Kopargaon Taluka Education Society's

K. J. Somaiya College of Arts, Commerce and Science, Kopargaon

Criterion 2 –

Teaching-learning and Evaluation

Key Indicator- 2.6 Student Performance and Learning Outcomes

2.6.1 QlM – Programme outcomes (POs) and Course Outcome (COs) for all Programmes offered by institution are stated and displayed on website

COs, POs, Statements for all courses

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) UG: PHYSICS

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), F. Y. B. Sc. -Physics	
	After the completion of course Students should be able to-	
	F. Y. B.Sc. Semester-I PHY-111:Mechanics and Properties of Matter	
1.	CO-1	Describe the Newton's laws of motion and its application.
	CO-2	Classify conservative and non-conservative forces with examples.
	CO-3	Apply Bernoulli's equation.
	CO-4	Analyze factors affecting surface tension.
	CO-5	Evaluate work done during shearing strain.
	CO-6	Write and interpret relation between three elastic moduli.
	F. Y. B.Sc. Semester-I PHY-112: Physics Principles and Applications	
2.	CO-1	Understanding basic laws of physics.
	CO-2	Understanding the atomic excitation & laser principles.
	CO-3	Understands the bonding mechanism in molecules & rotational & vibrational energy level of diatomic molecules.
	CO-4	Understanding electromagnetic waves and its spectrum.
	CO-5	Understanding types and sources of electromagnetic waves and applications.
	CO-6	Demonstrate quantitative problem solving skills in all the topics covered.
	F. Y. B.Sc. Semester-I PHY-113: Physics Lab-1A	
3.	CO-1	The student will be able to describe to use various instruments and equipment.
	CO-2	The student will be able to discover experiments to test a hypothesis and /or determine the value of an unknown quantity.
	CO-3	The student will able to apply the theoretical background of an experiment.
	CO-4	The student will be able to analyze the data, plot appropriate graphs and reach conclusion from data analysis.
	CO-5	The student will able to design to setup experimental equipment to implement an experimental approach.
	CO-6	The student will able to express work in a group to plan, implement and report on an experiment.
	F. Y. B.Sc. Semester-II PHY-121: Heat and Thermodynamics	
4.	CO-1	Describe the laws of thermodynamics.
	CO-2	Classify ideal and non-ideal gases
	CO-3	Apply second law of thermodynamics
	CO-4	Analyze factors affecting melting/boiling point of substance
	CO-5	Evaluate efficiency of heat engines
	CO-6	Write and interpret latent heat equations

K.J.Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

	F. Y. B.Sc. Semester-II PHY-122: Electricity and Magnetism	
5.	CO-1	Understanding of basics law of electromagnetism
	CO-2	Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.
	CO-3	Apply the phenomenon and effect of electric field on dielectric.
	CO-4	The students will able to analyze radiation system in which the electric dipole, magnetic dipole or electric quadruple dominate.
	CO-5	Evaluate magnetization of materials.
	CO-6	Demonstrate quantitative problem solving skills in all the topics covered.
	F. Y. B.Sc. Semester-II PHY-123: Physics Lab-1B	
6.	CO-1	Use various instruments and equipment.
	CO-2	Design experiments to test a hypothesis and determine the value of an unknown quantity.
	CO-3	Investigate the theoretical background of an experiment.
	CO-4	Setup experimental equipment to implement an experimental approach.
	CO-5	Analyze the data, plot appropriate graphs and reach conclusions from data analysis.
	CO-6	Determination of frequency of AC mains.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Physics	
	S. Y. B.Sc. Semester-III PHY-231: Mathematical Methods in Physics-I	
7.	CO-1	Describe the use of complex algebra in Physics.
	CO-2	Explain the concept of partial differentiation.
	CO-3	Apply the partial differential equations in physics.
	CO-4	Evaluate the problems by using vector algebra in Mathematics and Physics.
	CO-5	Solve for singular points of differential equations.
	CO-6	Solve problems on Mathematical Methods in Physics
	S. Y. B.Sc. Semester-III PHY-232: Electronics- I	
8.	CO-1	Remembering different theorems and laws of electronics as well as electrical.
	CO-2	Understand various relations in electricity.
	CO-3	Applying various parameters to understand working of transistor.
	CO-4	Correlating the applications of transistor and UJT to each other.
	CO-5	Understanding the function of operational amplifier and oscillator.
	CO-6	Construction of logic gates and creating Boolean algebra equations.
	S. Y. B.Sc. Semester-III PHY-233: Physics Lab-2A	
9.	CO-1	Remember to Use various electronics instruments and equipment.
	CO-2	Understand to design experiments to test a hypothesis/determine the value of unknown quantity.
	CO-3	Investigate or discover the theoretical background of experiments.
	CO-4	Setup experimental equipment to implement an experimental approach.
	CO-5	Analyze the data, plot appropriate graph and reach conclusion from data analysis.
	CO-6	Work in a group to plan, implement and report on a experiment.
	S. Y. B.Sc. Semester-IV PHY-241: Oscillations, Waves and Sound	
10.	CO-1	Remembering principle of oscillations and its scope in development.
	CO-2	Understand and solve the equation/graphical representation of motion of simple harmonic, damped, forced oscillation.
	CO-3	Apply oscillations to calculate energy exchange with various practical applications.
	CO-4	Solve numerical problems related to oscillations and motions.
	CO-5	Understanding characteristic of sound, decibel scales and its applications.
	CO-6	Express Doppler effect in sound and light and describe its nature.
	S. Y. B.Sc. Semester-IV PHY-242: Optics	
11.	CO-1	Describe the basic concepts of Optics
	CO-2	Discuss different types of Lens Aberrations.
	CO-3	Explain interference and types of diffraction.
	CO-4	Distinguish between different optical instruments.

	CO-5	Compare polarized and unpolarized light.
	CO-6	Solve problems on Optics.
	S. Y. B.Sc. Semester-IV PHY-243: Physics Lab- 2B	
12.	CO-1	Identify and label various instruments and equipment.
	CO-2	Understand and design experiments to test a hypothesis.
	CO-3	Discover the theoretical background of experiments.
	CO-4	Setup experimental equipment to implement an experimental approach.
	CO-5	Analyze the data, plot graphs and reach conclusion from data analysis.
	CO-6	Evaluate the value of unknown quantity as well as parameters.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Physics	
	T. Y. B.Sc. Semester-V PHY-351: Mathematical Methods in Physics-II	
13.	CO-1	Remember the various coordinate systems.
	CO-2	Understand special orthogonal coordinate system, parameters and writing gradient, divergence, curl and Laplacian.
	CO-3	Analyze Galilean and Lorentz transformation to study kinematic effects.
	CO-4	Applying various methods to solve different differential equations.
	CO-5	Applying power series to solve various second order Differential Equations.
	CO-6	Writing generating functions of different polynomials
	T. Y. B.Sc. Semester-V PHY-352: Electrodynamics	
14.	CO-1	The student will be able to describe the basics of electrodynamics
	CO-2	The student will be able to compare the concept of electrostatics and magneto statics
	CO-3	The student will apply Maxwell's equation and time varying field
	CO-4	The student will be able to explain the production and propagation of electromagnetic wave
	CO-5	Student will understand evaluating formulae for electromagnetic field from general charge and charge distribution
	CO-6	Quantitative problems solving skills will be developed
	T. Y. B.Sc. Semester-V PHY-353: Classical Mechanics	
15.	CO-1	Describe the Newton's laws of motion and its application.
	CO-2	Classify planetory motion from other class of motions and explain Kepler's laws of planetory motion.
	CO-3	Choose proper coordinate system and apply it to find center of mass and linear momentum of system
	CO-4	Analyze differential cross section and its physical interpretation
	CO-5	Compute Lagragin fro given mechanical system
	CO-6	Write and interpret Hamilton's equation for given mechanical system
	T. Y. B.Sc. Semester-V PHY-354: Atomic and Molecular Physics	
16.	CO-1	Describe the structure of atoms of atomic in various numbers.
	CO-2	Classify the spectra of one and two valance electron atoms.
	CO-3	Determine the atomic effect such as Zeeman Effect and Stark effect.
	CO-4	Explain the electron spin and nuclear magnetic resonance spectroscopy.
	CO-5	Determine the rotational, vibrational, electronic & Raman Spectra
	CO-6	Develop Raman Lines and applications of Raman Spectroscopy.
	T. Y. B.Sc. Semester-V PHY-355: Computational Physics	
17.	CO-1	Identify keywords, 'C'- tokens and operators.
	CO-2	Construct the flowchart and algorithm related to a problem.
	CO-3	Apply 1and 2 Dimensional array and user defined functions.
	CO-4	Explain graphics in 'C'-Programming Language.
	CO-5	Evaluate roots and integration in Computational Physics.
	CO-6	Develop programs using 'C'-Programming Language.
	T. Y. B.Sc. Semester-V PHY-356: Elective-I (D) Renewable Energy Sources-I	

