INDIRA MAHAVIDYALAYA

KALAMB, DIST. YAVATMAL 445401
www.indiramahavidyalaya.com
AISHE ID: C-42925
Institution Track ID: MHCOGN15368

Criterion 2

Teaching-Learning and Evaluation

KEY INDICATOR 2.6

Student Performance and Learning Outcome

Metric No. 2.6.1 (QIM)

Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated.

Dr. Yashwant Moreshwar Donde Sarwajanik Shaikshanik Trust's

INDIRA MAHAVIDYALAYA

KALAMB, DIST. YAVATMAL, MAHARASHTRA 445401

Principal: 9422867658 **IQAC Co-Ordinator:** 8668564641

NAAC Accredited with 'B+' Grade, Under UGC Section 2(f) and 12 (B)

College Code-414 **AISHE: C-42925**

E mail - imvkalamb@yahoo.co.in **Website** – www.indiramahavidyalaya.com

Date: 03/05/2024

DECLARATION

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

Hence this certificate.

Co-ordinator
IQAC
Indira Mahavidyalaya
Kalamb

Indira Mahavidyalaya Code No. 414 Kalamb

P. B. Mandake.
PRINCIPAL
Indira Mahavidyalaya
Kalamb Dist. Yavatmal

Table of Contents

9	POs & COs for Post Graduation (NEP) • M.A. (Marathi) • M.A. (Geography) • M.A. (Economics) • M.Com. • M.Sc. (Chemistry)
10	POs & COs for Under Graduate and Post Graduates Programmes (CGS) • B.A. I • B.A. II • B.A. III • B.Com. I • B.Com. II • B.Com. III • B.Sc. I • B.Sc. II • B.Sc. III • M.A. (Marathi) I • M.A. (Marathi) II • M.Com. I & II

Dr. Yashwant Moreshwar Donde Sarwajanik Shaikshanik Trust's

INDIRA MAHAVIDYALAYA

KALAMB, DIST. YAVATMAL, MAHARASHTRA 445401

Principal: 9422867658 **IQAC Co-Ordinator:** 8668564641

NAAC Accredited with 'B+' Grade, Under UGC Section 2(f) and 12 (B)

College Code-414 **AISHE: C-42925**

E mail - imvkalamb@yahoo.co.in **Website** – www.indiramahavidyalaya.com

Policy Document

Programme Outcomes and Course Outcomes

The programme outcomes, course outcomes of the institution mirrored the objectives of National Policies of higher education, in molding human resources to meet contemporary challenges to create a platform for betterment of future.

- The Institute switched over to Outcome Based Education (OBE) to impart education through student centric approach, to increase the students' employability and follow outcome oriented teaching learning process.
- Programme Outcomes (POs), , and Course Outcomes (COs) have been formulated for all the UG and PG programs
- . Programme Outcomes (POs) represent the graduate attributes formulated with the view of NEP are specifically defined outcomes of the programme which the graduates have to acquire by the end of the programme.

Program Outcomes (POs),of all the UG and PG Programmes have been disseminated to the stake holders as follows:

- from College website
- Orientation Program, Induction Program, Alumni meet, different Meetings,

Process of PO formation:

- POs (Program Outcomes) are statements that describe what the students graduating from the programme should be able to do.
- POs are independent to all programmes. ie. Arts Commerce and Science varies according to the stream.

Process of CO formation:

- Course Outcomes: COs (Course Outcomes) are statements that describe what students should be able to do at the end of a course.
- Course outcomes are Specific, measureable, achievable.
- In a course outcomes statement the performance criteria and outcome strategy is prescribed

The average mapping of Programme outcomes for the given programme is obtained by averaging the levels of mapping of the courses.

The institution confirms the mapping of the courses by the formative and Summative assessment. These parameters enhance the institutional journey of imparting education.

Co-ordinator
IQAC
Indira Mahavidyalaya
Kalamb

Indira Mahavidyalaya Code No. 414 Kalamb

PRINCIPAL
Indira Mahavidyalaya
Kalamb Dist.Yavatmal

Dr. Yashwant Moreshwar Donde Sarwajanik Shaikshanik Trust's

INDIRA MAHAVIDYALAYA

KALAMB, DIST. YAVATMAL, MAHARASHTRA 445401

Principal: 9422867658 **IQAC Co-Ordinator:** 8668564641

NAAC Accredited with 'B+' Grade, Under UGC Section 2(f) and 12 (B)

College Code-414 **AISHE: C-42925**

E mail - imvkalamb@yahoo.co.in **Website** – www.indiramahavidyalaya.com

Report on Programme Outcomes and Course Outcomes

The institute aims to help students to reach their potential through the provision of a supportive, vibrant learning environment. All the staff is involved in the construction of this learning ambience. The several tools are prescribed for assessing course outcomes As syllabus is designed by the affiliating university, its outcome is evaluated by external and internal examinations conducted as per the university's guidelines.

The well natured PO CO and PSOs are stated and continuous and constant mechanism of mentoring from the sincere faculty members, the institution is able to make many students to score good results. Graduates Attributes (GAs) are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level. GAs forms a set of individually assessable outcomes of the program. The attainment of POs contributes to the attainment of Program Educational Objectives which will help the graduate to perform his/ her duties, professional responsibilities, design, development, production and testing of novel products.

In all the interactions with the students, awareness on POs, PSOs and COs are consciously promoted. Decision making skills, interpersonal skills, and domain skills are improved through various courses offered.

Co-ordinator
IQAC
Indira Mahavidyalaya
Kalamb

Indira Mahavidyalaya Code No. 414 Kalamb

PRINCIPAL
Indira Mahavidyalaya
Kalamb Dist.Yavatmal

B.A. Part I
POs & COs
(As Per CBCS Pattern)

B.A. (English)- Part I

Compulsory English

PSOs:

After completion of this course students will be able to:

1. Comprehend various forms of literature like Prose, Poetry, Drama and Fiction
2. Develop the knowledge of grammatical system
3. Develop four language skills LSRW
4. Widen scope of employability and Entrepreneurship viz Teaching, Civil Services and Creative Writing

Programme: B.A. (English)-Semester – I-Compulsory English

COs:

After completion of this course students will be able to:

1. Understand the basic knowledge of English language and literature
2. Understand the relation between literature and real life.
3. Understand and interpret the prose, poem, short stories
4. Write the News Report, Letter, Essay, Paragraph etc.
5. Avail the pleasure of literary forms such as Novel, Poem, Play etc.
6. Develop interview technique, Reading Skills, Writing Skills and Speaking Skills.
7. Enhance the interest in English Language.

Programme: B.A. (English)-Compulsory English-Semester – II

COs:-

After completion of this course students will be able to:

1. Understand the basic knowledge of English language and literature
2. Understand the relation between literature and real life.
3. Understand and interpret the prose, poem, short stories
4. Write the News Report, Letter, Essay, Paragraph etc.
5. Avail the pleasure of literary forms such as Novel, Poem, Play etc.
6. Develop interview technique, Reading Skills, Writing Skills and Speaking Skills.
7. Enhance the interest in English Language.

B.A. (Marathi)- Part I

बी.ए. मराठी (आवश्यक) अभ्यासक्रमाची विशिष्ट निष्पत्ती PSO:

१) संत गाडगेबाबा अमरावती विद्यापीठाच्या मानव विज्ञान विद्याशाखेतील बी.ए. मराठी (आवश्यक) अभ्यासक्रमाच्या अध्ययनामुळे विद्यार्थ्यांची 'साहित्य' ही संकल्पना स्पष्ट होऊन मराठी भाषाविषयक अभिरूची विकसित होईल.

२) मराठी साहित्य परंपरा, लेखक, कवी, विचारवंत यांचा परिचय होईल, त्यांचा लेखनातून आलेल्या सामाजिक एकात्मता, सर्वधर्म समभाव, राष्ट्रीय एकात्मता आणि भारतीय राज्यघटनेचे अधिष्ठान असलेल्या मानवी मूल्यांची विद्यार्थ्यांमध्ये रूजवणूक होईल.

३) विद्यार्थ्यांमध्ये मराठी, भाषा, साहित्य, कला याविषयी आवड निर्माण होईल. त्याची चिकित्सा, तुलना, समीक्षा करण्याची दृष्टी विकसीत झाल्यामुळे विविध साहित्य प्रकारातील लेखनाचे योग्य अध्ययन, संशोधन आणि सर्जनशील निर्मिती करतील.

४) भाषा आणि साहित्याचा सामाजिक तसेच कलात्मक पातळीवर अभ्यास केल्याने विवेकपूर्ण तर्कसंगतता आणि कारुण्यपूर्ण संवेदनशीलता निर्माण होऊन साहित्याचे, भाषेचे व्यावहारिक उपयोजन करता येईल.

५) कला शाखेच्या विद्यार्थ्यांमध्ये मराठी भाषेच्या तात्विक अभ्यासासह प्रतिष्ठापूर्ण रोजगार मिळविण्यासाठी भाषिक कौशल्ये प्राप्त होतील.

बी.ए. भाग-१, सत्र-१- मराठी (आवश्यक)

अभ्यासपत्रिकेची निष्पती (COs) :

१. नेमलेल्या साहित्यातून जीवनदर्शन, समकालीन व्यवहार जाणिवा यांची माहिती होईल.

२. वैचारिक, ललित, कविता या विविध वाङ्मय प्रकाराचे ज्ञान होईल. या वाङ्मय प्रकाराचे वेगळेपण जाणून घेतील तथा यामधील साम्यभेदाचे आकलन होईल.

३. वैचारिक गद्यातून भाषेच्या सर्जनशील रूपाचे विद्यार्थ्यांना आकलन होईल. तसेच चारित्र्यविषय असलेल्या थोर व्यक्तींच्या जीवनकार्यातून विद्यार्थ्यांना प्रेरणा मिळेल आणि संकटावर मात करून जीवनात यशस्वी होता येतेहा विचार त्यांच्या मनी रूजेल.

४. ललित कलाकृतीच्या वाचनातून आनंद, बोध ज्ञान इत्यादींची प्राप्ती होऊन विद्यार्थ्यांच्या जीवनविषयक जाणिवा समृद्ध होतील.

५. वैचारिकता, तात्त्विकता, काव्यात्मकता, भावनात्मकता, सामान्य गोष्टीतील असामान्यत्वाचे दर्शन यातून विद्यार्थ्यांचा दृष्टीकोण संपन्न होईल.

६. विविध प्रकारच्या साहित्याचे आकलन, वर्णन, आस्वादन, विश्लेषण आणि मूल्यमापन करण्याची क्षमता वाढून विद्यार्थ्यांची अभिरूची विकसित होईल.

७. या वाङ्.मयप्रकारातून विविध प्रकारचे नीतिमूल्ये, जीवनमूल्ये, यांची शिकवण विद्यार्थ्यांना मिळेल, त्याचा उपयोग उत्तमरीतीने जीवन जगण्यासाठी होईल.

८. 'उपयोजित' घटकाच्या माध्यमातून विविध प्रकारची कौशल्ये त्यांच्यात निर्माण होतील व ते रोजगारक्षम होतील.

बी.ए. भाग-१, सत्र-२ विषय: मराठी (आवश्यक)

अभ्यासपत्रिकेची निष्पती (COs) :

१. नेमलेल्या साहित्यातून जीवनदर्शन, समकालीन व्यवहार जाणीवा यांची माहिती होईल.

२. वैचारिक, ललित, कविता या विविध वाङ् मय प्रकाराचे ज्ञान होईल. या वाङ् प्रकाराचे वेगळेपण जाणून घेतील तथा यामधील साम्यभेदाचे आकलन होईल.

३. वैचारिक गद्यातून भाषेच्या सर्जनशील रूपाचे विद्यार्थ्यांना आकलन होईल. तसेच चारित्र्यविषय असलेल्या थोर व्यक्तीच्या जीवनकार्यातून विद्यार्थ्यांना प्रेरणा मिळेल आणि संकटावर मात करून जीवनात यशस्वी होता येते हा विचार त्यांच्या मनी रूजेल.

४.ललित कलाकृतीच्या वाचनातून आनंद, बोध, ज्ञान इत्यादींची प्राप्ती होऊन विद्यार्थ्यांच्या जीवनविषयक जाणिवा समृद्ध होतील.

५. वैचारिकता, तात्विकता, काव्यात्मकता, भावनात्मकता, सामान्य गोष्टीतील असामान्यत्वाचे दर्शन यातून विद्यार्थ्यांचा दृष्टीकोण संपन्न होईल.

६. विविध प्रकारच्या साहित्याचे आकलन, वर्णन, आस्वादन, विश्लेषण आणि मूल्यमापन करण्याची क्षमता वाढून विद्यार्थ्यांची अभिरूची विकसित होईल.

७. या वाङ्.मय प्रकारातून विविध प्रकारचे नीतिमूल्ये, जीवनमूल्ये, यांची शिकवण विद्यार्थ्यांना मिळेल, त्याचा उपयोग उत्तमरितीने जिवन जगण्यासाठी होईल.

८. उपयोजित घटकाच्या माध्यमातून विविध प्रकारची कौशल्ये त्यांच्यात निर्माण होतील व ते रोजगारक्षम होतील.

९. विचारवंत, लेखक, कवी होण्यासाठी हे अध्ययन प्रेरक ठरेल, सहाय्यभूत ठरेल. यातून विद्यार्थी भाषेचा सर्जनशील वापर कसा करावा हेसमजून घेतील व विविध प्रकारातील साहित्य निर्मिती करतील. तसेच व्यवहारिक उपयोजन करून रोजगारक्षम होतील.

B.A. (Political Science)- Part I

PSOs:

1: Understanding of constitution, government institutions, electoral processes and policies.

2: Knowledge of some of the philosophical underpinnings of modern politics and government.

3: Develop the ability to make logical inferences about social and political issues on the basis of comparative and
historical knowledge.

4: Knowledge of key theories and concepts, political thoughts, organization, and modern issues in international
relations.

5: Develop the analytical abilities, observational skills and decision making abilities of the students so that they will

be able to face different challenges of life.
6: Equip students with the concepts, principles, theories and processes studied in Political Science, so as to facilitate
their career choices and employment.
7: Aim at shaping the students' perception and outlook on social, economic and political environment of India and
beyond.

B.A. (Political-Science)-Semester 1-Political-Science Indian Political System
COs
At the end of the course the students should be able to:
1: Understand and explain the significance of Indian constitution as the fundamental law of the land.
2: To know the making process of the constitution and salient features of Indian constitution.
3: Exercise the fundamental rights in proper sense at the same time identifies his responsibilities in national
building.
4: Analyze the Indian Political System, the powers and functions of the Union, State Government in detail.
5: Critically analyzing the important institutions of Indian Union: The Executive: President, Vice-President, Prime
Minister, Council of Ministers, State Executive: Governor, Chief Minister, Council of Ministers, The Legislature:
Rajya Sabha, LokSabha, State Legislature, The Judiciary: Supreme Court and High Court: Composition and jurisdictions.
6: To make conscious of the social, cultural, economic and political environment that affects politics in India, at the national as well as regional levels.

B.A. (Political-Science) Semester II-Political Science Indian Political System
COs
At the end of the course the students should be able to:
1: Understand and explain the significance of Election Commission of India
2: know the powers and role of Governor, Chief Minister & Council of Minister
3: Understand structure & powers of Legislative Assembly and Legislative Council
4: Explain the structure and jurisdiction of High Court and District Court
5: Know the Composition Function and Powers of Grampanchayat& Gram Sabha

B.A. (Economics)- Part I

POs:
1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, andpersonal) from different perspectives.
2. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media andtechnology.
3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act withan informed awareness of issues and participate in civic life through volunteering.
5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and acceptresponsibility for them.
6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

(B.A. Economics) Semester I-Micro Economics

COs: The student will be able to:

1. Apply knowledge and skill in the field of Economics and will be able to have the employability in these areas.
2. Describe and apply the methods for analysing consumer behaviour through demand and supply, elasticity.
3. Perform analysis to analyse the impact of economic events on Markets,
4. To create a new approach towards the study of Economics.
5. The course will illustrate how microeconomic concepts can be applied to analyze real-life situations
6. Analyse the performance of firms under different market structures,
7. Evaluate the factors affecting firm behaviour, such as production and costs 8. To have better awareness regarding different Factors Pricing Rent, Wages, Interest, and Profit.

B.A. I (Economics) Semester II-Economy of Maharashtra

Course Outcomes: The student will be able to:

1. Develop ideas of the basic characteristics of Maharashtra's economy and its potential for natural resources.
2. Understand agriculture as the foundation of economic growth and development, analyse the progress and changing nature of the agricultural sector and its contribution to the economy as a whole.
3. Understand the role of Agriculture in Economy of Maharashtra.
4. Study the issue of farmers suicide in Maharashtra.
5. Study the concept of FDI and its trends in Maharashtra.
6. Consider the role of Industry and Service sector in Economy of Maharashtra.

B.A. (Geography)- Part I

PSOs:

1. To impart requisite skills and knowledge to be employed as Teachers, Surveyors, Cartographers etc.
2. To make them understand basic Geographical knowledge of India and world required to appear in various competitive exams serve as state M.P.S.C., U.P.S.C. and staff selection commission.
3. To impart Geographical Knowledge to the students
4. To develop understanding of Environment and Sustainable development.

B.A. (Geography)-Semester - I Principal of Physical Geography - I

COs

1. At end of the course students shall be able to hone their scientific understanding, illustration, skill and developed themselves as self-confident coveted learner in the field of Physical Geography.
2. The students will be able to understand the theories and fundamental concepts Physical Geography.
3. The students will be able to acquire knowledge about types of earth movements, earthquakes, volcanoes and associated features.
4. The students will be able to acquire knowledge of prominent cities, rivers, mountains, plateaus and oceans in world and India.

B.A. (Geography)-Semester – II Principal of Physical Geography – II

COs

1. The students will be able to identify the different types of rocks and their characteristics.
2. The students will be able to identify different geomorphological features associated with earth surface.
3. The students will be able to explain different types of geomorphic processes and their impact on earth surface.
4. The students will be able to overview and critical appraisal of landforms development models.

B.A. (History)- Part I

POs:

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

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

3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

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

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

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

7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes Sample POs of PG Programmes.

B. A. (History)-Semester 1-History of India from Early to 700 A.D

COs:

1: Survey the sources of History of Ancient India.

2: Describe the social, economic, religious and institutional bases of Ancient India.

3: Analyze development of the concept of Nation- State background of political history.

4: Study ancient Indian Art & Architecture.

B. A. (History)-Semester 2-History of India from Early to 701 A.D to 1525 A.D.

COs:

1: Survey the sources of History in Sultanate period of India.

2: Analyze the social, economic, religious and institutional bases of Sultanate period of India.

3: Known development of the concept of Nation- State background of political history.

4: Study Sultanate period of India Art & Architecture.

B.A. (Psychology)-Part I

PSOs :

After completing the programme, a psychology graduate will be able to…

1: Analyze major concepts like, functions of neuron, motivation, emotion, intelligence personality and cognitive process including attention, perception, learning, problem solving, memory and forgetting.

2: Conduct and design basic experiments on cognitive processes and apply psychology principles.

3: Understand the concepts in human development and apply psychology principles in development related problems like learning disabilities and conduct disorders.

