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Estd. 1989



Daulat Vishwastha Sanstha's

YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI

Tal – Chandgad, Dist – Kolhapur, Maharashtra – 416 552

Affiliated to Shivaji University, Kolhapur, NAAC 'A' with CGPA 3.08

Shri. Vishal G. Patil

Secretary

Shri. Sanjay R. Patil

Vice-Chairman

Shri. Ashokrao P. Jadhav

Chairman

Principal: Prof. (Dr.) B. D. Ajalkar (M.Sc., Ph.D.)

Programme Outcomes



Programme Outcomes

After successful completion of three year degree program in Arts, Commerce & Science students are able to;

B. A.

1. The students acquire knowledge in the field of Social Sciences, Literature and Humanities which make them sensitive and sensible enough.
2. The B.A graduates will be acquainted with the Social, Economical, Historical, Geographical tradition and thinking.
3. The programme also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.
4. The B.A. programme enables the students to acquire the knowledge with human values framing.
5. Programme provides the base to be the responsible citizen.
6. Creating interest in basic Knowledge and major Knowledge in literature.
7. Developing reading, writing, speaking and listening skills in language.

B. Com.

1. The B.Com graduates would be able to acquire basic and fundamental knowledge with skills for doing business and commercial activities of their choice.
2. The programme also empowers the graduates to appear for various competitive examinations or to choose a profession of their choice such as CA , CS, ICWA, MBA, M.Com etc.

3. The programme enables the students to acquire the accounting knowledge, management principles, retail training, banking and insurance transactions, business economics and financial management.
4. The students also acquire knowledge in the field of management accounting, corporate accounting statistical and mathematical techniques.
5. The students become capable of doing a business of their choice or choosing a profession or can become employees having basic knowledge and skill required for such activities.
6. Developing skills of computation of income, submission of income tax returns.

B. Sc.

1. Inculcating for scientific thinking and awareness and getting an ability to use necessary current techniques, skills, and modern tools.
2. Developing scientific intuition, ability and techniques to tackle problems either theoretical or experimental in nature.
3. Communicate concepts, designs, and solutions of scientific activities effectively and professionally with society at large.
4. Getting job opportunities in various industrial sectors, institution etc.
5. Develop scientific temper among students

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Course Outcomes



Courses Taught by the Department:

Sr. No.	Class	Paper No.	Name of the Course
01	F.Y.B.A.	I and II	Modern Indian English in Translation(CBCS)
02			
03	S.Y.B.A	III & V	Literature and Cinema(CBCS)
04		IV & VI	
05	T.Y.B.A	VII & XII	Introduction to Literary Criticism (CBCS)
06		VIII & XIII	English Poetry(CBCS)
07		IX & XIV	English Drama (CBCS)
08		X & XV	English Novel (CBCS)
09		XI & XVI	Language and Linguistics (CBCS)

CO'S PO'S'

12

PSOs, COs:

Department of English

Programme Specific Outcomes

1. Effective application of four skills (Listening, Speaking, Reading, Writing) of English Language.
2. Development of critical and analytical understanding of Language and Literature.
3. Application of critical theories and concepts to understand a literary piece.
4. Effective use of English according to various situations.
5. Acquisition of various communicative skills.
6. Development of critical insight into various literatures in English.
7. Use of effective communication for employability and entrepreneurship.
8. To use English effectively for competitive examination

Course Outcome

1	BA I Optional English Paper I (DSC A-15)	Sem I Paper- I	Modern Indian Writing in English (CBCS): 1. Students got acquainted with Modern Indian Regional Literature, translated in English Language. 2. Students have understood Short Story as a minor form of Literature. 3. Students learnt masterpieces of Indian short stories, translated into English language.
2	BA I Optional English Paper I (DSC A-15)	Sem I Paper- II	Modern Indian Writing in English (CBCS): 1. Students understood, Marathi play Mahanirvan, translated in English as The Dread Departure. 2. Students have properly understood the translated poetry, of Rabindranath Tagore, Gajanan Muktibodh and Amrita Pritam. 3. Students have developed literary attitude. 4. The curricular helped to develop literary competencies among students.

3	B.A. II English optional	SEM III Paper III	. Discipline Specific Core (DSC-C 5) Literature and Cinema (CBCS): 1. Introduction of film and its relationship to literature to the students. 2. Acquisition of film literacy through a working knowledge of basic film technology. 3. Development critical approaches to engage with film adaptation. 4. Establishment of a clear understanding of literature through film adaptation of literary texts. 5. Introduction of the issues and practices of cinematic adaptations to the students.
4	B.A. II English optional (DSC C-6 and C-30)	SEM III Paper IV	Discipline Specific Core (DSC-C 6) Partition Literature (CBCS): 1. Students got understood the great historical event of partition that divided the united Hindustan into India & Pakistan. They also understood the causes & effects of partition.

				2. Students understood Kushwant Singh's masterpiece novel on Partition, Train to Pakistan.
5	B.A. II English optional	SEM IV Paper V	Discipline Specific Core (DSC-C 29) Literature and Cinema (CBCS): 1. Introduction of film and its relationship to literature to the students. 2. Acquisition of film literacy through a working knowledge of basic film technology. 3. Development critical approaches to engage with film adaptation. 4. Establishment of a clear understanding of literature through film adaptation of literary texts. 5. Introduction of the issues and practices of cinematic adaptations to the students.	Discipline Specific Core (DSC-C 30) Partition Literature (CBCS): 1. The prescribed short stories, based on the partition helped students to understand the horrible effects of the partition on innocent
6	B.A. II English optional (DSC C-6 and C-30)	SEM IV Paper VI		

			men and women. 2. The Partition resulted horrible exploitation of minority by the hands of majority.
7	B.A.III Eng. Optional	SEM V Paper VII	<i>Introduction to Literary Criticism</i> 1. Introduced with major trends in literary criticism 2. Familiarized with major critical concepts 3. Acquainted with various critical movements 4. Trained to write critical appreciation of the poetry.
		SEM VI Paper XII	<i>Introduction to Literary Criticism</i> 1. Introduced with major trends in literary criticism 2. Familiarized with major critical concepts 3. Acquainted with various critical movements 4. Trained to write critical appreciation of the poetry.
8	B.A III Understanding Poetry	Sem V Paper - VIII	Understanding Poetry 1. Students understood the Poetry as a one of major forms of literature.

			2. Students understood the various sub- types of the poetry like Sonnet, Ballad, Song, Ode and Elegy. 3. Students have got acquainted with the Elizabethan, Romantic, Victorian, Indian, Modern, Post-Modern poets and their poems 4. They learnt the master pieces of Sir Philip Sidney, William Shakespeare, Marlowe, William Wordsworth, George Herbert, John Donne etc.
9	B.A III Understanding Poetry	Sem VI Paper -XIII	Understanding Poetry 1. Students came across the Indian writing in English. 2. They got acquainted with the Modern Indian English poetry that represents the India and its culture, with special reference to the Muhammad Iqbal, C L Khatri, ImtiazDhakar and Shiv K. Kumar. 3. Students got the knowledge of culture, tradition and developed taste and interest in creation of poetry.

10	B.A III Understanding Drama	Sem V Paper -IX	Understanding Drama 1. Students were acquainted with the Drama, as major form of literature. They also learnt its main and sub-types, tragedy & comedy form. 2. They got familiarized with the golden age of English Drama- the Elizabethan Drama and the glorious contribution of William Shakespeare. 3. They as well got familiarity with Problem play as the type of drama.
11	B.A III Understanding Drama	SEM VI Paper -XIV	Understanding Drama 1. They also learnt Indian Drama in English and the American Drama, through The Bravely Fought the Queen by Mahesh Dattani and The Glass Menagerie by Tennessee Williams. 2. The students study drama as the major form of literature thoroughly. 3. They were highly impressed by the drama of Mahesh Dattani, Tennessee Williams and William Shakespeare.
12	B.A.III Understanding Novel	SEM V Paper X	Understanding Novel 1. Students acquainted with specific types of English novel.

13	B.A. III Understanding Novel	SEM VI Paper XV	2. They learnt the trans-fiction theory. 3. Students' understood spiritual quest of three protagonists in Anita desai' novel Journey To Ithaca.
14	B A III	SEM V Paper XI	Understanding Novel 1. Students learnt the myseries of agrarian society in SadanandDeshmukh's Marathi novel Baromas translated into English. 2. Students acquainted with apartheid system in South Africa 3. They studied J. M. Coetzee's novel Disgrace Title: Structure and function of Modern English 1. Students became grammatically sound. 2. Students learnt Received Pronunciation through Phonetic symbols, developed by International Phonetics Association. They learnt Speech Mechanism, phonetic transcription phonetic reading. 3. Students came to know the process of word formation and analysis of words morphologically.

