



M.V.P SAMAJ'S

**Karmaveer Ganpat Dada More Arts, Commerce & Science College, Niphad Dist. Nashik**  
**Program and Course outcomes of Department of English**

<b>Program: B.A. English</b>		
<b>Program Outcomes</b>		1.To develop linguistic competence of Students. 2.To introduce them with excellent pieces of writings in English Literature. 3.To familiarize them with basics of English Language. 4.To develop the ability of communicating in English among the students.
<b>Sr. No.</b>	<b>Course</b>	<b>Outcomes</b>
1	F. Y. B. A. Compulsory English (w. e. f- 2019- 2020) <i>Prescribed Text:</i> <i>Literary Gleam: An Anthology of Prose and Poetry</i>	1.To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English. 2.To instill human values and develop the character of students as responsible citizens of the world. 3.To develop the ability to appreciate ideas and think critically. 4.To enhance employability of the students by developing their linguistic competence and communicative skills. 5.To revise and reinforce structures already learnt in the Previous stages of learning.
2	F. Y. B. A. Optional English (General Paper-I) (w. e. f- 2019-2020) <i>Initiations: Minor Literary Forms &amp; Basics of Phonology (Board of Editors- Orient Black Swan)</i>	1.To expose students to the basics of literature and language and develop an integrated view about language and literature in them. 2. To acquaint them with minor forms of literature in English 3. To help them to appreciate the creative use of language in literature. 4. To introduce them to the basics of phonology of English sothat they can pronounce better and speak English correctly. 5. To prepare students to go for detailed study and understanding of literature and language. 6. To enable the job potential of students by improving their language skills.
3	F.Y.B.Com Compulsory English (w. e. f. 2019-2020) <i>Prescribed Text Success Avenue</i>	1. To offer relevant and practically helpful pieces of prose and poetry to students that they not only get to know the beauty and communicative power of English but also its practical application. 2. To expose students to a variety of topics that dominate the contemporary socio-economic and cultural life. 3. To develop oral and written communication skills of the students so that their employability enhances. d) To develop overall linguistic competence and communicative skills of students.

4	F.Y.B.Com (Additional English) (w. e. f. 2019-2020) <i>Prescribed Text: Pearls of Wisdom</i>	<ol style="list-style-type: none"> <li>1. To expose students to a good blend of old and new literary extracts having various themes that are entertaining, enlightening and informative so that they realize the beauty and communicative power of English.</li> <li>2. To make students aware of the cultural values and the major problems in the world today.</li> <li>3. To develop literary sensibilities and communicative abilities among students.</li> </ol>
5	S. Y. B. A. Compulsory English (w. e. f. 2020- 2021) <i>Prescribed Text: Panorama: Values and Skills through Literature</i>	<ol style="list-style-type: none"> <li>1. To expose students to the best examples of literature in English and to contribute to their emotional quotient as well as independent thinking.</li> <li>2. To instil universal human values through best pieces of literature in English.</li> <li>3. To develop effective communication skills by developing ability to use right words in the right context.</li> <li>4. To enhance employability of the students by developing their basic soft skills.</li> <li>5. To revise and reinforce the learning of some important areas of grammar for better linguistic competence.</li> </ol>
6	S. Y. B. A (G2) Skill Enhancement Course (w. e. f- 2020-2021 )- SEC-1A <i>Advanced Study of English Language</i>	<ol style="list-style-type: none"> <li>1. To familiarize students with the various components of language.</li> <li>2. To develop overall linguistic competence of the students.</li> <li>3. To introduce students to some advanced areas of language study.</li> <li>4. To prepare students to go for detailed study and understanding of language.</li> <li>5. To enhance communicative skills of students by developing insight into the working of language.</li> </ol>
7	S. Y. B. A.(S1) Discipline Specific Course (DSC-1A) <i>Appreciating Drama (w. e. f- 2020-2021)</i> <ol style="list-style-type: none"> <li>1) <i>Midsummer Night's Dream</i> by William Shakespeare</li> <li>2) <i>Arms and the Man</i> by George Bernard Shaw</li> <li>3) <i>The Fire and the Rain</i> by Girish Karnad</li> </ol>	<ol style="list-style-type: none"> <li>1. To introduce Drama as a major form of literature.</li> <li>2. To introduce minor forms of Drama.</li> <li>3. To acquaint and enlighten students regarding the literary and the performing dimensions of drama.</li> <li>4. To acquaint and familiarize the students with the elements and the types of Drama.</li> <li>5. To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world.</li> <li>6. To develop interest among the students to appreciate and analyze drama independently.</li> <li>7. To enhance students' awareness regarding aesthetics of Drama and to empower them to evaluate drama independently.</li> </ol>



8	<p>S. Y. B. A (S2) Discipline Specific Course (DSC-2A) (w. e. f- 2020-2021)  <i>Title of the Paper: Appreciating Poetry</i>  <i>Mirage: An Anthology of English Poetry Ed. Board of Editors, Orient Blackswan</i></p>	<ol style="list-style-type: none"> <li>1. To acquaint and familiarize the students with the terminology in poetry criticism (i.e. the terms used in critical analysis and appreciation of poems).</li> <li>2. To encourage students to make a detailed study of a few sample masterpieces of English poetry.</li> <li>3. To enhance students' awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate the poetry independently.</li> </ol>
9	<p>Skill Enhancement Course- (SEC-2A) (w.e.f-2020- 2021)  <i>"Mastering Communication Skills"</i></p>	<ol style="list-style-type: none"> <li>1. Enhancing the skill of using English for everyday communication.</li> <li>2. To acquaint the students with the verbal and nonverbal communication.</li> <li>3. To create opportunities to access exposure of speaking in various contexts.</li> <li>4. To acquaint and familiarize the students with soft skills.</li> <li>5. To develop interest among the students to interact in English.</li> </ol>
10	<p>S. Y. B. Sc. Optional English (w. e. f- 2021-22). (Ability Enhancement Compulsory Course-AECC <i>Horizons: English in Multivalent Contexts</i></p>	<ol style="list-style-type: none"> <li>1. To introduce the use of English in multimedia.</li> <li>2. To acquaint the students with the language skills in multivalent contexts.</li> <li>3. To acquaint and enlighten students regarding the speaking skill in various contexts.</li> <li>4. To acquaint and familiarize the students with advanced writing skills in different contexts.</li> <li>5. To acquaint and familiarize the students with soft skills.</li> </ol>
11	<p>T. Y. B. A. Compulsory English (w. e. f- 2021-22) <i>Exploring New Horizons</i></p>	<ol style="list-style-type: none"> <li>1. To familiarize students with some excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English.</li> <li>2. To enable students to become competent and effective users of English in real life situations.</li> <li>3. To contribute to the overall personality development of the students.</li> <li>4. To instill humanitarian values and foster sympathetic attitude in the students.</li> <li>5. To train the students in practical writing skills required in work environment.</li> <li>6. To impart knowledge of some essential soft skills to enhance their employability.</li> </ol>
12	<p>T. Y. B. A (G3) Skill Enhancement Course (SEC 1-C &amp; SEC 1-D) (w. e. f- 2021-22) <i>Aspirations: English for Careers</i></p>	<ol style="list-style-type: none"> <li>1. To get the awareness of career opportunities available to them.</li> <li>2. To identify the career opportunities suitable to them.</li> <li>3. To understand the use of English in different careers.</li> <li>4. To develop competence in using English for the career of their choice.</li> <li>5. To enhance skills required for their placement.</li> <li>6. To use English effectively in the career of their choice.</li> <li>7. To exercise verbal as well as nonverbal communication effectively for their career.</li> </ol>

13	T.Y.B.A. (S3) Appreciating Novel (w. e. f. 2021-22) Discipline Specific Elective 1) <i>Silas Marner- George Eliot</i> 2) <i>A Farewell to Arms- Ernest Hemingway</i> 3) <i>The Painter of Signs- R. K Narayan</i>	<ol style="list-style-type: none"> <li>1. To introduce students to the basics of novel as a literary form</li> <li>2. To expose students to the historical development and nature of novel .</li> <li>3. To make students aware of different types and aspects of novel.</li> <li>4. To develop literary sensibility and sense of cultural diversity in students.</li> <li>5. To expose students to some of the best examples of novel.</li> </ol>
14	T.Y.B.A (S4) Discipline Specific Elective (w. e. f. 2021-22) <i>Introduction to Literary Criticism</i>	<ol style="list-style-type: none"> <li>1. To introduce students to the basics of literary criticism.</li> <li>2. To make them aware of the nature and historical development of criticism.</li> <li>3. To make them familiar with the significant critical approaches and terms.</li> <li>4. To encourage students to interpret literary works in the light of the critical approaches.</li> <li>5. To develop aptitude for critical analysis.</li> </ol>
15	T.Y.B.A. Skill Enhancement Course (w. e. f. 2021-22) (SEC 2-C & SEC 2-D) <i>Mastering Life Skills and Life Values</i>	<ol style="list-style-type: none"> <li>1 To equip the students with the social skills.</li> <li>2. To train the students interpersonal skills.</li> <li>3. To build self-confidence and communicate effectively.</li> <li>4. To Encourage the students to think critically</li> <li>5. To learn stress management and positive thinking.</li> <li>6. To enhance leadership qualities.</li> <li>7. To aware the students about universal human values.</li> <li>8. To develop overall personality of the students.</li> </ol>

*P.Parmar*

**Dr.P.P.Parmar**

**Co-ordinator**

Internal Quality Assurance Cell  
K.G.D.M. Arts, Commerce & Science College  
Niphad, Dist. Nashik



*R.N.Bhavare*

**Dr.R.N.Bhavare**

**Principal**

Karmveer Ganpat Dada More  
Arts, Commerce & Science College  
Niphad, Dist.Nashik





M.V.P SAMAJ'S

K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPHAD

PROGRAMME OUTCOMES

Course outcomes IInd Year

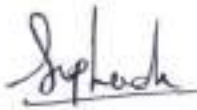
शैक्षणिक वर्ष :- २०२०-२१


बी.ए. मराठी		
	Program Outcomes	
		नवीन अभ्यासक्रमाची उद्दिष्टे १. मराठी भाषा, मराठी साहित्य आणि मराठी संस्कृती बांधे अध्ययन करणे. २. साहित्यविषयक आकलन, आस्वाद आणि मूल्यमापन क्षमता विकसित करणे. ३. साहित्याभ्यासातून जीवनविषयक समज विकसित करणे. ४. मराठी भाषेची उपयोजनात्मक कौशल्ये विकसित करणे
Sr.No.	Course	Outcomes
१	एस.वाय.बी.ए. (G2) सत्र पहिले भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्यप्रकार : कादंबरी सरंग दांग- प्रभाकर पेंढारकर (w. e. f- 2020- 2021)	अभ्यासक्रमाची उद्दिष्टे 1. कादंबरी या साहित्य प्रकाराचे स्वरूप घटक प्रकार आणि वाटचाल समजून घेणे. 2. नेमलेल्या कादंबरीचे आकलन आस्वाद आणि विश्लेषण करणे. 3. भाषिक कौशल्य विकास करणे.
	दुसरे सत्र भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्यप्रकार : ललित गद्य (साहित्य रंग) (w. e. f- 2020- 2021)	1. ललितगद्य या साहित्यप्रकाराचे स्वरूप घटक प्रकार आणि वाटचाल समजून घेणे. 2. नेमलेल्या अभ्यास पुस्तकातील ललित गद्याचे आकलन आस्वाद आणि विश्लेषण करणे. 3. भाषिक कौशल्य विकास करणे.