4: Understand the nature of various psychotherapies and application of psychology in industrial and forensic sector.

5: Administer psychometric tests, test scorning and interpretation of results. This will enable students to diagnose psychological problems and assess various traits.

B.A. (PSYCHOLOGY)-Semester: I- Fundamentals of Psychology-I

COs:

1. By the end of UNIT-I the students will be able to Analyze methods and fields of Psychology and understand the biological bases of behaviour.

2. By the end of UNIT-II the students will be able to Analyze Cognitive processes such as attention and perception.
3. By the end of UNIT-III, the students will be able to apply cognitive theories of learning and types of reinforcement in daily life.
4. By the end of UNIT-IV the students will be able toAnalyze memory mechanisms and mnemonics in daily life.
5. By the end of UNIT-V the students will be able to represent data in tabular and graphical form like : Histogram.

B.A. (PSYCHOLOGY)-Semester: II-Fundamentals of Psychology-II
COs:
1. By the end of UNIT-I the students will be able to understand various types of Motives and conflicts of motives. They will create various direct and indirect ways to resolve conflicts of motives.
2. By the end of UNIT-II the students will be able to Analyse the role of Physical changes in emotions
3. By the end of UNIT-III the students will be able to administer I.Q. test and analyze and interpret I.Q. scores.
4. By the end of UNIT-IV the students will be able to administer personality inventories and differentiate various personality types of personality.
5. By the end of UNIT-V the students will be able to represent data in graphical form like frequency polygon and Ogive curve.

BA (Sociology) Part I (Semester I & II)

POs:

1. Critical thinking : Take inform actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
2. Effective Communication : Speak, read, write and listen clearly in person and through electronic media in \English and in one Indian Language, and make meaning of the world by connecting people, ideas, books, media and technology.
3. Social Interaction : Elicit views of others, mediate disagreements and help reach conclusions in group settings.
4. Effective Citizenship : Demonstrate empathetic social concern and equity centred national
5. development and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
6. Ethics Recognize different values systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
7. Environment and Sustainability : Understand the issues of environmental contexts and
8. sustainable development.
9. Self –directed and Life –long Learning : Acquire the ability to engage in independent and lifelong learning in the broadest context socio-technological changes.

PSOs:

1. Sociology has great potential for the development of society.
2. The program is useful in inculcating a sociological view of society.
3. Student will know about Applied Sociology.
4. Student will understanding and explain basic concepts of Sociology.
5. This course provides students with the necessary information regarding Government and Non-Government job opportunities.
6. This programme seeks to inculcate a humanist attitude among the students.
7. This program helps students to do their duties towards family, society and country.

B.A. (Home Economics) Part I

PSOs

After successfully completion of UG course in Home Economics student will be able to -

1. Describe the home management process and apply it in practice for planning and executing inside and outside the home.
2. Play model role as a home maker, home manager, home Scientist, counselor as well as play a different role in different kinds.
3. Build Confidence to create her own business and adjust in it better way.
4. Derive certain changes in behavior and attitudes that require for effective communication and as an Entrepreneur.

BA (HOME ECONOMICS) Semester-I

Family Resource Management and Interior Decoration

COs

After successfully completion of course student should be able to-

- Formulate a plan of activities/programs managing and saving resources.
- Evaluate the planned activities and will be able to build better plan in coming program.
- Classify the decisions to its hierarchy for achieving a goal in future.
- Make family budget with list of items.
- Make greeting cards and sample design using colour schemes
- Quote and Name to each flower arrangement

BA (HOME ECONOMICS) Semester-II

Family Resource Management and Interior Decoration

COs

After successfully completion of course student can-

- Formulate a plan of arrangements to modify home decoration.
- Classify and arrange the items using principles of housing.
- Design plan of work/ activities by acquiring knowledge of Work Simplification
- Make carrier in the field Interior Decoration and designing.
- Apply and guide ergonomics' technique for comfort physique.

B.A. Part II
POs & COs
(As Per CBCS Pattern)

B.A. (Marathi)- Part II

Semester III-Compulsory Marathi

अभ्यासपत्रिकेची फलनिष्पत्ती (COs) :

१. वैचारिक लेखांमधून विद्यार्थ्यांना लोकशाही मूल्यांची जपणूक करण्याचा संस्कार व विचार मिळेल. महापुरुषांचे विचार व कार्य समजून घेता येईल. त्यांच्या जीवन आणि विचारांपासून विद्यार्थ्यांना प्रेरणा मिळेल.

२. ललित व कविता या विभागांतून गतब्रालीन आणि सममकालीन जगण्याचे प्रश्न समजून घेण्यासाठी उपयुक्त असे मार्गदर्शन विद्यार्थ्यांना मिळेल.

३. कौशल्य विकास आधारित अभ्यासक्रम (उपयोजित मराठी) हा विभाग विद्यार्थ्यांना विविध प्रकारची कौशल्ये आत्मसात करण्यासाठी मार्गदर्शक ठरेल. विविध स्पर्धा परीक्षांची तयारी करणाऱ्या विद्यार्थ्यांना हा अभ्यास घटक मार्गदर्शक व सहायक ठरेल.

४. वैचारिक, ललित, कविता आणि कौशल्य विकास आधारित अभ्यासक्रम (उपयोजित मराठी) या चार विभागांतील घटकांचा अभ्यास केल्यानंतर विद्यार्थ्यांना संवाद कौशल्ये, भाषिक कौशल्ये, लेखन कौशल्ये आत्मसात करता येतील. लोकशाही मूल्यांची जपणूक करण्याची तत्त्वनिष्ठा त्यांचे अंगी निर्माण होईल. मराठी भाषेचे जतन, संवर्धन करण्याची प्रेरणा त्यांना मिळेल. ही भाषिक कौशल्ये विद्यार्थ्यांना रोजगारक्षम करण्यासाठी सहायक ठरतील.

Semester-IV-Compulsory Marathi

अभ्यासपत्रिकेची फलनिष्पत्ती (COs) :

१. वैचारिक लेखांमधून विद्यार्थ्यांना लोकशाही मूल्यांची जपणूक करण्याचा संस्कार व विचार मिळेल. महापुरुषांचे विचार व कार्य समजून घेता येईल. त्यांच्या जीवन आणि विचारांपासून विद्यार्थ्यांना प्रेरणा मिळेल.

२. ललित व कविता या विभागांतून गतॉलीन आणि सममकालीन जगण्याचे प्रश्न समजून घेण्यासाठी उपयुक्त असे मार्गदर्शन विद्यार्थ्यांना मिळेल.

३. कौशल्य विकास आधारित अभ्यासक्रम (उपयोजित मराठी) हा विभाग विद्यार्थ्यांना विविध प्रकारची कौशल्ये आत्मसात करण्यासाठी मार्गदर्शक ठरेल. विविध स्पर्धा परीक्षांची तयारी करणाऱ्या विद्यार्थ्यांना हा अभ्यास घटक मार्गदर्शक व सहायक ठरेल.

४. वैचारिक, ललित, कविता आणि कौशल्य विकास आधारित अभ्यासक्रम (उपयोजित मराठी) या चार विभागांतील घटकांचा अभ्यास केल्यानंतर विद्यार्थ्यांना संवाद कौशल्ये, भाषिक कौशल्ये, लेखन कौशल्ये आत्मसात करता येतील. लोकशाही मूल्यांची जपणूक करण्याची तत्त्वनिष्ठा त्यांचे अंगी निर्माण होईल. मराठी

भाषेचे जतन, संवर्धन करण्याची प्रेरणा त्यांना मिळेल. ही भाषिक कौशल्ये विद्यार्थ्यांना रोजगारक्षम करण्यासाठी सहायक ठरतील.

B.A. (Political Science)- Part II

Semester – III-Comparative Government and Politics-I
COs
1) Understand the Meaning and Approaches of Comparative Politics.
2) Know the salient features of the Constitution and Executive of the Britain.
3) Understand the supremacy of the British Parliament.
4) Know about the salient features of the Constitution and Executive of USA.
5) Analyse the election process of the President and the Vice-President of the USA.
6) Understand the powers and functions of the President and Vice-President of USA.
7) Know about the Legislature of the America.
8) Understand the supremacy of the Supreme Court of the USA with its Jurisdiction.

Semester – IV-Comparative Government and Politics-II
COs
1. Understand the concepts of Constitution and Constitutionalism
2. Know about the salient features of the Constitution and executive of the China.
3. Understand one House Legislature (NCP) with it's Standing Committee.
4. Analyse the comparative study of the British Constitution and American Constitution.
5. Analyse the comparative study of the British Constitution and China's Constitution.
6. Analyse the comparative study of the British Prime Minister and the President of the USA.
7. Analyse the comparative study of British House of Lords and American Senate.
8. Analyse the comparative study of the British Speaker and American Speaker.
9. Analyse the comparative study of the Supreme Court of the USA and China's Supreme People's Court.

B.A. (Economics)- Part II

B. A. (Economics)-Semester-III -Macro Economics
COs:
1. Apply knowledge and skill in the field of Economics and will be able to have the employability in these areas.
2. Describe and apply the methods for measurement of national income, GDP and Per Capita Income
3. Perform analysis to analyse the impact ofInflation and Deflation
4. To create a new approach towards the study of Value of Money.
5. The course will illustrate how macroeconomic concepts can be applied to analyze real-life situations
6. Analyse the performance consumption function,
7. Evaluate the factors and awerness of international trade.

B. A. Part-II (Economics)-Semester-IV-Economics Banking
COs:
1. Apply knowledge and skill in the field of banking.
2. Describe and apply the methods for analysing commercial banks.
3. Perform analysis to analyse the impact of economic events on banking
4. To create a new approach of central banks
5. The course will illustrate how cooperative and NABARD
6. Analyse the performance of Banking Services,
7. To have better awareness regarding IMF and World Bank.

B.A. (Geography)- Part II

B. A. (Geography)-Semester III-GEOGRAPHY CLIMATOLOGY

COs

1) To know the fundamental concepts of Climatology and the significance of weather.
2) The students should be able to differential between weather and climate.
3) The Students is able to interpret structure and composition of atmosphere.
4) To explain the factors determining climate and its changes.
5) Learn the interaction between the atmosphere and the earth's surface. Understand the importance of the atmospheric pressure and winds.
6) Understand how atmospheric moisture works.
7) Learn to associate climate with other environmental and human issues.

B.A. (Geography)-Semester IV-GEOGRAPHY OCEANOGRAPHY

COs

1. The students will able to gate basic understanding of the science of oceanography.
2. The students will able to identify, explain, and interpret main features in spatial distributions of physical properties of seawater and sea flower.
3. Ability to analyze sea surface temperature fluctuation and its impact on southern oscillation.
4. The students will understand and assess the importance of Ocean in terms of resource utilization in a sustainable manner.
5. The students will discuss and differentiate between the various ocean waves, and tides
6. The students will able tounderstand the significance of groundwater quality and its circulation.
7. Students study the behavior and characteristics of the global ocean.
8. Identify marine recourses characteristics of ocean water.
9. Ability to analyze sea surface temperature fluctuation and its impact on southern oscillation.

B.A. (History)- Part II

Semester-III-History of Medieval India From 1526 A.D.to 1756 A.D.

Course Outcome

CO1: Survey the sources of History of Medieval India.
CO2: Describe the social, economic, religious and institutional bases of Medieval India.
CO3: Analyze development of the concept of Nation- State background of political history.
CO4: Study medieval Indian Art & Architecture

Semester-IV-History of Modern India From. 1757 A.D to 1947 A.D.

Course Outcome

CO1: Learn the colonialism in India.
CO2: Understand the social, economic, religious and institutional bases of Modern India.
CO3: Know development of the concept of Nation- State background of political history.
CO4: Study of Modern Indian development of Democracy.

B.A. (Psychology)-Part II

Semester III-Human Development

Course Outcomes: After completion of this course the students will be able to,

1) understand the nature of human growth and development
2) analyze the process of human development
3) sensitize the issues of old age people
4) apply theories of human development in analyzing cognitive development
5) analyze the problems of school going children including learning disabilities
6) skill enhancement modules will enable the students to apply theoretical knowledge in dealing with various problems associated with childhood, adolescents and old age people.

7) Basic statistics and practicals in psychometric testing will enable the students to analyze the data and to use psychometric tests in counseling process.

Semester IV-Abnormal Psychology
Course Outcomes: After completion of this course the students will be able to,
1) understand the concept of abnormal behavior
2) analyze the causes of abnormal behavior
3) sensitize the issues of people with psychological ailments
4) skill enhancement modules will enable the students to apply theoretical knowledge in dealing with various problems of people with psychological ailments
5) basic statistics and the practicals in psychometric testing will enable the students analyze the data and to diagnose psychological problems.

BA (Sociology) Part II

Semester -III-Social Problems in India-I
COs:

- To Create awareness amongst students about various social issues prevailing in India
- To Study various state and central level programmes related to social and economic issue in India.
- To Develop a broad understanding of the persistence of stratification in contemporary Indian Society

Semester IV-Social Problems in India-II
COs

- To create awareness amongst students about various social issues prevailing in India
- To Study various state and central level programmes related to social and economic issue in India.
- To develop a broad understanding of the persistence of stratification in contemporary Indian Society

B.A. (Home Economics) Part II

Semester-III-FOOD SCIENCE & NUTRITION
COs
CO1: Comprehend the basic concepts of food nutrition.
CO2: Describe food groups and food functions.
CO3: Understand how calculate nutritive value and cost value of prepared food dishes.
CO4: Formulate diet plans for various developmental stages.
CO5. Manage a stall or household enterprise/ business.

Semester-IV-FOOD SCIENCE & NUTRITION-II
COs
CO1: Demonstrate an understanding of public health through acquired knowledge of human Health and Nutrition.
CO2: Make diet plans for various diseases skilfully and guide too.
CO3: Provide culturally competent nutrition services for individuals and communities. CO4: Comprehend certain skills of detecting adulteration in common foods.
CO5: Get jobs or Practice self-employment in the field food stalls and food preservation.

B.Com. I & II
POs & COs
(As Per CBCS Pattern)

Department of Commerce

POs

Students who have taken admission in program of B. Com. are expected to acquire the following outcomes.

PO1. Develops commercial sense and built-up conceptual foundation and application skills in the areas of accountancy, finance, management, research and higher education

PO2. Develop managerial skills and ability to manage accounts, people and organizations across the world.

PO3. Build life skills and entrepreneurial skill through value-based education and service-oriented programs

PO4. To acquire skills in hands for budgeting policy and Human Resources Management.

PO5. Develop Numerical ability, analytical and decision-making skills, well versed with business regularity framework.

PO6. Equipped with financial and management accounting techniques covering the technical areas that requires account

Bachelor of Commerce Semester I

Subject –English

COs:

1. Able to communicate skillfully in Business correspondence 2. Acquaint with the work culture in corporate world 3. The life of great personalities will motivate them to toil to be successful 4. Learn and gain fluency in the English language and conversation. 5. Become efficient in reading and writing skills. 6. The drafting skills of the learners will be honed through grammar and writing skills 7. Become proficient in the language and to eventually inculcate professional skills

Subject – Principle of Accountancy

Course Outcomes:

1) Student important basic accounting knowledge at applicable to business i.e. meaning of accountancy. 2) Able to handling account transaction 3) Maintaining sub subsidiary books and all types of cash books 4) Calculation of depreciation method of assets 5) Preparation of all types of final account.

Subject – Principle of Business Economics

Course Outcomes:

1. Application of Micro &Macroeconomic Concepts 2. Application of Utility & Indifference Curve Analysis 3. Application of Demand Pattern 4. Application of Supply and Production Pattern 5. Application of Cost & Revenue Pattern

Subject – Principle of Business Management

Course Outcomes

The students will be able to : 1) With this course, students will be able to have clear understanding of managerial functions. 2) Students will have the knowledge of planning process in the organization.
3) Students will be able to demonstrate the ability to directing, leadership and communicate effectively. 4) Students able to analyze isolate issues and formulate best control tools and techniques.

Subject – Computer Fundamental And Operating System-I

Course Outcomes:

The students will be able to - 1. Get information about evolution and application of computer & its development. 2. Know about different elements of computer system. 3. Aware about different types of memory. 4. Get to know about different input devices and output devices. 5. Learn to prepare a text document with complete formatting and page setting.

Bachelor of Commerce Semester II

Subject –English

COs:

1. Able to communicate skillfully in Business correspondence 2. Acquaint with the work culture in corporate world 3. The life of great personalities will motivate them to toil to be successful 4. Learn and gain fluency in the English language and conversation. 5. Become efficient in reading and writing skills. 6. The drafting skills of the learners will be honed through grammar and writing skills 7. Become proficient in the language and to eventually inculcate professional skills

Subject – Financial Accounting

Course outcome:

1 Rectification of Journal entry 2 Student acquire the knowledge of nonprofit organization 3 Prepare the all types of cooperative society account 4 Students should be acquired partnership farm accountancy 5 The bill of exchange contest and unconditional order to pay a create amount on as agree day.

Subject – Business Economics

Course Outcomes

1. Examine the difference between business and managerial economics. 2. Application of Discriminative nature of monopolist. 3. Application of monopolistic competition, oligopoly, and perfect competition 4. Application of demand and supply pattern of rent and wage. 5. Application of the theories of interest and profit.

Subject – Principle of Business Organization

Course Outcomes

The students will be able to: 1) To Familiar with business organization. 2) Understand the concepts related to Business policies. 3) Demonstrate the roles, skills and functions of management. 4) To diagnose and solve organizational problems and develop optimal managerial decisions.

Subject – Computer Fundamental & Operating System II

Course Outcome

The students will be able to 1. Get basic introduction of Computer and mobile operating systems 2. Know concept of windows versions. 3. Create and delete file in File Explorer. 4. Know concept of modern communication and network topologies. 5. Create e-mail account and compose e-mail massage. 6. Create table, utilizing existing Template provided by Microsoft and add customization on Template according to user needs. 7. Identify steps in the process and complete an activity to create a mail merge. 8. Develop the skill of power point programs. 9. Insert various graphical object on slide. 10. Add different Transition, Animation, Sound and Timing effect to Slide. 11. Run a presentation on computer screen.

Programme: Bachelor of Commerce (Semester III)

Subject – Company Accounts

Course Outcomes:

After going through the subject Company Accounts, the students will be able to: 1. Understand the process with its legal requirements for issuing, forfeiting, and re-issuing equity shares. Apply the relevant accounting treatments and procedures for recording these transactions. 2. Comprehend the format and requirements of Schedule VI Part I & II of the Companies Act 2013 for preparing the final accounts and financial statements of a company. Also, prepare the final accounts and financial statements of a company in accordance with the prescribed schedule and guidelines. 3. Understand the concept and accounting treatment for profit earned before the incorporation of a company and apply the appropriate methods for calculating and disclosing profit prior to incorporation in the financial statements. 4. Gain knowledge of the concept of amalgamation and the different types of amalgamation. Understand the accounting treatment for amalgamation, including the preparation of amalgamation accounts and the treatment of assets, liabilities, and reserves. 5. Comprehend legally the concept of absorption and accounting aspects involved in the absorption of a company. Apply the relevant accounting procedures and treatments for recording the absorption of a company.