15	B.A.III Structure and Function of Modern English	SEM VI Paper XVI	Title: Structure and function of Modern English 1. Students became grammatically sound. 2. Students learnt Received Pronunciation through Phonetic symbols, developed by International Phonetics Association. They learnt Speech Mechanism, phonetic transcription phonetic reading. 3. Students came to know the process of word formation and analysis of words morphologically.
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**DEPARTMENT OF
COMMERCE & MANAGEMENT**

COURSE OUTCOMES

- Students of management department have got acquainted with the business world. They came to know & learnt the meaning of Management, Marketing, and Insurance & Banking Fields.
- Department faculty provided informative information of professional courses after graduation like. M.B.A, Bank Manager C.A. ICWA & CS Etc. students have understood properly the importance of Management in business world.
- The students are prepared to make their career in Management and they acquired the competence in themselves.
- Students have understood the importance of Industrial Management, Work environment. Human Resource Management Etc.
- Students have acquired the knowledge about the different Govt. Schemes that are related to business sectors like Make in India, Skill India Etc.


Head


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Yashwantrao Chavan Mahavidyalaya
Halkarni, Tal. Chandgad,
Dist. Kolhapur, Pin-416 552,

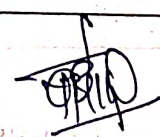
DEPARTMENT OF COMMERCE

PROGRAMME OUTCOMES

- Students of commerce department have got acquainted with the business world. they came to know & learnt the meaning of Management, Marketing, Insurance & banking Fields
- Department faculty provided an information of professional courses after graduation in commerce field like CA, CS, ICWA. Students have understood properly the importance of commerce.
- The Students are prepared to make their career in commerce and they have acquired the competence in themselves. They are perfect in commerce fields.
- Students have understood methods of Accounting & Management which are significant in commerce field.
- Students have acquired the knowledge about the different Govt. Schemes that are related to business sectors like Make in India, Skill India, Etc.


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2.	B.com I Principles of Business Management	Sem I Paper no . I	Business management 1. It helps the students to understand the concept of business management. 2. To know about various theories of business management . 3. To know about planning & decision making. 4. To know about organizing.
	B.com I Principles of Business Management	Sem II Paper no . II	Business management 1. Students understood the concept of Motivation. 2. Students understood the Leadership concept. 3. Students got to know about controlling. 4. Students know the concept of management of change.
3.	B.com III Industrial Management	Sem V Paper no. II	Human Resource Management 1. Students understood the concept of HRM. 2. Students understood the human resource planning (HRP). 3. Students got to know the process of Recruitment 4. Students got to know about Employee Training & Performance Appraisal 5. Students got to know the recent trends in HRM.
	B.com III Industrial Management	Sem VI Paper no. IV	Personal Management 1. Students understood the concept of Remuneration . 2. Students got to know the industrial relation of employee & Management 3. Students got to know about employee safety & health. 4. Students got to know about human resource accounting (HRA).


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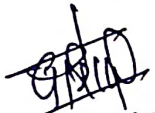
3.	B.com III Industrial Management	Sem V Paper no. I	Factory & Capital Management 1. It helps the students to understand the concept of industrial Management. 2. To Know about factory location & plant layout 3. To know About Work environment. 4. To know about Plant maintenance. 5. To know the concept of Financial management.
	B.com III Industrial Management	Sem V Paper no. II	Human Resource Management 1. It helps to Understand the concept of HRM. 2. To know about human resource planning (HRP). 3. To know about Recruitment 4. To know about employee training & performance appraisal 5. To Know the recent trends in HRM.


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Sr.No	Class & Subject	Sem & Paper no.	Title of paper & Outcomes
1.	B.com I. Principles of Marketing	Sem I Paper no. I	Principles Of Marketing. 1. Students understood the concept of Marketing. 2. Students got to know about consumer Behavior in marketing 3. Students got to know the term Marketing Research & MIS. 4. Students got to know about market Targeting, segmentation & Positioning
	B.com I. Principles of Marketing	Sem II Paper no. II	Principles of Marketing. 1. Students understood the concept of Marketing Mix (4 P's of Marketing). 2. Students got know about Promotion & Place. 3. Students got know the term Retailing. 4. Students got to know about various Service Marketing.
2.	B.com II Fundamentals of Entrepreneurship	Sem III Paper no . I	Entrepreneurship 1. Students understood the concept of entrepreneur . 2. Students got to know the process of Business. 3. Students got to know about Micro, Small, Medium, Business. 4. Students understood the Recent Trends In Entrepreneurship.
	B.com II Fundamentals Of Entrepreneurship	Sem IV Paper no . II	Entrepreneurship 1. Students understood the concept Family Business. 2. Students got to know about Service & Agro entrepreneurship. 3. Students understood the concept of Business plan & project Report 4. Students got to know about successful Female Entrepreneurs & Male Entrepreneurs in the world.

Sr.No	Class & Subject	Sem & Paper no.	Title of paper & Outcomes
1.	B.com II Money & Financial system	Sem III Paper no. I	Money & Financial system 1. Students understood the Functions of Money. 2. Students understood the Banking system in india 3. Students understood the concept of investment. 4. Students understood the recent trends in Indian banking system.
	B.com I. Money & Financial system	Sem IV Paper no. II	Money & Financial system 1. Students understand the concept E-Banking services. 2. Students understood the Structure & Functions of RBI 3. Students got to know the Scope of financial markets. 4. Students got the knowledge about financial institution.
2.	B.com III Business Environment	Sem V Paper no . I	Business Environment 1. Students understood the concept of Indian business environment. 2. Students got to know the agriculture industry. 3. Students know about industrial development. 4. students got to know the challenges of Indian economy.
	B.com II Business Environment	Sem VI Paper no . II	Business Environment 1. Students understood the concept of LPG Policy. 2. Students got to know about Economic planning. 3. Students understood the concept of international environment. 4. Students got the knowledge about the international institutions.

3.	B.com III Co-Operative Development	Sem V Paper no. I	Co-Operative Development 1. It helps to know about co-operative movements in india. 2. To know about co-operative credit societies. 3. To know About Agriculture & Non agriculture Co- operatives. 4. To know about Agriculture Bank Finance.
	B.com III Co-Operative Development	Sem V Paper no. II	Co-Operative Development 1. It helps to know about Co-operatives in Maharashtra. 2. To know about institutional Support to co-operatives. 3. To know about co- operative Audit 4. To know about New agriculture policy.


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4.	B.com III Modern management Practices	Sem V Paper no. I	Modern Management Practices 1. Students got to know the various Approaches of MMP. 2. Students got to know the various contribution to MMP. 3. Students understood the concept of Corporate Governance & CRM. 4. Students to know the Organizational environment & the Environmental Analysis.
	B.com III Modern management Practices	Sem VI Paper no. II	Modern Management Practices 1. Students understood the concept of Total Quality Management (TQM). 2. Students got to know the term Quality standards & bench marking. 3. Students understood the concept of Time & Event Management. 4. Students got to know the concept CRM & Business ethics.



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Halkarni, Tal. Chandgad, Dist. Kolhapur

Marathi Department Course Outcomes

B A I Marathi Marathi Compulsory (*Shabasanhita*)

1. Developed a personality by language.
2. Wrote an essay, Bio-data, vote of thanks, welcome note and short address to meeting.
3. They knew Tradition of Marathi Poetry.

Marathi Optional : Paper 1&II (*Aksharbandh*)

1. Students are richer by known tradition and introduction of Marathi Literature.
2. They knows types of writing in Marathi i.e. Short story, Poems etc.
3. They become interested in stories and poems.
(*Baki Sarva Thik Ahe by Lokanath Yashwant*)

B A II Marathi Paper III & V (Prose)

Play : *Kay denger vara sutlay*

Novel : *Mati Pankh Ani Akash*

1. Student got ideas of plot of play, dialogues of play, problems of middle class house-holder in metropolitan city, like Bombay.
2. How to hard work for passes IAS/IFS or competitive examination.
3. Writing skills of dialogues on some situations like doctor and patient.

B A II : Marathi Paper No. IV (Poetry) Karagandha Paper No VI Novel : Jugad

1. There are best knowledge of Marathi Poetry.
2. Students learned the poetry based on rural, feministic and metropolitans theme etc.
3. Created of poem on experience, situation and write a report
4. Student understood the Realistic Picture of Rural society & metropolitan city.

B A III : Marathi : Paper No. VII & XII Sahitvichar : Criticism

1. Students got knowledge of epic tradition of *sanskrit* and marathi criticism.
2. Introduction of marathi poetry alliteration.

B A III : Marathi Paper No. VIII & XII Marathi Bhasha Va Bhashavidnyan (Linguistics)

1. Students got knowledge of marathi languages and its origin, periods of marathi language.
2. Students knew, functions of language, semantics, phonetics and grammar

B A III Marathi Paper No. IX & XIV Madyavugin Marathi Vagmayacha Itihas (History of Marathi Literature)

1. Students got Basic introduction of Marathi Literature in middle era i.e.1300 to 1800.
2. Student got knowledge of the marathi sant-poem, pandit-poem, tant-poem.

B A III Marathi Paper No. X & XV *Marathi Bhasha va Arthanjanacha Sandhi*
(*Marathi : Applied & creative Writing*)

1. Student learned the domain of discourse of Marathi language which can be used in different fields. Ex.: Creative writing, Media, Journalism etc.
2. Students also got acquainted with formal marathi language used in official transactions.