२	<p>एस.वाय.बी.ए. (S1) सत्र पहिले आधुनिक मराठी साहित्य : प्रकाश वाटा (w. e. f- 2020- 2021)</p>	<ol style="list-style-type: none"> <li>1.आत्मचरित्र या साहित्य प्रकाराचे स्वरूप संकल्पना समजावून घेणे.</li> <li>2. आत्मचरित्र या साहित्यप्रकाराच्या प्रेरणा आणि वाटचाल यांची ओळख करून घेणे.</li> <li>3. ललित गद्यातील अन्य साहित्य प्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण समजावून घेणे.</li> <li>4. नेमलेल्या या आत्मचरित्राची आकलन आस्वाद आणि विश्लेषण करणे.</li> </ol>
	<p>सत्र दुसरे मध्ययुगीन मराठी साहित्य : निवडक मध्ययुगीन गद्य-पद्य (w. e. f- 2020- 2021)</p>	<ol style="list-style-type: none"> <li>1.मध्ययुगीन गद्य पद्य साहित्य प्रकारांची ओळख करून घेणे.</li> <li>2. नेमलेल्या अभ्यास पुस्तकातील मध्ययुगीन गद्य पद्याचे आकलन आस्वाद आणि विश्लेषण करणे.</li> </ol>
३	<p>एस.वाय.बी.ए. (S2) प्रथम सत्र साहित्यविचार (w. e. f- 2020- 2021)</p>	<ol style="list-style-type: none"> <li>1. भारतीय आणि पाश्चात्य विचारांच्या आधारे साहित्याची संकल्पना व स्वरूप आणि प्रयोजन विचार समजावून घेणे.</li> <li>2. साहित्याची निर्मिती प्रक्रिया समजावून घेणे.</li> <li>3 साहित्याची भाषा आणि शैली विषयक विचार समजून घेणे.</li> </ol>
	<p>दुसरे सत्र साहित्य समीक्षा (w. e. f- 2020- 2021)</p>	<ol style="list-style-type: none"> <li>1. साहित्य समीक्षेची संकल्पना व स्वरूप यांचा परिचय करून घेणे.</li> <li>2. साहित्य आणि समीक्षा यांचे परस्पर संबंध समजावून घेणे व अभ्यासणे.</li> <li>3. साहित्य प्रकारानुसार समीक्षेचे स्वरूप समजावून घेणे व अभ्यासणे.</li> <li>4. ग्रंथ परिचय परीक्षण व समीक्षण यातील फरक समजावून घेणे.</li> </ol>

४	<p><b>एस.वाय.बी.ए.</b>  <b>कौशल्याधिष्ठित अभ्यासक्रम</b>  <b>पहिले सत्र</b>          प्रकाशन व्यवहार आणि संपादन          (Skill Enhancement          Course)          [SEC-2A(2)]          (w. e. f- 2020-2021)</p>	<ol style="list-style-type: none"> <li>1. प्रकाशन व्यवहार आणि संपादन या साठी आवश्यक कौशल्य मिळवणे.</li> <li>2. प्रकाशन व्यवहार आणि संपादण्यासाठी आवश्यक प्रशिक्षण घेणे.</li> <li>3. प्रकाशन व्यवहार आणि संपादन यासाठी प्रात्यक्षिकासह उपाययोजनांची कौशल्य मिळवणे.</li> <li>4. प्रकाशन संस्था जाहिरात संस्था छापखाने वृत्तपत्र कार्यालये, वितरण संस्था, ग्रंथ विक्री दुकान फ्लेक्स निर्मिती केंद्र वार्ताहर यांना भेटी देऊन प्रशिक्षण घेणे.</li> </ol>
	<p><b>सत्र दुसरे</b>          उपयोजित लेखन कौशल्य          (w. e. f- 2020-2021)</p>	<ol style="list-style-type: none"> <li>1. जाहिरात मुलाखत लेखन आणि संपादन या साठी आवश्यक कौशल्य मिळवणे.</li> <li>2. जाहिरात मुलाखत लेखन आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे.</li> <li>3. जाहिरात मुलाखत लेखन आणि संपादन यासाठी प्रात्यक्षिकासह उपयोजना ची कौशल्य मिळवणे.</li> </ol>
५	<p><b>एस.वाय.बी.ए.</b>  <b>Modern Indian</b>  <b>Languages(MIL)</b>  <b>पहिले सत्र</b>          मराठी भाषिक संज्ञापन कौशल्य          (w. e. f- 2020-2021)</p>	<ol style="list-style-type: none"> <li>१. प्रगत भाषेत कौशल्यांची क्षमता विकसित करणे.</li> <li>२. प्रसारमाध्यमातील संज्ञापनातील स्वरूप आणि स्थान स्पष्ट करणे.</li> <li>३. व्यक्तिमत्व विकास आणि भाषा यांच्यातील सहसंबंध स्पष्ट करणे.</li> <li>४. लोकशाहीतील जीवन व्यवहार आणि प्रसारमाध्यमे यांचे परस्पर संबंध स्पष्ट करणे.</li> <li>५. प्रसार माध्यमांसाठी लेखन क्षमता विकसित करणे.</li> </ol>
	<p><b>सत्र दुसरे</b>          नव माध्यमे आणि समाज          माध्यमांसाठी मराठी - भाग 2          (w. e. f- 2020-2021)</p>	<ol style="list-style-type: none"> <li>१. संज्ञापनातील नव माध्यमे आणि समाज माध्यमांचे स्वरूप आणि स्थान स्पष्ट करणे.</li> <li>२. भाषा ,जीवन व्यवहार आणि नवमाध्यमे, समाज माध्यमांचे परस्पर संबंध स्पष्ट करणे.</li> <li>३. नवमाध्यमे आणि समाज माध्यमांसाठी लेखन क्षमता विकसित करणे.</li> <li>४. नवमाध्यमे आणि समाज माध्यमंविषयक साक्षरता निर्माण करणे.</li> <li>५. नव माध्यमे आणि समाजमाध्यमांचा वापर आणि परिणाम वाढवून चर्चा करणे.</li> </ol>

<p>६</p>	<p>एस. वाय. बी. एस्सी. सत्र पहिले उपयोजित मराठी (w. e. f- 2020-2021)</p>	<p>१. मराठी भाषा साहित्य आणि यांच्या परस्पर संबंधाची जाणीव करून देणे. २. मराठी भाषेचा परिभाषा सापेक्ष आणि शैलीसापेक्ष विकास विद्यार्थ्यांच्या लक्षात आणून देणे. ३. मराठी भाषेची उपयोजनात्मक कौशल्य विकसित करणे.</p>
	<p>सत्र दुसरे मराठी साहित्य (मराठी कथा दर्शन) (w. e. f- 2020-2021)</p>	<p>१. साहित्यविषयक अभिरुची विकसित करणे. मराठी भाषा साहित्य आणि यांच्या परस्पर संबंधांची जाणीव करून देणे. ३. साहित्यविषयक अभ्यासातून जीवनविषयक समज विकसित करणे. ४. विज्ञानसाहित्य विषयक आकलन क्षमता वाढविणे.</p>

  
प्रा.सुनिता उफाडे

  
डॉ.सुरेखा जाधव  
मराठी विभाग प्रमुख  
ग.वि.प्र.सभाजाचे  
कर्मवीर गणपत दादा मोरे  
भुला, वरुणराज्य व विज्ञान महाविद्या  
निकाड, गव.निकाड, जि.नाशिक

  
डॉ.आर.एन.भवरे  
प्राचार्य  
कर्मवीर गणपत दादा मोरे  
कला, वाणिज्य आणि विज्ञान महाविद्यालय  
निकाड, जि.नाशिक





M.V.P SAMAJ'S

**K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPHAD  
PROGRAMME OUTCOMES**

**& Course outcomes for three years Bachelor of Arts Degree  
course (CBCS Pattern - 2019)  
year: 2020-21**

S.Y.B.A. Geography		
Sr. No.	Course	Outcome
03	S.Y.B.A.Gg-210-A Sem-III Environmental Geography-I (G-2)	1.To create the awareness about dynamic environment among the student. 2.To acquaint the students with fundamental concepts of environment geography for development in different areas 3.The Students should be able to integrate various factors of environment and dynamic aspect of environmental geography 4.To Make aware the students about the problems of environment, their utilization and conservation in the view of sustainable development.
04	S.Y.B.A.Gg-210-A Sem-IV Environmental Geography-II (G-2)	1.To create the awareness about dynamic environment among the student. 2.To acquaint the students with fundamental concepts of environment geography for development in different areas 3.The Students should be able to integrate various factors of environment and dynamic aspect of environmental geography 4.To Make aware the students about the problems of environment, their utilization and conservation in the view of sustainable development.
05	S.Y.B.A.Gg-220(A) Sem-III Geography of Maharashtra-I (S-1)	1. To acquaint students with Geography of our State. 2. To make students aware of the magnitude of problems and prospects in Maharashtra. 3. To help students understand the inter relationship between the subject and the society. 4. To help students understand the recent trends in regional studies
06	S.Y.B.A.Gg-220(A) Sem-IV Geography of Maharashtra-II (S-1)	1. To make students aware about the Agriculture problems and prospects of Maharashtra. 2. To understand the population distribution and settlement pattern in Maharashtra. 3. To understand the concept of rural development. 4. To understand the prospectus in Tourism activity in Maharashtra and the role of MTDC and Role of MIDC in industrial development in rural area of Maharashtra
07	S.Y.B.A.Gg. 201 (A) Sem- III Practical Geography-I Scale and Map Projection (S2)	After the successful completion of the course, the students will be able to: 1. Develop practical skill and use of map scale and projection. 2. To make students aware of the new techniques, accuracy and skills of map making.
08	S.Y.B.A.Gg.201(B)-Sem- IV,Practical Geography-II Cartographic Techniques, Surveying and Excursion / Village / Project Report Geography (S2).	After the successful completion of the course, the students will be able to: 1. Develop practical knowledge and application of cartographical techniques. 2. To make students aware of the new techniques, accuracy and skills of Map Making.
09	S.Y.B.A.SEC - A, Semester III, Applied Course of Disaster Management	The objectives of the course are to develop following Skills among the students 1.To introduce basic concepts and fundamental structure of Disaster Management (DM) 2.To inculcate critical thinking and problem-solving abilities on disaster management. 3.To enable students to assess the situation and design plan for Disaster management
10	S.Y.B.A.SEC-B Semester - IV, Applied Course of Travel & Tourism	Skills to be developed: 1. Students will be able to perform online as well as-offline booking and cancellation procedures for different available modes of travel and tourism. 2. Students will be able to acquire earning skills in tourism industry.

Dr. C.B.Nigale  
Head, Department of Geography  
Head

Dept. of Geography  
K.G.D.M. Arts, Commerce &  
Science College, Niphad

Dr. R.N.Bhavare  
Principal

Karmveer Ganpat Dada More  
Arts, Commerce & Science College  
Niphad, Tal.Niphad, Dist.Nashik



M.V.P SAMAJ'S



**K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE,  
NIPHAD PROGRAMME OUTCOMES**

**Programme & Course outcomes for Bachelor of Arts Degree course (Pattern-2019)**

<b>B.A. Psychology</b>		
<b>Programme Outcomes</b>	<p>After the completion of this program students will be able to:</p> <ol style="list-style-type: none"> <li>1. Understand the basic psychological processes and their Applications in day to day life.</li> <li>2. This Program helps to create awareness about mental health Problems in society.</li> <li>3. To help students understand the basic steps in scientific research.</li> <li>4. To encourage and guide the students to undertake a small-scale Research project.</li> <li>5. Understand the personality and intelligence of the individuals by Developing their psychological processes and abstract potentials.</li> <li>6. Understand the periods of development, the significance of age, and discuss developmental</li> </ol>	
<b>Sr. No</b>	<b>Course</b>	<b>Outcomes</b>
1	<b>F.Y.B.A. G-1 Semester-1 Course DSC-PSY- 1A: Foundations of Psychology</b>	<ol style="list-style-type: none"> <li>1. Understand the basic psychological processes and their applications in day to day life.</li> <li>2. Develop the ability to evaluate cognitive processes, learning and memory of an individual.</li> <li>3. Understand the importance of motivation and emotion of the individual.</li> <li>4. Understand the personality and intelligence of the individuals by developing their psychological processes and abstract potentials.</li> </ol>
2	<b>F.Y.B.A. G-1 Semester-2 Course DSC-PSY- 1B : Introduction to Social Psychology</b>	<ol style="list-style-type: none"> <li>1. Understand the basics of social psychology.</li> <li>2. Understand the nature of self, concept of attitude and prejudice of the individual.</li> <li>3. Assess the interactional processes, love and aggression in our day today life. .</li> <li>4. Understand group dynamics and individual in the social world.</li> </ol>