18.	CO-1	Describe different types of energy sources.
	CO-2	Explain different Photo thermal applications.
	CO-3	Develop knowledge about Photovoltaic system.
	CO-4	Explain basic characteristics and types of solar cells.
	CO-5	Distinguish different types of energy storages.
	CO-6	Test various characteristics of solar cell.
	T. Y. B.Sc. Semester-V PHY-357: Physics Lab-3A	
19.	CO-1	Recall the principles, theories behind experimental basis.
	CO-2	Observe experimental outcomes and interpret the data.
	CO-3	Find out least count and extreme measurement limits of given instrument.
	CO-4	Explain working diagram and observation to solve scientific problems based on numerical method.
	CO-5	Examine sources of error occurs while performing experiment
	CO-6	Design experiment.
	T. Y. B.Sc. Semester-V PHY-358: Physics Lab-3B	
20.	CO-1	Recall the principles, theories behind experimental basis.
	CO-2	Observe experimentation outcome and interpret the data.
	CO-3	Develop algorithm and draw a flow chart for scientific problems based on numerical method.
	CO-4	Explain logic of 'C' Programme to solve scientific problems based on numerical method.
	CO-5	Develop 'C' Programme to solve various problems based on numerical method.
	CO-6	Execute 'C' Programme to solve various problems.
	T. Y. B.Sc. Semester-V PHY-359: Project- I	
21.	CO-1	Identify the problem to finalize Project title.
	CO-2	Do literature survey regarding project work.
	CO-3	Develop experimental / theoretical, computational skill.
	CO-4	Design Experimental setup/ Computational Model.
	CO-5	Collect and analyze secondary data from experiment.
	CO-6	Develop writing and presentation skill.
	T. Y. B.Sc. Semester-V PHY-3510(J) Skill Enhanced Course –I: Sensor & Transducer	
22.	CO-1	Describe the method for converting the physical parameter into electrical parameter.
	CO-2	Classify and explain with example of transducer, including those for measurement of Temperature, Strain, motion, Position and Light.
	CO-3	Choose proper sensor comparing different standard and guidelines to make Sensitive measurement of physical parameter like Pressure, Flow, Acceleration etc.
	CO-4	Analyze the type of Thermal sensors.
	CO-5	Distinguish between the material expansion type sensor and Thermo emf type sensor.
	CO-6	Express the various type of Magnetic sensor.
	T. Y. B.Sc. Semester-V PHY-3511(L) Skill Enhanced Course –II: Physics Workshop Skill	
23.	CO-1	Define characteristics of measuring instruments like - accuracy, precision, sensitivity and errors.
	CO-2	Explain working principle of different instruments.
	CO-3	Construct block diagram of different instruments.
	CO-4	Explain construction and working of signal generator and CRO.
	CO-5	Measure AC/DC voltage, frequency and period using CRO.
	CO-6	Develop different impedance bridges and Q meters.
	T. Y. B.Sc. Semester-VI PHY-361: Solid State Physics	
24.	CO-1	Explain different types of crystal structure.
	CO-2	Understand the X-ray diffraction and other characterization techniques
	CO-3	Explain the free electron and band theory of metal.
	CO-4	Distinguish between diamagnetic, paramagnetic and ferromagnetic.

	CO-5	Distinguish between metal, semiconductor and insulator.
	CO-6	Problem solving skill on all topics.
	T. Y. B.Sc. Semester-VI PHY-362: Quantum Mechanics	
25.	CO-1	Describe the wave packet duality
	CO-2	Distinguish Schrodinger's time dependent and independent equation based on their applicability.
	CO-3	Choose any one application (free particle, particle in potential well, step potential, potential barrier, harmonic oscillator) to apply Schrodinger equation
	CO-4	Analyze hydrogen atom problem
	CO-5	Compute wave function for any one application mentioned in CO3
	CO-6	Write and interpret commutator bracket of raising/lowering operators
	T. Y. B.Sc. Semester-VI PHY-363: Thermodynamics and Statistical Physics	
26.	CO-1	Understand the basic concepts of thermodynamic.
	CO-2	Describe experiments regarding the measurement and calibration of temperatures and pressures.
	CO-3	Determine the properties of substances.
	CO-4	Calculate the statistical distribution of system.
	CO-5	Distinguish the concept of ensembles and its types.
	CO-6	Hypothesize the quantum statistics such as MB, BE & FD Statistics.
	T. Y. B.Sc. Semester-VI PHY-364: Nuclear Physics	
27.	CO-1	Remembering properties of nucleus and applying in calculation of nuclear energy.
	CO-2	Understand concept of radioactivity and apply to various field.
	CO-3	Applying uses of accelerators and detectors in research and other field.
	CO-4	Classifying properties of nuclear forces and its types.
	CO-5	Applying various models to explain nuclear structure.
	CO-6	Construction of nuclear reactors according to nuclear reactions.
	T. Y. B.Sc. Semester-VI PHY-365: Electronics-II	
28.	CO-1	Describe working principles of different semiconductor devices.
	CO-2	Compare combinational and sequential logic circuits.
	CO-3	Explain applications of semiconductor devices.
	CO-4	Classify concepts of modulation and demodulation.
	CO-5	Measure the different parameters of IC-741 & IC-555.
	CO-6	Design different circuits using semiconductor devices & IC's.
	T. Y. B.Sc. Semester-VI PHY-366 Elective-II: Laser	
29.	CO-1	Define the history of Lasers and it's basic concept
	CO-2	Explain the basic principle and working of different types of Laser
	CO-3	Know the application of Laser in various field
	CO-4	Use knowledge in Laser physics & Laser device to analyze & quantify complex problems
	CO-5	Write the Laser action in Laser light generation
	CO-6	Write the characteristics of laser
	T. Y. B.Sc. Semester-VI PHY-367: Physics Lab-4A	
30.	CO-1	To remember the principles, theories, physics behind experiment
	CO-2	Observe experimental parameters and perform data analysis
	CO-3	Find out least count and extreme measurement limits of given instrument such as spectrometer, travelling microscope etc.
	CO-4	Explain circuits, diagrams and prepare observation for performing experiment.
	CO-5	List out sources of errors, physical conditions, occurs while performing experiment
	CO-6	Design experiment.
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI PHY-368: Physics Lab-4B	
31.	CO-1	Describe the fundamentals of working of semiconductor and special devices made out of it.

	CO-2	Observe the characteristics of special semiconductor devices.
	CO-3	Construct the circuits using logic gates for understanding Boolean algebra in digital electronics.
	CO-4	Correlate the applications of electronic devices for daily use.
	CO-5	Measure the different parameters of sound.
	CO-6	Design experimental setup for determination of different parameters using laser.
	T. Y. B.Sc. Semester-VI PHY-369: Project- II	
32.	CO-1	Identify the problem to finalize Project title.
	CO-2	Do literature survey regarding project work.
	CO-3	Develop experimental / theoretical, computational skill.
	CO-4	Design Experimental setup/ Computational Model.
	CO-5	Collect and analyze secondary data from experiment.
	CO-6	Develop writing and presentation skill.
	T. Y. B.Sc. Semester-VI PHY-3610(X) Skill Enhanced Course –III: Solar PV System: Installation, Repairing and Maintenance	
33.	CO-1	Visualize basics of light conversion in electricity.
	CO-2	Classify the instruments used for measurement of solar radiation.
	CO-3	Develop knowledge about alignment of an array, tracking mechanism of PV modules.
	CO-4	Illustrate examples on module parameters.
	CO-5	Distinguish between On grid and Off grid PV system.
	CO-6	Integrate the Building-integrated Photovoltaic, Engineering and Architecture, Balancing of PV system.
	T. Y. B.Sc. Semester-VI PHY-3611(AC) Skill Enhanced Course -IV: Radiation Physics	
34.	CO-1	Identify different types of interaction of radiation with matter.
	CO-2	Compare working principle and construction of different types of radiation detectors.
	CO-3	Explain different types of radiation sources and shielding materials.
	CO-4	Evaluate amount of radiation exposure and doses using dosimeter.
	CO-5	Select appropriate radioactive nuclei in diagnostic, medical and food preservation.
	CO-6	Justify different radiation protection rules and protocols from different boards and bodies.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science
Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO – COURSE OUTCOMES UG: CHEMISTRY

