphologically with the help of microscope.  Understand the principle and handle the different instruments like incubator, Microscope, Autoclave etc.</p>

S.Y.B.Sc. MB211:  
Bacterial systematics and  
Physiology

Understand the concept of taxonomy and summarize them with the help of Chemotaxonomy, Numerical taxonomy etc. understand the importance of genetic analysis in taxonomy.  
Get ability to distinguish between the methods of taxonomy.  
Understand the importance of enzymes in living cell and distinguish between different classes of enzymes and their function.  
Get ability to illustrate and explains the various metabolic pathways of the cell in particular prokaryotic.

MB 212: Industrial and  
soil microbiology

Understand the importance of microorganisms in Industry.  
Acquire ability to describe industrially important micro-organisms.  
Understand the method of cultivation of microorganisms on large scale.  
Understand the distinction between the types of fermentation processes and fermentors.  
Comprehend the construction and working of different fermentors.  
Understand the important soil microorganisms and their role in agriculture.  
Understand how soil microorganisms helps in maintaining with elemental cycles in nature.

MB 221: Bacterial  
Genetics

Get ability to summarize the basics of genetics eg., DNA, RNA structure.  
Get ability to paraphrase the concept of gene.  
Understand the concept of central dogma of molecular biology and its mechanism.  
Understand the basic molecular processes like DNA replication, transcription and translation.  
Understand various types of mutations and their causes.

MB 222: Air and water  
Microbiology

Understand air and water microflora.  
  
Get ability to distinguish between microorganisms present in air and water.  
Master various techniques to measure the air and water microflora.

**MB 223: Practical course**

Master techniques of microbiology like growth analysis (Calculation of growth rate, specific growth rate and generation time). Get ability to analyse effect of salt, pH, temperature, heavy metals on bacterial growth.

Practical for the second year students is kept more flexible, designed to evolve project themes on environment, agriculture and pollution aspects eg., Biochemical characterization of bacteria, Bacteriological tests of potability of water.

**T.Y.B.Sc. MB 331 and 341: Medical Microbiology**

Understand anatomy and physiology, with respect to pathogen and diseases.

Understand how to classify and characterize diseases causing organisms like bacterial, fungal, viral etc.

Understand the pathogenesis, diagnosis, epidemiology of diseases and their causative agents.

**MB 332 and 342: Genetics and Molecular Biology**

Get ability to extend their knowledge from prokaryotic gene expression to eukaryotic gene expression, their control and damage.

Understand various techniques of gene transfer and their role in gene mapping.

Understand recombinant DNA technology (RDT), methods in RDT and their applications in various fields.

**MB 333 and 343: Enzymology and Metabolism**

Understand enzymology with respect to identification, assays purification and kinetics.

Understand the role of co enzyme in enzyme catalysis.

Comprehend Bioenergetis, Biosynthesis and degradation pathways.

Understand bacterial photosynthesis.

**MB 334 and 344: Immunology**

Understand the term immunology, immunity, types of that.

Understand components of immune system and get ability to describe them in detail.

Understand Immunoglobulins, Antigen-Antibody Interactions etc.

**MB 335 and 345: Fermentation technology**

Understand the process of fermentation.

Understand the steps and methods of industrial fermentation.

**MB 336 and 346:  
Applied Microbiology**

Understand the types of bioreactors and their role in fermentation.

Understand downstream processes for various products.

Understand the role of microorganisms in dairy, food, and environment.

Understand milk chemistry and microbiology.

Understand how to apply process of food preservation, food spoilage and microorganisms involved in them.

**MB 347: Applied  
Microbiology (Practical  
course I)**

Understand various techniques carried out in industries like fermentation, food and dairy.

**MB 348: Biochemistry  
and molecular biology  
(Practical course II)**

understand various biochemical techniques like chromatography, centrifugation, DNA and plasmid isolation, their quantification.

**MB 349: Clinical  
Microbiology (Practical  
course III)**

Understand various techniques in clinical Microbiology, Immunohematology, Immunoprecipitation, Agglutination tests etc.