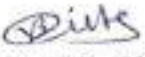
3	<b>S.Y.B.A. S-1 Semester-3</b> <b>DSE-1A: PSYCHOLOGY</b> <b>OF ABNORMAL</b> <b>BEHAVIOR-I</b>	<p>1. Acquire the knowledge about the symptoms, diagnostic criteria, and causes of various psychological disorders</p> <p>2. Examine multiple probable causes and correlates of behavior.</p> <p>3. Understand critiques, limitations, and implications of diagnosis and classification of psychological diseases.</p> <p>4. Create awareness about mental health problems in society.</p>
4	<b>S.Y.B.A S-1 Semester-4</b> <b>DSE-1B: PSYCHOLOGY</b> <b>OF ABNORMAL</b> <b>BEHAVIOR-II</b>	<p>1. Learn descriptions, and theories underlying diagnostic nosology of psychiatric disorders.</p> <p>2. Learn and understand benefits, critiques, limitations, and implications of diagnosis and classification.</p> <p>3. Help students to acquire the knowledge about the symptoms, diagnostic criteria, and causes of various psychological disorders.</p> <p>4. Examine multiple probable causes and correlates of behavior.</p> <p>5. Create awareness about mental health problems in society.</p>
5	<b>S.Y.B.A. S-2 Semester-3</b> <b>DSE-2A:</b> <b>DEVELOPMENTAL</b> <b>PSYCHOLOGY:</b>	<p>1. Understand the importance, characteristics and concern in lifespan development</p> <p>2. Understand biological, cognitive, and socio-emotional processes.</p> <p>3. Understand the periods of development, the significance of age, and discuss developmental issues.</p> <p>4. Understand Psychoanalytic, Cognitive, Behavioral and Social Cognitive, Ethological, Ecological and Eclectic theories of development</p> <p>5. Understand methods of data collection and research designs used in Life-span development research</p>
6	<b>S.Y.B.A. S-2 Semester-4</b> <b>DSE-2B: THEORIES OF</b> <b>PERSONALITY</b>	<p>1. Understand the concept of personality with various theories of personality on the basis of personality psychology.</p> <p>2. Understand different framework and theoretical aspects of personality.</p> <p>3. Understand and observe, interpret individual differences in behavior in the light of sound theoretical systems of personality.</p> <p>4. Understand comprehensive overview of the major</p>


		theories      personality
7	S.Y.B.A.G-2:Semester- 3 SEC- 1A: HEALTH PSYCHOLOGY	<ol style="list-style-type: none"> <li>1. Understand health psychology and arrive at the introduction to the role of psychology in health.</li> <li>2. Understand the nature of stress and coping</li> <li>3. Understand various factors related to health and diseases.</li> <li>4. Understand quality of life and promoting the good health.</li> </ol>
8	S.Y.B.A.G-2Semester-4 SEC- 1B: POSITIVE PSYCHOLOGY	<ol style="list-style-type: none"> <li>1. Understand how the positive psychology as the science of happiness, human strengths, positive aspects of human behavior and 'psychology of well-being.'</li> <li>2. How we lead our lives, find happiness and satisfaction, and face life's challenges.</li> <li>3. How positive psychology has become an evolving mosaic of research and theory from many different areas of psychology.</li> </ol>
9	S3: Scientific Research & Experimental Psychology (To be Implemented Fro2015-16)	<ol style="list-style-type: none"> <li>1. To acquaint the students with the basic concepts of experimental psychology and research methodology,</li> <li>2. To develop the spirit of scientific inquiry in the students,</li> <li>3. To help them generate ideas for research, as well as develop hypotheses and operational definitions for variables.</li> <li>4. To help students understand the basic steps in scientific research,</li> <li>5. To equip the students with the basic information and knowledge about test-administration and scoring, and interpretation of the obtained results,</li> <li>6. To enable the students to undertake an independent small-scale Research project.</li> </ol>
10	S4: Psychology Practical: Test & Experiments(To be implemented from 2015-16)	<ol style="list-style-type: none"> <li>1. To familiarize the students with the use of elementary statistical techniques,</li> <li>2. To give practical experience to the students in administering and scoring psychological tests and interpreting the scores,</li> <li>3. To acquaint the students with the basic procedure and design of psychology experiments,</li> <li>4. To encourage and guide the students to undertake a small-scale research project.</li> <li>5. To encourage students to learn practical application through study tour and visit</li> </ol>




G3: INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY (To be implemented from 2015-16)

- 1- The emergence of Industrial and Organizational Psychology
- 2- The work done in Industrial and Organizational Psychology
- 3- The significance of training, performance appraisal, leadership models
- 4- The importance of Engineering Psychology

  
Smt. V.B. Gite

  
HOD  
(Dept. of Psychology)  
Dept. of Psychology  
K.G.D.M Arts, Com. & Sci. College  
Niphad, Dist. Nashik



  
Dr. R. N. Bhavare  
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Principal  
Karmveer Ganpat Dada More  
Arts, Commerce & Science College  
Niphad, Dist. Nashik



M.V.P SAMAJ'S

**K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPIAD  
PROGRAMME OUTCOMES**


**Programme & Course outcomes for Bachelor of Arts Degree**


TYBA (2019 Pattern)

Sr.no	course	Outcomes
1	T.Y.B.A.S- 3Semester-5 DSE 1 C (3): PSYCHOLOGICAL TESTING (THEORY) + (1) TESTING PROJECT	<ol style="list-style-type: none"> <li>1. Describe the concept of psychological test, reliability, validity and norms.</li> <li>2. Classify and categorize psychological tests, reliability-validity-norms types.</li> <li>3. Identify the reliability and validity of psychological tests,</li> <li>4 Evaluate the types of norms.</li> <li>5. Conduct testing project for behaviour analysis</li> </ol>
2	T.Y.B.A.S-3Se DSE 1 D (3): EXPERIMENTAL PSYCHOLOGY (THEORY) + (1) RESEARCH PROJECT mester- 6	<ol style="list-style-type: none"> <li>1. Describe the process of experiment in psychology, concept of psychophysics.</li> <li>2. Explain problem, hypothesis, variables, sampling in experiment.</li> <li>3. Identify and classify the learning system, methods of psychophysics.</li> <li>4. Compare laws of psychophysics, types of hypotheses.</li> <li>5. Conduct research based project.</li> </ol>
3	T.Y.B.A.S- 4Somester-5 DSE 2 C (3): PSYCHOLOGICAL TESTS + (1) STATISTICS	<ol style="list-style-type: none"> <li>1. Describe mapping of human behaviour.</li> <li>2 Explain general ability testing, personality, adjustment and attitude.</li> <li>3. Identify and classify the intellectual ability and personality patterns.</li> <li>4. Conduct testing and evaluate intellectual ability, personality traits, adjustment and attitudes of participant.</li> <li>5. Analyze statistical methods employed in behaviour analysis.</li> </ol>
4	T.Y.B.A.S- 4Semester-6 DSE 2 D (3): PSYCHOLOGICAL EXPERIMENTS + 1 STATISTICS	<ol style="list-style-type: none"> <li>1. Explain psychophysics, various cognitive processes of human being.</li> <li>2. Classify and compare psychological experiments.</li> <li>3. Conduct laboratory experiments.</li> <li>4. Analyse statistical base of human behaviour.</li> </ol>



5	T.V.B.A.G-3 Semester-5 SEC 1 C (3) : INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY	<ol style="list-style-type: none"> <li>1. Describe the concept of industrial and organizational psychology, selection and training, evaluation and motivation at workplace.</li> <li>2. Explain job profile, job analysis, recruitment techniques and employee training.</li> <li>3. Identify and classify the appraisal rating system.</li> <li>4. Compare different theories of motivation.</li> <li>5. Evaluate the training programme and job performance.</li> </ol>
6	T.V.B.A.G-3 Semester-6 SEC 1 D (3): APPLIED PSYCHOLOGY	<ol style="list-style-type: none"> <li>1. Describe the concept of applied psychology, educational psychology, family structure and developmental patterns.</li> <li>2. Know the clinical psychology related mechanisms, social issues, and criminal behaviour.</li> <li>3. Classify the intellectual ability, abnormality, criminal behaviour.</li> <li>4. Identify the problems and solutions in the field of education,</li> <li>5. Evaluate the interpersonal relations.</li> <li>6. Apply psychological remedies to assess abnormal behaviour, to tackle the social issues and to rectify the problematic behaviour.</li> </ol>

  
Smt .V.B. Gite

  
HOD  
(Dept. of Psychology)  
Dept. of Psychology  
K.G.D.M Arts, Com & Sci. College  
Niphad Dist Nashik



  
Dr. R. N. Bhavare  
Principal  
Principal  
Karmveer Gangadada More  
Arts, Commerce & Science College  
Niphad, Dist. Nashik



M.V.P SAMAJ'S

**K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPHAD  
PROGRAMME OUTCOMES-2020-21**



**Course outcomes for three years Bachelor of Arts Degree course**

<b>S.Y.B.A. Economics</b>		
<b>Sr. No.</b>	<b>Course</b>	<b>Outcomes</b>
1	<b>B.A. Economics</b>	<ol style="list-style-type: none"><li>1) Ability to compare and contrast Indian Economy with other world economies.</li><li>2) Understand the how the economy's total output of goods and services and employment of resources is determined and what causes these totals to fluctuate.</li><li>3) To make an Undergraduate student aware of the basic theoretical framework underlying the field of Economics.</li><li>4) The students would also be well trained about the rationale of recent changes in the Export Import policies of India.</li></ol>
2	<b>S.Y.B.A. Economics G-2, Financial System (I &amp; II) From : June – 2020 (CBCS Pattern)</b>	<ol style="list-style-type: none"><li>1) The students understand fundamentals of modern financial system.</li><li>2) The students understand the recent trends and developments in banking system.</li><li>3) It understands the role of the Reserve Bank of India in Indian financial system.</li><li>4) The students gain the knowledge of various financial and non financial institutions.</li><li>5) The students gain the knowledge about intricacies of Indian financial system for better financial decision making.</li></ol>
3	<b>S.Y.B.A. Economics S- 1, Micro Economics (I &amp; II) From: June –2020 (CBCS Pattern)</b>	<ol style="list-style-type: none"><li>1) The students develop an understanding about subject matter of Economics.</li><li>2) The students impart knowledge of micro economics.</li><li>3) The students clearly clarify micro economic concepts.</li><li>4) The students learned analyze and interpret charts, graphs and figures.</li></ol>
4	<b>S.Y.B.A. Economics S- 2, Macro Economics (I &amp; II) From: June-2020 (CBCS Pattern)</b>	<ol style="list-style-type: none"><li>1) The students learn to the historical background of the emergence of macro economics.</li><li>2) The students familiarize with the differences between micro economics and macro economics.</li><li>3) The students familiarize with various concept of National Income.</li><li>4) The students familiarize with Keynesian macroeconomic theoretical framework of consumption and investment function.</li><li>5) The students know to the role of money an economy.</li></ol>





**M.V.P SAMAJ'S**  
**K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPHAD**  
**PROGRAMME OUTCOMES-2020-21**

**Program outcomes for two years M.A (Economics) Degree**

<b>M.A –II Economics-June-2020</b>		
Sr. No	Course	Outcome
1	<b>M.A(Economics) From: June-2020 (CBCS Pattern)</b>	1) The student should be able to evaluate Economic concepts, models and its use in real life situations. 2) Ability to discuss and debate the effects of trade policy, trade agreements, exchange rate policies on the world economy/trade. 3) The student should be able to evaluate Economic concepts, models and its use in real life situations. 4) Students who complete their post graduation in economics are mentally equipped to pursue research in the same discipline.
2	<b>EC-3001 Macro Economics-I (SEM- III) From: June-2020 (CBCS Pattern)</b>	1) Ability to analyze and demonstrate knowledge of the basic theories/laws in macroeconomics. 2) At the end of the course, the student should be able to evaluate macroeconomic concepts, models and its use in real life situations.
3	<b>EC-3002 Growth and Development – I (SEM- III) From: June-2020 (CBCS Pattern)</b>	1) Ability to apply the concepts of economic growth and compare international comparison of economic development, etc. 2) Ability to analyze and demonstrate knowledge of the economic growth and development theories of economic growth and development.
4	<b>EC-3003 Research Methodology-I (SEM- III) From: June-2020 (CBCS Pattern)</b>	1) Ability to develop, demonstrate and examine topics under Economics to pursue research. 2) Ability to evaluate and examine subject areas in economics and explore possibilities of research.
5	<b>EC- 3004 Demography (SEM- III) From: June-2020 (CBCS Pattern)</b>	1) Ability to develop, demonstrate and examine various topics under Demography. 2) Ability to evaluate and examine subject areas in economics bringing out the relation to population studies and demography.
6	<b>EC – 4001 Macro Economics II (SEM- IV) From: June-2020 (CBCS Pattern)</b>	1) Ability to analyze and demonstrate knowledge of the basic theories/laws in economics- general equilibrium psychological law of consumption, etc. 2) At the end of the course, the student should be able to evaluate macroeconomic concepts, models and its use in real life situations.