Subject – Information Technology & Business Data Processing-I

Course Outcomes:

The students will be able to – 1. Get information about usage of data and how to process the data. 2. Know about DBMS and data warehousing. 3. Become aware about different types of data processing. 4. Know about Spreadsheet Package and its components with formatting. 5. Prepare formulas, functions and charts with complete formatting and page setting.

Subject –Auditing

Course Outcomes:

The students will be able to - 1. Acquire Profound knowledge about Auditing 2. Understand the Auditing Procedure 3. Identify any discrepancies in the financial reports of an organization or institution 4. Analyze the financial reports and records of any institution/organization 5. Prepare an

Audit Report of any institution/organization. 6. Understand the duties and liabilities of a company auditor. 7. Understand skills required for Auditing

Subject – Indian Monetary System

Course Outcomes:

1. To understand the structure & function of Indian Monetary System.
2. To enable students to understand the functions, importance and kinds of money.
3. Application of Money Market.
4. To understand the Inflation and Deflation targeting with special reference to India.
5. To understand the Effects of Demonetization on various sectors in Indian economy.

Subject – Marketing Management

Course Outcomes:

1. To understand the various Concept of Marketing Management and Marketing Mix. 2. To understand the Concept of Product, Branding and new product development. 3. To understand the concept of Pricing Polices and pricing mix strategies. 4. To understand Marketing Channel and its Co-operation. 5. To understand the concept of Promotion and its tools.

Subject – Compulsory English

CO's:

1) To acquaint with the eminent entrepreneurs of the world 2) To acquaint with the work culture in corporate world 3) To instill moral values among the students 4) To make them able to communicate skillfully with ICT 5) To enrich them with fluency and soft skill based in English 6) To make them skillful in drafting and professional skills.

Programme: Bachelor of Commerce (Semester IV)

Subject – Corporate Accounts

Course Outcomes:

After going through the subject Corporate Accounts, the students will be able to: 1. Understand the meaning of goodwill, its characteristics and the need for its valuation, demonstrate knowledge of the methods used for the valuation of goodwill. 2. Comprehend the meaning of shares, their characteristics, and the need for their valuation, as also apply some of the methods. 3. Interpret and prepare the final accounts of a company during liquidation. 4. Demonstrate an understanding of the preparation of final accounts for a banking company, including schedule-wise Profit & Loss Account and Balance Sheet. 5. Understand the meaning of fund and funds flow along with the objectives, limitations, and uses of a Funds Flow Statement, as also solve problems related to the preparation and interpretation of Funds Flow Statements.

Subject – Business Mathematics & Statistics

Course Outcomes:

After going through the subject Business Mathematics & Statistics, the students will be able to: 1. Apply the concepts of Highest Common Factor (HCF) and Lowest Common Multiple (LCM) to find the HCF and LCM of two or more integers. 2. Solve linear equations involving one variable and two variables using appropriate methods such as substitution, elimination and graphical representation. 3. Understand the concept of ratio and proportion and apply them to solve problems involving direct and indirect proportions and in various real-life scenarios. 4. Understand the concept of simple interest and

compound interest. Calculate simple interest and compound interest using appropriate formulas and methods. 5. Comprehend the concept of percentage and its applications. 6. Differentiate between primary and secondary data and select appropriate data collection methods for different research situations, organize and construct frequency distributions to summarize and represent data effectively. 7. Calculate and interpret measures of central tendency, Dispersion and its coefficient. 8. Define index numbers and understand their meaning, characteristics, importance, and various applications in economics and business. Interpret and analyze index numbers to measure changes in variables over time. 9. Understand the construction and application of aggregative index numbers and Fisher's Ideal Index Number formula to measure changes in a group of related variables and analyze their significance. 10. Understand the basics of correlation and its statistical analysis. Learn to calculate and interpret the coefficient of correlation using Karl Pearson's formula for both grouped and ungrouped data. Understand and compute probable error to determine the reliability of the coefficient of correlation

Subject – Income Tax

Course Outcomes:

The students will be able to - 1. Understand basic concepts of income tax 2. Compute total income of an Individual 3. Know how they can save taxes in a legitimate way through the basic understanding of deductions available under chapter VI A 4. Compute income from salary 5. Compute income from House Property 6. Compute Gross Capital Gains 7. Compute Income from Other Sources 8. Acquire basic understanding of Income From House Property 9. Save tax in a legitimate way through proper deductions 10. Fill ITR -1 11. Understanding of form no. 16

Subject – Indian Financial System

CO's:

1. To understand the structure & function of Indian finance System. 2. Toprovide an insight in to the various types of bank & Its function. 3. Application of Capital Market. 4. Applicationof Stock Exchange. 5. Application of SEBI as a regulatory authority.

Subject – Information Technology and Business Data Processing II

Course outcomes Students will be able to – 1. Familiarized with basics of information technology 2. Understand Computerized Accounting Package for business data processing

Subject – English

CO's:

1) To acquaint with the eminent entrepreneurs of the world 2) To acquaint with the work culture in corporate world 3) To instill moral values among the students 4) To make them able to communicate skillfully with ICT 5) To enrich them with fluency and soft skill based in English 6) To make them skillful in drafting and professional skills.

B.Com. III Semester- V

Subject – Cost Accounting

Course Outcomes:

1. This course exposes the students to the basic concepts and tools used in Cost Accounting. 2. To provide an understanding of the applications of Cost Accounting techniques for determination of cost of production.

Subject – Business Environment

Course Outcome:

The contents herein intend to develop the ability to understand and interpret sector wise business environment of India.

Subject – Business Regulatory Frame work

Course Outcome:

To help the students to understand the concept of business Laws and it's applications in business regulation.

Subject – Indian Insurance System I

Course Outcome:

To provide an insight into the working of Insurance Industry

Subject – Indian Banking System-I

Course Outcome:

To provide insight into the various types of banks and their role in Indian Economy.

B.Com. III Semester – VI

Subject – Management Accounting

Course Outcomes:

1. This course exposes the students to the basic concepts and tools used in Management Accounting.
2. To provide an understanding of the applications of Management Accounting techniques for management decision making.

Subject – Economics of Development

Course Outcome:

To provide an insight into various growth models and their applicability in present scenario.

Subject – Company Law

Course Outcomes:

The objectives of this course are:

1. Knowledge: Basic and broad knowledge of provisions of the Companies Act 2013.
2. Global Perspective: Awareness of Share Capital, Dividends, Accounts and Audit.
3. This course will provide better understanding of the different clauses of Company law which a business manager must know for better decision making.

Subject – Indian Insurance System II

Course Outcome:

1. To provide an insight in to the regulating and functioning of Insurance Business
2. To provide insight into the various functions of retail banks and associated procedural aspects.

B.Sc. Part I
POs & COs
(As Per CBCS Pattern)

B.Sc. I Semester 1

Compulsory English

COs:

CO1 understand the paragraph, prose, poetry and communicative skills.
CO2. apply the four skills of language in his daily inter-personal communications. CO3. formulate/ compose his own sentences and able to speak English Language. CO4. converse with other students in English.
CO5. communicate their ideas, thoughts and concepts properly in English.

B. Sc. I Semester II Compulsory English

COs:

CO1 Understand the paragraph, prose, poetry
CO2. Apply the four skills of language in his daily routine.
CO3. Formulate/ compose his own sentences and able to speak English Language. CO4. Collaborate with others students in English.
CO5. Communicate properly their ideas and concepts in English.

B.Sc. I Semester 1 & 2- Compulsory Marathi

Course Outcome

भाषेच्या आकलनाबरोबरच विद्यार्थ्यांमध्ये समाजातील उच्चकोटीची मानवी मूल्ये वृद्धींगत व्हावी, राष्ट्रीय एकात्मता, सामाजिक बांधिलकी, मानुषता, राष्ट्रप्रेम, राष्ट्रभक्ती, वैज्ञानिक दृष्टिकोन, पर्यावरण संरक्षण - संवनि, भूतदया इत्यादीची पेरणी व्हावी, विद्यार्थ्यांची मातृभाषा आणि वाङमयविषयक अभिरुची वाढीला लागावी, त्यांना दर्जेदार व व्यवसायभिमुख शिक्षण मिळावे याकरिता केंद्र सरकारच्या मानव संसाधन आयोगाने जी ध्येय धोरणे निश्चित केली आहेत त्या अनुषंगाने हा अभ्यासक्रम, नवीन शैक्षणिक धोरणाच्या परिप्रेक्ष्यात, निश्चित करण्याचे धोरण संत गाडगे बाबा अमरावती विद्यापीठाने अत्यंत विचारपूर्वक स्वीकारलेले आहे.

B.Sc. (Chemistry) Part I

POs:

At the time of graduation, Students would be able to
PO1.Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2.Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Semester 1-Chemistry 1S

COs:

1. Solve the conceptual questions using the knowledge gained by studying periodicity in atomic radii, ionic radii, ionization energy and electron affinity of elements.
2. Apply concepts of acids and bases as well as non-aqueous solvents and their industrial usage.
3. Compare different reaction intermediates, functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.
4. Choose correct synthetic approach to prepare derivatives of industrially important molecules
5. Solve different numerical problem of varying difficulty associated with gaseous and liquid state.
6. Apply the concepts from advanced mathematics to solve the derivation of different chemical formulae.

Semester 2-Chemistry 2S

COs

1. apply the knowledge gained by studying types of bonding, solvation, hybridization and molecular geometries.
2. Draw the correct molecular structures, bond order and bond length.
3. synthesize commercially important compounds of varying carbon backbone.
4. Choose correct synthetic approach to prepare derivatives of industrially important molecules.
5. Solve numerical problems related to crystalline state.
6. Acquire skills to use chemical kinetics to develop mechanism of chemical reactions.

B.Sc. (Physics) Part I

POs:

At the time of graduation, Students will be able to

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

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

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

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

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

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

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Semester 1-Mechanics, Properties of matters, Oscillations & Relativity

COs

On successful completion of this course, the students would be able to

1. Discuss the basic concepts of rotational dynamics.
2. Examine the phenomenon of simple harmonic motion and distinction between undamped, damped and force oscillations and the concept of resonance.
3. Explain the superposition of simple harmonic motion and acquire the knowledge of Ultrasonic waves, their production, detection and applications in different field.
4. Determine the constants of elasticity and relate it with appropriate things
5. Interpret the postulates of special theory of relativity.
6. Know the concept of Global positioning system (GPS).

Semester II-Electrostatics, Magneto-statics, Ultrasonic Waves and Acoustics, Network Theorems

COs

1. Discuss the concept of scalars & vectors and their properties.
2. Develop an understanding of Gauss law and its applications to obtain electric filed in different cases.
3. Formulate the relationship between electric displacement vector, electric polarization and dielectric constant.
4. Distinguish between the magnetic effect of electric current, electromagnetic induction and the related laws in appropriate circumstances.
5. Simplify electrical circuits by applying various network theorems.

B.Sc. (Mathematics) Part I

POs:

At the end of the programme, graduates would be able to

1.Enhance the knowledge of student in all basic sciences.
2.Identify ,formulate and develop solutions to computational challenges.
3.Develop scientific temper and think in a critical manner.
4.Build up progressive and successful career in academics, industry and society.
5.Develop students abilities and aptitudes to apply the mathematical ideas.

Semester- I-Mathematics Algebra and Trigonometry

COs:

1. find inverse and normal form of matrices .
2. evaluate the characteristic equation, eigen value and corresponding eigen vector of a given matrix
3. evaluate relation between the roots and coefficients of equations .
4. to study application of De Moivre's theorem .
5. compute summation of trigonometric series.

Semester II-Mathematics Ordinary Differential Equations

COs:

1. Solve first order differential equations using different techniques..
2. solve higher order differential equations and orthogonal trajectories.
3. calculate complementary function and particular integral of the second order differential Equation.
4. Describe the different methods to solve second order differential equations.
5. illustrate applications of differential equations .

B.Sc. (Botany) Part I

POs:

The students graduating with the degree B.Sc. with Botany will be able to

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

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

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

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

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

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

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Semester 1-Diversity of Microbes, Phycology, Mycology and Phytopathology

COs:

1. understand microbial diversity, reproduction and economic importance.
2. differentiate the microbes, algae and fungi on the basis of morphology, cellular organization, nutrition and metabolic activities.
3. classify and identify the various algal genera.
4. classify and identify the various fungal genera.
5. Systematize the plant diseases and their pathogens
6. Apply understanding of microbial diversity, phycology and mycology for teaching primary to high school students

Semester- II-Bryophytes, Pteridophytes, Gymnosperms and Morphology of Angiosperms

COs:

1. demonstrate on understanding of Archegoniate, Bryophytes, Pteridophytes and Gymnosperms.
2. identify and classify plants from Bryophytes, Pteridophytes and Gymnosperms.
3. develop critical thinking on morphology, anatomy and reproduction of Bryophytes, Pteridophytes and Gymnosperms.
4. acquire skill of collection and preservation of Bryophytes, Pteridophytes and Gymnosperms

B.Sc. (Zoology) Part I

POs:

At the time of graduation, Students will be able to

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

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

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

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

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

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

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Semester I

COs:

Upon completion of this course successfully, students would be able to

1. Develop a deeper sense with respect to phylum Protozoa to Echinodermata relation to taxonomy, classification, body organization and general characteristics this strengthens students' capability in basic zoology.
2. grasp various the Systematic positions from Protozoa to Echinodermata their pathogenicity and its epidemiology.
3. describe unique characters and recognize life functions of Protozoa, Porifera, Coelenterate, Helminthes, Arthropoda, Annelida, Mollusca and Echinodermata.
4. Improve ability and apply Knowledge of Non-chordates for its execution in Agriculture especially with the phylum Arthropoda.
5. Implement an extensive idea about economic and ecological significance of various non-chordates phylum's in human life.

Semester-II

1. know what the chordates are.
2. Learn about the different phylum of chordates.
3. confidently explain the general characters and classification of Protochordates upto class Mammalia.
4. understand the level of organization in chordate.

5. explain the origin and evolutionary relationship in different subphylums of chordates.
6. describe specific features of Protochordates upto class Mammalia.
7. recognize and differentiate life functions of Protochordates upto class Mammalia.
8. understand Migration in fishes and birds , parental care in Amphibians and Poisonous and non-poisonous snakes.
9. explain the adaptations in Birds and Mammals.

B.Sc. (Environmental Science) Part I

PO1.Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2.Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.
PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

Semester 1-Environmental Ecology

COs
After completion of this course successfully, students would be able to
1.Analyse biodiversity and bioindicator.
2.Understand fundamental Concept in Ecology.
3.Analyse characteristics of Ecology.
4.Understand fundamental Concepts in Population Ecology.
5.Understand fundamental Concepts in community Ecology.
6.Analyze productivity of ecosystem, ecological succession.

Semester-II-Environmental Physical Environment

COs
1. Understand the components of Environment.
2. Describe the concept of Natural Resources & its classification.
3. Evaluate characteristics of Environmental meteorology.
4. Demonstrate the concepts in Environmental Geosciences.
5. Understand the fundamentals in Marine Environment.

B.Sc. (Electronics) Part I

Program Outcomes (POs):
At the end of the programme, students would be able to
1) Utilize the basic knowledge in Electronics science.
2) Identify electronic components and ICs.
3) Design system components that meet the requirement of public safety and offer solutions to thesocietal and environmental concerns
4) Apply research based knowledge to design and conduct experiments
5) Construct, choose and apply the techniques, resources and modern electronics tools required forElectronics applications.
6) Apply the contextual knowledge to assess societal, health, safety and cultural issues and endure theconsequent responsibilities relevant to the professional electronics practice.
7) Examine the impact of electronics solutions in global and environmental contexts and utilize theknowledge for sustained development.

8) Develop consciousness of professional, ethical and social responsibilities as experts in the field ofElectronics and Communication.
9) Perform effectively as a member/leader in multidisciplinary teams.
10) Demonstrate resourcefulness for contemporary issues and lifelong learning.

Program Specific Outcomes:
Upon completion of the programme successfully, students would be able to
1.acquire knowledge in fundamental aspects of all branches of Electronics
2.create inquisitiveness and problem-solving skills
3.apply the principles of Electronics in solutions to real world problems
4.get prepared for higher education and career in Electronics
5.develop skills in the proper handling of apparatus and components
6.apply Electronics in their day to day life
7.act as a responsible citizen
8.Select and apply cutting-edge engineering hardware and software tools to solve complex Electronicsand Communication Engineering problems
9.Apply the fundamental concepts of electronics and communication science to design a variety ofcomponents.

B.Sc. (Computer Science) Part I
POs:
PO1: Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO2: Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
PO3: Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO4: Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO5: Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO6: Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.
PO7: Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Semester I-Fundamentals of Computer and C Programming
COs
Upon completion of this course successfully, Students would be able to -
1. Understand the computer, I/O and peripheral devices.
2. Understand concept of Operating systems.
3. Apply the Programming concepts.
4. Learn C language.
5. Write Simple C Programs.

Semester – II-Data Structure and OOPS
COs
Upon completion of this course successfully, Students would be able to -
1. Implement basic data structures such as arrays, stacks.
2. use linked list, trees and queues.
3. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data.
4. Describe the procedural and object-oriented paradigm with concepts of streams, classes, functions, data and objects.
5. Perform programming on functions, inline functions, constructor and destructor.
6. Perform programming on the concept of function overloading, operator overloading, virtual functions and polymorphism.

B.Sc. Part II
PO & CO
(As Per CBCS Pattern)

B.Sc. (Chemistry) Part II

Semester 3

COs:

1. apply concepts of volumetric and gravimetric analysis
2. use commercial method for extraction of elements and acquaintance of transition series elements
3. compare functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.
4. select correct synthetic approach to prepare derivatives of industrially important molecules
5. solve different numerical problem of varying difficulty associated with thermodynamics, phase equilibrium and colligative properties.
6. apply the concepts from advanced mathematics to solve the derivation of different chemical formulae.

Semester 4

COs:

1. Application of methods of synthesis of soaps and detergents
2. Commercial method for extraction of elements and acquaintance of transition series elements
3. Compare functional group chemistry through the study of methods of preparation, properties and chemical reactions with underlying mechanism.
4. Choose correct synthetic approach to prepare derivatives of industrially important molecules
5. Solve different numerical problem of varying difficulty associated with electrochemistry and photochemistry.
6. Apply the concepts of UV and IR spectroscopy for structure elucidation.

B.Sc. (Physics) Part II

Semester III-Thermal Physics, Statistical Mechanics & Solid State Devices-I

Course outcomes

On successful completion of this course, the student will be able to:

1. Gain knowledge of the fundamental laws of thermodynamics, concept of enthalpy, develop critical understanding of concept of thermodynamic potentials and formulation of Maxwell's thermodynamic relations with its applications.
2. Understand the basic aspects of kinetic theory of gases, Maxwell's distribution law of velocities, Mean free path of molecular collisions and transport phenomena in ideal gases.

3. Examine the nature of black body radiations and understand Stefan-Boltzmann's Law, Rayleigh-Jeans Law and Wien's displacement Law with their significance.
4. Understand the properties of macroscopic systems using the knowledge of individual particles by different theories and comparison of Maxwell's-Boltzmann, Fermi-Dirac and Bose-Einstein statistics.
5. Explain the fundamental understanding of static and dynamic behaviour of P-N junction diode, Zener diode, light emitting diode and Transistor.
6. Understand concept of rectification, Ripple Factor and Filter Circuits and gain a knowledge of construction of Regulated Power supply.
7. Explain the structure and the operations of transistor and recognize the different types of transistor and their applications.