B A III Marathi Paper No. XI *Vangmaya prawahanche Adhyan (Madhayugin)*
(*Learning of Literary Streams*)

1. Student understood the Mahanubhv Sampradya of middle era in marathi.
2. Students also learned literature through the edited book of BoS

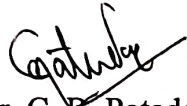
B A III Marathi Paper No. XVI *Vangmaya prawahanche Adhyan (Lalit)*
(*Learning of Literary Streams*)

1. Student understood the realistic picture of Lalit Prose (Personalities)
2. Students also learned *Lalit* literature through the edited book of BoS


पुस्तकालय
यशवंतराव चव्हाण महाम्हाविद्यालय
हस्तकर्णी, ता. चंदगाव,
कोल्हापूर-४९६ ५५२.

Programme Outcomes (B. A. with Marathi)

1. Students are rich with introductions of Marathi literature and Marathi language.
2. Developed their personality by language.
3. They enhanced with the skill of writing that is short story, poems, dialogue etc.
4. Students understood problems of middle class and young generation.
5. They get knowledge of Marathi critics & origin of Marathi language.


Dr. C. B. Potadar


Dr. A. P. Gavali


I/C PRINCIPAL
Yashwantrao Chavan College
Halkarni 416 552
Tal. Chandgad, Dist. Kolhapur

DEPARTMENT OF PHYSICS

Course Taught: B.Sc.

Course Outcomes

Class: B.Sc. I
Paper No. : I
Paper Name: Mechanics-I

Semester : I
Course Code: DSC A1

- Students are able to understand and identify scalar and vector physical quantities in mechanics.
- Students are able to understand and apply vector algebraic methods to elementary exercises in mechanics.
- Students are able to understand and identify degree and order of given differential equations.
- Students are able to solve second order, homogenous ordinary differential equations in mechanics.
- Students are able to understand the conceptual evolution of conservation laws of momentum and energy for both single and system of particle.
- Students are able to understand and apply basic concepts of rotational motion.
- In general, students are capable of correlating above concepts and methods in mechanics to both theoretical and experimental domains revealing analytical as well as numerical skills.

Class: B.Sc. I
Paper No. : II
Paper Name: Mechanics-II

Semester : I
Course Code: DSC A2

- Students are able to understand and apply Newtons Law of Gravitation to celestial objects.
- Students are able to understand geometry of planetary orbits under the action of central force.
- Students are able to solve numerical problems based on Kepler's Laws of planetary motion.
- Students are able to understand simple concepts like weightlessness, Geosynchronous satellite and GPS.
- Students are able to setup differential equation for simple harmonic motion and its allied


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- Students are able to calculate time averages of KE, PE and TE.
- Students are able to revise basic concepts such as stress, strain and elastic constants of elasticity.
- Students are able to derive elastic constants for beam supported at both ends and at one end.
- Students are able to derive elastic constant (η) of a wire under torsional oscillations (Searle's Method).
- Students are able to explain the phenomenon of surface tension on the basis of molecular forces.
- Students are able to derive the relation between surface tension and excess pressure.
- Students are able to perform an experiment to determine ST by Jaeger's method.
- Students are able to discuss and state the factors affecting the ST.
- In general, students are capable of correlating above concepts and methods to both theoretical and experimental domains revealing analytical as well as numerical skills.

Class: B.Sc. I

Semester : II

Paper No. : III

Course Code : DSC B1

Paper Name : Electricity and Magnetism-I

- Students are able to understand the physical significance of gradient, divergence and curl.
- Students are able to apply concepts in vector calculus such as gradient, divergence and curl related to vector and scalar fields using Gauss, Stokes and Green's theorem.
- Students are able to understand and apply concepts of electrostatic field, potential to point charges, electric dipole and geometrically regular charged bodies.
- Students are able to understand and apply concept of capacitor to isolated conductor, parallel plates, cylindrical and spherical capacitors and allied modifications in it.
- Students are able to understand and apply concept of energy density in electric field.
- Students are capable of applying above concepts to solve numerical exercise in electrostatics.

Class: B.Sc. I

Semester : II

Paper No. : IV

Course Code : DSC B2

Paper Name : Electricity and Magnetism-II

- Students are able to understand importance of complex numbers in analysis of AC Circuits containing Inductance (L) Capacitor (C) and Resistance (R) and their various configurations.
- Students are able to define and apply the concepts in AC circuits such as Impedance (Z), reactance (X_C and X_L), Admittance, Susceptance and Quality Factor (Q).

- Students are able to understand and design AC bridge: Owen's Bridge.

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- Students are able to state and apply Network theorems to simple circuits.
- Students are able to understand basic working principle of Ballistic galvanometer.
- Students are able to define constants of ballistic galvanometer.
- In general, students are capable of applying above concepts in network analysis to both theoretical and experimental domains.
- Students are able to understand simple elementary concepts such as magnetization and intensity of magnetization.
- Students are able to state Biot-Savart's law and are capable to apply it to straight, circular wires and solenoid.
- Students are able to understand concept of magnetic vector potential along with Ampere's circuital law.
- Students are able to understand the explain the phenomenon of hysteresis in magnetism.
- Students are able to discriminate different magnetic materials based on their characteristic properties.

Class: B.Sc. II

Semester : III

Paper No. : V

Paper Name: Thermal Physics and Statistical Mechanics-I

- Highlight different types of velocities of gas molecules.
- Acquire Knowledge of Maxwell's distribution of gas molecules.
- Visualize Merits and drawbacks of thermometers.
- Apply knowledge of thermodynamic processes in design of heat engine.

Class: B.Sc. II

Semester : III

Paper No. : VI

Paper Name : Waves and Optics -I

- Apply superposition principle to develop mathematical model of harmonic oscillators.
- The develop the mathematical model for coupled oscillations.
- Understand the ultrasonic waves and their applications.
- Use of Basic principles of sound in context of acoustics of buildings.


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Class: B.Sc. II
Paper No. : VII

Semester : IV
Paper Name: Thermal Physics and Statistical Mechanics-II

- Develop Conceptual clarity of thermodynamic functions and Clausius-Clapeyron equation.
- Appreciate the problem associated with the black body radiation spectrum.
- Know , how the problems can be solved by using Planck's law of radiation.
- Acquire preliminary knowledge of classical and quantum statistical mechanics.

Class: B.Sc. II
Paper No. : VIII

Semester : IV
Paper Name: Waves and Optics II

- Draw ray diagrams to demonstrate Cardinal points.
- Determine the resolving power of prism and grating by making use of Rayleigh criterion.
- Qualitatively study phenomenon of polarization of light.
- Apply phenomenon of interference of light for determination of its wavelength.

Class: B.Sc. II

Paper Name: Practical

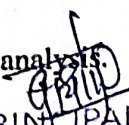
- Acquire skills in setting up of optics experiments.
- Develop the practical skills and techniques for accurate measurements.
- Acquire observational skills
- Determine Least counts of different measuring instruments

Class: B.Sc. III
Paper No. : IX

Semester : V
Paper Name: Mathematical Physics

After going through the course, the student should be able to understand

- Partial Differential equations,.
- Frobenious method and special functions, Special integral and Complex analysis.


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Class: B.Sc. III
Paper No. : X

Semester : V
Paper Name : Quantum Mechanics

This course enables the student to get familiar with Quantum Mechanics formulation.

- Wave particle duality, De-Broglie hypothesis, Uncertainty principle and its application.
- After an exposition of inadequacies of classical in explaining microscopic phenomena, quantum theory formulation is introduced through Schrodinger's equations.
- Interpretation of wave function.
- Different operators in quantum mechanic
- Applications of Schrodinger's equations.
- Schrödinger's equation for Hydrogen atom and to separate radial and angular parts.
- Quantum numbers
- Solve problems in quantum mechanics

Solve problems in quantum mechanics Understand the concepts by solving problems in Quantum mechanics

Class: B.Sc. III

Semester : V

Paper No. : XI

Paper Name : Classical Mechanics and Classical Electrodynamics

- Review the knowledge of Newtonian formulation.
- Learn the Lagrangian equations and Hamilton's Principle, using Lagrangian equations to solve physical problems.
- Learn special theory of relativity.
- Charged particles dynamics.

Class: B.Sc. III

Semester : V

Paper No. : XII

Paper Name: Digital and Analog circuits and Instrumentation

This course enables the student to get familiar with Quantum Mechanics formulation.

- Learn digital electronics.
- Transistor amplifier and Sinusoidal oscillators
- Cathode ray oscilloscope.
- Operational amplifier and Timer.


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Class: B.Sc. III **Semester : VI**
Paper No. : XIII **Paper Name: Nuclear and Particle Physics**

- Learn the constituents of nucleus and properties of nucleus.
- Learn the concept and relation between mass number and radius, the concept of packing action and binding energy curve.
- Ability to explain fusion and fission process.
- Having knowledge for making a model of nucleus.
- Learn the function and use of detectors e.g. Geiger-Muller counter, Photomultiplier tube, scintillation counter, Wilson cloud chamber, Semiconductor detector and Cerenkov radiation.
- Learn the phenomenon of accelerator.
- Having knowledge about different accelerators viz. cyclotron, Synchrocyclotron, Betatron.