<b>B.A. Political Science</b>		
<b>Programme Outcomes</b>		<p>1. This program focuses in detail on the political processes and the actual functioning of the political system .It simultaneously studies in detail the political structure both Constitutional and Administrative</p> <p>2. This program focuses on key thinkers from ancient to modern times to understand their seminal contribution to the evolution of Political theorizing in India</p> <p>3.This program studies the classical tradition in political theory from Plato to Marx with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions.</p> <p>This program studies the role of different political ideologies and their impact in politics.</p> <p>5.To introduce the students to the structure of Local Self Government of Maharashtra.</p> <p>6.This program deals with concepts and dimensions of international relations and makes an analysis of different theories highlighting the major debates and differences within the different theoretical paradigms.</p>
<b>Sr. No.</b>	<b>Course</b>	<b>Outcomes</b>
1	F.Y.B.A. Political science G-1 General Paper- Introduction To Indian Constitution (2019-20 CBCS Pattern)	<p>1. To acquaint students with the important features of the Constitution of India andwith The basic framework of Indian government.</p> <p>2. To familiarize students with the working of the Constitution of India</p>
2	S.Y.B.A Political Science G-2 General Paper Political Theory& Concepts	<p>1. This is an introductory paper to the concepts, ideas and theories in political theory.</p> <p>2. It seeks to explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically.</p> <p>3. The different ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the differences in their perspectives and in order to understand their continuity and change. Furthermore there is a need to emphasize the continuing relevance of these concepts today and explain how an idea and theory of yester years gains prominence in contemporary political theory.</p>
3	S.Y.B.A Political Science Special Paper- I Western Political Thought	<p>1. This paper studies the classical tradition in political theory from Plato to Marx with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions.</p> <p>2. The texts are to be interpreted both in the historical and philosophical perspectives to understand the universality of the enterprise of political theorizing.</p> <p>3. The limitations of the classical tradition, namely its neglect of women’s concerns and issues and the non-European world are critically examined.</p> <p>4. The legacy of the thinkers is explained with the view to establish the continuity and change within the Western political tradition.</p>

4	TYBA Political Science (G-3) Political Ideologies	<p>1. This paper studies the role of different political ideologies and their impact in politics. Each ideology is critically studied in its historical context.</p> <p>2. In course of its evolution and development, the different streams and subtle nuances within each ideology, the changes and continuities in its doctrine and its relevance to contemporary times are highlighted.</p> <p>3. The close link between an idea and its actual realization in public policy needs to be explained as well. The philosophical basis of the ideologies is emphasized with special emphasis on key thinkers and their theoretical formulations.</p> <p>The legacy of all the major ideologies is to be critically assessed.</p>
5	TYBA Political Science (S-3) Public Administration	<p>1. This paper is an introductory course in Public Administration.</p> <p>2. The essence of Public Administration lies in its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of community living.</p> <p>3. The paper covers personnel public administration in its historical context thereby proceeding to highlight several of its categories, which have developed administrative salience and capabilities to deal with the process of change.</p> <p>4. The recent developments and particularly the emergence of New Public Administrations are incorporated within the larger paradigm of democratic legitimacy.</p> <p>5. The importance of legislative and judicial control over administration is also highlighted.</p>
6	TYBA Political Science (S-4) International Politics	<p>1. This paper deals with concepts and dimensions of international relations and makes an analysis of different theories highlighting the major debates and differences within the different theoretical paradigms.</p> <p>2. The dominant theories of power and the question of equity and justice, the different aspects of balance of power leading to the present situation of a world are included.</p> <p>3. It highlights various aspects of conflict and conflict resolution, collective security and in the specificity of the long period of the post Second World War phase of the Cold War, of Détente and Deterrence leading to theories of rough parity in armaments.</p>





**M.V.P SAMAJ'S**  
**K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPHAD**  
**PROGRAMME OUTCOMES**  
**Faculty of Commerce**  
**T.Y.B.COM (Credit pattern 2019)**

Sr. no	Name of the Subject	Course outcomes
1	Business Regulatory Framework (Mercantile Law)	The student will well verse in basic provisions regarding legal frame work governing the business world.
		To know the students with the basic concepts, terms & provisions of Mercantile and Business Laws.
		To develop the awareness among the students regarding these laws affecting trade business, and commerce.
		Advanced Accounting To provide the knowledge of various accounting concepts To impart the knowledge about accounting methods, procedures and techniques.
		To acquaint students with practical approach to accounts writing by using software package and by learning various accounts.
2	Auditing and taxation	Students will be versed in the fundamental concepts of Auditing and different aspects of tax.
		Students can understand Income Tax system properly, and can get the knowledge of different tax provisions.
		To give knowledge about preparation of Audit report, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.
3	Advanced Accounting	To provide the knowledge of various accounting concepts
		To impart the knowledge about accounting methods, procedures and techniques.
		To acquaint students with practical approach to accounts writing by using software package and by learning various accounts.
4	Business Administration – II	To make Understanding , Critical thinking skills Accessing and analyzing information skills and thinking Awareness on the latest Trends
		To develop the awareness among the students regarding trade business, and commerce.

5	Business Administration – III	To make Conceptual understanding and Conceptual Clarity and Practical understanding
		To develop the awareness about Sources of Capital – Bank Overdraft, Trade Credit Accrual Accounts, Financial Lease , Operating Lease , Hire Purchase , Bank Loan , Merchant loan , Debentures, Equity Shares , Preference Shares Stock Dilution and Flotation
		To develop Concept Cost of Capital and Concept of Risk and Return
6	Cost and Works Accounting II	To keep the students conversant with the ever – enlarging frontiers of Cost Accounting knowledge. Students can get knowledge of different methods and techniques of cost accounting.
		To impart Knowledge about the concepts and principles application of Overheads.
7	Cost and Works Accounting III	To provide knowledge regarding costing techniques.
		To give training as regards concepts, procedures and legal Provisions of cost audit.

### **M.Com Programme Outcomes**

<b>Department of Commerce</b>	
<b>Programme Outcomes</b>	1.To acquaint a student with conventional as well as contemporary areas in the discipline of Commerce. 2.To enable the students for conducting business, accounting and auditing practices, role of regulatory bodies in corporate and financial sectors nature of various financial instruments.

**M.Com. Part I Semester I Compulsory Paper Subject Name -: Management Accounting Course Code -: 101.**

**Objective -:** The objective of the course is to enable students to acquire sound Knowledge of concepts, methods and techniques of management accounting and to make the students develop competence with their usage in managerial decision making and control.

**M.Com. Part I Semester II Compulsory Paper Subject Name -: Financial Analysis & Control. Course Code -: 201.**

**Objective -:** The objective of the course is to enable students to acquire sound knowledge of concepts, methods and techniques of management accounting and to make the students develop competence with their usage in managerial decision making and control.



**M.Com. Part I Semester II Optional Paper Subject Name -: Industrial Economics Course Code -: 202 - A.**

**Objectives:** 1) To study the basic concepts of Industrial Economics. 2) To study the significance and problems of Industrialization. 3) To study the impact of Industrialization on Indian Economy.

**M.Com. Part II Semester III Compulsory Paper Subject Name -: Business Finance. Course Code -: 301. (w.e.f. Academic Year: 2014-15)**

**Objective:** To enable students to acquire sound knowledge of concepts, nature and structure of business finance.

**M.Com. Part II Semester III Compulsory Paper Subject Name -: Research Methodology for Business. Course Code -: 302. (w.e.f. Academic Year: 2014-15) (Board of Studies in Business Practice)**

**Objectives:** 1. To acquaint the students with the areas of Business Research Activities. 2. To enhance capabilities of students to conduct the research in the field of business and social sciences. 3. To enable students, in developing the most appropriate methodology for their research studies. 4. To make them familiar with the art of using different research methods and techniques.

**M.Com. Part II Semester III Business Administration Special Paper V. Subject Title -: Human Resource Management Course Code -: 313 (w.e.f. Academic Year: 2014-15) Objectives:** 1. To acquaint the students with in-depth knowledge of HRM. 2. To inculcate among students various practices followed by HR managers. 3. To create understanding about recent trends in HRM

**M.Com. Part II Semester III Business Administration Special Paper VI. Subject Title -: Organizational Behaviour Course Code -: 314 (w.e.f. Academic Year: 2014-15)**

**Objectives:** 1. To make the students understand various concepts of organisation behaviour 2. To provide in depth knowledge about process of formation of group behaviour in an organization set up

**M.Com. Part II Semester IV Compulsory Paper Subject Name -: Capital Market and Financial Services. Course Code -: 401. (w.e.f. Academic Year: 2014-15)**

**Objective:** To enable students to acquire sound knowledge, concept and structure of capital market and financial services.

**M.Com. Part II Semester IV Compulsory Paper Subject Name -: Industrial Economic Environment. Course Code -: 402-A (w.e.f. Academic Year: 2014-15)**

**Objectives:** 1. To study the basic concepts of Industrial Finance. 2. To study the effects of New Economic Policy. 3. To study the impact of Labor reforms on Industries.

**M.Com. Part II Semester IV Business Administration Special Paper VII. Subject Title -: Recent Advances in Business Administration Course Code -: 413 (w.e.f. Academic Year: 2014-15)**

**Objectives:** 1. To familiarise the students with the recent advancements in business administration 2. To develop an understanding about tools and their application in the business.



**M.V.P SAMAJ'S  
K.G.D.M ARTS, COMMERCE AND SCIENCE COLLEGE, NIPHAD  
PROGRAMME OUTCOMES**

**Course outcomes for three years Bachelor of Science Degree course  
BSc Chemistry**

**Program outcomes :**

1. To understand basic concept of physical, organic and Inorganic chemistry.
2. To impart practical skills and learn basics behind experiments.
3. To prepare background for advanced and applied studies in chemistry.

**Course Specific Outcomes**

Sr. No	Class	Course	Course Outcomes
1	T.Y.B.Sc.	CH- 501: Physical Chemistry	After completing the course work learner will be acquired with knowledge of Quantum chemistry, Investigation of molecular Structure, Photochemistry.
		CH- 502: Analytical Chemistry	After completion of the course student should be able to basic terms in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis, Identify important parameters in analytical processes or estimations.
		CH-504: Inorganic Chemistry	Students will learn electroneutrality principle and different types of pi bonding, learn about inert and labile complexes and stability of complexes in aqueous solutions, chemistry of transition element, F-Block element, Metals, semiconductor and superconductor.
		CH- 505: Industrial Chemistry	Students will learn Importance of chemical industry, Knowledge of various industrial aspects, Importance of sugar industry, Chemistry of soap, Dyes and pigment.
		CH-507: Organic Chemistry	After studying the polynuclear and heteronuclear aromatic compounds, students will be able to 1. Define and classify polynuclear and heteronuclear aromatic hydrocarbons. 2. Write the structure, synthesis of polynuclear and heteronuclear aromatic hydrocarbons. 3. Understand the reactions and mechanisms Students should be able to understand 1. Meaning of active methylene group 2. Reactivity of methylene group, 3. Synthetic applications ethyl acetoacetate and malonic ester Molecular Rearrangements Students will study 1. What is rearrangement reaction? 2. Different types of intermediate in rearrangement reactions? Students should be familiar with 1. 1,1 and 1,2 elimination 2. E1, E2 and E1cB mechanism with evidences of these reactions.
		CH-508: Chemistry of Biomolecules	The student will understand of Cell types, Difference between a bacterial cell, Plant cell and animal cell The student will understand the types of carbohydrates and their biochemical significance in living organisms, structure of carbohydrates and reactions of carbohydrates with Glucose as example. Properties of carbohydrates. The student needs to know the types of lipids with examples,