Semester IV-Physical Optics, Fluid Dynamics & Solid State Devices-II
Course outcomes:
1. Understand the phenomenon of Interference of light and its formation in thin films, Newton's rings and Michelson interferometer (division of amplitude.)
2. Distinguish between Fresnel and Fraunhoffer diffraction and observe the diffraction patterns in case of double slit and diffraction grating.
3. Describe the construction and working of zone plate and compare the zone plate with convex lens.
4. Explain various methods of production of plane, circularly and elliptically polarized light and their detection.
5. Comprehend the basic principle of LASER, the working of He-Ne laser and Ruby laser and their applications in various fields.
6. Understand the parameters of fiber-optics and explore their applications.
7. Understand the kinematics of moving fluid by different theorems and Laws.
8. Gain Knowledge about different applications of transistor by operational amplifier and oscillator circuits.

B.Sc. (Mathematics) Part II

Semester- III-Advanced Calculus
COs:
1. get knowledge of basic principles of limit and continuity, Taylor's theorem.
2. understand Lagrange's multipliers method and Jacobian.
3. understand the concept of improper integral and Beta-Gamma function.
4. learn the definition of sequence and series and Sandwich theorem.
5. learn various tests for convergence and divergence of series.

Semester IV-Elements of Algebra
COs:
1. Learn the concept of Group, Subgroup and Cosets.
2. Explain the significance of the notations of Cosets, Normal subgroups and Quotient group.
3. Learn the concept of Homomorphism & Isomorphism and its Theorem.
4. Study the properties of Ring and Ideals and Integral domain.
5.Familiar with Fundamental concepts of Number theory.

B.Sc. (Botany) Part II

Semester III
COs
After completion of this course successfully, the students would be able to
1. Understand the basic principles involved in identification, naming and classification of flowering plants.
2. Know the systematic study and economic importance of plants belonging to the various families.
3. Differentiate various tissue systems.

4. Understand the normal and anomalous secondary growth in plants and their causes.
5. Understand developmental stages in plant embryo and seed formation.
6. Apply understanding this knowledge to explain the taxonomic diversity.

Semester IV
COs:
After completion of this course successfully, the students would be able to
1. Understand the structure and purpose of basic components of prokaryotic and eukaryotic cells.
2. Identify the concept that explains chemical composition and structure of cell wall and membrane
3. Differentiate cell organelles on the basis of structure and function.
4. Comprehend the effect of chromosomal abnormalities in numerical as well as structural changes.
5. Have conceptual understanding of laws of inheritance, genetic basis of loci, alleles, their linkage and crossing over.
6. Understand the basic concepts of plant breeding.
7. Analyse the different selection and breeding methods applied in crop improvement.

B.Sc. (Zoology) Part II
Semester III
COs:
Upon completion of this course successfully, students would be able to
1. Describe the structure and function of cellular organelles.
2. Describe various mode of cellular transport.
3. Compare active transport with passive transport.
4. Describe structure of chromosomes.
5. Differentiate between various types of chromosomes.
6. Define the basic concept of developmental biology, cell division, embryogenesis and emergence of adult organisms.
7. Describe zygote formation and different stages of embryonic development in frog and chick.

Semester IV
COs:
Upon completion of this course successfully, students would be able to
1. Describe Mendel's Laws of Inheritance.
2. Differentiate between a monohybrid and a dihybrid cross.
3. Deduce the type of gene interaction from ratio of offspring.
4. Describe linkage and crossing over.
5. Describe various modes of sex determination.
6. Identify the type of syndrome from karyotype.
7. Describe various prenatal diagnostic techniques.
8. Describe effects of water, temperature and light as ecological factors.
9. Identify the type of biotic interaction from given example.
10. Describe components of ecosystem and structure of terrestrial and marine ecosystem.

B.Sc. (Environmental Science) Part II
Semester - III Environmental Chemistry
CO's:
1. Understand basics of Environmental chemistry.
2. Acquires knowledge of toxicants, its interactions to living beings.
3. Physico- chemical properties of water
4. Understand distribution of different toxic chemical species of specific element

distributed in environment.
5. Understand importance and role of macro and micro nutrient element in living beings.
6. Apply knowledge of environmental factors affects solubility of gases in water.

Semester - IV Environmental Pollution
CO's:
By the end of this program, the learners will be able to-
1. Understand concept of environmental pollution.
2. Evaluate degree of environmental pollution.
3. Acquire knowledge of sources of environmental pollution
4. Apply knowledge to control pollution and suggest steps to protect natural resources
5. Aware about major global environmental issues.
6. Identifies possible effects of specific pollutant on environment.

B.Sc. (Computer Science) Part II

Semester III
COs:
1. Understand Internet and Networking
2. Understand the fundamentals of data communication, networking, internet, and their importance.
3. Understand different networking topologies
4. Describe the seven-layer OSI model with data transmission media
5. Understanding Switching and Multiplexing techniques.

Semester-IV-RDBMS and Core Java
COs:
1. Understanding basics concepts of DBMS
2. Demonstrating SQL commands
3. Demonstrating PL/SQL concepts
4.Writing basic java programs using basics features of Java
programming language/
5. Demonstrating concepts of OOP's using classes, Inheritance, Interfaces etc.

Post Graduation
POs & Cos
(As per NEP)

M.A. (Marathi)

POs (अभ्यासक्रमाची निष्पत्ती):

१. जीवन व्यवहाराच्या विविध क्षेत्रांतील आंतरसंबंधांचे ज्ञान प्राप्त होईल. तसेच त्यातील गुंतागुंत समजून घेऊन वैश्विक मानवतेच्या व्यापक पटावर जीवनाचे आकलन करून घेण्याची दृष्टी प्राप्त होईल.

२. व्यक्तिगत आणि सार्वजनिक जीवनातील बदलत्या परिस्थितीचे आकलन करून त्यात विवेकपूर्ण विचार आणि व्यवहार करण्यासाठीची विचारप्रवणता आणि कृतिशीलता निर्माण होईल.

३. प्रतिष्ठापूर्ण आणि आत्मसन्मानाने स्वावलंबी जीवन जगण्याची व इतरांनाही त्या दृष्टीने सहकार्य करण्याची इच्छाशक्ती अंगी बाणवता येईल.

४. संशोधक वृत्ती, जिज्ञासूपणा आणि ज्ञानलालसा वाढीस लागून ज्ञानाचे व्यावहारिक उपयोजन करता येईल.

५. चिकित्सक आणि भूतुलनात्मक अभ्यास दृष्टीचा विकास होईल. त्यामुळे जीवनातील सैद्धांतिक आणि प्रायोगिक पातळीवरील समस्यांचे कालसापेक्ष भान निर्माण होऊन सर्जनशील पर्याय देण्याची प्रक्रिया विकसित होईल.

६. भाषाभान जागृत होऊन मानवी सभ्येतेतील भाषेचे प्रयोजन आणि बदलत्या काळातील त्याचे उपयोजन करता येईल. शिवाय बहुभाषिक आणि बहुसांस्कृतिक लौकिक प्राप्त करून घेता येईल.

७. विचार आणि भावपोषण योग्य पद्धतीने झाल्यामुळे आत्मविश्वासाने जीवन जगता येईल.

८. माहिती व तंत्रज्ञानाची कौशल्ये विकसित करून रोजगार सक्षम होता येईल.

M.A. (Marathi) Part I (Sem-I)

अभ्यासपत्रिकेची निष्पत्ती (COs)

१. साहित्याच्या सामाजिक व सांस्कृतिक पार्श्वभूमीचा विद्यार्थ्यांचा पाया पक्का होईल.

२. साहित्याविषयीची आकलनक्षमता वाढेल.

३. युपीएससी, एमपीएससी, नेट-सेट व इतर स्पर्धात्मक परीक्षांची तयारी होईल.

४. वृत्तपत्रीय लेखन-संपादन करण्यासाठी अभ्यासाचा उपयोग होईल.

५. अध्यापनाच्या व्यवसायात पदार्पण करायचे असल्यास ज्ञानाच्या कक्षा अधिक रुंदावतील.

M.A. (Marathi) Part I (Sem-II)

अभ्यासपत्रिकेची निष्पत्ती (COs)

१. समीक्षा ही संकल्पना स्पष्ट होऊन तिची उद्दिष्टे, महत्त्व आणि अपरिहार्यता यांचे आकलन वाढेल.

२. समीक्षाप्रक्रियेतील पायऱ्यांचे पृथःकरण करता येईल.

३. विविध वाङ्मयीन वादांमधील साम्यभेदांची तुलना करता येईल व त्यांच्या ऐतिहासिक कार्याचे मूल्यमापन करता येईल.

४. साहित्याचे आकलन, वर्णन, आस्वादन, विश्लेषण आणि मूल्यमापन करण्याची क्षमता वाढून विद्यार्थ्यांची अभिरुची विकसित होईल.

५. गांधीवाद, आंबेडकरवाद आणि देशीवाद यांच्या मुळाशी असलेल्या मूल्यव्यवस्थेचा शोध घेऊन त्यावर टिपण लिहिता येईल.

६. एखाद्या वाङ्मयकृतीवर समीक्षणात्मक लेख लिहिता येईल.

M.A. (Marathi) Part II (Sem-III)

अभ्यासपत्रिकेची निष्पत्ती (COs)

१. मराठी भाषेच्या उपयोजित क्षेत्राचा विद्यार्थ्यांना परिचय घडेल.

२. मराठी भाषेतील व्यावसायिक लेखन कौशल्ये तसेच कार्यालयीन लेखनकौशल्ये विद्यार्थी आत्मसात करतील.

३. सांस्कृतिक कार्यक्रमांचे सूत्रसंचालन, निवेदन करण्यासाठी, मुलाखती घेण्यासाठी तसेच भाषण करण्यासाठी विद्यार्थी सक्षम बनेल.

४. विद्यार्थ्यांना स्वतंत्रपणे ब्लॉग तयार करता येतील.

५. या पत्रिकेच्या अभ्यासाने विद्यार्थी रोजगार प्राप्त करू शकतील

M.A. (Marathi) Part II (Sem-IV)

१. भाषांतर संकल्पनेचे सैद्धांतिक ज्ञान होऊन भाषांतरासाठी आवश्यक क्षमतांचे भान येईल.

२. लिओ टॉलस्टॉय या विश्वविख्यात लेखकाच्या जीवनविषयक तत्त्वज्ञानाचा शोध घेऊन त्याने केलेल्या आत्मपरिक्षणाचा सोदाहरण परामर्श घेता येईल.

३. सत्यजीत राय यांच्या व्यक्तिमत्त्वावर प्रभाव टाकणाऱ्या बालपणीच्या घटना-प्रसंगांचे विश्लेषण करता येईल.

४. सर्वग्रासी हुकुमशाही मानवी स्वातंत्र्यावर घाला घालणारी आहे, ही बाब 'ॲनिमल फार्म'च्या आधारे पटवून देता येईल.

५. भाषांतरित मराठी साहित्याचा धांडोळा घेऊन त्यावर एक अभ्यासपूर्ण टिपण लिहिता येईल तसेच हिंदी भाषेतील मजकूर मराठी भाषेत भाषांतरित करता येईल.

M.A. (Geography)

POs:

1. Design and conduct independent research in their chosen field in the discipline
2. Demonstrate knowledge of concepts, methods, and theories designed to enhance understanding of the natural world and human society.
3. Communicate the results and significance of their research in both written and oral form
4. Evaluate how historical events have been influenced by, and have influenced, physical and human geographic factors in local, regional, national, and global settings.
5. Follow established ethical guidelines for research and teaching
6. Have an in-depth understanding of and mastery of the literature in, at least one particular geographic subfield.
7. A geographer has better job opportunities in government departments, Cartographer, Researcher, Teacher/Professor, Competitive Examinations, Government employer, GIS specialist, Climatologist, Transportation Manager, Surveyor, GPS Surveyors.

M.A. (Geography) – I (Semester I)

COs

After completion this introductory oceanography course, a student will be able to

1. Understand the effect of rotation of revolution the Earth
2. Understand interior structure of the earth
3. know the importance of longitudes& latitudes
4. International Date line and Standard time
5. Understand Theory regarding of Origin of Continents and oceans
6. The students will be able to identify the types of rocks.
7. Understand the work of internal and external forces and their associated Landforms.
8. Identify different geomorphological feature.
9. Understand the concept of mass Wasting Understand the Application of Geomorphology.

M.A. (Geography) – I (Semester II)

COs

1. Possess a working knowledge of the geography of the world in relation to tourism and be able to locate areas on the map.
2. Illustrate the relationships between the physical and cultural factors influencing tourism.
3. describe the tourism geography and cognitive framework reletated to the tourism geography and explain the importance of strategy and plannin to improving sustainable tourism
4. evaluate the natural geographic resources and classes of tourism.
5. evaluate the human and cultural geographic resources and classes of tourism.

6. explain the intentanional tourism transportation and tourist flow.
7. recognize the tourism regions of the world.
8. relate the natural environmet characteristics and tourism.
9. relate the human and cultural environmet characteristics and tourism.
10. Interprets the importance of cultural environmet characteristics on tourism.
11. Work as a tourist guide and travel agent.

M.A. (Geography) –II (Semester III)
.Course Outcomes:
1. Analyze the theories of urban evolution and growth, Hierarchy of urban settlements
2. Understand the various aspects of urban place : location, site and situation; Rank-size rule and Law of primate city
3. Understand the concept of urban hierarchies
4. Understand the patterns of urbanization in developed and developing countries
5. Understand the ecological processes of urban growth; urban fringe; city-region
6. Analyze the models on city structure.

M.A. (Geography) –II (Semester IV)
COs:-
1. The students acquired the information about environment.
2. Acquired information about climatic, earth's and anthropogenic movement and environment changes.
3. The students improved their role in environment
4. The students increased the knowledge in research.
5. To create awareness about environment in the society.

M.A. (Economics)

POs:
1 To analyze the Economic Issues related to local to global scenarios.
2 This programme helps to understand the various Social, Political and Economic Institutions.
3. Applying their knowledge to assess issues in fields of agriculture, industry, banking and finance, environmental, and societal issues to provide practical solutions.
4 Formulate and execution of field study, and an industrial visit to get practical exposure to the latest issues.
5 To understand how economic policies affect the common people through interactions.
6 To utilize the research spheres of Economics.
7 The students should be able to find a career in Economics.

M.A. (Economics) I (Semester I)
Course Outcomes:
1. Explain the scope and subject matter of agricultural economics.
2. To understand the rural infrastructure and agricultural production.
3. To analyze the issues related to agricultural and economic development.
4. Deals with the farm management and types of agricultural risk.
5. To understand the Labour Supply, Mobility of Labour and Segmentation in Labour Markets.
6. Evaluate the problem of agricultural finance and suggestion to improve agricultural finance.
7. Know about agricultural growth in India and the effects of globalization.

M.A. (Economics) I (Semester II)
Course Outcomes:
The student will be able to:
1. Report a thorough understanding of the basic principles of microeconomics.
2. Interpret the Monopolistic market framework, and apply it to microeconomic situations.

3. Illustrate the features of the Oligopolistic market.
4. Break down the nuances of welfare economics.
5. Review the above concepts to solve and analyze various problems of economic policy.
6. Devise and apply game-theoretic solutions for economic decision-making.

M.A. (Economics) II (Semester III)
Course outcome's:
After completion of this course the Student will be able to
1) Cite the basic principles of Economic Growth.
2) Interpret the concepts of Development and Planning.
3)Apply these concepts to Solve and analyse various problem in Social & Institutional Aspect.
4) Cite the theories of development.
5) Interpret and Understand the development & Growth model.

M.A. (Economics) II (Semester IV)
Course Outcomes
After completion of this course the Student will be able to
1) Students gained knowledge of balance of Payment and trade policy.
2) Students learned about foreign capital, exchange and multinational corporation.
3) Students realized the impact of globalizations.
4) Students were introduced to the monetary and fiscal Policy.
5.Students got the idea of economic planning and policy.

M.Com.

Programme Outcomes :-
The student would be able-
1) To acquire a job as an Economist, Market Research Analyst, a banker, management consultant, stockbroker/trader, Actuary, Financial analyst, Financial advisors or Advisor to Tax Law Court etc.
2) To acquire the process of managerial economics, demand analysis, production theory, price determination
and prizing practices, etc.
3) To acquire proficiency in the accounting concepts as well as tools and techniques used for taking managerial decisions.
4) To master the knowledge of ratio analysis, cash flow and budgetory control.
5) To achieve decision making abilities in the situation of uncertainty in dynamic business environment.
6) To master the conceptual framework of Management and organizational behavior.
7) To attain understanding of computer operating system and application of relevant softwares in managerial
decision making.
8) To gain the knowledge of commercial banks and its transactions, nature and scope of insurance and its kinds.

M.Com. I Semester I
Course Outcomes
1. Application of concepts of Managerial Economics in the process of business decision making
2. Application of demand supply concepts towards consumer choices
3. Compare economies and dis-economies scale of production in real life situation
4. Assessment of Production process determinationin various industries
5. Impact of business cycles in Agriculture, Industry, Services and Share Market
6. Application of pricing practices in various markets and bargaining tendencies thereof.

M.Com. I Semester II

Course Outcomes:

1) Word processing allows students to interpret and process to understand higher standard of word processing.
Students can perform the practical parts and remove mistakes on word documents.
2) Students should be able to demonstrate and understanding of accounting theory. Apply accounting procedure by
using computer accounting software. Perform accounting reports and records.
3) Enable students to gain expert knowledge, principles and procedure of computerize accounting and taxation.
Critical thinking and problem solving skills in analyzing financial information and taxation.
4) Student should know basic data types in spreadsheets. Is able to determine database and convert them. Know
basic functions to calculate mathematical, statistical and logical operations. Have skills of data visualizing
depending on data and task types.
5) Understand how to start MS –Excel and SPSS. Enter basic data into SPSS and Carry out statistical analysis that
can test hypothesis. Develop various required graphs.

M.Com. II Semester III

Course Outcomes:

1. Analyze the impact of E-commerce on business models and strategy.
2. Describe the major types of E-commerce.
3. Explain the process that should be followed in building an E-commerce presence.
4. Identify the key security threats in the E-commerce environment.
5. Describe how procurement and supply chains relate to B2B E-commerce.
6. To understand Electronic Payment Systems and Unified Payment Interface System

M.Com. II Semester IV

Course Outcomes:

1. To understand the structure & function of International Financing.
2. To provide the knowledge of international flow of fund.
3. To make aware students about developments in International Monetary System.
4. To study the global financial markets.
5. To make aware students about World Bank and other International Financial Organization.