Class: B.Sc. III **Semester : VI**
Paper No. : XIV **Paper Name: Solid State Physics**

At the end of the course the student is expected to learn and assimilate the following

- A brief idea of crystalline and amorphous solids lattice, basis, crystal structure, unit cell.
- Miller indices, inter-planer spacing, Periodicity of crystals, Bravis lattices, Cubic and Hexagonal structures.
- Reciprocal lattice concept, its properties, Braggs law, Laue method, Rotating crystal method and Powder method for analysis of cubic crystal.
- Magnetic properties of matter.
- Band theory of solids.
- Solve problems.


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Class: B.Sc. III

Semester : VI

Paper No. : XV

Paper Name: Atomic and Molecular Spectra, Astronomy and Astrophysics

- Students are well-known about the spectral lines, spectrum of sodium doublet, and selection rule for fine structure of doublets.
- Learn the Anomalous Zeeman effect and their explanation.
- Students are well-known about molecular bond, hydrogen molecular bond, Rotational and vibrational energy, Rotational and vibrational spectra.
- Through this course student can learn the Raman spectra and its characteristics properties of Raman lines, classical and quantum theory of Raman Effect.
- Students can compare Raman and infrared spectra.
- Upon completion of course students will be able to compare the Big-bang theory, steady state theory, Hubble Law.
- Students can use Hubble students can use Hubble law for the study of milky-way galaxy and condensation theory.
- Discuss the evolution of stars, more massive stars like Supernova, Neutron stars.
- Students can explain properties of mars, surface of Sun, Sunspots and sunspot cycle.

Class: B.Sc. III

Semester : VI

Paper No. : XVI

Paper Name: Energy studies and Material science

This course enables the student to get familiar with Renewable energy sources and Material science.

- Different forms of energy, conventional and non-conventional energy sources.
- Application of wind energy, types of wind turbine, power of wind turbine, HAWT.
- Solar energy, essential subsystems in solar energy plant, solar energy from satellite station through Microwave to earth station; solar PV system.
- Dislocations and crystal growth.

Nanotechnology

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Tal. Chandgad, Dist. Kolhapur

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Department of Physics

B. Sc. Physics Programme Specific Outcomes

1. Understand the core concept of Physics subject.
2. Students are expected to acquire knowledge in various branches such as Classical Mechanics, Quantum Mechanics, Solid State Physics, Electrodynamics, Electronics, Optics, Energy Studies, Atomic Physics, Astronomy, Astrophysics, Material Science, Thermodynamics and Mathematical and Statistical Physics .
3. Excel in Experimental and theoretical Physics.
4. Acquire skill for higher education.
5. Train to take up jobs in different fields.
6. Create interest in various competitive examinations.
7. Students are also expected to develop written and Oral communication skill through seminars.
8. Students acquires knowledge related to Physics by visiting industries and Projects


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Tal. Chandgad, Dist. Kolhapur


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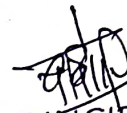
Department of Physics

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Head.
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HISTORY

PROGRAM SPECIFIC COUTCOMES

1. Acquiring the knowledge of Maratha History.
2. Study of History from Ancient to Modern period.
3. Getting information about social reformers & their works.
4. To study the Socio-Economic, Political & Cultural aspects of History.

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Department of History 2022-2023
Course Outcomes

Sr.No	Class & Subject	Sem & Paper.No	Title of the Paper & Outcomes
1	B A I	Sem I Paper I	Rise of Maratha Power (1600-1707) 1. Emphasized the history of Maratha power. 2. Students got deep knowledge about the background of the rise of Maratha Power. 3. Emphasized the life and works of Chh. Shivaji Maharaj with special reference to Maratha history. 4. Students understood the qualities of Chh. Shivaji Maharaja & also get inspiration by studying Chh. 5. Sambhaji, Chh. Rajaram & Maharani Tarabai. 6 Students were introduced with the sources of Maratha History.
2	B A I	Sem II Paper II	Polity, Society and Economy under the Marathas (1600-1707) 1. Students were introduced with the Fort ,Naval policy Also with the Military & Judiciary Policy of Chh. Shivaji Maharaja. 2. Students got detailed information about Economy ,Agriculture, Trade & Industries during Maratha power. 3. Students get acquainted with the socio-economic, political, religious changes in the Maratha history. 4 Students were introduced with the Historian Of the Maratha History.
3	B A II.	Sem III Paper III	History of Modern Maharashtra [1900-1960] 1. Critically studied the rise & growth of Nationalism. 2. Studied role of Maharashtra in the National Movement. 3. Studied deeply social movements. 4. Critically studied Samyukta Maharashtra movements

4	B A II	Sem III Paper IV	Modern India [1757-1857] 1. Understand the History of Modern India. 2. Understand Establishment of company rule in India. 3. Study the Colonial policy in India. 4. Analyzed various movements in India
5	B A II	Sem IV Paper V	History of Modern Maharashtra[1960-2000] 1. Critically studied the Political parties with their leaders. 2. Studied agricultural & Industrial developments & Natural disasters. 3. Students were made aware about Social Movements. 4. Students developed educationally
6		Sem IV Paper VI	Modern India Paper [1857 -1947] 1. Introduced Modern Indian History. 2. Gave information about the devotion of M.Gandhi For India. 3. Study various Revolutionary movements & other Movements.
7	B A III	Sem V Paper.VII	Early India (From beginning to 4th BC) 1. Understand the transition of Human in India from hunters to Farmers. 2. Explain the transition from Early to later Vedic period. 3. Clarify the causes for the first & second urbanization. 4. Give an account of the teachings of Gautam Buddha &VardhanMahaveer. 5. Describe the rise & growth of Mauryan Empire. 6 Explain the sailent features of Ashoka's Dhamma
8	B A III	Sem V Paper VIII	History of Medieval India [1206-1707 A.D] 1. Describe the different types of historical sources available for writing the history of Medieval India. 2. Explain the contribution of Medieval rulers like AllaudinKhilji, Muhammad bin

			Tughala, Krishnadevraya & Mahmud Gawan.. 3. Give an account of the administration & Economy of the Vijaynagar Empire. 4. Elucidate the significant development which took place in religion, society & Culture.
9	B A III	Sem V Paper IX	Age of Revolutions. 1. Explain the causes and consequences of the Reformation. 2. Give an account of the role played by Martin Luthor. 3. Explain salient features of the Industrial revolution. 4. Explain causes, effects, and major events of French Revolution. 5. Explain the role of major leaders of the French Revolution.
10	B A III	Sem V Paper X	Political History of the Marathas 1. Describe the Political Condition of the Marathas up to 1740. 2. Explain the role of Balaji Bajirao. 3. Explain the causes and effects of the Battle of Panipat. 4. Understand the political condition of the Marathas after 1761. 5. Critically analyzed the causes for the decline of the Maratha Power.
11	B A III	Sem V Paper XI	History : It's Theory. 1. Understand the definition and scope of the History. 2. Know the process of acquiring historical data. 3. Explain the process of presenting and writing history. 4. Understand the methods of writing History.
12	B A III	Sem VI Paper XII	Ancient India (From 4th c. B.C to 7th c. A.D) 1. Know the political, Economic & religious developments which took place in early historic India. 2. Explain the role played by major Satvahana, Kushan, Gupta and Vakatah

			Kings 3 Give an account of the developments in Post- Gupta period. 4 Have an informed opinion about the society and culture of Ancient India.
13	B A III	Sem VI Paper XIII	History of Medieval India [1526 to 1707 AD] 1 Know about various sources for writing Medieval History. 2 Explain the role of rulers like Babar, Akbar, Chandbibi and Ibrahim Adilshah II 3 Gain knowledge about the administrative and revenue system. 4 Described the condition of Industry & Trade. 5 Explain important developments in religion, society and culture.
14	B A III	Sem VI Paper XIV	Making the Modern World (16th to 19th Century) 1. Know the causes and consequences of the Glorious revolution in England. 2. Explain the concept of Nationalism and account for its rise and spread. 3. Describe the unification of Italy and Germany. 4. Give an account of the rise ,growth and impact of Imperialism. 5. Explain the significance of the Partition of Africa. 6. Know the life and thoughts of important leaders like Metternich, Karl Marx and Abraham Lincoln.
15	B A III	Sem VI Paper XV	Polity, Economy and Society under the Marathas. 1. Know the various sources for writing the history of the Marathas. 2. Explain the significant developments in the polity of the Marathas. 3. Describe the Economic condition. 4. Explain the social condition.

16	B A III	Sem VI Paper XVI	Methods and Application of History 1. Understand the nature of Archival sources. 2. Gain conceptual clarity about recent trends in history. 3. Know about the application of history in Museums. 4. Explain the concept and scope of heritage tourism.
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 Head
 Dept. of History.