			<p>structure of lipids, properties of lipids</p> <p>The student will understand the structure and types of amino acids. Reactions of amino acids. Properties of amino acids. Peptide bond formation. student know the classes of enzymes with subclasses and examples</p>
		CH-510: Medicinal Chemistry	<p>Upon completion of the course the student shall be able to understand,</p> <ol style="list-style-type: none"> <li>1. The basics of medicinal chemistry, biophysical properties, overview of basic concepts of traditional systems of medicine.</li> <li>2. Over view of the overall process of drug discovery, and the role played by medicinal chemistry in this process.</li> <li>3. Biological activity parameters and importance of stereochemistry of drugs and receptors.</li> <li>4. Knowledge of mechanism of action of drugs belonging to the classes of infectious and non-infectious diseases.</li> <li>5. Enhancement of practical skills in synthesis, purification and analysis.</li> </ol>
		CH-511: Environmental Chemistry	<p>Upon completion of the course the student shall be able to understand</p> <p>Importance and conservation of environment, Water resources, Hydrological Cycle , Organic and inorganic pollutants ,Water quality parameters</p>
		Lab Course CH 503 , CH- 506 and CH- 509	<ol style="list-style-type: none"> <li>1. The practical course is in relevance to the theory courses to improve the Understanding of the concepts.</li> <li>2. It would help in development of practical skills of the students.</li> <li>3. Use of microscale techniques wherever required</li> </ol>
		<b>T.Y.B.Sc. SemVI</b>	
2		CH-601: Physical Chemistry-II	<p>After completing the course work learner will be acquired with knowledge of Daniell cell, Conventions to represent electrochemical cells Thermodynamic conditions of reversible cell, 3. EMF of electrochemical cell and its measurement Distinguish between crystalline and amorphous solids / anisotropic and isotropic solids.</p> <p>term crystallography and laws of crystallography. Weiss and Millers Indices, determination of Miller Indices Bravais lattices, space groups, seven crystal systems and fourteen Bravais lattices; Cubic lattice and types of cubic lattice Distance between the planes for 100, 110 and 111 for cubic lattice ,</p> <p>Radioactivity , Types and properties of radiations: alpha, beta and gamma Detection and Measurement of Radioactivity: Cloud chamber, Ionization Chamber, Geiger-Muller Counter, Scintillation Counter, Film Badges ,Types of radioactive decay: <math>\alpha</math>- Decay, <math>\beta</math>-Decay and <math>\gamma</math>-Decay ,The Group Displacement Law, Radioactive Disintegration Series , Kinetics of Radioactive Decay, Half-life, average life and units of radioactivity ,Energy released in nuclear reaction: Einstein's equation, Mass Defect, Nuclear Binding Energy .</p>
		CH-602: Physical Chemistry-III	<p>Will learn Meaning of the terms-Solution, electrolytes, nonelectrolytes and colligative properties, Lowering of vapour pressure of solvent in solution, Elevation of B.P. of solvent in solution, Landsberger's method, Factors affecting on solid state reactions, Rate laws for reactions in solid state, Cohesive Energy of ionic crystals based on coulomb's law and Born</p>

			Haber Cycle , Correspondence between energy levels in the atom and energy bands in solid , Band structure in solids – Na , Ca and diamond. Classification of polymers ,Chemical bonding & Molecular forces in Polymer , Molecular weight of polymers .
		CH-604 Inorganic Chemistry-II	After completing the course work learner will be acquired with knowledge multiple bonding due to CO ligand.,methods of synthesis of binary metal carbonyls, phenomenon of catalysis, its basic principles and terminologies, biological role of inorganic ions & compounds, types of Inorganic polymers, Preparation of inorganic solids by various methods .
		CH-605: Inorganic Chemistry-III	After completing the course work learner will be acquired with knowledge concept of acid base and their theories, crystal structures of solids, Zeolite Framework Types and their classification. Various methods of nanoparticle synthesis, toxic chemical in the environment.
		CH-607: Organic Chemistry -II	Students will learn the interaction of radiations with matter, use of models to draw different types of disubstituted cyclohexanes in chair form,
		CH-608: Organic Chemistry -III	The student will understanding the concept of Retrosynthetic Analysis and its Applications . Organic Reaction Mechanism and Synthetic Applications and the common name reactions . The student will understand the role of Reagents in Organic Synthesis. The student needs to know the natural products like Terpenoids and alkaloids.
		CH-610: Chemistry of soil and Agrochemical	After studying this course, student is expected to 1) Understood various components of soil and soil properties and their impact on plant growth. 2) Understood the classification of the soil. 3) Explores the problems and potentials of soil and decide the most appropriate treatment for land use. 4) Understood the Reclamation and management of soil physical and chemical constraints.
		Ch-611(A): Analytical Chemistry-II	After completion of the course student should able to 1. Define basic terms in solvent extraction, basics of chromatography, HPLC, GC, and AAS and AES. Some important terms are: solvent extraction, aqueous and organic phase, distribution ratio and coefficient, solute remain unextracted, percent extraction, ion association complex, theoretical plate, HETP, retention time, selectivity Identify important parameters in analytical processes or estimations. Example: minimum analyte concentration in particular method, reagent concentration for particular analysis.



## Programme Outcomes: B. Sc Microbiology

<b>Department of Microbiology</b>	After successful completion of three year degree program in  Microbiology a student should be able to;
<b>Programme Outcomes</b>	<ul style="list-style-type: none"> <li>• To enrich students' knowledge and train them in the pure microbial sciences</li> <li>• To introduce the concepts of application and research in Microbiology</li> <li>• To inculcate sense of scientific responsibilities and social and environment awareness</li> <li>• To help students build-up a progressive and successful career</li> </ul>

### F.Y.B.Sc Microbiology Sem-I

Course Title	Outcomes
<b>MB 111: Introduction to Microbial World</b>	<ul style="list-style-type: none"> <li>• Understand history of microbiology</li> <li>• Acquire knowledge of different Eras of Microbiology and become acquainted with Nobel laureates in Life Sciences of 21st Century</li> <li>• Gain knowledge about different types of Microorganism with their differentiating characters</li> <li>• Understand beneficial and harmful effects of microorganisms in different fields of Microbiology</li> </ul>
MB 112: Basic Techniques in Microbiology	<ul style="list-style-type: none"> <li>• Get knowledge of Modern SI units</li> <li>• Understand Principles and Working of different types of Microscopes</li> <li>• Gain knowledge of different types of staining techniques and role of fixatives, mordants, decolourisers and accentuators in staining</li> <li>• Understand the concept of sterilization and disinfection</li> </ul>

### F.Y.B.Sc Microbiology Sem-II

MB 121: Bacterial Cell and Biochemistry	<ul style="list-style-type: none"> <li>• Understand structure, chemical composition and functions of the components in bacterial cell</li> <li>• Comprehend chemical basis of Microbiology</li> <li>• Learn structure, organization and functions of carbohydrates, lipids, proteins &amp; nucleic acids</li> <li>• Be familiar with classification of bacteria (Bergey's Manual and Systemic Bacteriology) and Viruses (ICTV Nomenclature)</li> </ul>
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<p>MB 122: Microbial Cultivation and Growth</p>	<ul style="list-style-type: none"> <li>• Gain knowledge of cultivation of microorganisms: Nutritional classification, Design and Preparation of media</li> <li>• Comprehend isolation and maintenance of bacteria, algae, fungi, actinomycetes and viruses</li> <li>• Understand the Role of National Biodiversity Authority for culture collection centres</li> <li>• Become acquainted with Bacterial growth kinetics, Growth curve, Generation time and Diauxic growth</li> <li>• Learn different methods of enumeration of bacterial growth with factors affecting bacterial growth.</li> </ul>
<p><b>S.Y. B. Sc. Microbiology Sem-III</b></p>	
<p>MB-231: Medical Microbiology and Immunology</p>	<ul style="list-style-type: none"> <li>• Understanding the concept of epidemiology with respect to terms like Incubation period, Viability, Susceptibility, Pathogenicity, Virulence, Pathogenesis, Lab diagnosis, Epidemic, Sporadic, Endemic and Pandemic.</li> <li>• Acquainted with human pathogens such as <i>Escherichia coli</i>, <i>Staphylococcus aureus</i> and Fungi like Yeast- <i>Candida</i> as well as Dermatophytes.</li> <li>• Principles of Chemotherapy are introduced based on Selective toxicity, Bioavailability, MIC, MBC, LD50. Accustomed with the terms Antagonism and synergism in drug administration., Antibiotic sensitivity, Antibiotic misuse/antibiotic overuse and Concept of drug resistance (e.g., MRSA, ESBL)</li> <li>• Comprehend the term immunity with its types</li> <li>• Get knowledge of haematopoiesis, Antigens and antibodies, Immunohematology, Inheritance of ABH antigens, Medico legal applications of blood groups</li> <li>• Acquainted with Active and Passive immunization</li> </ul>
<p>MB-232: Bacterial Physiology and Fermentation Technology</p>	<ul style="list-style-type: none"> <li>• Acquainted with the term Enzymes, its nomenclature and classification and models for catalysis</li> <li>• Understand the effect of pH, temperature, substrate concentration, enzyme concentration, activators and</li> </ul>

	<p>inhibitors on enzymes</p> <ul style="list-style-type: none"> <li>• Understanding the concept of Bacterial Physiology with reference to metabolism, catabolism, anabolism, respiration and fermentation</li> <li>• Comprehend the different metabolic pathways with structures</li> <li>• Acquainted with design of a fermenter, fermentation parameters, use of media for industrial fermentations</li> <li>• Understand the sources of contamination during fermentations</li> </ul>
<b>S.Y. B. Sc. Microbiology Sem-IV</b>	
MB-241: Bacterial Genetics	<ul style="list-style-type: none"> <li>• Understanding the different experimental evidence for nucleic acid as genetic material</li> <li>• Comprehend the different types of nucleic acids, Structure of DNA and Prokaryotic DNA replication.</li> <li>• Understand the different models and modes of DNA replication with its basic rules of DNA replication</li> <li>• Get knowledge of Gene expressions, Mutations and reversions</li> <li>• Acquainted with Plasmid genetics</li> </ul>
MB-242: Air, Water and Soil Microbiology	<ul style="list-style-type: none"> <li>• The course will help them to get knowledge of the Air Microbiology, methods of air sampling, different types of air samplers, air sanitation and airborne infections.</li> <li>• Deals with water microbiology including bacteriological analysis of water, methods of water purification, water borne infections and bacteriological standards of water quality.</li> <li>• Understand Soil Microbiology, rhizosphere, composting and humus formation, biofertilizers, biocontrol agents and microbial interactions.</li> <li>• Acquire knowledge of carbon and nitrogen cycles with role of microorganisms.</li> </ul>
<b>T.Y. B. Sc. Microbiology Sem-V</b>	
MB 351: Medical Microbiology- I	<ul style="list-style-type: none"> <li>• Understand the human anatomy, pathogens associated with diseases.</li> <li>• Acquire knowledge of principles underlying establishment of pathogens in human body.</li> <li>• Comprehend of pathogenesis of specific pathogens causing microbial diseases.</li> </ul>



	<ul style="list-style-type: none"> <li>• Assess epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.</li> <li>• Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.</li> <li>• Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures.</li> </ul>
MB-352 Immunology- I	<ul style="list-style-type: none"> <li>• Understand immune system structure, composition, function and comparison of different types of immunity.</li> <li>• Acquire knowledge about antigens, Recognition of pathogens; antigen processing and presentation; Immunity to infection and pathological consequences of immunodeficiencies.</li> <li>• To learn the applications of Immunology in monoclonal antibodies, vaccines production and Immunotherapy.</li> <li>• Understand abnormal working of Immune system in hypersensitivity, auto immune diseases, immune tolerance and transplantation immunology.</li> <li>• To develop strategies for Diagnosis of diseases based on antigen and antibody reactions with emphasis on prevailing communicable diseases.</li> </ul>
MB 353: Enzymology	<ul style="list-style-type: none"> <li>• To understand methods of active site determination, role of enzymes and its cofactors in microbial physiology.</li> <li>• To learn to perform enzyme assay, purification and quantification of enzymes activity, enzyme kinetics in terms of initial, final velocity, mathematical expression of enzyme kinetic parameters.</li> <li>• To correlate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes</li> <li>• To learn mechanisms of transport of solutes across the membrane</li> <li>• To get acquainted with mechanism of biosynthesis and degradation of biomolecules</li> <li>• To comprehend basic concept of autotrophic mode of metabolism of prokaryotes</li> </ul>