M.Sc. (Chemistry)

Program Outcomes

PO1	Deep subject Knowledge and intellectual breadth	Apply the subject knowledge to the solution of real-world problems.
PO2	Professional Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of the standard practices.
PO3	Creative & Critical Thinking	Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO4	Innovation, Research and Problem Solving	Identify, formulate, review research literature, and analyze complex problems reaching substantiated and innovative conclusions. Design solutions for complex problems with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. Use research-based knowledge and research methods to provide valid conclusions. Demonstrate the knowledge of, and need for sustainable development.
PO5	Team work and Communication Skills	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. Present/communicate research at national/international level, write effective articles, reports and design documentation, make effective presentations, and give and receive clear instructions. Communicate disciplinary knowledge to the community and broader public.
PO6	Professionalism and Leadership Readiness	Demonstrate personal accountability and effective work habits, e.g., punctuality, working productively with others, and time as well as workload management. Demonstrate integrity and ethical behavior, act responsibly with the interests of the larger community in mind, and to learn from his/her mistakes. Use the strengths of others to achieve common goals, and use interpersonal skills to coach and develop others. Assess and manage his/her emotions and those of others; use empathetic skills to guide and motivate; and organize, prioritize, and delegate work.
PO7	Lifelong learning	Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.
PO8	Competence for Digital World	Prepare well for living, learning and working in a Digital Society; Create, select, and apply appropriate techniques, resources, and modern ICT tools to complex activities with an understanding of the limitations. Use existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals. Demonstrate effective adaptability to new and emerging technologies.

PO9	Global Citizenship	Act with an informed awareness of global issues. Engage in initiatives that encourage equity and growth for all.

M.Sc. (Chemistry) Part I Sem-I

Course Outcomes: At the end of the course students would be able to

1. predict the nature of bond and its properties through various electronic structural methods; bonding models
2. recognize and assign symmetry characteristics to molecules and objects,
3. understand and analyze structure-property correlation of coordination compounds
4. corelate magnetic properties of complexes with strength of ligand field
5. design new coordination compounds based on a fundamental understanding of their electronic properties
6. appreciate specialized and advanced topics in inorganic and coordination chemistry
7. Correlate structure and bonding with reactivity of boron.

M.Sc. (Chemistry) Part I Sem-II

Course Outcomes: At the end of the course students would be able to

1. Select most suitable modern chromatographic technique for separation of analyte from matrix.
2. Explain various types of columns and detectors used in chromatography.
3. Determine pKa value of indicator using potentiometry
4. Summarize principles and applications of molecular absorption and molecular emission spectroscopy
5. Design experiments based on spectrophotometry and polarographic analysis.
6. Apply the principle involved in radioanalytical techniques and instrumentation therein.
7. Formulate experiments based on optical and electroanalytical techniques.

M.Sc. (Chemistry) Part II Sem-III

Course Outcomes: At the end of the course, students will be able to:

1. apply spectroscopic techniques such as Microwave spectroscopy, Raman, UV, IR and other spectroscopic methods for structure determination.
2. compute approximate wavelength regions for different types of transitions involved in UV spectroscopy.
3. deduce structures and reactivity patterns of organic, organometallic, and inorganic materials using spectroscopic data.
4. elucidate the structure of organic and inorganic compounds using spectroscopic methods.
5. utilizes zero-field spectra in Mössbauer spectroscopy to determine oxidation state, spin state, and coordination geometry.

M.Sc. (Chemistry) Part II Sem-IV

Course Outcomes: At the end of the course students will be able to

1. Explain the principles, instrumentation, and applications of Auger electron microscopy and compare it with ESCA (electron spectroscopy for chemical analysis) techniques.
2. Demonstrate knowledge of different electron microscopy techniques (e.g., TEM, SEM, STEM) and their applications in surface characterization.
3. Apply analytical methods to determine the approximate composition of food, including moisture, fat, protein, fiber, and carbohydrate.
4. Evaluate the composition of cosmetics, including creams, lotions, and face powder, by determining water content, non-volatile matter, ash content, and specific chemical components.
5. Classify different types of poisons, understand their mode of action, and estimate poisonous materials (e.g., lead, mercury, arsenic) in biological samples.
6. Apply chemical sensors in various fields such as the food industry, agriculture, and biotechnology.
7. Outline the terms and role of forensic science, analytical toxicology and different units of crime lab
8. Formulate and compile scientific problems based on analytical spectroscopy.
9. Specify the applications of analytical spectroscopy in chemistry and interdisciplinary fields.

Credit Grade System

Course Outcome (Subjects covered Under Faculty of Arts)

Subject: Marathi		
Class	**Course**	**Outcome (Students will be able to… .....)**
B.A.	**Marathi Compulsory**	Understand the great human values in the society.
		Inculcate global mindset through the study of Language.
		Get the inspiration about entrepreneurship.
		Make the Great Approach about social solidarity and cultural solidarity in the changable social environment.
		Understand Scientific Temper in the society.
		Develop social awareness and Social responsibility.
		Know professional interest and moral values through the study of Language.
		Recognize about gender equality .
		Know the literary journey of Marathi Language.
		Know the concepts of Gandhiism,Marksism,Ambedkarism.
		Understand the importance of interrelationship between Society and Literature.
		Develop ethical thinking.
		Develop knowledge based society of the students.
B.A.	**Marathi Literature**	Develop the knowledge about Literature among the students through establishment of MLT Association (Marathi Literary Association).
		Develop 'Communal Harmony' among the students through the study of literature.
		Develop Acting skill and language skill among the students.

		Develop personality of the students giving opportunities to them for presentation on the dais.
		Develop interest in the study of Marathi Literature.
		Introduce the various trends in Poetry of Marathi Literature.
		Know the necessity and importance of Literature for healthy human life.
		Introduce the various trends in Literature.
		Integrates Vocabulary and knowledge of language among the students.
		Introduce social and cultural study of poems in Modern Age.
		Inculcate social,National,Moral values among the students.
		Realize the social bind among the students.
		Introduce various types of poem and the Poets in that typical (Prescribed) period.
		Introduce the History of Drama.
		Introduce the process of how to make the words.
		Know the purpose of Literature.
M.A.	**Marathi**	Know the form of Literature i.e.-poetry, drama, balsahitya, Gramin Sahitya.
		Understand concepts of Poetry, drama, gramin Sahitya, Vidnyan Sahitya.
		To know various stages of development of Marathi Language.
		To know the nature and purpose of Language.
		To know historical study, descriptive study for Linguistic Research.
		Know the concepts of Gandhism, Marxism, Ambedkarism.
		Understand the importance of interrelationship between Society and Literature.
		Develop ethical thinking.

B. Com.	**Marathi**	Understand the great human values in the society.
		Inculcate global mindset through the study of Language.
		Get the inspiration about entrepreneurship.
		Make the Great Approach about social solidarity and cultural solidarity in the changeable social environment.
		Understand Scientific Temper in the society.
		Understand official Letter writing and process of translation.
		Understand the Great Personalities with the study of Language
		Understand how to make Professional Advertisement through the study of Upyogit Marathi.
		Develop the skill of applying concepts and techniques for job.
		Introduce the Great Personalities.
		Know how to live happy life with defeating the social problems.
B. Sc.	**Marathi**	Inculcate value of equality and tolerance among the students.
		Learn Human Values in the life.
		Introduce the social work done by the Great Personalities and Social Reformers.
		Inculcate new thought and new concept about life and society.
		Get information about Marathi Language in daily routine.
		Make capable for Letter writing at professional level.
		Make capable for How to write any information for social Media.
		Develop scientific temper among the students.
		Inculcate Liberal ideology.
		Know awareness about Rational thinking.
		Develop Vocabulary and Language Skill.
		Develop aesthetic sense among the students.

		Enrich human life through the study of Language.
		Know various stages of development of language.
Subject: English		
Class	**Course**	**Outcome (Students will be able to.....)**
B. A.I- III / B.Sc.I / B.Com	**General English**	Learn analysis of the text from prose passages for understanding the contents
		Prose passages will help improve reading and writing skills
		develop imaginative thinking by reading and reciting poetry
		Language activities will promote effective use of language in day to day life and enhance professional skills
		Develop rational thinking along with learning life skills.
		Motivate themselves to make carrier in this language.
Subject: Economics		
Class	**Course**	**Outcome (Students will be able to.....)**
M. A. I, 1S	**Compulsory Paper- Micro Economics I**	Understand Basic Economic problem, Choice and Scarcity
		Understand Methodology of Economics, Deductive and Inductive methods.
		Understand the demand analysis
		Understand Consumer Behaviour and Elasticity of Demand

		Understand the Theory of Production and Costs
		Understand the Cost and Revenue
	Compulsory Paper- Macro Economics I	Understand National Income
		Understand Theory of Employment and Consumption Function
		Understand the Multiplier and Investment Function
		Understand Demand for Money
		Understand the Supply of Money, RBI Approach to money supply etc.
	Optional Papers -Statistics for Economics-I	Understand Scope, Uses and Limitations of Statistics
		Understand Types of measures of central Tendency
		Understand the Co-efficient of Variation
		Understand Correlation and Regression
		Understand the CSO, NSSO, Recent Population Census
	Optional Paper- Agriculture Economics	Understand Nature and Scope of Agricultural Economics
		Understand Rural Infrastructure, Agricultural Production
		Understand the Rural Labour Market
		Understand Rural Finance and Agricultural Prices
		Understand the Agricultural Growth in India and External Sector Agricultural Growth in India and External Sector
	Optional Paper- History of Economic Thoughts	Understand Pre Adamite Thoughts
		Understand Classical Economics
		Understand the Critics of classicism
		Understand Modern Economic Thought
		Learnthe economic thoughts of Dr. Ambedkar, M.K. Gandhi, Dadabhai Navroji,

		Jyotirao Phule, Dr. Punjabrao Deshmukh, Amartya Sen
	Optional Paper- Public Economics	Understand Role and Function of Government in an Economy
		Understand Public Expenditure and Taxation
		Understand the Burden of Public Debt
		Understand Fiscal Policy and Federal Finance
		Understand the Private and Public Mechanism for allocating resources
M. A. I, 2S	**Compulsory Paper- Micro Economics- II**	Understand Price and Output Determination
		Understand concepts of monopolistic and imperfect competitions
		Understand the demand analysis
		Understand Duopoly and Oligopoly
		Understand the Theory of Distribution
		Understand the Welfare Economics
	Compulsory Paper- Macro Economics- II	Understand Interest Theories
		Understand Theories of Inflation
		Understand the Inflation of Developing Economies
		Understand Post Keynesian Demand for Money
		Understand the Trade Cycle and Financial Markets
	Optional Paper- Statistics for Economics-II	Understand Sampling and Estimation
		Understand Statistical Inference
		Understand the Nature and decomposition of a time series
		Understand various types of events classical and empirical of probability
		Understand the Index Number – Meaning, Characteristics and uses, construction and

		limitations, Types of Index Numbers
	Optional Paper- Rural Development	Understand Concept Of Rural Development.
		Understand Overview of Rural Resources
		Understand meaning Cooperative Movement In Rural Economy
		Understand Rural labour supply, interlocking of factor markets
		Understand the Schemes Of Rural Development Amartya Sen
	Optional Paper- Environmental Economics	Understand Elements Of Environmental Economics
		Understand Economics of Natural Resources Management and Sustainable Development
		Understand the Environmental Problems of agriculture Development
		Understand Environmental Problems of Industrial Development: water pollution, air pollution, noise pollution
		Understand the Rural and Urban Environmental Problems – Population and the Environment
M. A. II, 3S	**Economic Growth, Development and Planning-I**	Understand the Meaning, Indicators, Factors & Measurements of Economic Development and Growth
		Understand theSocial & Institutional Aspect of Development
		Understand theTheories of Development
		Understand theDevelopment & Growth Model
	International Trade & Finance	Understand the Theories of Trade
		Understand theRecent Developments in International Trade Theories
		Understand theTerms of Trade and Gains From Trade
		Understand theTrade and Growth
		Understand the Recent Balance of Payments :

	Optional Paper-Financial Institutions and Market	Understand the Nature and Role of Financial System
		Understand The Control Bank and Monetary Policy
		Understand Banking System in India :
		Understand theFinancial Sector Reforms and Non-Bank Financial Institutions
		Understand the National and International Financial Market :
	Optional Paper-Labour Economics	Understand the Importance, Demand & Supply of Labour
		Understand the Meaning, Types Natures, Causes, Effect of unemployment
		Understand Wage Determinants
		Understand the Absenteeism and Labour Turnover
		Understand the Labour Market Reforms
	Optional Paper-Research Methodology for Economics	Understand the Meaning& Definition of Research, Objectives of Research, Scope, Limitation
		Understand Collection of Data and Sampling Techniques
		Understand Classification of Data, Meaning and Functions
		Understand the Processing and Analysis of Data
		Understand the Interpretation of Data and Report Writing
M. A. II, 4S	**Economic Growth, Development and Planning-II**	Understand the Economic Planning - Concept, Need, Objective
		Understand Theories of Development
		Understand Spectral Aspects of Development
		Understand the Trade and Economic Development
		Understand the Policy and Development
	International Trade & Finance	understand the India's International Trade Policies
		Understand Regional Economic Blocks

		Understand WTO and India
		Understand the Capital and Trade
		Understand the MNCs and Foreign Trade
	Business Cycles	Understand the India's International Trade Policies
		Understand Nature of Business Cycles
		Understand History of Business Cycles, Nature of Business Cycles in 19th & 20th Century
		Understand the Marx and Malthus Contribution to Theory of Cyclical Fluctuations
		Understand the Various theories of Business Cycles
		Understand the Policies for Controlling Business Cycles
	Demography	Understand the Meaning, Scope of Demography
		Understand Fertility, Nuptiality and Mortality
		Understand Migration and Urbanisation
		Understand the Demographic Data Base in India
		Understand the Population Policy in India
	Welfare Economics	Understand the Pre-Paretian Welfare Economics
		Understand Consumer's Surplus – Measurement of Consumer's Surplus, Criticism
		Understand Pareto Optimality – Optimum Exchange conditions
		Understand the Bergson's Social Welfare Function, Arrow's Impossibility Theorem
		Understand the Exernalities of Production and consumption

Subject: Political Science		
Class	**Course**	**Outcome (Students will be able to…….)**
B. A. I, 1S	**Indian Constitutional Provisions and Local Self Government**	Understand salient features of the Indian Constitution, Preamble and Fundamental Rights
		Understand Directive Principals of State Policy , Fundamental duties & Methads of acquire citizenship
		Understand President, Vice President, and Prime Minister Of Indias appointment process and power , Function
		Understand Indian Parliament
		Understand Indian Judiciary
B.A.I , 2S	**Indian Constitutional Provisions and Local Self Government**	Understand Election commission of India
		Understand State executive
		Understand state legislature of Maharashtra
		Understand Local Self Government On Maharashtra
		Understand women's participation in Panchayati Raj of Maharashtra
B.A. II, 3S	**Selected Constitution and International Relations (U.K. , U.S.A. & China)**	Understand salient features of the constitution of UK., Historical background of crown ,and executive council
		Understand parliamentary system of UK
		Understand salient features of USA and executive council
		Understand legislature of USA Congress
		Understand organization of SAARK
B.A. II, 4S	**Selected Constitution and International Relations (U.K. , U.S.A. & China)**	Understand salient features of constitution of China and National People Congress
		Understand executive council of China
		Understand United nation Organization
		Understand Security Council , Secretary General and International court
B.A. III, 5S	**Modern Concepts and Policy in Politics**	Understand Concept of Leadership

		Understand Reservation Policy In Indea
		Understand Concept of Nationalism
		Understand Concept of Communalism
		Understand Modern concept of Terrorism
B.A.III, 6S	**Concepts of Western and Indian Thinkers**	Understand concept of state by Aristotle & M. K. Gandhi
		Understand concept of Democracy
		Understand concept of Nationalism
		Understand Modern concept of socialism
		Understand concept of Behaviorism and Sovereignty
Subject: History		
Class	**Course**	**Outcome (Students will be able to….....)**
B. A. I, 1S	**History of India From Earliest Times 1205 A.D**	Know about the sources to know Ancient India
		Acquainted with the ancient Indianculture and civilization.
		Learn about Mauryan Period and Samrat Ashok
		Learn about Ancient and Midvale Period
B. A. I, 2S	**History of India From 1206 A.D. to 1525 A.D.**	Understand glimpses of Sultanat Period
		Understand Raziya Sultan and Qutibuddin eybak
		Learn about Vijaynagar empire
		Know about status of women during the sultanat period
		Learn about the various aspects of above period.

B. A. II, 3S	**History of India From 1526 A.D. to 1756 A.D.**	Understand about the Survey of the Sources of Medieval India Establishment and Consolidation of Mughal Empire, Mughal Polity
		Learn Mughal Ruling Classes, Mughal's Relation with Indian Power, Decline of Mughal Empire
		Learn about the Mughal Economy, Mughal Society, Religion and Cultural Life
		Get glimpses of Sources of Maratha History, Emergence of Maratha Power, Maratha Power Under Shivaji, Maratha Power Under Sambhaji and The Maratha War of Independence
		Learn about the Political Administration Under Maratha, Military System Under Maratha, Judicial Administration Under Maratha, Fiscal Administration of Maratha and Religious Policy of Maratha
B. A. II, 4S	**History of India From 1757 A.D. to 1947 A.D.**	Get information about the Advent of European Powers, Tools of Expansion of British Dominion in India and Economic Changes
		Get glimpses of Revolt of 1857, Socio- Religious Movements, Modern Education
		Understand Nationalism, Indian National Congress (Early Phase &Later Phase),
		Know about the Early Gandhian Programmes, Non Co-operation Movement and Quite India Movement
		Understand about the Constitutional Development and Subhash Chandra Bose and Azad Hind Army
B. A. III, 5S	**History of Modern World (From 1780 to 1920 AD)**	Learn and Understand the French Revolution
		Learn about the Making of the Nations - States of Italy and Germany, Foreign Policy of

		Germany under Bismark And Germany under Kaiser William II.
		Learn about the Triple Entente (1907 AD), Russo – Japanese War (1904 – 05 AD) and First World War – Causes and Effects
		Get information about Concept of Communism, Capitalism, Socialism.
		Know about the Paries Peace Conference, Versailles Treaty and The League of Nation's
B. A. III, 6S	**History of Modern World (From 1921 to 1965 AD)**	Understand about the Rise of Fascism in Italy
		Understand about Causes and Result of the Second World War
		Learn about United Nations Organization
		Learn about Emergence of the U.S.A. , U.S.S.R. as World Power, Causes and Effects
		Know about NATO and Warsaw Pact, the SEATO, The CENTO.
		Understand about European Unity and Disunity,
Subject: Geography		
Class	**Course**	**Outcome (Students will be able to….....)**
B. A. I, 1S	**Understanding Geography: Elements of Geography**	Get introduced to the very nature and scope of the discipline Geography. Gain insight into the historical background of Geography. The development of its subject matter through various phases. Get foundation of knowledge about Geography. Learn about the different branches of geomorphology. Understand the concepts different landforms critically.
B. A. I, 2S	**Understanding Geography: Elements of Geography**	Identify common rocks and their characteristics. Learn about the different branches of geomorphology. Learn the dynamic processes and agents which shape the different landforms that they see around them.