Sr. No.	CO Number	Course Outcomes
	After the completion of course Students should be able to-	
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), F. Y. B. Sc. -Chemistry	
	F. Y. B.Sc. Semester-I CH-101: Physical Chemistry	
1.	CO-1	Define basic terms in thermodynamics, energetics and laws of thermodynamics.
	CO-2	Understand the concept of heat of solution, calculations of heat of solutions.
	CO-3	Explain and analysis of chemical equilibrium, Vant,t Hoff equation.
	CO-4	Concept and define the terms of electrolytes, ionization constants, PH of solutions.
	CO-5	Analysis of Buffer solutions, hydrolysis of salts, solubility product and numerical.
	F. Y. B.Sc. Semester-I CH-102: Organic Chemistry	
2.	CO-1	Define basic terms in organic chemistry, stereochemistry & functional groups.
	CO-2	Explain & analyze the reaction meachanism of basic organic reactions.
	CO-3	Understand the various concepts from stereochemistry.
	CO-4	Explain three dimensional structures of a molecule & their projection formulas.
	CO-5	Compare the relative strength of acids & bases & factors affecting on them.
	F. Y. B.Sc. Semester-I CH-103: Chemistry Practical-I	
3.	CO-1	Understand the lab. safety principles and toxicity of chemicals used in the laboratory
	CO-2	Verify theoretical concepts of physical chemistry with practical's
	CO-3	Correlate practical experiment results with theoretical values
	CO-4	To perform organic analysis and techniques
	F. Y. B.Sc. Semester-II CH-201: Inorganic Chemistry	
4.	CO-1	Define basic terms in atomic structure and quantum mechanics.
	CO-2	Understand the concept of Bohr's theory and atomic orbitals
	CO-3	Understand and analysis of periodic table and periodicity.
	CO-4	Concept and define the terms of bonds, types, Born-Haber cycle
	CO-5	To analysis and understand the concept of hybridization, types and VESEPR theory.
	F. Y. B.Sc. Semester-II CH-202: Analytical Chemistry	
5.	CO-1	Define basic terms in Analytical chemistry.
	CO-2	Explain the various calculations used in Analytical Chemistry.
	CO-3	Explain the qualitative analysis of organic compounds.
	CO-4	Explain various Chromatographic techniques and their applications.
	CO-5	Application of PH Meter for measuring PH of buffer solutions.
	F. Y. B.Sc. Semester-II CH-203: Chemistry Practical-II	
6.	CO-1	Understand the estimation of inorganic compounds and commercial products by volumetric analysis

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

	CO-2	To study and analyse the synthesis of commercially important products.
	CO-3	To undestand the purification of techniques of organic compounds
	CO-4	To perform methods of synthesis of organic derivatives for functional group analysis.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Physics	
	S. Y. B.Sc. Semester-III CH-301: Physical and Analytical Chemistry	
7.	CO-1	Define/Explain terms in Chemical Kinetics, Surface Chemistry and Volumetric Analysis.
	CO-2	Classify order of reaction, Accuracy / Precision, types of titration.
	CO-3	Determine/Calculate order of reaction, errors in quantitative analysis, Normality and Molarity of solution.
	CO-4	Solve problem
	CO-5	Construct titration curves and performs choice of indicator for particular titration.
	S. Y. B.Sc. Semester-III CH-302: Inorganic and Organic Chemistry	
8.	CO-1	Define/Explain terms in MOT, Coordination Chemistry.
	CO-2	Explain bond order, magnetic property, Werners theory, Synthesis of Aryl halides, alcohols and phenols.
	CO-3	Draw MO energy level diagram, structures of aromatic compounds.
	CO-4	Correlate reagent and reactions
	CO-5	Apply IUPAC nomenclature to coordination compounds, Aromatic hydrocarbons, Alcohols and Phenols.
	S. Y. B.Sc. Semester-III CH-303: Practical Chemistry-III	
9.	CO-1	Understand methods of identification of substance by chemical methods.
	CO-2	Verify theoretical principles experimentally.
	CO-3	Correlate theory to experiments.
	CO-4	Perform organic and Inorganic synthesis.
	S. Y. B.Sc. Semester-IV CH-401: Physical and Analytical Chemistry	
10.	CO-1	Define/Explain terms in phase equilibrium, ideal and real solutions, Conductometry, Colorimetry, column chromatography.
	CO-2	Understand types of equilibrium, construction and working of conductometer and colorimeter.
	CO-3	Explain conductometric titration, adsorption and separation in column chromatography
	CO-4	Solve problem
	CO-5	Apply solvent extraction, conductometric and colorimetric methods.
	S. Y. B.Sc. Semester-IV CH-402: Inorganic and Organic Chemistry	
11.	CO-1	Define/Explain VBT of coordination compounds, CFT, Stereochemistry of cyclohexane.
	CO-2	Explain synthesis of carboxylic acid, amine, diazonium salts
	CO-3	Draw structures of carboxylic acid, amine, diazonium salts, and conformations of substituted cyclohexane.
	CO-4	Correlate reagent and reactions.
	CO-5	Perform inter conversion of function group.
	S. Y. B.Sc. Semester-IV CH-403: Practical Chemistry-IV	
12.	CO-1	Understand / verify theoretical principles by experiment or explain practical output with the help of theory.
	CO-2	Interpret the experimental data on the basis of theoretical principles.
	CO-3	Verify theoretical principles experimentally.
	CO-4	Set up the apparatus properly for the designed experiments.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Chemistry	
	T. Y. B.Sc. Semester-V CH-501: Physical Chemistry-I	

13.	CO-1	Define/explain the uncertainty principle and its significance.
	CO-2	Identify different types of refractions and their role in structure determination.
	CO-3	Explain different types of spectroscopy and their applications.
	CO-4	Differentiate between light and thermal reactions.
	CO-5	Measurement of quantum yield of light reactions.
	T. Y. B.Sc. Semester-V CH-502: Analytical Chemistry-I	
14.	CO-1	Define basic terms in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis.
	CO-2	Explain different principles involved in the gravimetry, spectrophotometry, parameters in instrumental analysis, qualitative analysis.
	CO-3	Design analytical procedure for given sample
	CO-4	Discuss / Describe procedure for different types analyses.
	CO-5	Perform quantitative calculations depending upon equations.
	T. Y. B.Sc. Semester-V CH-503: Physical Chemistry Practical-I	
15.	CO-1	Understand the finding molar of refraction by refractometer.
	CO-2	Verify theoretical principles experimentally.
	CO-3	Understand theoretical concepts by performing experiments.
	CO-4	Analyse the samples by instrumental techniques.
	T. Y. B.Sc. Semester-V CH-504: Inorganic Chemistry-I	
16.	CO-1	Define and explain electroneutrality principle and different types of pi bonding and MOT of Octahedral complexes with sigma bonding
	CO-2	Classification of reactions of coordination compounds and the basic mechanisms of ligand substitution reactions and substitution reactions of square planer complexes.
	CO-3	Analyze trends in periodic properties of these elements w.r.t. size of atom and ions, reactivity, catalytic activity, oxidation state, complex formation ability, color, magnetic properties, non-stoichiometry, density, melting point, boiling point.
	CO-4	Term f-block elements, Inner transition elements, lanthanides, actinides and Meaning of super conductors and their structure and Discovery and applications of superconductors
	CO-5	Differentiate between different approaches to bonding in Coordination compounds and the difference between metal, semiconductor and insulator
	T. Y. B.Sc. Semester-V CH-505: Industrial Chemistry	
17.	CO-1	Define basic terms in chemical industries, economics of industry and IP of industry.
	CO-2	Identify and understand the role of basic chemicals of industry.
	CO-3	Explain and analyze the reactions in sugar industry and process of fermentation industry.
	CO-4	Describe terms, procedure and process for soap and detergents industry.
	CO-5	Analysis, isolation and classification of dyes and pigments.
	T. Y. B.Sc. Semester-V CH-506: Inorganic Chemistry Practical-I	
18.	CO-1	Explain the fundamental principles behind gravimetric analysis, including the concept of precipitation reactions, stoichiometry, and the relationship between mass and concentration.
	CO-2	Familiar with the safety precautions and procedures required when working with hazardous chemicals and equipment commonly used in gravimetric analysis.
	CO-3	Understand the mechanisms and principles behind inorganic reactions, including coordination chemistry, redox reactions, and ligand exchange processes.
	CO-4	Understand the real-world applications of inorganic compounds, including their roles in materials science, catalysis, medicine, and environmental science.
	T. Y. B.Sc. Semester-V CH-507: Organic Chemistry-I	
19.	CO-1	Define and explain the key concepts of rearragment reaction, types of elimination reaction and their mechanism
	CO-2	Decode the reaction mechanism and writer down the product
	CO-3	Develop problem-solving and critical thinking skills, enabling them to apply their knowledge to analyze and solve complex organic chemistry problems.