MB 354: Genetics	<ul style="list-style-type: none"> <li>• To exhibit a knowledge base in Genetics and Molecular Biology</li> <li>• To understand the central dogma of Molecular Biology</li> <li>• To construct genetic map of bacteria and fungi</li> <li>• To get introduced to concept of recombination and bacteriophage Genetics</li> <li>• To understand the concept cloning in bacteria</li> <li>• To demonstrate the knowledge of common and advanced laboratory practices in Molecular Biology</li> </ul>
MB 355 Fermentation Technology– I	<ul style="list-style-type: none"> <li>• To impart technical understanding of commercial fermentations.</li> <li>• To apply classical, advanced strain improvement and isolation techniques for fermentation processes.</li> <li>• To optimize and sterilize media used in fermentation industry for commercially economical and efficient fermentations.</li> <li>• To recover the product using suitable methods and ensuring quality of the finished product by quality assurance tests.</li> <li>• To acquaint fermentation economics, process patentability, process validation.</li> <li>• To comprehend the large-scale productions of commercially significant fermentation products of classical and recent significance.</li> </ul>
MB 356: Agricultural Microbiology	<ul style="list-style-type: none"> <li>• To understand plant growth improvement with respect to disease resistance, environment tolerance.</li> <li>• To correlate stages of plant disease development, epidemiology, symptom based classification, control methods.</li> <li>• To understand the importance of microorganisms in sustainable agriculture, biotechnological application of bio films, edible vaccines.</li> <li>• To correlate Soil Micro biome and Role of microorganisms in soil health</li> <li>• To determine the use of Microorganisms as tools in plant genetic engineering.</li> </ul>
Skilled Base Elective MB 3510 Marine Microbiology	<ul style="list-style-type: none"> <li>• To impart the awareness of unseen and unexplored niche of marine ecosystem of microbes.</li> <li>• To acquire advances in the knowledge of marine microbes and marine ecology.</li> <li>• To learn the field research on marine processes and laboratory research on microorganisms.</li> <li>• To comprehend the role of marine microbes in bioremediation and bioprospecting.</li> <li>• To avail career opportunities in marine education, industry and research.</li> </ul>

### T.Y.B. Sc. Microbiology Sem-VI

MB 361: Medical Microbiology II	<ul style="list-style-type: none"><li>• Understand the human anatomy, pathogens associated with diseases.</li><li>• Acquire knowledge of principles underlying establishment of pathogens in human body.</li><li>• Comprehend of pathogenesis of specific pathogens causing microbial diseases.</li><li>• Assess epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.</li><li>• Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.</li><li>• Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures.</li></ul>
MB 362 Immunology– II	<ul style="list-style-type: none"><li>• Understand immune system structure, composition, function and comparison of different types of immunity.</li><li>• Acquire knowledge about antigens, Recognition of pathogens; antigen processing and presentation; Immunity to infection and pathological consequences of immunodeficiencies.</li><li>• To learn the applications of Immunology in monoclonal antibodies, vaccines production and Immunotherapy.</li><li>• Understand abnormal working of Immune system in hypersensitivity, auto immune diseases, immune tolerance and transplantation immunology.</li><li>• To develop strategies for Diagnosis of diseases based on antigen and antibody reactions with emphasis on prevailing communicable diseases</li></ul>
MB 363: Metabolism	<ul style="list-style-type: none"><li>• To understand methods of active site determination, role of enzymes and its cofactors in microbial physiology.</li><li>• To learn to perform enzyme assay, purification and quantification of enzymes activity, enzyme kinetics in terms of initial, final velocity, mathematical expression of enzyme kinetic parameters.</li><li>• To correlate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes</li><li>• To learn mechanisms of transport of solutes across the membrane</li><li>• To get acquainted with mechanism of biosynthesis and degradation of</li></ul>



	<p>biomolecules</p> <ul style="list-style-type: none"> <li>• To comprehend basic concept of autotrophic mode of metabolism of prokaryotes</li> </ul>
MB-364: Molecular Biology	<ul style="list-style-type: none"> <li>• To exhibit a knowledge base in Genetics and Molecular Biology</li> <li>• To understand the central dogma of Molecular Biology</li> <li>• To construct genetic map of bacteria and fungi</li> <li>• To get introduced to concept of recombination and bacteriophage Genetics</li> <li>• To understand the concept cloning in bacteria</li> <li>• To demonstrate the knowledge of common and advanced laboratory practices in Molecular Biology</li> </ul>
MB 365 Fermentation Technology – II	<ul style="list-style-type: none"> <li>• To impart technical understanding of commercial fermentations.</li> <li>• To apply classical, advanced strain improvement and isolation techniques for fermentation processes.</li> <li>• To optimize and sterilize media used in fermentation industry for commercially economical and efficient fermentations.</li> <li>• To recover the product using suitable methods and ensuring quality of the finished product by quality assurance tests.</li> <li>• To acquaint fermentation economics, process patentability, process validation.</li> <li>• To comprehend the large-scale productions of commercially significant fermentation products of classical and recent significance.</li> </ul>
MB 366: Food Microbiology	<ul style="list-style-type: none"> <li>• To describe food safety problems and solutions in India and global scale.</li> <li>• Identify and classify types of microorganisms in food processing and compare their</li> <li>• Characteristics and behaviour</li> <li>• To learn food classification based on their perishability, intrinsic and extrinsic factors affecting the growth of microbes in foods, role of microorganisms in food fermentation.</li> <li>• To acquire knowledge about food spoilage, food borne diseases, predisposition and preventive and control measures.</li> <li>• To apply principles of sanitation, heat treatment, irradiation, modified atmosphere, antimicrobial preservatives and combination of method (hurdle concept) to control microbial growth</li> </ul>

	with emphasis on HACCP guidelines.
Skilled Base Elective MB 3610 Waste Management	<ul style="list-style-type: none"><li>• To understand waste management and its practicable applicability.</li><li>• To assess the magnitude and influence of hazardous content of waste, pollution of waters and waste water treatment technologies.</li><li>• To learn the design and working of treatment plants and methods used for liquid and solid waste treatment.</li><li>• To impart the understanding of kinetics of biological systems used in waste treatment.</li><li>• To learn the standards of waste management and competent authorities involved at National and international level.</li></ul>

**Course Outcomes B. Sc Zoology Sem-V**

Title of Course	Outcomes
ZO-351 Pest Management	<ol style="list-style-type: none"> <li>1. Define pest management.</li> <li>2. Describe the economic, ecological, and sociological benefits of IPM.</li> <li>3. Distinguish positive and negative impacts of pesticide use.</li> <li>4. Understand problems resulting from misuse, overuse, and abuse of chemical pesticides.</li> <li>5. Define and describe pesticide resistance and how it develops.</li> <li>6. Identify ecological and biological characteristics important in development of pest populations.</li> <li>7. Identify</li> <li>10 tactics commonly used in IPM and be able to distinguish them.</li> <li>8. Understand society's role in IPM decisions.</li> <li>9. Describe different groups of pests and compare them to weeds and plant pathogens.</li> <li>10. Analyse and compare management tactics to determine the best approach to reducing pest populations, weeds, and disease presence.</li> <li>11. Locate appropriate, scientifically valid sources of information on specific tactics to manage insect pests, weeds, and diseases.</li> <li>12. Know and how to develop an IPM program</li> </ol>
ZO-352 Histology	<ol style="list-style-type: none"> <li>1. The students will be able to understand, classify and identify the different types of tissue.</li> <li>2. The students will understand the complexity of various tissues in an organ.</li> <li>3. The students will be able to learn structure &amp; functions of various tissues.</li> <li>4. The students will understand the various diseases related to organs.</li> <li>5. The student will be able to know the role of glands in mammals.</li> </ol>
ZO- 353 Biological Chemistry	<ol style="list-style-type: none"> <li>1. Learners shall be able to understand basic concepts and significance of biochemistry</li> <li>2. The students will learn about the pH and Buffers.</li> <li>3. The students will learn about the chemical structures of carbohydrate, and their biological and clinical significance</li> <li>4. The students will be able to understand, interpret structure and importance of proteins, carbohydrates and lipids</li> <li>5. Learners will be able to comprehend variations in enzyme activity and kinetics.</li> </ol>
ZO-354 Genetics	<ol style="list-style-type: none"> <li>1. History and scope of Genetics</li> <li>2. Understanding the pre mendelian genetic concepts</li> <li>3. To study the laws and concepts of Mendelian inheritance.</li> <li>4. Principles of deviation from Mendelian inheritance with examples.</li> <li>5. Concepts of multiple alleles with examples.</li> <li>6. Understanding the mechanism of sex determination in different organisms.</li> <li>7. Application of statistical concepts used in health medical science, plants and animal system</li> <li>8. Interpretation of results commonly used in statistical analysis</li> </ol>



ZO 355 – Developmental Biology	<ol style="list-style-type: none"> <li>1. Understand the terms: Gametogenesis, Fertilization and early development.</li> <li>2. Understand the Morphogenesis and Organogenesis in animals.</li> <li>3. Understand the Aging, Apoptosis and Senescence</li> </ol>
ZO 356 – Parasitology	<ol style="list-style-type: none"> <li>1. The students will be able to learn about basics and scope of parasitology.</li> <li>2. The students will be able to learn the types of host and parasite with examples.</li> <li>3. The students will be able to learn about the morphology, life cycle, pathogenicity and treatment of common parasites (Protists and Platyhelminthes).</li> <li>4. The students will be able to learn about host –parasite relationships and their effects on host body.</li> <li>5. The students will be able to learn about the arthropod parasites and their role as vector</li> </ol>
ZO 3510: Aquarium Management	<ol style="list-style-type: none"> <li>1: To comprehend the key skills needed to set up an aquarium.</li> <li>2: To be able to identify and differentiate the different aquarium/ornamental fishes.</li> <li>3: To be able to formulate fish food that provides with complete nutritional benefits.</li> <li>4: To analyze the required budget to set up a well maintained home aquarium.</li> </ol>
ZO – 3511 Poultry Management	<ol style="list-style-type: none"> <li>1. The students will be able to understand the Poultry farming practices.</li> <li>2. The students will be able to understand the poultry breeding techniques.</li> <li>3. The students will be able to understand poultry rearing techniques.</li> <li>4. The students will be able to understand feeding requirement and food ingredients.</li> <li>5. The students will be able to understand the poultry disease and their pathogens.</li> <li>6. The students will be able to understand market value of poultry products.</li> </ol>
<b>Course Outcomes B. Sc Zoology Sem-VI</b>	
<b>Title of Course</b>	<b>Outcomes</b>
ZO 3510: Aquarium Management	<ol style="list-style-type: none"> <li>1. The students will be able to understand the basics principles of Medical and Forensic Zoology.</li> <li>2. The students will be able to understand scientific methods in crime detection.</li> <li>3. The students will be able to understand the advancements in the field of Medical and Forensic Zoology.</li> <li>4. The students will be able to understand modern tools, techniques and skills in forensic investigations.</li> <li>5. The students will be able to describe the fundamental principles and functions of forensic science and its significance to human society.</li> </ol>
ZO 362 – Animal Physiology	<ol style="list-style-type: none"> <li>1. The various physiological organ-systems and their importance to the integrative functions of the human body.</li> <li>2. Understand Concept of energy requirements</li> <li>3. Various aspects of Digestive physiology.</li> <li>4. Circulatory system with medical conditions</li> <li>5. Understand Respiratory mechanism and gases transport.</li> <li>6. Eliminations of waste materials from the body.</li> <li>7. Develop understanding in Structure and functions of muscles</li> <li>8. Understand formation of gametes and function of endocrine glands.</li> </ol>

ZO 363 – Molecular Biology	<ol style="list-style-type: none"> <li>1. Learner shall get an insight into molecular mechanisms of various biological processes in cells and organisms</li> <li>2. Learner shall get an insight into the Structure of DNA and RNA, DNA and RNA as genetic material</li> <li>3. The course shall prepare learner to get insight into the Central Dogma of Molecular Biology</li> <li>4. Learner shall also understand the concept of gene regulation</li> <li>5. Learner shall get an insight into the DNA Damage and Repair</li> </ol>
ZO 364 – Entomology	<ol style="list-style-type: none"> <li>1. Understand basic concepts in Entomology and its scope.</li> <li>2. Learn morphology and anatomy of Insects.</li> <li>3. Understand the concept of social organization in Insects.</li> <li>4. Understand the development process of Insects.</li> <li>5. Identify disease causing insect vectors.</li> <li>6. Will be able to design and implement pest controlling methods against pests.</li> </ol>
ZO 365 – Techniques in Biology	<ol style="list-style-type: none"> <li>1. Understand the various Applications of Biotechnology.</li> <li>2. Study and Understand the Hybridoma technology as well as Enzyme biotechnology.</li> <li>3. Study and understand the DNA Recombinant technology.</li> <li>4. Understand the industrial and environmental biotechnology.</li> <li>5. Study and understand the Stem cell biotechnology.</li> <li>6. Understand the Scope and Significance of Biotechnology.</li> </ol>
ZO 366 – Evolutionary Biology	<ol style="list-style-type: none"> <li>1. Students will be able to learn most of the essential aspects of Evolutionary Biology in detail which will help them in acquiring better understanding regarding the subject.</li> <li>2. Explain important processes, principles and concepts and critically evaluate theories and empirical research within evolutionary biology</li> <li>3. Apply evolutionary theory and concepts to address empirical and theoretical questions in evolutionary biology.</li> <li>4. Independently investigate evolutionary questions using literature and analyses of empirical data.</li> <li>5. Communicate the principles, theories, problems and research results associated with questions that lie within the evolutionary framework to students</li> </ol>