		Develop a basic understanding of the processes and landforms related to Fluvial, Glacial & Wind agents.
B. A. II, 3S	**Climatology**	Develop ideas on climate related aspects of geographical analyses. Learn about various geographical areas within India and across the globe. Get knowledge about both physical and cultural attributes related to different climates around the world.
B. A. II, 4S	**Oceanography**	Learn about the different elements and processes associated with the oceans, man-ocean relationship and also the various ocean resources. Get knowledge about both physical and cultural attributes related to different oceans around the world.
B. A. III, 5S	**World Regional Geography**	Get comprehensive idea of the continents from a geographical perspective. Learn about the geographic profile of developed and developing nations. Get knowledge about the regional geography of Asia which will be helpful for the students in many competitive exams. Get information on representing and interpreting various climatic phenomena. Map and interpret the diverse aspects of physical and cultural features at world regional context.
B. A. III, 6S	**Economic Geography**	Understand how geographic aspect is associated with economic space. Get knowledge about the classification, distribution and importance of different resources and economic activities from geographical perspective. Deal with the economic and resource base development which will assist the students to understand the subject matter at global context. Get knowledge about the physical and chemical properties of soil, the processes and factors of their formation and subsequently about their different types.

		Get knowledge of the students about their environment, the associated environmental concepts and relevance.
Subject: Psychology		
Class	**Course**	**Outcome (Students will be able to….....)**
B. A. I, 1S	**Fundamental of psychology**	Understand basics of psychology, its goals and nature
		Learn biological basis of behavior
		Get information field of psychology
		Know the role of in real life.
		Learn about various factors of psychology branches
B.A. I, 2S	**Fundamental of psychology**	Learn about role motivation and emotion.
		Understand importance motivation and emotion in society .
		Understand Intelligence and theory
		Recognize the role of Small scale in Intelligence and theory
		Aware about personality and its types.
B.A. II, 3S	**Positive psychology**	Learn about basics of Positive psychology
		Understand goals and nature of positive psychology
		Understand importance of life
		Understand Role of positive psychology in daily life
		Understand about role of happiness
B.A. II, 4S	**Positive psychology**	Learn about Happiness and the facts of life
		Discuss stability in well being despite life changes
		Understand Role gender and happiness
		Discuss the Role of marriage and happiness
		Learn about benefits of marriage
		Learn about personal goals as windows to well being
		Know about Positive traits
B.A. III, 5S	**Applied psychology**	Learn about Applied psychology

		Discuss the importance of Applied psychology and Clinical application
		Learn importance this Industry and Organization
		Discuss the Forensic Psychology
		Know about Clinical Psychology
		Learn investigative Procedure and role of Psychologist
		Know about statistics Psychology
		Lean about the psychological test
B.A. III, 6S	**Scientific Research and psychological testing**	Learn about the Scientific Research and psychological testing
		Understand about Developing ideas for Research
		Understand the goals of psychological research
		Know the variables, meaning and types research in psychology
		Understand psychological testing
		Learn about validity and norms in psychological research
Subject: Sociology		
Class	**Course**	**Outcome (Students will be able to.....)**
B. A. I, 1S	**Introduction to Sociology**	Learn fundamental concepts of society, community and religious aspects.
		Know the nature of sociological studies.
		Learn social structure and its different elements.
		Understand social perspectives.
		Understand about social status, role in society development.
B. A. I, 2S	**Introduction to Sociology**	Understand culture and social institutions.
		Learn person- society- socialization.
		Learn characteristics and types of different cultures.
		Learn about social and cultural movements.
B. A. II, 3S	**Indian Social structure & Social Problems**	Understand social problems, especially in rural areas.
		Understand the problem of health and education.
		Learn about problem of culture, caste and religion.
B. A. II, 4S	**Indian Social structure & Social Problems**	Understand Urban social problems.
		Learn problem of Population.
		Understand about problem of corruption, crimes & crime types.
		Understand problems of slum areas.

B. A. III, 5S	**Social Anthropology**	Understand fundamentals of social Antropology
		Learn about characters of primitive society
		Understand methods to study social anthropology.
		Understand tribal religions, tribal society and tribal economics in India.
B. A. III, 6S	**Social Anthropology**	Understand tribals social life in India
		Learn about tribal totemism and dormitory system
		Learn about tribal problems and their development.

Indira Mahavidyalaya, Kalamb

Course Outcomes [Faculty of Commerce & Management]

Class	Course	Outcomes (Students will be learn to.....)
B. Com. I , 1S	**Principles of Economics**	To build a strong foundation of knowledge in areas of Economics like Economic Laws, Utility Theory Demand & supply, Production, Cost & Revenue etc.
	Advanced Accountancy	Demonstrate knowledge and understanding of the basic Accounting Knowledge as applicable to business.
	Principles of Business Organization	Understanding of the Business Organization concepts and apply these in Decisions in Setting up Enterprises and also as a member and leader of a organization to achieve organizational goals.
	Computer Fundamentals& Operating Systems. -I	Demonstrate knowledge and understanding of the basic knowledge about Computer, Develop the skills and ability to work on Word Processing.
B. Com. I, 2S	**Business Economics**	An integrated knowledge of Business and Managerial Economics, Market Competition, Price Factor.
	Financial Accounting	To develop conceptual understanding of fundamentals of financial accounting system and to impart skills in accounting for various kinds of business transaction.
	Principles Of Business Management	An integrated knowledge of and demonstrated ability to perform as management professionals. An ability to use Principles of Management, techniques, skills, and tools necessary for managerial practice.
	Computer Fundamental And Operating System –II	An integrated basic knowledge about Computer, MS-Word Processing 2007 and MS-PowerPoint 2007. Demonstrated skills and ability to perform Word Processing & Presentation.
B. Com. II, 3S	**Company Account**	To enable the students to develop awareness about company account.

	Business Mathematics	To enable the students to have such minimum knowledge of Mathematics.
	Auditing	An integrated knowledge of audit and demonstrated skills and ability to perform the Audit of Banking, Insurance & Educational Institutions.
	Monetary System	An integrated knowledge of Indian Money Market, Capital Market. Demonstrated ability to work in Capital Market .
	Information Technology & Business Data Processing – I	To familiarize with basics of Information Technology and use of Spreadsheet Package for Business Data Processing. Develop skills and ability to perform Spreadsheet Package for Business Data Processing.
B. Com. II, 4S	**Corporate Accounting**	To enable the students to develop awareness about corporate accounting.
	Business Statistics	To enable the students to have such minimum knowledge of Statistics.
	Income Tax	An integrated knowledge of Income Tax and demonstrated ability to perform Form No. 16, 10E, 15(G), e-filling of return of Income.
	Indian Financial System	Have fundamental knowledge of Indian Financial System, Indian Financial Market and Indian Stock Exchange.
	Information Technology & Business Data Processing-II	To familiarize with basics of Database, Database management System and use of Accounting Package(Tally) for Business Data Processing and demonstrated skills and ability to perform Accounting Package for Business.
B. Com. III, 5S	**Cost Accounting**	Exposes the students to the basic concepts and tools used in Cost Accounting. To provide an understanding of the applications of Cost Accounting techniques for determination of cost of production.
	Business Environment	The contents herein intend to develop the ability to understand and interpret sector wise business environment of India.
	Business Regulatory Frame work	To help the students to understand the concept of business Laws and it's applications in business regulation

	Internet & www-I	The course aims at familiarizing the students with the basic concepts and ground rules of Internet and the various services it offers including designing of website and how to access information from depositories in the world wide web. Develops skills and ability to design websites.
	e-Commerce-I	The objective of the course is to familiarize the students with the essentials of internet based e-commerce and to make them comprehend its practical aspects as well as growth potential of ecommerce in India.
B. Com. III, 6S	**Management Accounting**	This course exposes the students to the basic concepts and tools used in Management Accounting. To provide an understanding of the applications of Management Accounting techniques for management decision making.
	Economics of Development	To provide an insight into various growth models and their applicability in present scenario.
	Company Law	An integrated knowledge of company, Act 2013, Incorporation of company, Share capital of company, Stock Exchange, Company secretary.
	Internet & www-II	The course aims at familiarizing the students with the basic concepts and ground rules of Internet and the various services it offers including designing of website and how to access information from depositories in the world wide web. Develops skills and ability to design websites.
	e-Commerce-II	The objective of the course is to acquaint the students with the internet- based e-commerce business models, internet marketing and e-governance.
M.Com. I, 1S	**Managerial Economics**	Familiarizing the students with the basic concepts of Managerial Economics. Economic theory , Managerial theory, Demand Analysis, Production Theory, Price determination & pricing practices and Business cycle.
	Services Marketing & Customer	To acquaint students with basic issues in services marketing and customer

	Relationship Management	relationship management.
	Advanced Financial & Cost Accounting	The objective of this course is to enable students understand accounting concepts, tools, and techniques used for taking managerial decisions.
	Banking & Insurance Services	An integrated knowledge of Banking & Insurance Services in India.
M. Com. I, 2S	**Accounting for Managerial Decisions**	It intends to provide a strong foundation level understanding of various transactions in the fields of Accountancy. Ability to take Managerial Decisions in area of accounting.
	Strategic Management	To enhance decision making abilities of students in situation of uncertainty in dynamic business environment.
	Management Concept & Organizational Behavior	To help student understand the conceptual framework of management and organizational behaviour.
	Computer Applications in Business	To provide an understanding to computers, computer operating system, and application of relevant softwares in Data Analysis & managerial decision making. Develops skills and ability to analysis the data by using Ms-Excel & SPSS.
M. Com. II, 3S	**Research Methodology**	Making students conversant with the basic principles and theoretic concepts of the research and guide them in their applications, so the students will be able to write research paper or report.
	Statistical Analysis	To make the student learn the application of statistical tools and techniques for decision making.
	Corporate Tax Planning & Management	Making students conversant with the corporate assessment, concepts of Corporate Tax Planning and Indian Tax Laws, as also their implications for Corporate Management.
	E-Commerce & Legal Security	To enable students to gain knowledge about E-Commerce and its various components. Develops skills and ability to work in e-era.
M.Com. II, 4S	**Entrepreneurship and Skill Development**	To improve entrepreneurship quality for self-employment. To gives knowledge for

		start their own start-up. This course is also guiding them how business skill developed for achieving business goals.
	Sales and Distribution Management	To acquaint the students with sales operation, selling strategy and distribution management.
	Co-operative Management	An integrated knowledge of Cooperation, Working of Cooperative Societies and co-operative legislation in India.
	International Financing	To acquaint the students with International Financing, International Flow of Fund-Balance of Payment, Global Financial Markets, World Bank & other finance Corporation

Indira Mahavidyalaya Kalamb

COURSE OUTCOME (CO)[Subjects covered under faculty of Science & Home Science]

Subject- Botany		
Class	**Course**	**Outcome (Students will be able to….....)**
B. Sc. I, 1S	**Diversity and applications of microbes and cryptogams**	General account on diversity of microbes and cryptogams with respect to their habitats, habits and nutrition & applications to mankind.
		Classification and characters of algae, fungi, bryophytes and pteridophytes and differences and affinities among these plant groups.
		Economic importance of algae & fungi, bacterial, fungal and viral plant diseases and ecological & economic importance of bryophytes.
B. Sc. I, 2S	**Gymnosperms, Morphology of Angiosperms and Plant Utilization**	Geological time scale, process of fossilization, fossil types, classification gymnosperms, their affinities and economic importance.
		Diversity of plant habitats and habits, characteristic features of different plant parts and their types.
		Types of inflorescence, flowers, flower parts and types of pollination.
		Morphology of fruits, morphology and economic importance of different food plants, fiber yielding plants and oil yielding crop plants
		General account & economic importance of spices, essential oils and other forest produce and pharmacognosy of some medicinal plants.
B. Sc. II, 3S	**Angiosperm Systematics, Anatomy and Embryology**	Concept and types of biodiversity and biodiversity conservation.
		Origin, nomenclature and classification of Angiospermic plants
		Systematic study of some selected plant groups and their economic importance.
		Tissue types in plants, characteristic features of different plant parts in different plant groups. Primary and secondary growth in plants.
		Microsporogenesis, megasporogenesis, fertilization, types of embryo & endosperms.

B. Sc. II, 4S	**Cell Biology, Genetics and Biochemistry**	Cell concept and structural and functional details of different cell organelles.
		Chromosomal morphology, types, structural and numerical aberrations, Mendelism and interaction of genes.
		Concept of linkage & crossing over, gene mutations and extra nuclear genomes
		Concept, nomenclature and characteristics of enzymes and structure and functions of carbohydrates.
B. Sc. III, 5 S	**Plant Physiology and Ecology**	Properties, importance of water, absorption and transport of water, transpiration and mineral uptake.
		Details of photosynthesis and respiration.
		Nitrogen metabolism, growth, senescence and abscission.
		Photoperiodism, vernalization and plant movements.
		Concept of environment, ecological factors, atmosphere, soil formation, soil biota and ecological adaptations in hydrophytes and xerophytes.
B. Sc. III, 6S	**Molecular Biology and Biotechnology**	Historical account of DNA as genetic material, Structure & properties of DNA, DNA replication, DNA packaging and repetitive, satellite DNA and transposons.
		Concept of Gene, gene expression and endomembrane system.
		Gene regulation in prokaryotes & eukaryotes, protein structure & folding mechanism, protein sorting and targeting.
		Tools and techniques of r-DNA technology, Restriction enzymes, Gene cloning methods and gene amplification.
		Basics of plant tissue culture and tissue culture techniques.
		Applications of biotechnology in agriculture, medicine and industry.
Subject- Chemistry		
Class	**Course**	**Outcome (Students will be able to-)**
B. Sc. I, 1S	**Paper- I:** **Periodic Properties and Ionic bonding, s-Block element and p-Block elements,**	Acquire basic knowledge about elements and the periodic table
		Differentiate between covalent radius, ionic radius, Van der Waal's radius

	Electron displacements, Reactive intermediate and Aliphatic hydrocarbon, Aromatic hydrocarbons, Thermodynamics, Gaseous state and Phase Rule	Explain the concept of lattice energy, salvation and salvation energy.
		Understand how the concept of electro negativity and its variation over the periodic table can be used to rationalize the nature of the bonding in substances
		Explains the formation of ionic bond and covalent bond
		Understand the common themes running through ionic, covalent and metallic descriptions of chemical bonding. EC of various elements in periodic table
		Compare 1^{st} and 2^{nd} group elements. Explain Inert pair effect & diagonal relationship
		Identifies the periodic trends in physical and chemical properties of elements.
		Apply the concept of Inductive effect, electromeric effect, resonance effect and hyperconjugation to explain the stability of organic compounds.
		Differentiate between reactive intermediates like carbocation, carbanion, free radicals.
		Recall method of preparations and chemical reactions of aliphatic hydrocarbon like alkane, alkene
		Write the IUPAC names of aromatic hydrocarbon
		Recognize aromatic, non-aromatic and anti aromatic compounds.
		Classify *ortho, meta* and *para* directing groups. Recall laws of thermodynamics and concepts
		Write down the statements of laws of thermodynamics

		Give the concept of Entropy from Carnot cycle and the significance of Gibb's free energy
		Derive the expression for work done during isothermal and adiabatic process
		Solve numerical based on Carnot cycle & entropy
		Differentiate RMS velocity, average velocity & most probable velocities & their relationship. Give explanation of *Andrews isotherm* of CO_2
		Apply phase rule to water and sulfur system
B. Sc. I, 2S	**Paper- II: Polarization, Covalent bonding, Acids & Bases, P-block elements, Noble gases and Non-aqueous solvent, Alkyl halides, Aryl halides and Alcohols, Phenol, ether and epoxides, Physical properties & Molecular structure, Chemical Kinetics**	Understand Fajan's rule and its application. Identify acids & bases
		Classify the type of hybridization of various molecules.
		Apply SHAB Principle.
		Write down the electronic configuration of oxygen, halogen family and noble gases
		Understand the requirement of good solvent. Write the reactions of liquid NH_3
		Recall the reactions of vinyl chloride & allyl chloride, benzyne mechanism
		Give explanation about the preparation of ethylene glycol, glycerine
		Understand the preparations, reactions and properties of phenol, ether and epoxide
		Discuss the structure and bonding in ether. Find out the polar and non-polar molecules
		Give details of magnetic properties of substances
		Make a distinction between order and molecularity of reactions
		Understand the concept of activation energy, factors affecting rate of reactions.
		Define rate, rate constant, order and molecularity of reaction and derive the integrated rate equations. describe effect of temperature on reaction rate and theories of reaction rates
B. Sc. II, 3S	**Paper- III: Covalent Bonding, Metallic Bonding, VSPER Theory, Volumetric Analysis, Gravimetric Analysis, Aldehydes and Ketones, Carboxylic Acids, Optical isomerism. Geometric isomerism & Conformational isomerism, Thermodynamics & Equilibrium Phase Equilibrium, Liquid state &**	Understand the concept of molecular orbital theory and able to illustrate MO structure of homonuclear diatomic molecules
		Band theory to explain nature of conductors, insulators and semiconductors
		Know about Free electron theory & VB theory of metals.
		Study the energy level diagram, bond order in some molecules.
		Understand various rules under VSEPR theory

	Electrochemistry	Distinguish between VB and MO theories; free electron theory, properties in metals
		Study the band theory to explain the nature of conductors, insulators and semiconductors
		Understand the VSEPR theory and its limitations.
		Distinguish about the geometries of some molecules.
		Understand the volumetric analysis, Study the standard solution
		Know about Acid base titrations, pH variations, indicators used.
		Study the redox titrations& redox indicators, use of I_2 in Iodometry
		Study about the gravimetric analysis , co precipitation and post precipitation.
		Differentiate between volumetric analysis and gravimetric analysis and different types of titrations. Learn the preparation, structures and reactions of aldehydes and ketones.
		Study the mechanism of Cannizao's, Reformasky, Perkin , Mannich , Benzoin and Aldol condensation, reactions
		Study the structure and reactivity of carboxylic acids and their preparations.
		Understand the terms elements of symmetry , chirality, asymmetric carbon atom , enantiomers, diasterioisomers in chemical compounds
		Know about the conformation, configuration and Geometrical isomerism in the compounds and different types of isomerism
		Know about the Cis-trans nomenclature, *E-Z* nomenclature, Methods of structure determination
		Understand the conformations , stability and projection in some alkanes.
		Understand the concept of different thermodynamic parameters of chemical systems
		Study some partial molal properties
		Learn some immiscible liquids, Nernst distribution law, applications to association , dissociations of solute in solvent
		Learn about the phase transition Clausius –Clayperon Equation
		Learn the surface tension in liquids, effect of temperature on ST and applications

		Learn about the viscosity of liquids, temperature on viscosity and application
		Understand the principle of electrochemistry
		Know about the conductance of electrolytic solutions, conductometric titrations and it's applications
		Determination of transport number by hottor's method and moving boundary methods
B. Sc. II, 4S	**Paper- IV: Chemistry of elements of Transition Series & Exaction of elements, Inner transition elements & General properties of Metallurgy, Polynuclear Hydrocarbons & Reactive Methylene Compounds, Aromatic Nitro comounds, Amino compounds, Diazonium salts& Amino acids and Proteins, Colligative properties of dilute solutions, Crystalline state**	Know about the elements of transition series of Periodic table
		Learn the general characteristics, properties and complex formation , behavior of transition series.
		Learn the principles, methods of exaction of elements.
		Recognize the properties of inner transition elements.
		Understand principles of metallurgy and its various process
		Understand the properties of inner transition elements.
		Principles of metallurgy and its various process
		Understand the structures ,reaction and mechanisms of aromatic nitro, amino compound , diazonium salts , amino acids and proteins
		Understand the concept of colligative properties of dilute solutions .
		Know about osmotic pressure, lowering of vapour pressure, elevation in the boiling point & depression in freezing point
		Learn the methods to find out the molecular weight of solute
		Learn about the crystallography, various symmetries of solid state molecules.
		Know the X-ray diffraction techniques for determination of crystal structure.
B. Sc. III, 5S	**Paper- V: Coordination Compounds and Chelates, Crystal Field Theory (CFT) Electronic Spectra of Transition Metal Complexes, Heterocyclic compounds, Organometallic**	Study the nomenclature of co-ordination compounds.
		Understand the different theories and magnetic properties
		Study the chelates in co-ordination chemistry
		Stability of co-ordination compounds in analytical chemistry.
		Understand the magnetism of co-ordination compounds

	compounds, Dyes:, Drugs and Pesticides, Photochemistry, Molecular Spectroscopy	Enlist the factors affecting the magnetism of co-ordination compounds.
		Study the selection rule in spectrochemical series
		Study the different inorganic heterocyclic reactions.
		Differentiate the basicity and orientation of compounds.
		Understand the synthetic application of organometallic compounds.
		Study the synthesis, benefits and application of dyes, drugs and pesticides.
		Study the photochemical reactions and kinetic aspects.
		Involvement of photochemistry in biological processes.
		Structural elucidation of energy level diagram.
		Understand different selection rule and conditions of spectroscopy.
B. Sc. III, 6S	**Paper- VI: Kinetic Aspects of Metal Complexes and Analytical Chemistry, Organometallic Chemistry, Inorganic Polymers, Bio-inorganic Chemistry, Electronic spectroscopy and Infrared spectroscopy, NMR spectroscopy and Mass spectroscopy, Elementary Quantum Mechanics, Electrochemistry and Nuclear Chemistry**	Thermodynamic and kinetic stability of the complexes and brief idea about the different Inorganic reactions.
		Study the different mechanism and structures of complexes.
		Study and applications of different analytical techniques.
		Bonding and synergism of organ metallic compounds.
		Classification of organ metallic compounds and silicon polymers and their reactions.
		Study of bioinorganic chemistry
		Explain the principle and instrumentation of electronic spectroscopy and analyze the electronic spectra of different species
		Explain the principle and instrumentation IR spectroscopy and its interpretation.
		Explain the principle and instrumentation of nuclear magnetic and apply the knowledge in characterizing the molecules and also their use in medical diagnostics
		Understand the application of spectral data for structural elucidation
		Determine chemical structure by UV-Vis, IR & ^{1}HNMR spectral data
		Hypothesis of different theories of atomic orbital's
		Introduction of electrochemistry including electrode and titrations.