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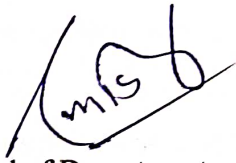
Daulat Vishwasth Sanstha's

YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI

Tal-Chandgad Dist-Kolhapur

PROGRAMME OUTCOMES

- Students of sociology department have got acquainted with the social world. they came to know & learn the meaning of Society, Communication, Social Relation, Social Interaction, Culture , Religion, Human Rights, Political Concept, Rural, Tribal and Urban Life Style etc.
- Department faculty provided information of professional courses after graduation in Sociology field like MSW, MBA, Rural Development Course, UPSC, and MPSC. Students have understood properly the importance of Sociology subject.
- The Students are prepared to make their career in Sociology subject and they have acquired the competence in themselves. They are perfect in social fields.
- Students have understood methods of Social Research which are significant in social field.
- Students have acquired the knowledge about the different Govt. Schemes that are related to social sectors like Make in India, Skill India, Etc.



Head of Department

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Daulat Vishwasth Sanstha's
YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI
Tal-Chandgad Dist-Kolhapur

DEPARTMENT OF SOCIOLOGY
PROGRAMME SPECIFIC OUTCOMES
2022 - 2023

Sociology seeks to understand all aspects of human social behaviour, including the behaviour of individuals as well as the social dynamics of small groups, large organizations, communities, institutions, and entire societies. Sociologists are typically motivated both by the desire to better understand the principles of social life and by the conviction that understanding these principles may aid in the formulation of enlightened and effective social policy. Sociology provides an intellectual background for students considering careers in the professions or business. An Honours Graduate student of Sociology should be able to develop:

- 1) Critical Thinking: The programme seeks to develop in students the sociological knowledge and skills that will enable them to think critically and imaginatively about society and social issues.
- 2) Sociological Understanding: The ability to demonstrate sociological understandings of phenomena, for example, how individual biographies are shaped by social structures, social institutions, cultural practices, and multiple axes of difference and inequality.
- 3) Written and Oral Communication: The ability to formulate effective and convincing written and oral arguments.
- 4) Better understanding of real life situation: The ability to apply sociological concepts and theories to the real world and ultimately their everyday lives.
- 5) Analytical thinking: Field survey and preparation of dissertation paper is an inseparable part of Sociology Honours Programme. Students have to collect primary data for census as well as his/her research topic and analyse the data to draw conclusions so, qualitative and quantitative analytical skills are enhanced.
- 6) Observation power: a sensible observation power is necessary to identify the research problems in field study so a perception about human society slowly grows up.
- 7) Communication skills and Social interaction power: Students of Sociology stream have to work beyond the class room boundary at the time of field study activities. As a result good communication skill develops while interacting with local people.
- 8) Ethical and Social Responsibility: Students have to learn about institutions, folkways, mores, culture, social control, social inequality, population composition, population policy, society and culture of India. All these help to instil among the students of Sociology a sense of ethical and social responsibility.

9) Professional and Career Opportunities: Students will have the opportunity to join professional careers in Sociology and allied fields. Sociology provides an intellectual background for students considering careers in business, social services, public policy, government service, nongovernmental organizations, foundations, or academia. This programme lays foundation for further study in Sociology, Social work, Rural Development, Social Welfare and in other allied subjects.


Head of Department

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Daulat Vishwasth Sanstha's
YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI
 Tal-Chandgad Dist-Kolhapur
SOCIOLOGY DEPARTMENT
2022 - 23
SUBJECT OUTCOMES

SR. NO	CLASS & SUBJECT	SEM & PAPER NO	TITLE THE PAPER & OUTCOMES
1	B. A. I Introduction To Sociology	Sem I Paper No I	1. Attainment of understanding the nature of sociology and social institution among the students. 2. Understanding the various layers of social interaction and social structure.
2	B. A. I Applied Sociology	Sem II Paper No II	1. Attainment of awareness about culture and socialization. 2. Understanding of theoretical approaches in sociology.
3	B. A. II Social Issues in India	Sem III Paper No III	1. Understanding of nature, classification of social issues. 2. Understanding socio- cultural issues. 3. Attainment of knowledge regarding socio-legal issues.
4	B. A. II Social Movements in India	Sem III Paper No IV	1. Understanding social movements. 2. To be understood Peasant, Dalit and Tribal Movements.
5	B. A. II Gender and Violence	Sem IV Paper No V	1. To provide and understanding of the logic of violence. 2. To create awareness of forms of violence. 3. To equip the students with a sociologically informed basis for making pragmatic, ethical and effect to choices while resisting or intervening in the context of gendered violence.
6	B. A. II Sociology of Health	Sem IV Paper No VI	1. Understanding the students to the sociology of health, illness and medical practice by highlighting the significance of social culture dimensions in the construction of illness and medical knowledge. 2. To be developed theoretical perspectives to examine the dynamics shaping these construction among students.
7	B. A. III Western Sociological Thinkers	Sem V Paper No VII	1. Discussed on difference between August comts social statistics and social dynamic. 2. Understood the concept of authority –Max Webber 3. Found out the causes and types of Emile Durkhims concept of suicide.
8	B. A. III Methods of Social Research	Sem V Paper No VIII	1. Understood the concept of research. 2. Collected data of the types of social research. 3. Imbided the skill of research.
9	B. A. III Political Sociology	Sem V Paper No IX	1. Understood the nature, importance of Political Sociology. 2. Understood the political processes and institutions in India. 3. Understood the theoretical approaches and perspective of Political Sociology.

10	B. A.III Human Rights	Sem V Paper No X	1. Understood the information about Human Rights. 2. Understood the nature & role of human rights in India. 3. Understood the contribute to the resolution of human rights issues and problems.
11	B. A.III Sociology of Religion	Sem V Paper No XI	1. Understood the concept of Religion of Sociology. 2. Understood the symbolize the development of knowledge in the field of sociology of Religion. 3. Discussed on religion and social change.
12	B. A.III Indian Sociological Thinkers	Sem VI Paper No XII	1. Understanding the characteristics and dynamics of the social world. 2. Appreciating the relevance and limits of contemporary theories or theoretical approaches make sense of social reality. 3. Understanding the basic methodological approaches of the Indian thinkers.
13	B. A. III Methods of Social Research	Sem VI Paper No XIII	1. Students are introduced to the concept of conducting research; reach each inclusive of formulating research design, method and analysis of dada. Knowledge of elementary statistics is also provided to the students to acquaint them with quantification of data. 2. Through the competing theoretical perspectives and methodologies, students are able to understand that social reality is multi-faceted, heterogeneous and dynamic in nature.
14	B. A. III Social Anthropology	Sem VI Paper No XIV	1. Understood the concept of anthropology. 2. Understood the social aspects of Indian tribes. 3. Discussed on tribal marriage system.
15	B. A. III Rural Sociology	Sem VI Paper No XV	1. Understood the importance of rural society. 2. Understood the concept of basic and development of rural society. 3. Understood the types of rural village.
16	B. A. III Urban Sociology	Sem VI Paper No XVI	1. Students are provided concepts understanding about Urban Sociology. 2. Understanding the modern context the idea of urbanism and urban space and the intersection in these of institutions, processes and identities. 3. Understood the learn about key urban processes such as migration, displacement and urban slums as well as critical contemporary issues.

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DaulatVishwasthSanstha's
YASHWANTRAO CHAVAN MAHAVIDYALAYA,
HALKARNI
DEPARTMENT OF ACCOUNTANCY
2022-2023

PROGRAMME OUTCOMES

- Students of accountancy department have got acquainted with the business world. They came to know & learnt the importance of accountancy.
- Department faculty provided an informative information of professional courses after graduation in account field like. M.com, C.A. ICWA & CS Etc. students have understood properly the importance of accountancy in business world.
- The students are prepared to make their career in accountancy and they acquired the competence in themselves.
- Students have understood the methods of accounting as well as basic knowledge about Tally Accounting.
- Students have acquired the knowledge about the different Govt. Schemes that are related to business sectors like Make in India, Skill India Etc.


(Prof G. J. Gawase)


PRINCIPAL
Yashwantrao Chavan Mahavidyalaya
Halkarni, Tal. Chandgad,
Dist. Kolhapur, Pin-416 555

DEPARTMENT OF ACCOUNTANCY

COURSE OUTCOMES

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(Prof GJ. Gawade)


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COURSE OUTCOMES

Sr.No	Class & Subject	Sem & Paper no.	Title of paper & Outcomes
1.	B.com I. Financial Account	Sem I Paper no. I	Financial Account. 1. Students understood the concept Accounting. 2. Students got to know about Amalgamation of partnership firm. 3. Students know about the Professional accounting. 4. Students understood the concept of Consignment Account
	B.com I. Financial Account	Sem II Paper no. II	Financial Account 1. Students understand the concept Tally Accounting. 2. Students understood the term Single entry system. 3. Students got to know about Branch Accounting. 4. Students got to know about Conversion of partnership firm into Ltd company.
2.	B.com II Corporate Account	Sem III Paper no . I	Corporate Account 1. Students got to know the vertical format of P&L Account. 2. Students understood the concept Liquidation of Company. 3. Students know about valuation of shares. 4. students got the practical knowledge of tally.
	B.com II Corporate Account	Sem II Paper no . II	Corporate Account 1. Students understood the concept of Absorption. 2. Students got to know about P&L Prior & After incorporation. 3. Students understood the term Amalgamation. 4. Students got the practical knowledge of tally accounting.