**Programme Outcomes: B. Sc Mathematics**

<b>Department of Mathematics</b>	After successful completion student should be able to;
<b>Programme Outcomes</b>	<ol style="list-style-type: none"> <li>1.Be prepared to use Mathematics, not only in the discipline of Mathematics, but also in other disciplines and in their future endeavors.</li> <li>2.Recognize what constitutes mathematical thinking, including the ability to produce and judge the validity of rigorous mathematical arguments.</li> <li>3.Develop the skills necessary to formulate and understand proofs and to provide justification.</li> <li>4.Think critically and communicate clearly mathematical concepts and solutions to real-world problems.</li> <li>5.Develop an understanding of the precise language of Mathematics, and be able to integrate mathematical arguments with their critical thinking skills.</li> <li>6.The student develops theoretical, applied and computational skills.The student gains confidence in proving theorems and solving problems.</li> </ol>
<b>Course Outcomes F.Y.B.Sc Mathematics Sem I</b>	
<b>Course Title</b>	<b>Outcomes</b>
Algebra	<p>After completing this course student will be able to</p> <ol style="list-style-type: none"> <li>1. Solve various problems on properties of integers and use the basic concepts of divisibility, congruence and their applications in basic algebra.</li> <li>2. Apply factor theorem, remainder theorem to solve problems on polynomials and by using given relations between roots he will find the roots of polynomials.</li> </ol>
Calculus I	<p>After completing this course student will be able to</p> <ol style="list-style-type: none"> <li>1. Students will be familiar with the techniques of integration and differentiation of function with real variables</li> <li>2. Identify and apply the intermediate value thm, Mean value theorem and L'Hospital's rule</li> <li>3. Verify the values of limit of a function at a point using the definition of a limit</li> </ol>
<b>Course Outcomes F.Y.B.Sc Mathematics Sem II</b>	
Analytical Geometry	<p>After completing this course student will be able to</p> <ol style="list-style-type: none"> <li>1. Solve the problems of lines in three dimension, planes, spheres, and cylinders and how geometry is related to algebra by using their algebraic equations.</li> <li>2. After studying this course, students should able to understand geometrical terminology for angle, triangle, quadrilaterals and circles.</li> </ol>
Calculus II	<p>After completing this course student will be able to</p> <ol style="list-style-type: none"> <li>1. Identify types of differential equations and solve differential equations such as Exact, homogeneous, non- homogeneous, and linear and Bernoulli differential equations etc.</li> <li>2. Identify and apply the function properties of real number system such as the completeness property.</li> <li>3. Students will be familiar with the techniques of integration and differentiation of function with real variables.</li> </ol>



**S.Y.B.Sc Mathematics Sem-I**

<b>Course Title</b>	<b>Outcomes</b>
Multivariable Calculus I	After completing the course, students will be able to- 1. Students learn analysis of multivariable functions, continuity, and differentiability. 2. learn the concepts of multiple integrals and their Application to area and volumes
Laplace Transforms and Fourier Series	After completing this course student will be able to 1. Learn the methods and properties of Laplace transform and Inverse Laplace Transform, apply them to solve Linear Differential equations. 2. Apply the fundamental concepts of Fourier series, Fourier Sine series, Fourier Cosine series to find series representation of irrational numbers.

**S.Y.B.Sc Mathematics Sem-II**

<b>Course Title</b>	<b>Outcomes</b>
Linear Algebra	After completing this course student will be able to 1. Use the concept of basis and dimension of vector spaces linear dependence and linear independence, to solve problems. 2. Use the concept of inner product spaces to find norm of vectors, distance between vectors, check the orthogonality of vectors, to find the orthogonal and orthonormal basis. 3. Apply the properties of linear transformations to linearity of transformations, kernel and rank of linear transformations, inverse transformations to solve the problems of matrix transformations, change of basis.
Numerical Method & its Application	After completing this course student will be able to 1. Solve the equation by location of roots, Regula Falsi theorem, Newton Raphson method, Gauss seidel method. 2. Know the fundamental theorem of difference Calculus. 3. Solve the Numerical Integration. 4. Understand the Numerical solution of first order ODE by Euler's method, Modified Euler's method & Runge -Kutta method.

<b>B.Sc Mathematics Sem-III</b>	
<b>Course Title</b>	<b>Outcomes</b>
Metric Spaces	After completing this course student will be able to 1. Learn the basic abstract ideas of analysis 2. Learn the basic ideas open sets, closed sets, limit point, isolated points, boundary points, subspace, product metric spaces and apply them to study the nature of sets. 3. Learn the theorems on completeness, compactness, connectedness and use them to solve the problems. identify the continuity of a function which is defined on metric spaces, at a given point and identify the set of points on which a function is continuous by using different theorems.
Real Analysis-I	After completing the course, students will be able to 1. know sequence and series of real numbers and their convergence and divergence.
Group Theory	After completing the course, students will be able to- 1. Identify the various algebraic structures with their corresponding binary operations. 2. generalize the groups on the basis of their orders, elements, order of elements and group relations 3. Compare two groups of same orders on the basis of isomorphism Criteria. 4. Compute the possible subgroups of given group of specific orders and will recognize them.
Ordinary Differential Equations	On satisfying the requirements of this course, students will have the knowledge and skills to: Solve linear differential equations with constant coefficients, non-homogeneous differential equations, system of first order equations, solution of differential equations by Power series method
Operations Research	After completing the course, students will be able to- 1. Formulate and model a LPP from a word problem and solve them graphically in 2-D 2. Modify a primal problem and use the LPP to identify the new solution 3. Understand basic notions like feasibility, infeasibility, basic solutions, unbounded solutions etc.
Lattice Theory	After Completion of this course students will be able to 1. Know the basic information of order sets, its example, diagram & maps between ordered sets. 2. Study lattice and complete lattice. 3. Understand the modular, distributive and Boolean lattice
<b>B.Sc Mathematics Sem-IV</b>	
<b>Title of Course</b>	<b>Outcomes</b>
Complex Analysis	On satisfying the requirements of this course, students will have the knowledge and skills to: 1. solve problems on basic concepts of modulus, argument of a complex number, deMoivre's theorem and use them to find roots of an algebraic equation. 2. Define continuity and differentiability for complex functions 3. Prove the Cauchy-Riemann equations and apply them to

	<p>complex functions in order to determine whether a given continuous function is complex differentiable,</p> <p>4. Evaluate integrals along a path - directly from the definition and also via the Fundamental Theorem of Contour Integration and Cauchy's Theorem,</p> <p>5. Compute the Taylor and Laurent expansions of simple functions, determining the nature of the singularities and calculating residues,</p> <p>6. Prove the Cauchy Residue Theorem and use it to evaluate integrals.</p>
Real Analysis-II	<p>On satisfying the requirements of this course, students will have the knowledge and skills to: Know convergence of sequence and series of functions, Riemann integrals, Improper integrals and its applications,</p>
Ring Theory	<p>After completing the course, students will able to-</p> <ol style="list-style-type: none"> <li>1. Assess properties implied by the definitions of rings</li> <li>2. Use various canonical types of rings</li> <li>3. Analyze and demonstrate examples of ideals and quotient rings</li> <li>4. Use the concept of isomorphism and homomorphism for rings</li> </ol>
Partial Differential Equations	<p>On satisfying the requirements of this course, students will have the knowledge and skills to:</p> <ol style="list-style-type: none"> <li>1. Form the partial differential equations and Solve the problems on partial differential equations.</li> <li>2. Solve the problems on first order and higher degree partial differential equations and its applications.</li> </ol>
Optimization Techniques	<p>After completing this course students will have the knowledge and skills to:</p> <ol style="list-style-type: none"> <li>1. Solve the project management related problems by using the concepts of CPM, PERT so as to findout the project completion time.</li> <li>2. Fond the optimal solutions of Game theory problems, Optimal solution of two person zero sum game, Solution of mixed strategy games, graphical solution of games, linear programming solution of game.</li> <li>3. Solve the problems on Replacement policy after failure , how to process the n jobs on two machines or three machines in minimum time so that the machines remain idle for short time.</li> <li>4. Solve the optimization unconstrained the optimization problems and constrained optimization problems of multivariable functions.</li> </ol>
Computational Geometry	<p>After completing the course, students will able to-</p> <ol style="list-style-type: none"> <li>1. Design, analyze and develop algorithm and method for solving geometric problems efficiently</li> <li>2. Assess theoretical and practical problems that involves geometry</li> <li>3. Generalize basic notions of reflection, rotation, projection with real life examples</li> </ol>

**Course Outcomes F.Y.B.Sc & S.Y.B.Sc Physics**

<b>F.Y.B.Sc Physics Sem -I</b>	
<b>Course Title</b>	<b>Course Outcomes</b>
Mechanics and Properties of Matter (11121)	<p>On successful completion of this course students will be able to do the following:</p> <ol style="list-style-type: none"><li>1. Demonstrate an understanding of Newton's laws and applying them in calculations of the motion of simple systems.</li><li>2. Use the free body diagrams to analyse the forces on the object.</li><li>3. Understand the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them.</li><li>4. Understand the concepts of elasticity and be able to perform calculations using them.</li><li>5. Understand the concepts of surface tension and viscosity and be able to perform calculations using them.</li><li>6. Use of Bernoulli's theorem in real life problems.</li><li>7. Demonstrate quantitative problem solving skills in all the topics covered.</li></ol>
Physics Principles Applications (11122)	<p>On successful completion of this course students will be able to do the following:</p> <ol style="list-style-type: none"><li>1. To understand the general structure of atom, spectrum of hydrogen atom.</li><li>2. To understand the atomic excitation and LASER principles.</li><li>3. To understand the bonding mechanism and its different types.</li><li>4. To demonstrate an understanding of electromagnetic waves and its spectrum.</li><li>5. Understand the types and sources of electromagnetic waves and applications.</li><li>6. To demonstrate quantitative problem solving skills in all the topics covered.</li></ol>
Physics Laboratory-IA (11123)	<p>After successfully completing this laboratory course, the students will be able to</p> <ol style="list-style-type: none"><li>1. Acquire technical and manipulative skills in using laboratory equipment, tools, and materials.</li><li>2. Demonstrate an ability to collect data through observation and/or experimentation and interpreting data.</li><li>3. Demonstrate an understanding of laboratory procedures including safety, and scientific methods.</li><li>4. Demonstrate a deeper understanding of abstract concepts and theories gained by experiencing and visualizing them as authentic phenomena.</li><li>5. Acquire the complementary skills of collaborative learning and teamwork in laboratory settings.</li></ol>



<b>F.Y.B.Sc Physics Sem -II</b>	
<b>Course Title</b>	<b>Outcomes</b>
Heat and Thermodynamics (12121)	<p>After successfully completing this course, the student will be able to</p> <ol style="list-style-type: none"> <li>1. Describe the properties of and relationships between the thermodynamic properties of a pure substance.</li> <li>2. Describe the ideal gas equation and its limitations.</li> <li>3. Describe the real gas equation.</li> <li>4. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.</li> <li>5. Analyse the heat engines and calculate thermal efficiency.</li> <li>6. Analyse the refrigerators, heat pumps and calculate coefficient of performance.</li> <li>7. Understand property 'entropy' and derive some thermodynamical relations using entropy concept.</li> <li>8. Understand the types of thermometers and their usage.</li> </ol>
Electricity and Magnetism (12122)	<p>On successful completion of this course students will be able to do the following:</p> <ol style="list-style-type: none"> <li>1. To understand the concept of the electric force, electric field and electric potential for stationary charges.</li> <li>2. Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law.</li> <li>3. To understand the dielectric phenomenon and effect of electric field on dielectric.</li> <li>4. To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.</li> <li>5. To study magnetic materials and its properties.</li> <li>6. Demonstrate quantitative problem solving skills in all the topics covered.</li> </ol>
Physics Laboratory-IB (12123)	<p>After successfully completing this laboratory course, the students will be able to</p> <ol style="list-style-type: none"> <li>1. Acquire technical and manipulative skills in using laboratory equipment, tools, and materials.</li> <li>2. Demonstrate an ability to collect data through observation and/or experimentation and interpreting data.</li> <li>3. Demonstrate an understanding of laboratory procedures including safety, and scientific methods.</li> <li>4. Demonstrate a deeper understanding of abstract concepts and theories gained by experiencing and visualizing them as authentic phenomena.</li> <li>5. Acquire the complementary skills of collaborative learning and teamwork in laboratory settings.</li> </ol>

**S.Y.B.Sc Physics Sem-III**

<b>Course Title</b>	<b>Outcomes</b>
Mathematical Methods in Physics (23121)	After the completion of this course students will be able to 1.Understand the complex algebra useful in physics courses 2.Understand the concept of partial differentiation. 3.Understand the role of partial differential equations in physics 4.Understand vector algebra useful in mathematics and physics 5.Understand the singular points of differential equation.
Electronics (23122A)	On successful completion of this course the students will be able to 1.Apply laws of electrical circuits to different circuits. 2.Understand the relations in electricity 3.Understand the properties and working of transistors. 4.Understand the functions of operational amplifiers. 5.Design circuits using transistors and operational amplifiers. 6.Understand the Boolean algebra and logic circuits.
Physics Lab 2A (23123)	After completing this practical course students will be able to 1.Use various instruments and equipment. 2.Design experiments to test a hypothesis and/or determine the value of an unknown quantity. 3.Investigate the theoretical background to an experiment. 4.Set up experimental equipment to implement an experimental approach. 5. Analyse data, plot appropriate graphs and reach conclusions from your data analysis. 6. Work in a group to plan, implement and report on a project/experiment. Keep a well-maintained and instructive laboratory logbook.