	CO-4	Analyze and propose solutions to current challenges in the field of organic chemistry.
	CO-5	Differentiate between various aromatic compounds
	T. Y. B.Sc. Semester-V CH-508: Chemistry of Biomolecules	
20.	CO-1	Define/explain terms in Chemistry and Biology
	CO-2	Understand the relationship between protein structure and function.
	CO-3	Understand the principles of DNA replication, transcription, and translation.
	CO-4	Explain the fundamental biochemical reactions that occur in living organisms.
	CO-5	Understand the role of carbohydrates and lipids in cellular processes.
	T. Y. B.Sc. Semester-V CH-509: Organic Chemistry Practical-I	
21.	CO-1	Explain the fundamental principles behind gravimetric analysis, including the concept of precipitation reactions, stoichiometry, and the relationship between mass and concentration.
	CO-2	Familiar with the safety precautions and procedures required when working with hazardous chemicals and equipment commonly used in gravimetric analysis.
	CO-3	Understand the mechanisms and principles behind inorganic reactions, including coordination chemistry, redox reactions, and ligand exchange processes.
	CO-4	Understand the real-world applications of inorganic compounds, including their roles in materials science, catalysis, medicine, and environmental science.
	T. Y. B.Sc. Semester-V CH-510A: Medicinal Chemistry	
22.	CO-1	Learn about the role of natural products in drug discovery and the isolation and characterization of bioactive compounds from natural sources.
	CO-2	Proficient in analyzing and predicting how changes in the chemical structure of a drug affect its activity and specificity.
	CO-3	Describe the stages of drug development, from target identification to clinical trials, and understand the regulatory aspects involved.
	CO-4	Develop a solid understanding of the principles and concepts underlying the design and development of pharmaceutical drugs.
	CO-5	Analyze drugs for infectious and non-infectious diseases.
	T. Y. B.Sc. Semester-V CH-511A: Environmental Chemistry	
23.	CO-1	Gain a solid understanding of the fundamental principles of chemistry as they apply to the environment, including chemical reactions, thermodynamics, and kinetics.
	CO-2	Comprehend the chemistry of the Earth's atmosphere, including the formation and chemistry of air pollutants, stratospheric ozone depletion, and smog formation.
	CO-3	Identify and describe the sources, transport pathways, and fate of pollutants in various environmental compartments (air, water, soil).
	CO-4	Analyze the chemistry of natural waters, including the composition and behavior of ions, acids, and bases, as well as the sources and effects of water pollution.
	CO-5	Analysis of pollutants and water in various environmental components
	T. Y. B.Sc. Semester-VI CH-601: Physical Chemistry-II	
24.	CO-1	Define/explain the electrochemical & electrolytic cells.
	CO-2	Identify different radiations - alpha, beta & gamma.
	CO-3	Explain crystallography & laws of crystallography.
	CO-4	Calculate the potential of electrochemical cells.
	CO-5	Differentiate / distinguish / compare reversible & irreversible cells.
	T. Y. B.Sc. Semester-VI CH-602: Physical Chemistry-III	
25.	CO-1	Understanding the principles and theories of physical chemistry and their application in solving chemical problems.
	CO-2	Demonstrating proficiency in mathematical and computational techniques used in physical chemistry
	CO-3	Applying the laws of thermodynamics to analyze chemical reactions and equilibrium.
	CO-4	Understanding and applying quantum mechanics principles to describe and calculate atomic and molecular properties.
	CO-5	Analyzing and interpreting spectroscopic data to determine molecular properties and

		structure.
	T. Y. B.Sc. Semester-VI CH-603: Physical Practical -II	
26.	**CO-1**	Understand the finding of physical parameters experimentally.
	CO-2	Verify theoretical principles of elctrochemical cells experimentally.
	CO-3	Determination of concentration of solution by PH metric titration.
	CO-4	To study theoretical principals of Potentiometry experimentally.
	T. Y. B.Sc. Semester-VI CH-604: Inorganic Chemistry-II	
27.	**CO-1**	Understanding of organ metallic compounds, including their structures, bonding, and reactivity.
	CO-2	Comprehend the fundamental principles of catalysis, including the role of catalysts in lowering activation energy.
	CO-3	Understand the roles of metal ions in biological systems, particularly in metalloenzymes and metalloproteins.
	CO-4	Understand the polymerization mechanisms of inorganic polymers, including condensation and coordination polymerizations.
	CO-5	Describe and analyze the structures of important inorganic solids, including ceramics and superconductors.
	T. Y. B.Sc. Semester-VI CH-605: Inorganic Chemistry-III	
28.	**CO-1**	Understanding of acid-base theories, including Arrhenius, Bronsted-Lowry, and Lewis definitions.
	CO-2	Describing and analyzing the crystal structures of ionic solids, including simple and complex crystal lattices.
	CO-3	Describe the structures of zeolites and understand their porous nature and framework flexibility.
	CO-4	Develop an understanding of nanoparticles, nanomaterials, and their unique size-dependent properties.
	CO-5	Develop a solid foundation in toxicology, including dose-response relationships, exposure assessment, and hazard identification.
	T. Y. B.Sc. Semester-VI CH-606: Inorganic Chemistry Practical -II	
29.	**CO-1**	Develop a strong understanding of various titration techniques, including acid-base, redox, and complexometric titrations.
	CO-2	Understand the principles of flame photometry, including the atomization and excitation of analyte atoms in a flame.
	CO-3	Develop a strong understanding of column chromatography principles, including stationary phases, mobile phases, and elution techniques.
	CO-4	Understand the fundamental principles of nanomaterial synthesis, including bottom-up and top-down approaches.
	CO-5	Develop a strong understanding of various titration techniques, including acid-base, redox, and complexometric titrations.
	T. Y. B.Sc. Semester-VI CH-607: Organic Chemistry-II	
30.	**CO-1**	Develop the ability to use a combination of spectroscopic techniques to determine the structures of unknown organic compounds.
	CO-2	Integrate knowledge from organic chemistry with spectroscopic data, linking concepts of molecular structure, bonding, and reactivity to spectral features
	CO-3	Identify and differentiate various functional groups in organic molecules based on their characteristic spectral features.
	CO-4	Enhance critical thinking skills and problem-solving abilities in the context of spectroscopic data analysis and interpretation.
	CO-5	Demonstrate a comprehensive understanding of various spectroscopic techniques used in organic chemistry, including UV-Visible, Infrared (IR), Nuclear Magnetic Resonance (NMR)
	T. Y. B.Sc. Semester-VI CH-608: Organic Chemistry-III	

31.	CO-1	Define basic terms in reterosynthetic analysis, basics of interconversion of groups, disconnection approach.
	CO-2	Identify and understand the important intermediates in reaction mechanism.
	CO-3	Explain and analyse the reaction mechanism. Explaination of rearragements and name reactions.
	CO-4	Describe procedure for reagents preparations and applications.
	CO-5	Analysis and isolation of natural products. Structure determination and confirmation of natural products.
	T. Y. B.Sc. Semester-VI CH-609: Organic Chemistry Practical-II	
32.	CO-1	Achieve the practical skills required to estimations of glucose and glycine.
	CO-2	Explain "fingerprint region" of an infrared spectrum can used in the identification of an unknown compound.
	CO-3	Determine the molecular weight of given tribasic acid.
	CO-4	Apply the principles of extraction.
	T. Y. B.Sc. Semester-VI CH-610A: Soil and Agrochemicals Chemistry	
33.	CO-1	Develop a comprehensive understanding of the composition and structure of soils, including minerals, organic matter, and microorganisms.
	CO-2	Understand the essential macro- and micronutrients required for plant growth and their roles in plant physiology.
	CO-3	Familiar with various agrochemicals, including pesticides, herbicides, fungicides, and insecticides.
	CO-4	Learn about nutrient use efficiency and strategies to maximize the efficient use of fertilizers in agriculture.
	CO-5	Understand the composition of manures, including organic matter content, nutrient content, and potential contaminants.
	T. Y. B.Sc. Semester-VI CH-611A: Analytical Chemistry-II	
34.	CO-1	Define basic terms in solvent extraction, basics of chromatography, HPLC, GC, and AAS and AES.
	CO-2	Identify important parameters in analytical processes or estimations.
	CO-3	Explain different principles and basics of instrumental chromatography, HPLC, GC, and atomic spectroscopic techniques.
	CO-4	Discuss / Describe procedure for different type's analyses.
	CO-5	Differentiate / distinguish / compare among the different analytical terms, process and analytical methods.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

CO (COURSE OUTCOMES) UG: MATHEMATICS

Date : / /202

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), F. Y. B. Sc. -Mathematics	
	After the completion of course Students should be able to-	
	F. Y. B.Sc. Semester-I MT-111: Algebra	
1.	CO-1	Define sets relation and functions.
	CO-2	Explain the well ordering principle.
	CO-3	Apply division algorithm.
	CO-4	Calculate sum and products of complex numbers.
	CO-5	Find the n^{th} roots of unity.
	F. Y. B.Sc. Semester-I PMT-112: Physics Calculus-I	
2.	CO-1	State algebraic and order properties of real numbers.
	CO-2	Explain application of supremum, infimum and density theorem.
	CO-3	Solve the problems of sequences, its limit and convergence.
	CO-4	Distinguish between even and odd functions.
	CO-5	Conclude that continuous function maps closed bounded interval to closed bounded interval.
	F. Y. B.Sc. Semester-I MT-113: Mathematics Practical	
3.	CO-1	Recognize set, Relations and functions.
	CO-2	Describe the syntax of maxima software.
	CO-3	Solve problems based on real numbers and sequences using maxima software
	CO-4	Explain increasing and decreasing functions.
	CO-5	Find the graphs of function using maxima software
	F. Y. B.Sc. Semester-II MT-121: Analytical Geometry	
4.	CO-1	Define translation and rotation of axis
	CO-2	Discuss nature of conic and center of conic.
	CO-3	Compute the equation line in symmetrical form.
	CO-4	Find the equation of a plane.
	CO-5	Solve the problems of sphere and equation of tangent plane to sphere.
	F. Y. B.Sc. Semester-II MT-122: Calculus-II	
5.	CO-1	Recall the rules of differentiation.
	CO-2	Describe the mean values theorems.
	CO-3	Apply the L-Hospital Rule and Leibnitz's Theorem.
	CO-4	Explain Taylor's theorem and Maclaurian's theorem
	CO-5	Solve the linear first order ordinary differential equations.
	F. Y. B.Sc. Semester-II MT-123: Mathematics Practical	
6.	CO-1	Memorize the Analytical Geometry of two dimensions.
	CO-2	Discuss the lines in 3- dimension.