3.	B.com III Advanced Accountancy	Sem V Paper no. I	Advanced Accountancy 1. Students understood the concept of Bank final Account. 2. Students understood the concept of hire purchase system. 3. Students understood the concept of life insurance policy. 4. Students understood the concept of Firm Accounting.
	B.com III Advanced Accountancy	Sem VI Paper no. III	Advanced Accountancy 1. Students understood the concept of Cost sheet. 2. Students understood the concept of Marginal Costing. 3. Students understood the concept of Fund flow statement. 4. Students understood the concept of Ratio Analysis.
4.	B.com III Advanced Accountancy	Sem V Paper no. II	Auditing 1. Students understood the concept of Auditing. 2. Students got to know the Requirements of Auditor. 3. Students got to know the Responsibilities of an auditor. 4. Students got to know the Duties & Functions of an Auditor.
	B.com III Advanced Accountancy	Sem VI Paper no. IV	Income tax 1. Students understood the concept of Income Tax. 2. Students got to know the calculation of Income from salary. 3. Students got to know the calculation of Income from Business. 4. Students got to know the calculation of income from house property.


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3.	B.com III Co-Operative Development	Sem V Paper no. I	Co-Operative Development 1. Students understood the principles of co-operation. 2. Students got to know about Agriculture & Non agriculture Co-operative institutions. 3. Students understood the co-operative credit system. 4. Students got To know about importance of co-operative organization.
	B.com III Co-Operative Development	Sem V Paper no. II	Co-Operative Development 1. Students understood the concept Co-operative legislation and fund management. 2. Students understood the institutional; arrangement for co-operative education & training. 3. Students got to know about nature, registration, legislation & Audit of housing co-operatives. 4. Students understood the audit system & provisions.

Jeel
 (Prof G.J. Gawane)


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Daulat Vishwasth Sanstha's
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(Affiliated to Shivaji University Kolhapur)

Tal-Chandgad, Dist-Kolhapur-416552

Department of Botany

PSO, CO

B.Sc. I 2022-23

PROGRAM SPECIFIC OUTCOMES (PSO) OF BOTANY:

In life science plant science is one of the most important basic and applied subject. Plants synthesized their own food material and provides the food and oxygen to all living organism. Most of the basic requirements fulfilled by the plants. This course has been designed to give the fruitful knowledge and to develop the commercial soft skills in the various aspects of plant science.

PSO 1: Understanding the classification of all higher and lower plants. Plant diseases and their management.

PSO 2: Understand the structure and function of different cell organelles and the role of cell membrane, plant anatomy, taxonomy and ecology.

PSO 3: Understand the skills for the production of Bio fertilizers and mushroom culture techniques.

Course Outcomes

CO1. Students will able to Recognize the position of plant in phylogenetic level.

CO2. Students will able to identify the plants

CO3. Students will be able to present scientific hypotheses.

CO4. Students will be able to distinguish the characteristics of fungi, algae, bryophytes, pteridophytes, gymnosperm and Angiosperm

CO5. Students will be able to explain different parts of the plants and their function.

CO6. Students will be able to explain the skills of bio fertilizer production, Mushroom Cultivation and Different analytical techniques used in the plant science.

List of Skill Enhancement courses. (Non CGPA SEC courses)

Mushroom cultivation

Organic Farming

Production of Bio fertilizers

Folk medicine and Pharmacognosy

Collection and cultivation of Indian Deshi seeds and production of seed balls.

Identification, Cultivation and Multiplication of RET/medicinal plants

Crop diseases and their management.

Herbarium technique

Bonsai technique

Gardening

Flower arrangement

Grafting and budding technique

Nursery development.

Identification & Conservation of Medicinal Plant

Horticulture and Nursery Management

Greenhouse Technology

Techniques of Fruit Processing and Preservation.

Maintenance of laboratory instrument

Landscaping ♦

Management and conservation of Natural Heritage sites.

GIS and mapping.

Soil and Water Analysis

Food Processing (of plant based products).

Finance and Business Management techniques (for start-ups related to plant based industries such as food, pharmacy, health and beautycare care, etc.)

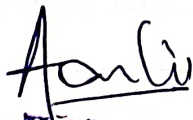
Agro tourism

Nature friendly tourism (scientific guided tourism)

Handicrafts: Bamboo products

Nature and wildlife photography

Herbal Cosmetic Technology


Head

Dept. of Botany
Yashwantrao Chavan College, Halkarni,
Tal. Chandgad, Dist. Kolhapur.


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Yashwantrao Chavan Mahavidyalaya
Halkarni, Tal. Chandgad,
Dist. Kolhapur, Pin-416 552,

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Daulat Vishwasth Sanstha's
YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI
(Affiliated to Shivaji University Kolhapur)

Tal-Chandgad, Dist-Kolhapur-416552

Department of Botany

B.Sc. II 2022-23

Course Outcomes:

Paper V:

After successful completion of the course, the students will be able

1. To know the scope and importance of the plant systematics.
2. To understand plant morphology, nomenclature and classification
3. To prepare and demonstrate herbarium and to understand importance of Botanical gardens.
4. To examine internal organization of plant organs.
5. To differentiate and understand plant tissue systems.
6. To analyze the composition of different parts of plant.

Paper VI:

After successful completion of the course, the students will be able

1. To understand the principles of Mendelian inheritance and gene interaction.
2. To differentiate between structural and numerical variations in chromosomes.
3. To analyze and solve genetic problems on linkage and crossing over.
4. To know the composition and significance of nucleic acids.
5. To summarize concept of central dogma and genetic code.

Paper VII:

After successful completion of the course, the students will be able

1. To understand core concepts of biotic and abiotic components.
2. To gain and insight in to the diverse ecosystem, related food web and ecological pyramids.

3. To prepare map of Phytogeographical regions of India.
4. Know importance of plants and plant products and their utility.
5. To know the centre of origins of different crop plants.
6. To understand importance and conservation of Germplasm.

Paper VIII:

After successful completion of the course, the students will be able

1. To understand various physiological processes in plants.
2. To understand significance and mechanism of photosynthesis.
3. To know the process of respiration in higher plants.
4. To design outlines of landscaping and home gardening.
5. To propagate plants by seed and vegetative propagation.
6. To prepare different types of gardens and to know garden equipments.

PROGRAM SPECIFIC OUTCOMES (PSO) OF BOTANY:

In life science plant sciences is one of the most important basic and applied subjects. Plants synthesize their own food material using water and carbon dioxide in presence of sunlight and releasing oxygen as a byproduct. Plants are basis of biodiversity and they fulfill basic needs of all living organism viz. food, oxygen, etc. We can't imagine life on earth without plants. This course has been designed to give the fruitful knowledge and commercial skills in the various aspects of plant science. After successful completion of this program students will be able

PSO 1: To understand the various aspect of plant systematics and anatomical features of higher plant.

PSO 2: To understand the basics of genetics and molecular biology.

PSO 3: To understand the plant ecology, phytogeography, centre of origin of cultivated plants and utilization of plants.

PSO 4: To understand vital physiological processes in plants and skills of nursery and garden technique.



List of skill enhancement courses:

1. Gardening skills
2. Nursery techniques
3. Plant identification and herbarium technique
4. Plant resources
5. Collection and preservation technique of Indian native seeds or land races
6. Soil and water analysis
7. Germplasm conservation (in-vivo)


Head

Dept. of Botany
Yashwantrao Chavan College, Halkarni,
Tal. Chandgad, Dist. Kolhapur.


PRINCIPAL

Yashwantrao Chavan Mahavidyalaya
Halkarni, Tal. Chandgad,
Dist. Kolhapur, Pin-416 552,

Daulat Vishwasth Sanstha's
YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI
(Affiliated to Shivaji University Kolhapur)

Tal-Chandgad, Dist-Kolhapur-416552
Department of Botany

B.Sc.III 2022-23



Course outcomes

1. Students are acquainted with basic as well as recent knowledge in the field of molecular biology, biotechnology and bioinformatics
2. Acquiring the basic procedure in the field of microbiology and plant pathology.
3. To develop skills in of horticulture including nursery, landscaping, gardening, floriculture and pomology
4. Students will be able to demonstrate their knowledge, skills and attributes to be successful contributing members of the horticulture profession.
5. Acquaint the student with the comprehensive knowledge in the bio fertilizers, herbal drug technology and paleobotany
6. Students will be able to demonstrate their understanding of relevant course theories and concepts Students able to Mendelian and Neo-mendelian genetics
7. Students become familiar with the Organic manures, Herbal Medicines, Herbal cosmetology and Pharmacognosy.
8. Understand the methods of Plant Biotechnology, Protoplast culture and Recombinant DNA Technology.
9. Acquainted the scope of paleobotany in the present scenario and understand the fossil genera 10. Aware about the Spices, Beverages and Fibers, Cereals, Legumes and Oils.
11. Understand the of carbohydrates, lipids, proteins
12. Understand the techniques of plant breeding
13. Understand the techniques of mushroom cultivation.