**S.Y.B.Sc Physics Sem-IV**

<b>Course Title</b>	<b>Outcomes</b>
Oscillations, Waves and Sound (24121)	On completion of this course, Students will be able to 1.Understand the physics and mathematics of oscillations. Solve the equations of motion for simple harmonic, damped, and forced oscillators. 2.Formulate these equations and understand their physical content in a variety of applications, 3.Describe oscillatory motion with graphs and equations, and use these descriptions to solve problems of oscillatory motion. 4.Explain oscillation in terms of energy exchange, giving various examples. 5.Solve problems relating to undamped, damped and force oscillators and superposition of oscillations. 6.Understand the mathematical description of travelling and standing waves. 7.Recognise the one-dimensional classical wave equation and solutions to it. 8.Calculate the phase velocity of a travelling wave. 9.Explain the Doppler effect, and predict in qualitative terms the frequency change that will occur for a stationary and a moving observer. 10.Define the decibel scale qualitatively, and give examples of sounds at various levels. 11.Explain in qualitative terms how frequency, amplitude, and wave shape affect the pitch, intensity, and quality of tones produced by musical instruments

<p style="text-align: center;">Optics (24122)</p>	<p>This course will enable Students to:</p> <ol style="list-style-type: none"> <li>1. acquire the basic concepts of wave optics</li> <li>2. describe how light can constructively and destructively interfere</li> <li>3. explain why a light beam spreads out after passing through an aperture</li> <li>4. summarize the polarization characteristics of electromagnetic waves</li> <li>5. appreciate the operation of many modern optical devices that utilize wave optics</li> <li>6. Understand optical phenomena such as polarisation, birefringence, interference and diffraction in terms of the wave model.</li> <li>7. analyse simple examples of interference and diffraction phenomena.</li> <li>8. be familiar with a range of equipment used in modern optics.</li> </ol>
<p style="text-align: center;">Physics Lab 2B (24123)</p>	<p>After completing this practical course students will be able to</p> <ol style="list-style-type: none"> <li>1. Use various instruments and equipment.</li> <li>4. Design experiments to test a hypothesis and/or determine the value of an unknown quantity.</li> <li>5. Investigate the theoretical background to an experiment.</li> <li>4. Set up experimental equipment to implement an experimental approach.</li> <li>7. Analyse data, plot appropriate graphs and reach conclusions from your data analysis.</li> <li>8. Work in a group to plan, implement and report on a project/experiment.</li> <li>9. Keep a well-maintained and instructive laboratory logbook.</li> </ol>

**Programme Outcomes: B. Sc Botany**

<b>Department of Botany</b>	After successful completion of three year degree program in Botany a student is able to;
<b>Programme Outcomes</b>	<ol style="list-style-type: none"> <li>1. Students know about different types of lower &amp; higher plants their evolution in from algae to angiosperm &amp; also their economic and ecological importance.</li> <li>2. Cell biology gives knowledge about cell organelles &amp; their functions.</li> <li>3. Molecular biology gives knowledge about chemical properties of nucleic acid and their role in living systems.</li> <li>4. Genetics provides knowledge about laws of inheritance, various genetic interactions, chromosomal aberrations &amp; multiple alleles.</li> <li>5. Structural changes in chromosomes.</li> <li>6. Student can describe morphological &amp; reproductive characters of plant and also identified different plant families and classification.</li> <li>7. They know economic importance of various plant products &amp; artificial methods of plant propagation</li> <li>8. Use modern Botanical techniques and decent equipments.</li> <li>9. To inculcate the scientific temperament in the students and outside the scientific community.</li> </ol>

<b>Course Outcomes F.Y.B. Sc Botany Sem-I</b>	
<b>Title of Course</b>	<b>Outcomes</b>
BO-111 Plant Life and Utilization-I	<ol style="list-style-type: none"> <li>1. This Course is to ensure that you can achieve an up to date level of understanding of plant science.</li> <li>2. Knowledge and understanding of the range of plant diversity in the term of Structural, Functional and Environmental relationship.</li> <li>3. The role of plant is the functioning of the ecosystem</li> <li>4. Apply the knowledge of the basic science, life science of the fundamental processes of the plant to study and analyze any plant form.</li> <li>5. Know about correct information any plant species.</li> </ol>
BO-112 Plant Morphology and Anatomy	<ol style="list-style-type: none"> <li>1. understanding the Morphological structure of plant its classification, Identification and Nomenclature.</li> <li>2. Know the about Morphological of reproductive part of that plant.</li> <li>3. understanding the better knowledge of Inflorescence and their Inflorescence type.</li> <li>4. know the about anatomical structure of every plant part and inside the tissue arrangement.</li> </ol>
<b>Course Outcomes F.Y.B. Sc Botany Sem-II</b>	
Bo-121 Plant life and Utilization - II	<ol style="list-style-type: none"> <li>1. Identify the taxonomic position of plant and habit and reproductive structure.</li> <li>2. Known about over all plant diversity their scientific naming and in identification.</li> <li>3. Known about detail structure of each plant.</li> <li>4. Apply the knowledge of the basic science, life science of the fundamental process of the plant to study and analyze any plant form.</li> </ol>



Bo-122 Principal of plant science	<ol style="list-style-type: none"> <li>1. To know about the scope of Plant physiology.</li> <li>2. Understand the fundamental of recombinant DNA technology.</li> <li>3. Know about Diffusion, Osmosis and plasmolysis theory in plant physiology.</li> <li>4. Understanding the Structural of Plant cell and Cell cycle in plant.</li> <li>5. know about the better knowledge of Molecular biology structure of DNA and its Scope</li> </ol>
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**Course Outcomes B. Sc Botany Sem-III**

<b>Title of Course</b>	<b>Outcomes</b>
BO -331 Cryptogamic Botany	<p>After completion of these courses students should be able to;</p> <ol style="list-style-type: none"> <li>1. Study of cryptogams to understand their Diversity.</li> <li>2. Know the systematics, morphology and structure of algae, fungi , bryophytes, and Pteredophytes.</li> <li>3. Know life cycle pattern of cryptogams.</li> <li>4. Know economic importance of cryptogams.</li> <li>5. Know evolution of algae, fungi, bryophytes and Pteredophytes</li> </ol>
BO-332 Cell & Molecular Biology	<ol style="list-style-type: none"> <li>1. Gain knowledge about cell and its function.</li> <li>2. Learn the scope and importance of molecular biology.</li> <li>3. Understand ultra structure of cell wall, plasma membrane and cell organelles</li> <li>4. Understand the biochemistry of cell.</li> <li>5. Understand the biochemical nature of nucleic acid and their role in living systems.</li> </ol>
BO-333 Genetics & Evolution	<ol style="list-style-type: none"> <li>1. Systematic study of gymnosperms and angiosperms.</li> <li>2. Understand the morphological and reproductive character of spermatophytic plants.</li> <li>3. Understand economic importance of gymnosperms and angiosperms.</li> <li>4. Understand the diversity among spermatophyte.</li> <li>5. To bring investigation of palaeo botanical study in India.</li> <li>6. Know, scope and application of Palaeo botany.</li> <li>7. Know types of fossils, geological time scale.</li> </ol>
BO-334 Spermatophyta & Palae Botany	<ol style="list-style-type: none"> <li>1. Know the general Characters, economic importance &amp; classification of gymnospermic plant according to chumberlain.</li> <li>2. study life cycle of pinus &amp; Gnetum with reference to morphology, anatomy, reproduction, gametophyte &amp; Sporophyte.</li> <li>3. Study the families according to Bentham &amp; Hookers system CO-</li> <li>4. Know the plant identification</li> <li>5. Understand the fossils with reference to fossils group.</li> </ol>
BO-335 Horticulture & Floriculture	<ol style="list-style-type: none"> <li>1. Understand economic importance of plant and plant product.</li> <li>2. Know the methods of plant propagation.</li> <li>3. Understand the fruit &amp; vegetables production technology.</li> <li>4. Understand the scope &amp; importance of floriculture.</li> <li>5. Understand the methods of cultivation of different flowering plants.</li> </ol>
BO-336 Computational Botany	<ol style="list-style-type: none"> <li>1. Understand the scope &amp; importance of biostatistics.</li> <li>2. Understand the scope and some basic commonly used terms like sampling, data, dispersion, population, central tendency etc.</li> <li>3. Knowledge to apply statistical analysis to biological data for testing different hypothesis.</li> </ol>

### Course Outcomes B. Sc Botany Sem-IV

BO-341 Plant Physiology & Biochemistry	<ol style="list-style-type: none"> <li>1. Know scope and importance of plant physiology.</li> <li>2. Understand plant &amp; water relation.</li> <li>3. Understand process of photosynthesis, C<sub>3</sub>, C<sub>4</sub>, CAM pathways.</li> <li>4. Understand the process of respiration, growth and developmental process in plant.</li> <li>5. Understand the biochemistry of cell.</li> <li>6. Understand the different biochemical reaction of biomolecules in plant cell.</li> </ol>
BO-342 Plant Ecology & Biodiversity	<ol style="list-style-type: none"> <li>1. Know the biotic and abiotic components of ecosystem.</li> <li>2. Food chain &amp; food web in ecosystem.</li> <li>3. Understand diversity among various groups of plant kingdom.</li> <li>4. Understand plant community &amp; ecological adaptation in plants.</li> <li>5. Scope, importance and management of biodiversity.</li> </ol>
BO-343 Plant Pathology	<ol style="list-style-type: none"> <li>1. Understand scope and importance of plant pathology.</li> <li>2. Know disease cycle and disease development.</li> <li>3. Know the effect of plant diseases on economy of crops.</li> <li>4. Know the methods of studying plant diseases.</li> <li>5. They can identify the plant diseases like bacterial, nematodal, and fungal.</li> <li>6. Know the disease forecasting.</li> <li>7. Know the prevention and control measures of plant diseases.</li> </ol>
BO-344 Medicinal & Economic Botany	<ol style="list-style-type: none"> <li>1. Understand scope and importance of pharmacognosy.</li> <li>2. Know the cultivation, collection, processing &amp; importance of various herbal drugs.</li> <li>3. Understand the scope of economic botany.</li> <li>4. Know the botanical resources like non wood forest products.</li> <li>5. Understand the concept of Ayurvedic pharmacy.</li> </ol>
BO- 345 Plant Biotechnology	<ol style="list-style-type: none"> <li>1. Understand the fundamental of recombinant DNA technology.</li> <li>2. Understand tissue culture techniques.</li> <li>3. Role of microbes in agriculture, medicine &amp; industry.</li> <li>4. Know the fermentation technology.</li> <li>5. Understand the concept of bioinformatics, genomics &amp; proteomics.</li> <li>6. Understand technical germplasm &amp; cryopreservation</li> </ol>
BO-346 Plant Breeding & Seed Technology	<ol style="list-style-type: none"> <li>1. Understand the scope &amp; importance of plant breeding.</li> <li>2. Know the technique of production of new superior crop varieties.</li> <li>3. Know the about heterosis, hybrid vigor etc.</li> <li>4. Know the process of hybrid variety, development &amp; their release.</li> <li>5. Know about seed germination, processing, production etc.</li> </ol>



  
**(Dr. R.N. Bhavare)**  
**Principal**  
 Karmaveer Ganpat Dada More  
 Arts Commerce & Science College  
 Niphad Dist. Nashik.