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

	CO-3	Determine existence and uniqueness of solution of nonlinear equations.
	CO-4	Solutions of exact differential equations using maxima software.
	CO-5	Solve the equation of sphere and circle using maxima software.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Mathematics	
	S. Y. B.Sc. Semester-III MT-231: Calculus of several variables	
7.	CO-1	Define the function of several variables, its limit and continuity.
	CO-2	Discus the necessary condition for extreme values.
	CO-3	Determine the extreme values of functions of two variables.
	CO-4	Calculate the partial derivatives and higher order partial derivatives.
	CO-5	Evaluate the double and triple integral.
	S. Y. B.Sc. Semester-III MT-232: Numerical methods and its Applications	
8.	CO-1	Identify the algebraic and transcendental equations.
	CO-2	Explain the bisection method, false position method and Newton Raphson method.
	CO-3	Compute the Newton's and Lagrange's interpolating formula.
	CO-4	Evaluate the problems of integrations by Trapezoidal rule and Simpson's rule.
	CO-5	Find the solutions of differential equations by Taylor's series method, Euler's method and Range –Kutta method.
	S. Y. B.Sc. Semester-III MT-233: Mathematics Practical based on MT- 231 and MT -232	
9.	CO-1	Identify the algebraic and transcendental equations.
	CO-2	Explain the bisection method, false position method and Newton Raphson method.
	CO-3	Compute the Newton's and Lagrange's interpolating formula.
	CO-4	Evaluate the problems of integrations by Trapezoidal rule and Simpson's rule.
	CO-5	Find the solutions of differential equations by Taylor's series method, Euler's method and Range –Kutta method.
	S. Y. B.Sc. Semester-IV MT-241: Linear Algebra	
10.	CO-1	Recognize the vector space.
	CO-2	Represent the matrix form of a linear system.
	CO-3	Apply the Rank-Nullity Theorem for linear transformation.
	CO-4	Calculate the basis and dimension of vector space.
	CO-5	Solve the examples co-ordinate and co-ordinate vectors.
	S. Y. B.Sc. Semester-IV MT-242: Vector Calculus	
11.	CO-1	Define the curves in space.
	CO-2	Summarize line integral of scalar function, additivity.
	CO-3	Apply Green's Theorem in the Plane.
	CO-4	Calculate surface integrals of vector fields.
	CO-5	Find the curl of vector field.
	S. Y. B.Sc. Semester-IV MT-243: Mathematics Practical based on MT- 241 and MT -242	
12.	CO-1	Compute the basis, dimension of vector space.
	CO-2	Evaluate integrals, surface integrals.
	CO-3	Solve the system of equations by elimination methods and using Maxima software.
	CO-4	Apply maxima software for curl and divergence of vector field.
	CO-5	Find the kernel, range, rank, nullity of linear transformation using maxima software.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Mathematics	
	T. Y. B.Sc. Semester-V MT-351: Metric Spaces	
13.	CO-1	Identify the basic notions
	CO-2	Explain the term convergent sequence
	CO-3	Determine the continuous function and limit.
	CO-4	Compare compactness and connectedness
	T. Y. B.Sc. Semester-V MT-352: Real Analysis-I	
14.	CO-1	Recall the basic facts in Logic and Set Theory

	CO-2	Identify the convergent, divergent, bounded and monotone sequences.
	CO-3	Write the limit of sequences
	CO-4	Evaluate limit superior, limit inferior and Cauchy sequence.
	CO-5	Select ratio, root, alternating series tests for convergence of infinite series.
	T. Y. B.Sc. Semester-V MT-353: Group Theory	
15.	CO-1	Define the concept of group
	CO-2	Explain the significance of notions of cosets, normal subgroups.
	CO-3	Apply the Lagrangian theorem.
	CO-4	Compare structure preserving maps between groups and there consequences.
	CO-5	Recognize the mathematical objects that are group.
	T. Y. B.Sc. Semester-V M-354: Ordinary differential equations	
16.	CO-1	Recognize the differential equations and system of differential equations.
	CO-2	Identify the roots of the linear differential equations with constant coefficients.
	CO-3	Explain the principle of superposition.
	CO-4	Distinguish between homogenous and non-homogenous linear differential equations.
	CO-5	Find the series solution of linear second order differential equations.
	T. Y. B.Sc. Semester-V MT-355(A): Operation Research	
17.	CO-1	Memories the two variable LP model and graphical method.
	CO-2	Illustrate the concept of convex set and extreme points.
	CO-3	The theory of simplex method is developed.
	CO-4	Distinguish between primal and dual problems
	CO-5	Evaluate the transportation model
	CO-6	Solve the problem based on Hungarian method.
	T. Y. B.Sc. Semester-V MT-356(B): Number theory	
18.	CO-1	Students will understand the concepts of divisibility.
	CO-2	Discuss the congruences and solution of congruences.
	CO-3	Determine the greatest integer functions.
	CO-4	Calculate the Mobius inversion formulae.
	CO-5	Evaluate the Quadratic reciprocity.
	T. Y. B.Sc. Semester-V MT-357: Practical Lab-I	
19.	CO-1	Recall definition and examples of metric Spaces.
	CO-2	Give examples of open and closed sets in metric spaces.
	CO-3	Determine the limits and cluster points, compact spaces and connected spaces.
	CO-4	Evaluate the congruence's and divergence of sequences of real numbers.
	CO-5	Find the convergence and divergence of series of real numbers.
	T. Y. B.Sc. Semester-V MT-358: Practical Lab-II	
20.	CO-1	Define the subgroup and cyclic groups.
	CO-2	Rewrite the group of permutations.
	CO-3	Explain the factor group and simple group.
	CO-4	Evaluate the solution of non-homogenous linear differential equations using the method of undetermined coefficients.
	CO-5	Find the series solution of linear second order differential equations.
	T. Y. B.Sc. Semester-V MT-359: Practical Lab-III	
21.	CO-1	Recall the simplex method.
	CO-2	Describe transportation model.
	CO-3	Compute greatest common divisor.
	CO-4	Calculate quadratic residues.
	CO-5	Solve the Pythagorean triplets.
	T. Y. B.Sc. Semester-V MT-3510 Programming in python-I	
22.	CO-1	To identify the basic data types of python

	CO-2	Explain basic principles of python programming language
	CO-3	Sketch 2D-3D graphs in python.
	CO-4	Distinguish between string, tuples and lists.
	CO-5	Solve the numerical method in python.
	T. Y. B.Sc. Semester-V MT-3511 LaTeX for Scientific writing	
23.	CO-1	Define LaTeX
	CO-2	Identify the syntax keyboard character in Latex.
	CO-3	Explain the sections, Labeling and Text Alignment in LaTeX.
	CO-4	Focus on Tabbing Texts.
	CO-5	Predict the positioning and texts in tables.
	T. Y. B.Sc. Semester-VI MT-361: Complex Analysis	
24.	CO-1	Identify the analytic functions and harmonic functions
	CO-2	Give example of elementary functions
	CO-3	Compute the integrals.
	CO-4	Explain convergence of sequence and series.
	CO-5	Compare residues and poles.
	T. Y. B.Sc. Semester-VI MT-362: Real Analysis-II	
25.	CO-1	Describe the Riemann integrals.
	CO-2	Explain improper integrals on closed and bounded intervals.
	CO-3	Illustrate the effect of uniform convergence on the limit function with respect to continuity.
	CO-4	Distinguish between point wise and uniform convergence of a sequence of function.
	CO-5	Find the integration and differentiation of series of function.
	T. Y. B.Sc. Semester-VI MT-363: Ring Theory	
26.	CO-1	Recognize the rings and Fields.
	CO-2	Observe the divisor of zero, integral domain, characteristics of a ring.
	CO-3	Explain division algorithm in F[x] and uniqueness of factorization in F[x].
	CO-4	Distinguish between maximal ideal, prime ideal.
	CO-5	Find the properties of Homomorphism.
	T. Y. B.Sc. Semester-VI MT-364: Partial Differential Equations.	
27.	CO-1	Recall ordinary and partial differential equations.
	CO-2	Discuss the first order Partial differential equations and linear equations.
	CO-3	Explain linear partial differential equation with constant coefficients.
	CO-4	Select the method for solving linear partial differential equations.
	CO-5	Find the solution of Laplace equations by separation variable method.
	T. Y. B.Sc. Semester-VI MT-365(A): Optimization Techniques	
28.	CO-1	Observe fundamentals of network analysis using CPM and PERT.
	CO-2	Explain optimal solution of two person zero sum game.
	CO-3	Examine the replacement of items whose efficiency deteriorates with time
	CO-4	Distinguish between processing n jobs through three machines.
	CO-5	Evaluate the constrained problems.
	T. Y. B.Sc. Semester-VI MT-366 Computational Geometry	
29.	CO-1	Describe the two dimensional transformations.
	CO-2	Explain three dimensional and multiple transformations.
	CO-3	Construct algorithms for simple geometrical problems.
	CO-4	Illustrate parametric representation of a circle.
	CO-5	Distinguish between orthographic, Axonometric and Oblique projections.
	T. Y. B.Sc. Semester-VI MT-367: Practical lab-I	
30.	CO-1	Recall the analytic function.