		Understand the basics of voltaic cells
		Introductions of nuclear models and nuclear reactions
		Applications of radio isotopes in medicines, industries, agriculture and bio-sciences.
		Explain the different kinds of radioactive decay.
		Interpret a radioactive decay series.
		Subject: Chemistry
Class	**Course**	**Outcome (Students will be able to….....)**
M. Sc. I, 1S	**Paper- I: Inorganic Chemistry-I prediction of shapes of molecules**	Understand the molecule on the basis of MOT and application of CFT
		Understand the structure and bonding in boron hydrides and metal clusters
		Understand the basic concept about e.g. spin magnetic moment, crystal field stabilization energy related to weak and strong field, limitation of theory.
		Learn Synthesis and application of macrocyclic complexes
		Understand the behaviour and role of non-aqueous solvent in chemical reaction
		Learn complex equilibria and their physical parameters
		Understand the symmetry of molecules and group theory
		Find out point group of element and construction of character table
	Paper- II: Organic chemistry-I	Understand and interpret the nature and bonding in organic molecules
		Learn the stereochemistry of organic molecules
		Understand the concept of isomers
		Learn about the stereoselectivity in organic molecules and asymmetric synthesis
		Learn the structure, reactivity, types and methods of determining reaction mechanism
		Understand the nucleophilic substitution and elimination reaction in aliphatic and aromatic compounds ie.SN1,SN2,E1,E2,E1CB,SNi,SET,SNAr,
		Understand the Electrophilic substitution reaction in aromatic compounds-Name reactions and their stereochemistry

	Paper- III: Physical chemistry-I	Understand the quantum chemistry in that Schrödinger equation in 1D-BOX,3D-BOX, Harmonic oscillator, rigid rotator, variation theorem and applications
		Understand the classical thermodynamics, Partial Molar properties, significance, concept of fugacity, Debye Huckel theory, activity coefficient
		Know the thermodynamic criteria for non-equilibrium states, microscopic reversibility , Onsagers reciprocity relation and solve the numerical.
		Learn the Nuclear chemistry, radioactive decay, α-particle energy spectrum, Geiger Nutta low, theory of band g process
		Understand the nuclear reactor, fission energy processes, nuclear waste management
		Understand the theories of reaction rates in chemical dynamics, collision theory, transition state theory and their assumptions
		Learn the unimolecular reactions, solvent effect on reaction rate and factors affecting on rate of reactions, numerical based on these concept
M. Sc. I, 1S	**Paper- IV: Modern methods of separation**	learn the role of analytical chemistry, qualitative analysis, quantitative analysis, classification of analytical methods, instrumental analysis
		Learn the application and types of titrations for quantitative analysis of the samples
		Understand the purification and separation techniques for solids and liquid organic compounds
		Learn the good laboratory practices, their introduction and principal of GLP
		Learn the principals and methods of sampling, stoichiometric calculations based on gravimetry and titrimetry.
		Emphasis on numerical problems based on statistical analysis, collection of dada, errors, accuracy and precession, tests for rejection of data, regression analysis etc
		Understand the separation techniques- ion exchange separation, solvent extraction, numerical
		Understand the Gas Chromatography, HPLC,GC-MC,LC-MC applications and problems

		Learn the chemical safety and handling of chemicals, explosives, chemical weapons.
M. Sc. I, 2S	**Paper- V: Co-ordination Chemistry**	Understand the electronic spectra of transition metal complexes
		Learn the fundamentals of molecular magnetism, paramagnetic, diamagnetic, high spin, low spin, magnetic moment, angular momentum, magnetic properties of polynuclear complexes
		Know the reaction mechanism of transition metal complexes, classification, reactivity, inert and labile complexes according to VBT and CFT
		Learn the molecular rearrangement of complexes, ligand stereospecificity
		Learn the substitution reaction in square planer complexes, cis-trans effect, electron transfer reactions, photochemical reactions of chromium and ruthenium complexes.
		Understand the Metal pi-complexes in metal carbonyls and Metal Nitrosyl, structural elucidation by IR, ^{13}C-NMR spectra, vibrational spectra, Reactions.
		Learn the Metal clusters, EAN, application of Wilkinson's catalyst and Vaskas compound.
		Understand the fluxional behaviour in organometallic compounds, dynamic equilibria in compounds.
		Learn bioinorganic chemistry of Fe, Co and their biological role, structure, coordination geometry, ion transportation, mechanism of action, Bohar effect.
M. Sc. II, 2S	**Paper- VI: Organic chemistry-II**	Learn the mechanism and stereochemical aspects of addition reaction to C-C & C-X multiple bond.
		Know the mechanism of molecular rearrangement to electron rich carbon, electron deficient carbon, electron deficient nitrogen.
		Learn the types of free radical reactions of aromatic and aliphatic substrate their reactivity, some name reaction related to this.
		Understand the photochemical reactions, types of excitation, Narrish type-I, Narrish type-II, Paterno-Buchi, photoreduction, photochemistry of enone, parabenzoquinone ,aromatic

		compounds, rearrangements, solar photovoltaic cell.
		Learn the pericyclic reactions, their molecular orbital symmetry, FMO approach, Types of pericyclic reactions.
		Design how to synthesize material and safer chemical in a green way.
		Know the microwave induced green synthesis reactions.
	Paper- VII: Physical chemistry-II	Learn Kinetics of complex reactions and fast reactions in Chemical dynamics.
		Understand the construction of MO by LCAO for H_2+, energy level, characteristics, Hybrid orbital formation of sp,sp^2,sp^3 compounds, solve numerical
		Understand the concept of Macromolecules, their types, configurational, confirmation in polymer, stability, applications.
		Determine number average & mass average molecular mass by physical parameter
		Kearn the electrochemistry of solutions, bio electrochemistry, the rate of charge transfer , types of corrosion, prevention techniques, and solve the numerical
		Understand the concept, application of thermodynamic probability, Maxwell-Boltzmann distribution law, Bose-Einstein statistics in statistical thermodynamics.
		Understand the concept, application and numerical of partition function.
	Paper- VIII: Optical Methods and Environmental chemistry	Understand the Theory, Principle, Methods, Application & Problems of Spectrophotometry and Colorimetry, Fluorimetry, Nephelometry, turbidimetry, Polarimetry & Refractometry. Qualitative and Quantitative analysis
		Understand principal, instrumentation, experimental techniques flame emission and atomic spectrometry.
		Know the water pollution, types, effect, techniques of analysis, BOD,COD their significance
		Brief idea on coagulation and flocculation.
		Understand the sources, classification, effect, analysis, monitoring of Air pollution.
		Learn the chemistry of soil, types of soil pollution, pesticides and pollution, techniques of

		analysis.
		Know the Classification, Effects, Radiactivity, Protection and control from radiation pollution.
M. Sc. II, 3S	**Paper- IX: Spectroscopy-I**	Get advanced knowledge about the interactions of electromagnetic radiation and matter and their applications in spectroscopy
		Apply formalisms based on molecular symmetry to predict spectroscopic properties
		Analyse and interpret spectroscopic data collected by the methods discussed in the course
		Solve problems related to the structure, purity and concentration of chemicals and to study molecular interactions by choosing suitable spectroscopic methods and interpreting corresponding data
		Interpret UV-visible spectroscopy and its basic principle and applications in terms of organic compounds
		Interpret IR spectroscopy and its basic principle and applications in terms of functional group analysis
		Understand NMR spectroscopy and its basic principle and applications in terms of structural analysis
		Interpret elemental analysis by using mass spectrometry.
		Combine information from the techniques in determination of molecular structures in organic chemistry.
M. Sc. II, 3S	**Paper- X: Analytical Chemistry- I**	Understand principle, instrumentation and applications of various thermal methods of analysis and thermometric titrations
		Understand theory, instrumentation, applications, advantages and disadvantages of high frequency titrations, electrogravimetry and coulometry
		Learn about principle, types and uses of chemical sensors, biochemical sensors, biosensors and ion selective electrode
		Understand different electroanalytical techniques like polarography, voltammetry,

		chronopotentometry and amperometric titrations
		Understand concept of bio-analytical chemistry along with applications of spectrophotometry, spectroflurimetry, ultracentrifugation, gel electrophoresis and toxicology.
	Paper- XI: Special Paper-I Organic Synthesis-I	Know and recall the fundamental principles of organic chemistry that includes chemical bonding, stereochemistry, reaction mechanism and stereochemistry.
		Synthesize organic compounds itself involves large part of synthetic reagents
		Recognize the basic practical skills for the synthesis and analysis of organic compounds
		Learn about functional group addition & functional group elimination.
		Predict the reactivity of an organic compound from its structure.
		Justify a reasonable mechanism for a chemical reaction.
		Develop basic skills for the multi-step synthesis of organic compounds.
		Illustrate chemical structures stereochemistry and mechanism of modern named reactions
		Apply synthesis methodology to perform advanced organic synthesis.
		Explain basic chemo-, regio-, and stereoselective concepts and apply these in synthesis, as well as construct reactions pathways of complex organic compounds using retro synthetic analysis
		Understand about organic-chemical reactions with a focus on principles for effective synthesis strategies, stereo selectivity, catalysis, as well as metal organic chemistry
		Understand research-based in-depth understanding in the field of design and production (synthesis) of complex molecules
	Paper- XII: Special Paper-II (Natural Products)	Investigate types as well as general methods of structure and ring size determination of different sugars. Study types as well as structures and function of various lipids
		Know structures, stereochemistry, synthesis and reactions of amino acids, proteins and peptides
		Understand mechanism of action, orientation, steric effect and reactions of enzymes

		Study classification, nomenclature, occurrence, isolation and general methods of structure determination of alkaloids and terpenoids
		Learn occurrence, nomenclature, structure, stereochemistry, synthesis and reactions of steroids and hormones
		Know occurrence, classification, biogenesis, physiological effects and synthesis of prostaglandins, pyrethoids, rotenones and pheromones
		Study structure, synthesis, and chemistry of Vitamins and Natural Pigments
M. Sc. II, 4S	**Paper- XIII: Spectroscopy-II**	Explain the principle and instrumentation of Raman spectroscopy and interpret vibration-rotation Raman spectra for chemical analysis
		Explain the principle of Photoelectron spectroscopy
		Understand basic principle of X-ray diffraction , Electron diffraction and Neutron diffraction
		Explain the principle and instrumentation of electron spin resonance spectroscopy and apply the knowledge in characterizing the molecules
		Explain the principle, instrumentation, and application of Mossbauer spectroscopy to study bonding in iron derived complexes.
		Determination of Structures of Complex Organic Molecules by Spectroscopic Means: Problems based on IR, Mass, UV, PMR, ^{1}H NMR, ^{13}C NMR data and structure determination of organic molecules / inorganic compounds
	Paper- XIV: General Analytical Chemistry	Understand principle, working and applications of various radiation detector along with neutron activation analysis, isotopic dilution analysis and radiometric titrations
		Understand theory, instrumentation and applications of molecular photo fluorescence and phosphorescence spectrometry
		Understand basic principle, instrumentation and applications of X-Ray Fluorescence, Inductively Coupled Plasma Atomic Emission Spectroscopy and flow injection analysis
		Learn about chemical analysis of food and cosmetics including face powder, deodorants

		and antiperspirants
		Understand classification, characterization and estimation of poisons and fuels.
	Paper- XV: Special Paper-III Organic Chemistry-III	Familiarize the organometallic reagents and its applications in organic synthesis. Learn about the Catalysis, hydrogenation of olefins and oxoprocess, Wilkinson catalyst etc. Learn about organometallic compounds and Alkyls and Arene complexes
		Understand the bonding in olefin, acetylene and allyl systems. Concepts of synthesis, structure and bonding in metallocenes
		explain and rationalize the synthesis, structure, bonding, properties and reactivity of both main group and transition metal organyls rationalize industrially important catalytic processes through the application of organometallic principles
		Learn about transformations for C-X and C-C bond-formation, functional group reactivity, chemoselectivity, regioselectivity, and the strategy of multistep synthesis will be the core topics that are covered
		Learn about concepts include strategy/retrosynthesis, advanced aromatic chemistry, protecting groups, stereochemistry, enolates and other carbonyl chemistry, alkene synthesis, reduction/oxidation (introductory), heterocycles, cross-coupling reactions and other modern methods of synthesis
		Identify, analyse and evaluate synthetic routes to target molecules using retrosynthesis Describe the recent increase in the structural complexity of drug molecules.
		Describe and apply stereochemical concepts such as chirality, stereoisomerism, and stereoselectivity in relation to chemical transformations and apply organometallic reagents and reactions in organic synthesis
		Plan and design experimental setups for various types of laboratory tests, perform transformations of importance for organic synthesis.
		Understand the functional group protection and know the protection of important

		functional groups.
		Learn about heterocyclic compounds are very interesting due to their distinct structure and the availability of this kind of heterocyclic structures in medicinal drugs.
		Learn about technique of synthesis of heterocyclic compounds is important in the synthesis of different drugs
		Gives the quantitative ideas about the synthesis, properties and uses of such heterocyclic compounds like pyrole, pyridine qunolene, thiophene, furan etc
		Understand detailed chemistry of Pyrozole, imidazole, oxazole, thiazole, thiazine, diazines, triazinespyrimidines, pyrazines and zepines, oxepines, Indoles, Benzofurans, Quinolines Flavones, Chromones, Coumarines, Phenithiazines, Azitidines and its importance.
	Paper- XVI: Special Paper-IV: Applied and Medicinal Chemistry	Learn the different terms, nomenclature, classification, synthesis, mechanism and assay of drugs
		Understand classification of drugs and also procedures, types, various theories as well as concepts of drug designing
		Learn classification of different drugs on the basis of applications and also their synthesis, mode of actions, pharmacokinetics, pharmacodynamics data and secondary metabolism
Subject: Mathematics		
Class	**Course**	**Outcome (Students will be able to… .....)**
B. Sc. I, 1S	**Algebra, Trigonometry, Differential and Integral Calculus**	Understand about the Root of complex number, Circular and Hyperbolic function, Trigonometric series, Elements of Quaternion, Cubic and biquadratic equations, Cayley-Hamilton theorem and its application in matrices.
		Understand about the Limit, Continuity and, Differentiability, Leibnitz theorem, L'Hospital rule, Rolle's theorem, Lagrange's and Cauchy's mean value theorem, Partial derivatives, Euler's theorem, Different formulae for Integration, Walli's formula.

B. Sc. I, 2S	**Differential Equations (Ordinary and Partial), Vector Analysis and Solid Geometry**	Understand about the Linear and Exact differential equations, Clairaut's form, Second order DE, Homogeneous Linear Ordinary DE, Ordinary simultaneous DE, Formation of DEs, Lagrange's method, Compatible DE, Charpit's general method.
		Understand about the Vector product, Differentiation and Integration of vectors, Space curve t, n, b vectors, Frenet- Serret formulae, Gradient, divergence and curl, Work done, Greens theorem, Sphere, Orthogonal sphere, Cone and Cylinder.
B. Sc. II, 3S	**Advanced Calculus and Elementary**	Understand about the Sequence, Cauchy sequence, Convergence of series, test for series,

	Number Theory	Limit and Continuity of function of two variables, Taylor's theorem, Maxima and minima, Jacobians, Double and triple integrals, Gauss and Stoke's theorem.
		Understand about the Divisibility, gcd and lcm, Prime number, Fermat number, congruence, Chinese remainder theorem, Arithmetic functions, Euler's theorem, Primitive roots for prime.
B. Sc. II, 4S	**Modern Algebra: groups and rings and Classical Mechanics**	Understand about the group, subgroup, cyclic group, permutation, Normal subgroup, quotient group, Homomorphism and Isomorphism, kernel of homo. Natural homo, Ring, sub-ring, integral domain, field, subfield, Ideal, prime, maximal, principle ideal, quotient ring.
		Understand about the Constraints, D'Alembert's principle, Lagrange's equations of motion, Central force motion, Virial theorem, Kepler's laws of motion, Brachistochrone problem, Euler-Poisson and Euler-Ostrogradsky equation, Hamilton's principle, least action principle. Rigid body, Euler's theorem.
B. Sc. III, 5S	**Mathematical Analysis and Mathematical Methods**	Understand about the Riemann Integral, Improper integrals, Beta and Gamma functions, Analytic function, Cauchy-Riemann equation, Milne-Thomson method, Elementary function, Mobius transformation. Metric spaces, Cauchy sequences.
		Understand about the Legendre's equation, recurrence formulae, Rodrigue formula, Bessel's equation, Strun-Liouville boundary value problem, Fourier series, Laplace transforms of derivatives and integrals, Finite and infinite Fourier sine and cosine transform its applications.
B. Sc. III, 6S	**Linear Algebra and Graph Theory**	Understand about the Vector Space, subspace, linear span, basis and dimension, Linear transformation, its representation as matrices, rank nullity theorem, Dual Spaces, bidual space, Eigen values and eigen vector of a linear transformation, Inner Product spaces, Cauchy-Schwarz inequality, Bessel's inequality, Modules, submodules, quotient modules.
		Understand about the Graph, different definitions, isomorphism, Euler graph, Hamiltonian paths, Trees, centres in a tree, Rooted and binary trees, spanning trees, Cutsets,

		Fundamental circuits and cutsets, planar graph, Vector space associated with a graph, circuit and cutest subspaces, Incidence, circuit, cutest, path, adjacency matrices.
Subject: Physics		
Class	**Course**	**Outcome (Students will be able to… .....)**
B. Sc. I, 1S	**Paper- I: Mechanics, Properties of Matter, Waves and Oscillation**	The first semester is design and developed to understand various laws physics. Mechanics plays important role to understand basic laws of Kepler's laws of planetary motion, Newton's law of gravitation, Numerical based on topics.
		Understand the Motion of a Rigid body; rotational motion, Numerical based on topics.
		Understand concept of Waves and Oscillation, Linear S.H.M, Angular S.H.M, Differential equations and solutions. Numerical based on topics. Superposition of two SHM of same frequency, Numerical based on topics.
		Understanding the Elasticity; Hooke's Law of Elasticity, Numerical based on topics.
		Understand the Kinematics of moving fluids; Variation of viscosity with temperature. Surface tension, Numerical
		Understand theory and its application various practical's designed and every student will have to perform at least ten Experiments based on mechanics and properties materials.