14. Acquainted the techniques of micrometry, chromatography and other laboratory techniques used in the field of life science.

GENERAL OBJECTIVES OF THE COURSE: (As applicable to the Degree concerned)

Objectives:- 1) To impart knowledge of Science is the basic objective of education.

2) To develop scientific attitude is the major objective to make the students open minded, critical, curious.

3) To develop skill in practical work, experiments and laboratory materials and equipments along with the collection and interpretation of scientific data to contribute the science.

4) To understand scientific terms, concepts, facts, phenomenon and their relationships.

5) To make the students aware of natural resources and environment.

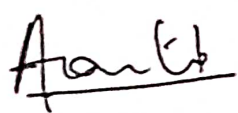
6) To provide practical experience to the students as a part of the course to develop scientific ability to work in the field of research and other fields of their own interest and to make them fit for society.

7) To The students are expected to acquire knowledge of plant and related subjects so as to understand natural phenomenon, manipulation of nature and environment in the benefit of human beings.

8) To develop ability for the application of the acquired knowledge to improve agriculture and other related fields to make the country self reliant and sufficient.

9) To create the interest of the society in the subject and scientific hobbies, exhibitions and other similar activities


Padvi-R.V.


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Daulat Vishwasth Sanstha's

YASHWANTRAO CHAVAN MAHAVIDYALAYA, HALKARNI

(Affiliated to Shivaji University Kolhapur, NAAC Reaccredited 'A' Grade)

Tal-Chandgad, Dist-Kolhapur-416552

Department of Statistics

Academic Year 2022-23

Po, Pso and Co

Program Outcomes (POs):

Students taking admission to this program of B.Sc. are expected to get equipped with following outcomes:

- a) To find mean deviation about mean and median,
- b) To find variance and standard deviation,
- c) To find coefficient of variation and analyze the data
- d) To find sample space,
- e) To identify between Exhaustive events and mutually exclusive events,
- f) To find probability of an event for simple problems.
- g) The problem and mathematical formulation, Applications in daily life
- h) To find probability using conditional probability formula,
- i) To identify and solve problem by Bayes' theorem,
- j) To find probability distribution of different random variables,
- k) To identify and solve problem by using Bernoulli trials

Program Specific Outcomes(PSOs):

- a) Application of statistics in various walks of life.
- b) Ability to apply various statistical tools to research problem.
- c) Understanding how to collect, present, analyze and interpret the data.
- > d) Ability to analyze the data by using MS-Excel, Open Source Software
- e) Knowing the statistical organization in India and Abroad.
- f) Ability to build statistical knowledge.
- g) Application of various distributions to real life situation.

Course Outcomes (COs) :

After completion of B.Sc. I Statistics program the student will be able to:

1. To compute various measures of central tendencies, dispersion, moments, skewness, kurtosis and to interpret them.
2. To analyze data pertaining to attributes and to interpret the results.
3. To compute correlation coefficient, interpret its value.
4. To compute regression coefficient, interpret its value and use in regression analysis.
5. To compute various index numbers.
6. To distinguish between random and non-random experiments.
7. To find the probabilities of various events.
8. To understand concept of conditional probability and independence of event.
9. To apply discrete probability distributions studied in this course in different situations.
10. Distinguish between discrete variables and study of their distributions.
11. Know some standard discrete probability distributions with real life situations
12. Understand concept of bivariate distributions and computation of related probabilities.

After completion of B.Sc. II Statistics program the student will be able to:

- 1 Understand concept of discrete and continuous probability distributions with real life situations.
- 2 Distinguish between discrete and continuous distributions.
- 3 Find the various measures of random variable and probabilities using its probability distribution.
- 4 Know the relations among the different distributions.
- 5 Understand the concept of transformation of univariate and bivariate continuous random variable.
- 6 Know some standard continuous probability distributions with real life situations.
- 7 Distinguish between various continuous distributions.
- 8 Find the various measures of continuous random variable and probabilities using its probability distribution.
- 9 Understand the relations among the different distributions.
- 10 Understand the Chi-Square, t and F distributions with their applications and inter relations.
- 11 Understand the concept of Multiple Linear Regression.
- 12 Understand the concept of Multiple Correlations and Partial Correlation.

- 13 Know the concept of sampling theory.
- 14 Understand the need of vital statistics and concept of mortality and fertility
- 15 Know the concept and use of time series.
- 16 understand the meaning, purpose and use of Statistical Quality Control, construction and working of control charts for variables and attributes
- 17 Apply the small sample tests and large sample tests in various situations.

After completion of B.Sc. III Statistics program the student will be able to:

1. Knowledge of important univariate distributions such as Laplace, Cauchy, Lognormal, Weibull, Logistic, Pareto, Power Series Distribution.
2. Knowledge of Multinomial and Bivariate Normal Distribution.
3. Knowledge of Truncated Distributions.
4. Information of various measures of these probability distributions.
5. Acumen to apply standard continuous probability distributions to different situations.
6. knowledge about order statistics and associated distributions
7. concept of convergence and Chebychev's inequality and its uses
8. concept of law large numbers and central limit theorem and its uses.
9. knowledge of terms involved in reliability theory as well as concepts and measures.
10. Knowledge about important inferential aspect of point estimation.
11. Concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions.
12. knowledge of various important properties of estimator,
13. Knowledge about inference of parameters of standard discrete and continuous distributions.
14. Concept of Fisher information and CR inequality.
15. Knowledge of different methods of estimation.
16. Knowledge of interval estimation of mean, variance and population proportion.
17. Knowledge of important aspect of test of hypothesis and associated concept.
18. Concept about parametric and non-parametric methods.
19. Knowledge of some important parametric as well as non-parametric tests.
20. Concept of interval estimation.
21. Knowledge of basic terms used in design of experiments.
22. Concept of one-way and two-way analysis of variance.
23. Knowledge of various designs of experiments such as CRD, RBD, LSD and factorial

experiments.

24. Knowledge of using an appropriate experimental design to analyze the experimental data.
25. Importance of R- programming
26. Knowledge of identifiers and operators used in R.
27. Knowledge of conditional statements and Loops used in R.
28. Knowledge of quality tools used in Quality management.
29. Knowledge of process and product control used in Quality management.
30. basic knowledge of complete enumeration and sample, sampling frame sampling distribution, sampling and non-sampling errors, principle steps in sample surveys, sample size determination, limitations of sampling etc.
31. concept of various sampling methods such as simple random sampling, stratified random sampling, systematic sampling and cluster sampling.
32. An idea of conducting sample surveys and selecting appropriate sampling techniques.
33. Knowledge of comparing various sampling techniques.
34. Knowledge of ratio and regression estimators.
35. Concept of Linear programming problem
36. Knowledge of solving LPP by using graphical and simplex, big - M method.
37. Knowledge of Transportation problem, Assignment problem and sequencing problems.
- 38 Concept of queuing theory
39. Knowledge of simulation techniques and Monte Carlo technique and apply these in real life situations.



(Arvind Dhangale)
Dept. of statistics

From
N. C. Hiragond
Associate Professor in Zoology
Yashwantrao Chavan College Halkarni
Date: 05.12.2022

To, ~~The NAAAC~~
~~Coordinator~~
~~Associate Professor of Chemistry~~
Yashwantrao Chavan Mahavidyalaya
Halkarni

Sub: Submission of Program outcomes and Course outcome of Zoology

Respected Sir,

With reference to the above please find below are the Program out comes and course outcome of Zoology subject for the academic year 2022-23.

A. Program outcomes of Zoology

1. Knowledge of animal life, their evolutionary aspects and their importance in nature will help to understand animal world. This can be taught to children and to society helping in conservation of threatened species.
2. Understanding the effects of Manipulation of Nature and Environment, will help to take steps towards maintaining balance in nature
3. Knowledge of physiology of respiration, digestion, excretion, reproduction etc and their process in animal body will help in understanding our body to have a good health. The same knowledge may be imparted to other family members and society to have a good health
4. Knowledge of genetic diseases and their transmission in families will help in avoiding genetic disease and their transmissions in our families. The same knowledge may be imparted to other family members and society to avoid genetic diseases
5. Knowledge of different pests, their life cycle and their effects on agricultural products will helps in maintaining the agricultural products and, to improve the crop quality and quantity
6. Knowledge of poultry farm will help to set up independent Poultry Industry

B. Course outcome of Zoology

Sl. No.	Subject	Class	Semester	Paper Number	Title of the Paper	Course Outcome
1	Zoology	B. Sc. I	Semester I	Paper I	Animal diversity - I	1. Knowledge of animal classification, their life cycles will help in understanding the history of animals