	CO-2	Discuss elementary functions.
	CO-3	Compute integrals.
	CO-4	Explain the properties of Riemann integrals and applications.
	CO-5	Find the point wise convergence of sequence of functions.
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI MT-368: Practical lab-II	
31.	CO-1	Recall the unique factorization domain.
	CO-2	Give example of Homomorphism and factor ring.
	CO-3	Compute the pfaffian differential equation and there solutions.
	CO-4	Focus on canonical forms.
	CO-5	Solve the second order partial differential equations.
	T. Y. B.Sc. Semester-VI MT-369: Practical lab-III	
32.	CO-1	Memories network models.
	CO-2	Discuss game theory.
	CO-3	Solve sequencing problems for various jobs and machine.
	CO-4	Summarize two dimensional transformation and projection.
	CO-5	Construct algorithms for simple geometrical problems.
	T. Y. B.Sc. Semester-VI MT-3610 Programming in Python-II	
33.	CO-1	Recognize object oriented skills in python.
	CO-2	Describe the data visualization with python.
	CO-3	Study graphics and design and implement a programme to solve a real world problem.
	CO-4	Explain dictionary and sorting.
	CO-5	Find two, three dimensional rotation and reflection.
	T. Y. B.Sc. Semester-VI MT-3611 Mathematics into Latex	
34.	CO-1	List the mathematical notations, operators and expression in latex.
	CO-2	Describe array of equations.
	CO-3	Explain new commands in latex.
	CO-4	Evaluation of functional values and splitting an equation.
	CO-5	Estimate alignment and numbering a set of equations.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Kopargaon Estd. 1964

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) UG: BOTANY

Sr. No.	CO Number	Course Outcomes
	After the completion of course Students should be able to-	
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), F. Y. B. Sc. -Botany	
	F. Y. B.Sc. Semester-I BO-111: Plant Life and Utilization-I	
1.	CO-1	Learn general outline of plant kingdom
	CO-2	Empower with a comprehensive understanding of algal taxonomic diversity and practical applications
	CO-3	Equip with a knowledge of Lichen biology, nature of association and practical uses
	CO-4	Comprehensive understanding of fungal classification and its industrial utilization
	CO-5	Expose to the bryophytes diversity and explore its potential uses
	F. Y. B.Sc. Semester-I BO-112: Plant Morphology and Anatomy	
2.	CO-1	Understand and utilize morphological traits
	CO-2	Identify various types of inflorescences based on their characteristic arrangements of flowers
	CO-3	Enhance understanding of plant reproductive structures
	CO-4	Recognize the different types of fruits
	CO-5	Explore plant anatomy differences and similarities and used them as taxonomic characters
	F. Y. B.Sc. Semester-I BO-113: Practicals Based on BO.111 and BO.112	
3.	CO-1	The student will be able to describe to use various instruments and equipment.
	CO-2	The student will be able to discover experiments to test a hypothesis and /or determine the value of an unknown quantity.
	CO-3	The student will able to apply the theoretical background of an experiment.
	CO-4	The student will be able to analyze the data, plot appropriate graphs and reach conclusion from data analysis.
	F. Y. B.Sc. Semester-II BO-121: Plant Life and Utilization-II	
4.	CO-1	Learn about the plant diversity
	CO-2	Develop a strong grasp of the classification and economic uses of Pteridophytes
	CO-3	Understand the life cycle and utilization of Gymnosperms
	CO-4	Learn about the general characters, classification and comparative account
	CO-5	Contribute to human well-being, economic prosperity and sustainability.
	F. Y. B.Sc. Semester-II BO-122: Principles of Plant Science	
5.	CO-1	Offers foundational understanding of the fundamental physiological processes
	CO-2	Recognize the processes that govern the movement of water and solutes within plant cells and tissues
	CO-3	Describe and identify the different phases of plant growth and adaptation

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

	CO-4	Provide foundational understanding of the cellular organization and functioning
	CO-5	Equips students with essential knowledge about the mechanisms of cell replication and division
	F. Y. B.Sc. Semester-II BO-123: Practicals Based on BO.121 and BO.122	
6.	CO-1	Gain knowledge of the reproductive processes, developmental stages and adaptations
	CO-2	Highlight the distinct features and growth patterns
	CO-3	Contribute to human well-being and various industries
	CO-4	Understand the processes of cell division and reproduction in living organisms
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Botany	
	S. Y. B.Sc. Semester-III BO-231: Taxonomy of Angiosperms and Plant Ecology	
7.	CO-1	Outlining the knowledge and skills related to the classification and categorization of plants
	CO-2	Understanding plant classification systems
	CO-3	Provide solid foundation in plant morphology and taxonomy
	CO-4	Equip students with the knowledge necessary to accurately name and classify the plant species
	CO-5	Understanding of ecology from foundational principles to practical applications
	S. Y. B.Sc. Semester-III BO-231: Plant Physiology	
8.	CO-1	Understanding of the fundamental principles, scope and applications of plant physiology
	CO-2	Explain the process and mechanism of water absorption and upliftment in plants
	CO-3	Understand the mechanism of transpiration and to develop a comprehensive understanding of nitrogen metabolism
	CO-4	Recognize the seed dormancy and evaluate methods to break seed dormancy
	CO-5	Comprehensive understanding of how organisms perceive and respond to photoperiod and low temperature
	S. Y. B.Sc. Semester-III BO-231: Practical based on BO 231 & BO 232	
9.	CO-1	To understand and apply various tools and instruments used in taxonomy and ecology
	CO-2	In-depth understanding plant families helps in the identification, classification of plants
	CO-3	Exploring how plants adopt their internal processes to cope with environmental changes
	CO-4	Recognizing the role of osmosis and transpiration
	S. Y. B.Sc. Semester-IVBO-241: Plant Anatomy and Embryology	
10.	CO-1	Acquire the knowledge of structural and functional aspects of the epidermal and mechanical tissue systems in plants
	CO-2	Explain the role and significance of secondary growth and evaluate the consequences of anomalous secondary growth
	CO-3	Comprehending the development of reproductive structures in plants
	CO-4	Contribute to explain the pollination process and mechanism of fertilization
	CO-5	Able to describe the function of endosperm and structure of embryo
	S. Y. B.Sc. Semester-IV BO-242: Plant Biotechnology	
11.	CO-1	Aims to provide students with the theoretical knowledge and practical skills necessary for successful implementation and application of plant tissue culture techniques
	CO-2	Comprehensive understanding of the potential of single-cell protein as an alternative and sustainable protein source
	CO-3	Equip students with the necessary knowledge and skills to understand and manipulate the genetic makeup of plants
	CO-4	Understanding of the interplay between genomics, proteomics, and bioinformatics
	CO-5	Ability to critically evaluate complex environmental challenges, devise innovative bioremediation strategies