B. Sc. I, 2S	**Paper- II: Kinetic theory, Thermodynamics and electric currents**	Second Semester is designed to build a strong foundation of knowledge in different areas of basics of Thermodynamics and Ideal Gas - Kinetic theory of Gases
		Students understand the basics laws of thermodynamics – study of various fundamental laws. Numerical based on topics.
		Understand the Liquefaction of Gases - Joule-Thomson effect, Thomson effect, Joule's coefficient, Boyle, thermodynamic system.
		Concepts of Motion of Charged Particles in Electric and Magnetic fields: Numerical based on topics.
		Understands various Network theorems such as The venin's, superposition, Maximum power. Numerical based on topics.
		Concepts of Alternating Currents and theory of transformer its losses and uses. Numerical
		In order to understand theory and its application various practical's designed Practical's. Every student will have to perform at least 10 experiments based on Thermodynamics, transformer and Networks theorems. Numerical based on topics. Each student also assigned project and assignment for each semester
B. Sc. II, 3S	**Paper- III: Mathematical background and Electrostatics and Magneto statics ,Solid state electronics, relativity and Geophysics**	Third semester students should learn mixed topics of physics, such as Electrostatics and Magneto statics, Solid state electronics, relativity, Atmosphere and Geophysics. Mathematical background and Electrostatics Gradient, divergence and curl of a vector fields Numerical based on electrostatics and magneto statics.
		Understand the concepts of Solid-State Electronics Devices, basics of semiconductor and its applications such as diode, transistors, FET and operational amplifier and its types and its operations.
		Understand the concepts of study of theory of relativity its postulate etc. and Structure of earth – The crust, mantle, core and atmosphere and Geophysics.
		In order to understand theory and its application various practical's designed Practical of

		semiconductors devices. Numerical based on topics Diode, transistors, FET and OPAMP at least every student perform ten experiments.
B. Sc. II, 4S	**Paper- IV: Optics, Interference, Diffraction, Polarization, Laser, Fiber Optics and renewable energy sources**	Fourth semester is based on basics study of Geometrical optics, where in students expected understand various properties of light and its related properties such as interference, diffractions etc. also problems associated with it.
		Understand the concepts of Study of diffraction and Concept of polarization, Numerical based on topics
		Understand the concepts Laser Optics, basic principle of Laser its production, types and application and uses. Numerical based on topics
		Understand the concepts, Fiber optics its type and its application in modern communication systems. Numerical based on topics
		In depth study of Renewable energy sources and non-conventional energy sources is need of todays. Numerical based on topics
		Experiments based on optics studied by every student also on laser study. Each student also assigned project and assignment for each semester.
B. Sc. III, 5S	**Paper- V: Quantum Mechanics, Atomic and Molecular spectroscopy, Nuclear physics, amplifiers**	This fifth semester students is encounter with modern theory which leads twentieth century. Previous old classical theory unable to explained particle nature of light hence quantum mechanics is being introduced.
		Understand the Phenomenon like photoelectric effect, Compton effect, Heisenberg uncertainty principle, wave and particle duality. Numerical based on topics.
		Next Quantum mechanics theory developed by Schrodinger for time and time independents equations, its problems. Numerical based on topics
		Quantum mechanics approach to understand atomic and molecular spectroscopy ex. Raman effect and Raman Spectroscopy. Numerical based on topics
		Next Nuclear physics aspects G.M. Counter, binding energy and alpha, beta particles, nuclear fission-fusion, nuclear energy and nuclear reactor.

		Classification of Amplifier, hybrid parameter low, mid and high frequency application, Feedback in amplifier Hartley and Colpitts oscillator
		Experiments based on modern aspects and amplifiers, every student also on laser study. Each student also assigned project and assignment for each semester
B. Sc. III, 6S	**Paper- VI: Statistical mechanics and solid state physics**	This sixth semester students are encounter with modern Statistical theory and Solids state theory crystallography, Superconductivity and Nano. Thermodynamics, prior, probability, Maxwell Boltzmann statistics, rms and most probable velocity.
		Understand the concepts of Distinguishable & indistinguishable particles. Bose-Einstein statistics, Fermi- Dirac distribution.
		Crystallography, its type single, polycrystalline, Miller indices, X-rays diffraction, determination lattice parameter, Defects and dislocation .
		Study of electrical properties, band suture and di, Ferro and para magnetic properties of materials and Curie Wiess law.
		Modern concept of Superconductivity and its types, Meissner effect and application Superconductivity.
		Twentieth century belongs to Nano technology, Nano concept and history of nano Materials, quantum size effect, application of nano materials.
		Experiments based on crystallography, x-rays lattice parameter, Planck's Constant every student also on laser study. Each student also assigned project and assignment for each semester
Subject: Computer Science		
Class	**Course**	**Outcome (Students will be able to….)**
B. Sc. I, 1S	**Paper- I: Computer Fundamental and C-Programming**	Understand Computers and programming concept, operating system of computer
		Understand the Introduction to Internet : Direct, Types of Internet connection: Direct dial-up, broadband, Internet protocol : TCP/IP, FTP, HTTP, Domain name e-mail address
		Understand the Programming Concept : Algorithm flowcharting programming languages, assembler, interpreter, compiler programming process

		Understand History, features structure of C program,
		Understand the I/O Operations : Formatted I/O : Printf ( ), Scanf ( ) , Unformatted I/O :
B. Sc. I, 2S	**Paper- II: Data Structure and Advance C**	Understand the basics of Data structure, its types, list, array, stack and Queue
		Understand the Linked list & its implementation, traversing, insertion, deletion algorithms, circular Queue
		Understand the : Tree : Binary, Binary search tree, tree Traversing : inorder, preorder and postorder, sorting and searching Techniques
		Understand the Function : Definition, prototype, local & global variable, function

		parameter, function calling and return
		Understand the String Handling : Declaring and initialization of string variable , operations on string
		To understand the : Structure : Definition and declaration , initialization, array of structure, nested structure Union File Handing
B. Sc. II, 3S	**Paper- III: Data structure and c++**	Understand the Introduction to data structure linear array, operation on linear array,
		Understand the queue : definition and concept of queue and operation on queue
		Understand the Tree: definition and concept of tree, sorting and searching , bubble sort , selection sort
		Understand the object oriented programming : features and application of object oriented programming , introduction of c++ programming managing console I/O
		Learn the Function in C++ line function, friends function , Array of object , pointer to object,
		Learn the operator overloading , Inheritance
B. Sc. II, 4S	**Paper- IV: RDBMS and PL/SQL**	Understand the Fundamental of Relational database management , Architecture of database system , database approaches data representation
		Understand the Relational model : relation domain and attribute keys E-R diagram , Normalization
		Understand the Introduction to SRL: Component of structure query language , data types and operator
		Understand the Function : Numeric function, Character function, conversion function
		Understand the PL/SQL : Feature and block structure , variable constant , data type cursor and its operation
		Understand the Transaction : Roll back and commit and save point , security of database
B. Sc. III, 5S	**Paper- V: dot NET Technology and Java programming**	Understand the .NETPRAMEWORK , NAMESPACES, assembler the common language Implementation

		Understand the visual programming , concept of event driven programming
		Understand the decision and looping statement
		Understand the java feature, evaluation, JDK, JUM.
		Understand the classes and inheritance
		Understand the string, package and interface their operations
B. Sc. III, 6S	**Paper- VI: Advanced java and VB.NET**	Understand the exception handling multithreading; E conception handling
		Understand the applet; introduction to applet, applet lifecycle HTML applet tab with all attributes
		Learn the event handling and AWT ; introduction, event delegation model, java AWT
		Understand the window application forms
		Know the object oriented programming; classes and objects
		Work out the data access with ADO.NET
	Subject: Zoology	
Class	**Course**	**Outcome (Students will be able to….)**
B. Sc. I, 1S	**Paper- I: Life and diversity of Non-Chordata**	Understand the evolution, history of phylum. Understand about the Non Chordate animals (external as well as internal characters of non chordates).
		Understand the economical importance of Non- chordate animals .
B. Sc. I, 2S	**Paper- II: Cell Biology and developmental biology**	Understand the Scope of cell biology, because cell is the basic unit of life.
		Understand the Main distinguishing characters between plant cell and animal cell.
		Understand the whole cell organelles with their structure and function.
		Understand the cell cycle and know the importance of various cells in body of organisms.
		Understand applications of cells by using cell biology like various types of tumour.
		Understand development of different animals by using developmental biology
B. Sc. II, 3S	**Paper- III: Life and diversity of Chordata and concept of Evolution**	Understand the phylum Chordate. Understand the basic concept, external morphology and sexual dimorphism in chordates.
		Understand the various systems, adaptation and dentition in Mammals.
		Clear the concepts of Universe, theories of life cycles.

		Understand the Lamarkism, Neo-Lamarkism and Darwinism.
		Understand the Geological time scale.
		Learn about Palaentology ie. Fossils and its significance.
		Understand the Zoogeographical realm.
B. Sc. II, 4S	**Paper- IV: Advance genetics and ecology**	Understand the Mendel`s laws of hereditary and Interactions of genes
		Understand significance of linkage, Mechanism of crossing over & Multiple alleles
		Understand Sex determination
		Understand Genetic disorders, Genetic Screening and parental diagnosis

		Understand Abiotic factors and biotic factors and their interrelation ship in the nature
B. Sc. III, 5S	**Paper- V: Animal physiology and economic zoology**	Understand the terms Physiology.
		Understand mechanism of respiration, circulation , ABO Blood typing Rh-factor
		Understand mechanism muscle Physiology
		Understand the Nerve Physiology.
		Understand Reproductive Physiology of animals
		Understand Homeostasis and conservative regulation
		Understand Thermoregulation in Poikilotherms and Homeotherms.
		Learn Economic importance of Insects
		Know pests of cultivated crop and stored food grains .
		Learn nderstand Fresh water fish culture
B. Sc. III, 6S	**Paper- VI: Molecular biology and biotechnology**	Understand the cell biology and molecular biology.
		Understand the various cell types and cell divisions.
		Understand the term cell signalling.
		Cancer awareness.
		Understand the Tools and Techniques in Molecular Biology.
		Understand the term ELISA technique and DNA finger printing.
		Understand the various Applications of Biotechnology.
		Understand the Hybridoma technology as well as Enzyme biotechnology.
		Have insight about DNA Recombinant technology.
		Understand the industrial and environmental biotechnology.
		Know the Stem cell biotechnology.
		Understand the Scope and Significance of Biotechnology.
Subject: Electronics		
Class	**Course**	**Outcome (Students will be able to….....)**
B. Sc. I, 1S	**Paper –I: Basic Electronics**	Understand the construction, working and applications of various types of resistors,

		inductors, capacitors and transformers. Understand the concept of KCL, KVL and Network Theorems and their applications
		Understand the basic principle, constriction, working, their uses and drawbacks of various Measuring Instruments. Understand the Constriction, working and uses of CRO
		Understand the operation and characteristics of various types of diodes and rectifiers Understand the concept of unregulated and regulated power supply, zener diode voltage regulator and IC regulator
		Understand the constriction, working, operation and characteristics of NPN and PNP transistor. Their Configuration and Biasing Modes
		Understand the constriction, working, characteristics and their switching action of FET, MOSFET, UJT, SCR, DIAC, TRIAC Understand the constriction, working and characteristics of optoelectronics devices (LED, LDR, photodiode, Photovoltaic cell)
		Understand the concept of IC technology, classification, advantages, disadvantages and basic steps of IC fabrication
B. Sc. I, 2S	**Paper- II: Digital Electronics**	Understand different number system and their conversions, Various operations of Binary arithmetic and binary codes Identify and use of basic and universal logic gates in digital circuits. Could construction and working of adder circuits
		Understand the Boolean laws, simplification of Boolean equations and De-morgans theorem. Simplification of K-map and logic families
		Understand the construction and working of multivibrators. Learn Concept of different types of Flip-flops with logic diagram, truth table, construction and working. Understand the function of preset and clear
		Understand the construction and working various types of counters and shift registers and their applications

		Understand the construction working, and applications of different types of encoder, decoder, multiplexer, demultiplexer
		Understand the concept of memory, it's classification, applications and memory hierarchy
B. Sc. II, 3S	**Paper- III: Electronics devices and circuits**	Learn different Hybrid-parameters of the circuits and its importance for the circuit analysis.And types of coupling, interconnections and applications of various amplifiers.
		Understand classification and applications of power amplifiers. Also learn Construction, working, advantages and disadvantage of power amplifiers. Understand designing of amplifiers for various practical purposes.
		Learn concept of positive and negative feedback, and its necessity in any kind of circuits. Construction, working, advantages and disadvantages of various types of oscillators.
		Learn characteristics, parameters, construction, working and various applications of Operational Amplifiers. Can explain and design practical circuits for various applications.
		Learn about advance applications of Operational Amplifiers. Developed their ability for solutions of various simultaneous equations.
		Understand necessity, and specifications of various Analog-to-Digital converters and Digital-to- Analog converters. Solve numerical based inter-conversions of A/D and D/A Converters. Perform the related practicals and analyzed the given data.
B. Sc. II, 4S	**Paper- IV: Communication Electronics & Microprocessor 8085**	Comprehends the need of Modulation and Demodulation in Electronics communication systems. Learn different parameters of the circuit for communication purposes. Learn types of Transmitter and Receiver circuits, modulation methods and its applications.
		Learn classification and applications of various optical fibers. Understand Construction, working, advantages and disadvantages of Optical fiber communication systems. Understand selection of optical sources & optical detectors for practical purposes.
		Understand Pulse Modulation, and its necessity. Learn construction, working, advantages and disadvantages of various Pulse Modulations and conversions of audio signal into equivalent Pulse Modulation formats.

		Learn about specifications, characteristics, and working principle of 8085 Microprocessor. Know constructional architecture and various application and operation modes. Explain, draw various timing diagrams for various instructions and applications.
		Students get clear understanding about various instruction and its classification. Developed their ability for algorithm, flowchart and assembly language programming. Explain and write programs for Addition, Subtraction, Division, Multiplication and so on.
		Understand basic interfacing concepts and specifications of various I/O schemes. Learned about interfacing of PPI IC-8255, Analog-to-Digital and Digital-to-Analog converters and so on. Solve numerical based inter-conversions of A/D and D/A Converters.
B. Sc. III, 5S	**Paper- V: Basic Instrumentation**	Understand concept of generalized Instrumentation System with block diagram like transducers, how they work and their types, Primary and Secondary transducers, Active and Passive transducers, Analog and Digital transducers, Resistive , Inductive and Capacitive transducers with examples
		Understand various thermal sensors like thermocouple, thermopile,thermister and RTD through their working , linear temperature sensor IC's like LM34 and IC LM35
		Understand measurement of temperature in various temperature range using remote sensing thermometers
		Understand the pyrometers like Total Radiation and Infrared Pyrometer
		Understand what basically the timer circuit is and the IC555 for it with block diagram
		Understand the applications of IC 555 as an Astable, Monostable and Bistable MV with circuit construction and working
		Understand abovementioned Multivibrators expressions for Time period and Frequency
		Understand PLL (Phase Lock Loop) with block diagram and its working, characteristics of PLL, PLL applications as FM demodulator, AM detector and frequency synthesizer concepts
		Understand basics of various types of digital displays and their types with their

		advantages and disadvantages
		Understand digital instruments measuring frequency, voltage and capacitance with block diagram and its functioning
		Understand broader classification of recorders with its necessity
		Understand what is sensor and its principle and various types of it like mechanical, thermal, optical, magnetic and chemical
		Understand Actuators with working principle of dc motor to clear the concept. Electro thermal and Electro optical type Actuators through Bent Beam type and LED
		Understand interdisciplinary concept of change in biological parameters to be measured electronically
		Understand Electrodes their types , bio potential concept.
		Understand various bio electronic machine's like ECG, EEG, X-Ray, Instantaneous heart rate meter, Systolic and Diastolic blood pressure meter, Ear oximeter and laser Doppler Blood flow meter through basic block diagrams with applications
B. Sc. III, 6S	**Paper- VI: Advance Microprocessor and Microcontroller**	Understand basics of the 8086, 16-bit up its block diagram and sectional divisions as EU and BIU., operating modes of 8086, various registers of 8086 with their purpose
		Understand concept of segmented memory , instruction pointer, status flag and pin diagram of 8086.
		Understand the concept of obtaining physical and effective address
		Understand the advancements of 8086 to that of 8085.
		Understand and develop the skill of writing programs in 8086
		Understand various addressing modes and how the changes in program takes place on changing of the addressing mode
		Understand the basic difference between Microprocessor and Microcontroller
		Understand the various blocks of 8051 uc block diagram with various registers and their sizes

		Understand the various memories, timers, counters, ports and interrupts in 8051 uc
		Understand various instructions used in and syntaxes allowed in 8051 to learn effective Programming in it.
		Understand various addressing modes and how the changes in program takes place on changing of the addressing mode
		Understand the most important bit level instructions and programming, the unique character of microcontroller 8051
		Understand the basics of serial communication and types of communication
		Understand RS 232 and its interfacing
		Understand SCON and PCON registers
		Understand interfacing of ADC and DAC with 8051uc and waveform generation
		Understand power reduction / down modes of 8051
		Understand basics of advance uc 32 bit AVR and its various parameters
		Understand ALU, Program and data memories, downloadable flash memory, SRAM data memory and General purpose registers and EEPROM data memory
		Understand how AVR ucs proves itself powerful than uc