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						and their importance in nature and society to maintain balance in nature
2	Zoology	B. Sc. I	Semester I	Paper II	Cell Biology and Evolutionary Biology	1. Knowledge of cellular biology of our body and their evolutionary aspects help in maintaining good health. The same may be imparted to other family members and society. 2. Evolutionary aspects will help in understanding the history of life
3	Zoology	B. Sc. I	Semester II	Paper III	Animal Diversity and Insect Vectors	1. Knowledge of physiology of respiration, digestion excretion etc of our body will help in maintaining good health. The same may be imparted to society to have a good health 2. Knowledge of different vectors, their life cycle and their effects will helps in maintaining our health. The same may be imparted to society to have a good health
4	Zoology	B. Sc. I	Semester II	Paper IV	Genetics	1. Knowledge of genetic variations, diseases and their transmission in families will help to avoid genetic disease and their transmission in our families. The same may be used to make awareness in relatives and in society to avoid having genetic diseases and their transmissions
5	Zoology	B. Sc. II	Semester III	Paper V	Animal diversity – II	1. Knowledge of animal classification, their life styles and their importance in nature can be taught to children and society to maintain balance in nature
6	Zoology	B. Sc. II	Semester III	Paper VI	Biochemistry	1. Knowledge of structural DNA molecule, digestion (Metabolism) of food and their process in our body will help us to understand our body better and maintain good health. The same may imparted to other family members and society to have a good health
7	Zoology	B. Sc. II	Semester IV	Paper VII	Reproductive Biology	1. Impart the knowledge of reproductive system of our body to family members and society to have a good health 2. Knowledge of contraceptive methods will help in birth control in our family and in society to avoid over population
8	Zoology	B. Sc. II	Semester IV	Paper VIII	Applied Zoology-I)	1. Knowledge of different pests, their life cycle and their effects on agricultural products will helps in maintaining the agricultural products



Dr. N. C. Hiragond
Department of Zoology

Submitted through the Principal, Yashwantrao Chavan Mahavidyalaya Halkarni



PRINCIPAL

Yashwantrao Chavan Mahavidyalaya
Halkarni, Tal. Chandgad,
Dist. Kolhapur, Pin-416 552.

Programme Outcomes

After successful completion of three year degree program in Arts, Commerce & Science students are;

Chemistry

1. It helps to achieve the skills required to succeed in graduate school, professional school and the chemical industry
2. It can provide a broad foundation in chemistry that stresses scientific reasoning and Analytical problem solving with a molecular perspective.
3. Students get exposures of a breadth of experimental techniques using modern instrumentation.
4. The students can understand the importance of the Periodic Table of the Elements, how it came to be, and its role in organizing chemical information.
5. It helps to understand the interdisciplinary nature of chemistry and to integrate knowledge of mathematics, physics and other disciplines to a wide variety of chemical problems.
6. Students can learn the laboratory skills needed to design, and safely to transfer and interpret knowledge entirely in the working environment.
7. It helps to acquire a foundation of chemistry of sufficient breadth and the depth to enable them to understand and critically interpret the primary chemical literature.
8. It develops the ability to communicate scientific information and research results in written and oral formats. learn professionalism, including the ability to work in teams apply basic ethical principles.
9. Students can acquire placements in various industrial and corporate sectors.

CHEMISTRY

Class	Course	Semester (Paper No)	Outcomes
B.Sc. I	Inorganic Chemistry	I (Paper No I)	1. Getting to know the structure of atoms and their principles, details of periodic table. 2. Knowing various types of ionic bond and ionic compound study. 3. Knowing study of Molecular orbital Theory.
	Organic Chemistry	I (Paper No II)	1. Understanding the fundamentals of Organic Chemistry. 2. Imparting the knowledge of stereochemistry of different organic compounds among the students. 3. Studying aromaticity, electrophilic substitution reactions and their mechanism 4. Knowing various method of preparation and chemical reaction of cyclo alkane, cyclo alkene and alkadiene.
	Physical Chemistry	II (Paper No III)	1. Impart the knowledge regarding chemical thermodynamics and feasibility, direction and equilibrium condition of reactions. 2. Understanding mechanism of reaction and to get optimum conditions for a reaction by utilising the study of Chemical Kinetics.
	Analytical Chemistry	II (Paper No IV)	1. Provide a basic understanding of the principles , instrumentation and applications of chemical analysis. 2. Study various chromatographic techniques like paper, thin layer, column, and gas chromatography. 3. Impart basic knowledge regarding titrimetric analysis.

			4. Making aware about water and fertilizer analysis
B.Sc. II	Physical Chemistry	III(Paper No V)	1. Understanding mechanism of reaction and get optimum conditions for a reaction by utilising the study of Chemical Kinetics. 2. Making students capable of understanding redox reactions and to construct electrochemical cells. learn various laws of electrochemistry and their applications 3. Study the properties of liquids like surface tension, viscosity, refractive index and their experimental determination. 4. Know about surface phenomena like adsorption w.r.t. its characteristics, determination and applications
	Industrial Chemistry	III (Paper No VI)	1. Providing a basic understanding of the principles, instrumentation and applications of chemical analysis. 2. Studying various chromatographic techniques like paper, thin layer, column, and gas chromatography electrochemistry and their applications 3. Explaining the difference between classical and industrial chemistry, unit operations, unit processes , flow sheets etc. 4. Knowing the process of corrosion and how to deal with it by using electroplating. 5. Getting familiar with the industrial process with respect to paper industry , soaps and detergents etc.
	Inorganic Chemistry	IV (Paper No VII)	1. Knowing study of 14 elements in the periodic table.

			2. Knowing the new productivity. 3. Knowing the Studying of electronic configuration, oxidation state, colour spectra, and magnetic properties. 4. Knowing about the study of solving energies of the metals, semiconductors and superconductors. 5. Knowing the study of various organometallic compounds is very useful in various fields like agriculture, pesticides, pharmaceuticals.
	Organic Chemistry	IV (Paper No VIII)	1. Imparting knowledge about the synthesis, reactivity and applications of carboxylic acids. 2. Knowing amines and diazonium salts with respect to classification, preparation and applications. 3. Understanding the nomenclature and reactivity of aldehydes, ketones. 4. Studying the classification, configuration and structure of carbohydrates. 5. Learning the basic knowledge of conformational analysis of organic compounds..
B.Sc III	Inorganic Chemistry:	V (Paper No IX)	1. Knowing the study of electronic configuration, oxidation state, colour spectra, and magnetic properties. 2. Studying of co-ordination chemistry needs an understanding of the different terms used further topic covers Werner's theory, EAN, VBT, VSEPR, CFSE, and MO theory 3. Knowing the study of catalyst, non-aqueous solvents and

			chelation.
	Organic Chemistry	V(Paper No X)	1. Studying about introduction to spectroscopy 2. Imparting the knowledge of UV, Visible spectroscopy and its application 3. Understanding IR Spectroscopy and its application. 4. Studying NMR Spectroscopy and its application. 5. Knowing Mass Spectroscopy and its application 6. Solving combined spectroscopic problems
	Physical Chemistry :	V (Paper No XI)	1. Making students capable of understanding redox reactions and to construct electrochemical cells and learning various laws of electrochemistry and their applications. 2. Imparting the concepts of quantum mechanics, like Schrodinger equation and quantum numbers 3. Learning about interaction between radiation and matter which leads to molecular spectroscopy 4. Understanding various laws of photochemistry and photophysical processes
	Analytical Chemistry :	VI (Paper No XII)	1. Studying various chromatographic techniques like paper, thin layer, column, and gas chromatography. 2. Imparting basic knowledge regarding titrimetric analysis. 3. Learning about analytical techniques like potentiometry, conductometry, flame photometry, colorimetry, spectrophotometry etc 4. Knowing about pharmaceutical chemistry and study of different

			drugs.
	Inorganic Chemistry:	VI (Paper No XIII)	1. Knowing that nuclear energy may be boon and bane and know the radioactivity elements in the series of actinides. 2. Coming to know that manufacturing process of iron and steel and study of various methods. 3. Knowing that some biological role of alkali and alkaline earth metals, Hb, Mb, and some enzymes. 4. Knowing the various types of reaction mechanism of the inorganic co-ordinated compounds.
	Organic Chemistry	VI (Paper No XIV)	1. Making students capable of understanding Name reactions and their mechanism. 2. Studying the applications of different reagents in organic synthesis. 3. Imparting the knowledge of different natural products. 4. Knowing about pharmaceutical chemistry and study of different drugs. 5. Understanding the knowledge of electrophilic addition to carbon carbon double and triple bond compounds
	Physical Chemistry :	VI (Paper No XV)	1. Understanding mechanism of reaction and get optimum conditions for a reaction by utilizing the study of Chemical Kinetics 2. Knowing about surface phenomena like adsorption w.r.t. its characteristics, determination and application. 3. Getting the knowledge about Phase equilibria, wrt. one, two and three component systems.

			study crystal structure by using Bragg's equation. 4. Developing practical skill regarding chemical kinetics and get acquaint to handle various instruments like potentiometer, conductometer, refractometer, colorimeter, pH meter, viscometer, stalagmometer etc.
	Industrial Chemistry :	V (Paper No XVI)	1. Studying various chromatographic techniques like paper, thin layer, column, and gas chromatography. 2. Imparting basic knowledge regarding titrimetric analysis. 3. Getting familiar with the industrial process with respect to sugar industry, soaps and detergents, heavy chemicals production industries etc. 4. Getting introduction the nano materials with respect to preparation, characterization, and applications.