	S. Y. B.Sc. Semester-IVBO-243: BO 243: Practical based on BO 241 & BO 242	
12.	**CO-1**	Acquire a more profound comprehension of the structural and operational elements within the epidermal and mechanical tissue systems of plants
	CO-2	Describe the functions and importance of secondary growth and assess the implications of abnormal secondary growth
	CO-3	Capable of elucidating the role of endosperm and the composition of the embryo.
	CO-4	Strives to equip students with practical proficiency required for the effective execution and utilization of plant tissue culture methodologies.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Botany	
	T. Y. B.Sc. Semester-V BO-351: Algae and Fungi	
13.	**CO-1**	To understand and apply various tools and instruments used in taxonomy and ecology
	CO-2	In-depth understanding plant families helps in the identification, classification of plants
	CO-3	Students develop the ability to know about life cycle, including both sexual and asexual reproduction methods.
	CO-4	Economic importance of algae and fungi in fields such as biology, environmental science, biotechnology, agriculture.
	CO-5	Students may be able to apply their understanding of fungal life cycles to practical fields, such as agriculture, medicine and biotechnology.
	T. Y. B.Sc. Semester-V BO-352: Archegoniate	
14.	**CO-1**	Students will learn about the key characteristics of lack of vascular tissue photosynthetic structure making it distinct from higher plants.
	CO-2	Students will learn about the key characteristics of lack of vascular tissue photosynthetic structure.
	CO-3	An overview on alternation of generations, which involves two distinct multicellular stages.
	CO-4	Learn about group of non-flowering, seedless plants that have vascular tissue.
	CO-5	Course provides further study in ecological and evolutionary significance of pteridophytes in the plant kingdom.
	T. Y. B.Sc. Semester-V BO-353: Spermatophyta and Paleobotany	
15.	**CO-1**	It will help students to contribute their knowledge of the origins and early diversification of angiosperms.
	CO-2	Students may explore the ethical aspects of conservation and biodiversity protection, including issues related to the impact of human activities on speciation and endemism.
	CO-3	It may aims to provide students plant classification systems, their merits, and demerits, and the usefulness of systems in their academic and professional work
	CO-4	Students will understand the organization and management of herbaria & role of botanical gardens in plant conservation, education, and public outreach.
	CO-5	To know about the history of life on Earth, the mechanisms of evolution and the broader field of Earth and environmental sciences.
	T. Y. B.Sc. Semester-V BO-354: Plant Ecology	
16.	**CO-1**	It covers the topics of "Introduction, Interrelationship between the Living World and the surrounding Environment,
	CO-2	Students may also explore how population ecology principles apply to human populations and their impact on the environment.
	CO-3	Students should be able to analyze and describe the organization and structure of ecological communities & Various Biogeochemical cycles.
	CO-4	Students should have a solid understanding of what EIA is, its purpose, and its role in environmental management and decision-making processes
	CO-5	It provides a comprehensive understanding of remote sensing technology, its applications, and the skills needed to work with remote sensing data
	T. Y. B.Sc. Semester-V BO-355: Cell and Molecular Biology	

17.	CO-1	Understanding of brief history of Cell Biology, Units of measurement for cell, Interdisciplinary nature of Cell Biology.
	CO-2	Students should be able to describe the structure and function of plant cell organelles on broader way.
	CO-3	Understand the fundamental concepts of cell signaling.
	CO-4	Detailed description of structure of DNA, DNA Replication, transcription translation & mutation.
	CO-5	Students should be able to explain the flow of genetic information from DNA to RNA to protein and explain the key processes involved in gene expression
	T. Y. B.Sc. Semester-V BO-356: Genetics	
18.	CO-1	It provides History, Definition, Concept, branches and applications of Genetics & Mendelism.
	CO-2	Detailed description on Neo-Mendelism, specifically focusing on gene interaction.
	CO-3	It explains Concept, Characters of multiple alleles, types of Linkage, Crossing over, Recombination & mutation.
	CO-4	Students should be able to identify and recognize various types of structural alterations in chromosomes.
	CO-5	Learn about sex-linked genes and their inheritance patterns.
	T. Y. B.Sc. Semester-V BO-357: Practical based on BO351 and BO352	
19.	CO-1	Students studied examples Algae with respect to systematic position, thallus structure and Reproduction.
	CO-2	Fungal study with respect to systematic position, thallus structure and reproduction.
	CO-3	Taxonomic position, Morphology of sporophyte, anatomy and reproductive structure of various bryophytes studied.
	CO-4	Stelar evolution in Pteridophytes understands with the help of permanent slides
	T. Y. B.Sc. Semester-V BO-358: Practical based on BO353 and BO354	
20.	CO-1	Plant families with reference to systematic position (following Bentham & Hooker), Diagnostic characters, floral formula, floral diagram studied in this practical.
	CO-2	Students Prepared Botanical keys
	CO-3	Internal and external morphology of Gnetum & pinus studied.
	CO-4	Measured physicochemical properties of water body by using Sacchi disc, pH meter and electric conductivity meter.
	T. Y. B.Sc. Semester-V BO-359: Practical based on BO355 and BO356	
21.	CO-1	Students studied Cytological techniques & various stages of mitosis and meiosis
	CO-2	Learned Chromosomes Morphology & Estimated Plant DNA by DPA method
	CO-3	Monohybrid and dihybrid crosses, tetraploidy in onion root cells practically understand.
	CO-4	Solved Genetic problems on gene mapping using three point test cross data.
	T. Y. B.Sc. Semester-V BO-3510: Medicinal Botany	
22.	CO-1	Comprehensive understanding of the history, scope and importance of medicinal plants.
	CO-2	To provides in-depth knowledge of Ayurveda, Siddha & Unani & their origin, history & various preparations.
	CO-3	Understanding of the challenges and strategies involved in the conservation of endangered and endemic medicinal plants.
	CO-4	Explain method of propagation, objectives of the nursery, its classification & nursery practices.
	CO-5	To gain knowledge, applications and skills of ethnobotany.
	T. Y. B.Sc. Semester-V BO-3511: Plant Diversity and Human Health	
23.	CO-1	Provide knowledge of genetic diversity, species diversity, plant diversity at the ecosystem level.
	CO-2	Learn the causes of biodiversity loss & Analyze and explore conservation strategies.

	CO-3	Recognize the ecological, economic and cultural significance of biodiversity & explore the principles of conservation biology
	CO-4	Explain management strategy of plant biodiversity & organizations, methodology for execution, biodiversity legislation and conservations.
	CO-5	To describe relationship between plants and human welfare, from food production and medicine to environmental conservation and sustainable practices.
	T. Y. B.Sc. Semester-VI BOT-361: Plant Physiology and Metabolism	
24.	CO-1	To know classification, role of essential mineral elements, transport of ions, ionophores, Carriers and Channels
	CO-2	Understand the process of photosynthesis, respiration & their mechanism.
	CO-3	Students able to describe the structure of stomata, role of stomata in regulating gas exchange and transpiration in plants.
	CO-4	Provides knowledge of structure, development of the phloem tissue in plants and its role in the transport of organic compounds.
	CO-5	Gives explanation to students about the fundamental concepts of plant growth regulation, their roles and signaling molecules in plant development.
	T. Y. B.Sc. Semester-VI BOT -362: Biochemistry	
25.	CO-1	Learn the structure, function, and properties of key biomolecules.
	CO-2	To explain structure and physical properties of water.
	CO-3	To explain the diverse functions of Amino acids and proteins in biological systems, including enzymatic activity, structural roles, signaling, and transport.
	CO-4	Develop a comprehensive understanding of enzymes, from their fundamental properties to their diverse roles in biology and biotechnology.
	CO-5	Provide students understanding of the basic concepts and practical applications of carbohydrates, lipids and vitamins in the context of nutrition, biochemistry and health.
	T. Y. B.Sc. Semester-VI BOT -363: Plant Pathology	
26.	CO-1	Able to identify and classify various types of plant pathogens that cause diseases in plants.
	CO-2	To know concept of disease cycle, Inoculation, prepenetration, penetration, infection, dissemination and epidemics.
	CO-3	Identify and explain the various defense mechanisms that plants have evolved to deter herbivores, including physical, chemical, and ecological strategies.
	CO-4	Prepared students to work in various aspects of plant pathology, including research, disease management, and diagnostics
	CO-5	Learn to diagnose plant diseases, understand strategies for managing plant diseases, disease management.
	T. Y. B.Sc. Semester-VI BOT -364: Evolution and Population genetics	
27.	CO-1	Understand the principles of evolution, mechanism, lines of evidence.
	CO-2	Students should be able to evaluate and discuss the theory of evolution, including fossil records, comparative anatomy, molecular biology, and biogeography.
	CO-3	Comprehensive understanding of the evidences supporting the theory of evolution and process of evolution.
	CO-4	To explain the sources of genetic variation in populations and how it contributes to evolution.
	CO-5	Learn about various modes of speciation, speciation & genetic factors influence the speciation process.
	T. Y. B.Sc. Semester-VI BOT -365: Advanced Plant Biotechnology	
28.	CO-1	To learn traditional and modern biotechnology, impact of Biotechnology on Health care, agriculture and environment
	CO-2	Aims to provide students with the theoretical knowledge and practical skills necessary for successful implementation and application of plant tissue culture techniques
	CO-3	Students should understand the fundamentals of plant genetics, molecular tools & methods of gene transfer.
	CO-4	To know fundamental principles and concepts of cryopreservation & germplasm

		conservation.
	CO-5	To get information regarding biochemistry of fermentation technology and Commercial production.
	T. Y. B.Sc. Semester-VI BOT -366 Elective-II: Plant Breeding and Seed Technology	
29.	CO-1	Understand the Scope, objectives, history with Techniques and practices of plant breeding.
	CO-2	Gain knowledge of proficiency in advanced breeding methods in the context of plant breeding.
	CO-3	Explain various traditional and modern breeding techniques.
	CO-4	Describe the principles and procedures of seed certification, seed Pathology, seed testing and analysis.
	CO-5	Understanding of seed-borne disease and best practices for managing seed storage facilities.
	T. Y. B.Sc. Semester-VI BOT -367: Practical based on BO361 and BO362	
30.	CO-1	Students determined osmotic potential of plant cell sap by plasmolysis method.
	CO-2	Students Demonstrate the activity of catalase and study the effect of pH and enzyme concentration
	CO-3	Effect of light intensity and bicarbonate concentration on O2 evolution in photosynthesis studied by students.
	CO-4	Learned technique separation of amino acids by paper chromatography.
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI BOT -368: Practical based on BO363 and BO364	
31.	CO-1	Students prepared culture media for isolation of plant pathogens
	CO-2	Fungal, bacterial, mycoplasma, viral and non-parasitic diseases studied.
	CO-3	Prepared of 1% Bordeaux mixture and Bordeaux paste 10%., Jivamruta.
	CO-4	Studied of Sympatric and Allopatric speciation with suitable example
	T. Y. B.Sc. Semester-VI BOT -369: Practical based on BO365 and BO366	
32.	CO-1	Produced secondary metabolites in suitable plant material & Artificially seed produced by Sodium Alginate method encapsulation
	CO-2	Students Prepared plant based nano-particles
	CO-3	Studied Effect of chemical mutagens on seed germination and seedling growth.
	CO-4	Seed moisture testing done by hot air oven method.
	T. Y. B.Sc. Semester-VI BOT -3610: Nursery and Gardening Management	
33.	CO-1	Understand objectives, scope and building up of infrastructure for nursery, planning and seasonal activities.
	CO-2	To know structure types and selection of seed, causes and methods of breaking dormancy.
	CO-3	To understand methods of vegetative propagation and hardening of plants.
	CO-4	To gets knowledge of concept, objectives, scope and types of gardening.
	CO-5	To explain process of types of sowing/ raising of seeds and seedlings.
	T. Y. B.Sc. Semester-VI BOT -3611: Biofertilizers	
34.	CO-1	To Understand the scope and importance of biofertilizers.
	CO-2	To describe bacterial biofertilizers with their isolation, identification, mass multiplication and carrier based inoculants.
	CO-3	To explain algal biofertilizers.
	CO-4	To learn fungal fertilizers and Occurrence and distribution of mycorrhizal association.
	CO-5	To know organic farming, green manuring, organic manures and their uses.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) UG: ZOOLOGY

Sr. No.	CO Number	Course Outcomes
	After the completion of course Students should be able to-	
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), F. Y. B. Sc. -Zoology	
	F. Y. B.Sc. Semester-I ZO-111: Animal Diversity I	
1.	CO-1	To identify and observe the importance of taxonomy & systematics.
	CO-2	To understand the associate animal diversity and discuss its importance.
	CO-3	To enlist and prepare chart of differences and similarities between different primitive animal phyla.
	CO-4	To analyze the importance of classification and correlation between different primitive animal phyla.
	CO-5	To distinguish and assess the different groups of animals like i.e. protozoa, porifera, cnidaria, platyhelminths on the basis of their characters.
	CO-6	To construct and express their views about different lower non chordates i.e. protozoa, porifera, cnidaria, platyhelminths.
	F. Y. B.Sc. Semester-I ZO-112: Animal Ecology	
2.	CO-1	To define, identify and evaluate their own beliefs, values & actions, and its impact on ecosystem and biosphere due to the dynamics in population.
	CO-2	To understand the interactions of food chains, food webs and can correlate it with human life for its betterment.
	CO-3	To apply and appreciates the diversity of ecosystems and can apply remedies to overcome the problems of the community.
	CO-4	To analyze and evaluate natural resource issues and act on alifestyle that conserves nature.
	CO-5	To facilitate non-exploitation of the biotic and abiotic components of environment.
	CO-6	To develop strategies to save environment will help to promote betterment of environment.
	F. Y. B.Sc. Semester-I ZO-113: Zoology Practical Paper	
3.	CO-1	To identify and examine the distinguishing characters of protozoa, porifera, cnidaria, platyhelminthes.
	CO-2	To understand and discuss physiology of paramecium, importance of spicules in sponges, histology of cnidaria and platyhelminthes, also discover taxonomic identification key of lower non chordates.
	CO-3	To analyze the importance of physicochemical parameter like DO, alkalinity, turbidity, Co2 in water.

K.J. Somaiya College of Arts, Commerce & Science Estd. 1964 Kopargaon

	CO-4	To evaluate the density, frequency and abundance of species in water, water holding capacity of soil and eutrophication in lake or river.
	F. Y. B.Sc. Semester-II ZO-121: Animal Diversity II	
4.	CO-1	To identify, describe and list the distinguishing characters of claases of phylum aschelminth, annelida, arthropoda, mollusca and echinodermata.
	CO-2	To understand, classify compare the distinguishing characters of higher non chordates.
	CO-3	To determine the importance nematoda, vermiculture, insects, molluscs and echinoderms by applying their role in respective ecosystem.
	CO-4	To categorize role and importance of higher invertebrates on earth.
	CO-5	To evaluate and discuss the ecology, physiology of sea star.
	CO-6	To compile and express the economic important characters of Echinodermata.
	F. Y. B.Sc. Semester-II ZO-122: Cell Biology	
5.	CO-1	To define and remember the Microscopy techniques and importance of cell as a structural and functional unit of life.
	CO-2	To understand and compares between the prokaryotic and eukaryotic cells / systems and extrapolates the life to the aspect of development.
	CO-3	To evaluate the dynamics of biomolecules in cytoplasm, nucleus and membranes indicating the dynamism of life.
	CO-4	To analyze cell & cell organelles and their role in cellular functions.
	CO-5	To analyze the cellular mechanisms and its functioning depends on endo-membranes and structures. They are best studied with microscopy techniques.
	CO-6	To express cell cycle, types of cell division: mitosis and meiosis their role in development, growth, reproduction etc. in life of organisms.
	F. Y. B.Sc. Semester-II ZO-123: Zoology Practical Paper	
6.	CO-1	To observe and describe the characters of aschelminthes, annelida, arthropoda, mollusca and Echinodermata.
	CO-2	To understand and discuss the importance of mouth parts in insects, types of shells in molluscs, economic importance of insects.
	CO-3	To discover and determine importance of vermicomposting by visiting vermiculture unit.
	CO-4	To analyze and compare different microscope and micrometric measurements.
	CO-5	To estimate the importance of human buccal epithelial cells and mitotic cells from onion root tip cells.
	CO-6	To Formulate and express types of blood cells in human and importance of cell organelles by studying microphotograph.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Zoology	
	S. Y. B.Sc. Semester-III ZO-231: Animal Diversity III	
7.	CO-1	To Identify, examine and describe characters of phylum chordata and protochordata.
	CO-2	To understand and differentiate characters of different groups of vertebrata.
	CO-3	To determine employ the distinguishing character of pisces and amphibia.
	CO-4	To analyze and compare characters of agnatha and gnathostomata, types of scales and fins in fishes, parental care in amphibia.
	CO-5	To Evaluate and estimate the importance of ecology, morphology and physiology of scoliodon.
	CO-6	To compile and express the role of nervous and reproductive system of scoliodon along with its development.
	S. Y. B.Sc. Semester-III ZO-232: Applied Zoology I	
8.	CO-1	To identify and understand the entire biology of species of silkworms and silk moths, life cycle of silkworms.

	CO-2	To describe the varieties and methods of mulberry cultivation
	CO-3	To apply the methods of Silkworm rearing techniques.
	CO-4	To classify the post-harvest processing of the cocoons to produce raw silk.
	CO-5	To distinguish and evaluate the types of pests, major pests of agricultural importance.
	CO-6	To express life cycle of major agricultural pests and Pest control practices.
	S. Y. B.Sc. Semester-III ZO-233: Zoology Practical Paper	
9.	CO-1	To identify and describe the study of Group Protochordata, Class Pisces and Class Amphibia and their examples.
	CO-2	To classify the study of scales, fin pattern, morphology and anatomy of locally available fishes.
	CO-3	To correlate different species and distribution of silkworms, life cycle of varieties of silkworms.
	CO-4	To distinguish different species of agricultural pests, their importance and control measures.
	CO-5	To decide non insect pests, their importance and control measures.
	CO-6	To construct and employ Pesticide appliances useful for pest control practices.
	S. Y. B.Sc. Semester-IV ZO-241: Animal Diversity IV	
10.	CO-1	To identify and describe the characters of higher chordates like reptiles, aves and mammals.
	CO-2	To discuss and distinguish between reptiles, aves and mammals.
	CO-3	To discover venomous and non-venomous snakes, snake bite and first aid, desert adaptation in reptiles.
	CO-4	To analyze and correlate aerial habitat in birds, types of beak and feet in birds and migration in birds.
	CO-5	To compare and distinguish different habitat of mammals and primitive egg laying mammals.
	CO-6	To express and generalize detail study of rat including habit, habitat, morphology and physiology.
	S. Y. B.Sc. Semester-IV ZO-242: Applied Zoology II	
11.	CO-1	To define and describe the basic knowledge of different honey bee, species of India, nesting behavior, life cycle of honey bees, etc.
	CO-2	To choose and apply the basics about beekeeping tools, equipments and rearing techniques of honey bee colonies for commercial practice of beekeeping.
	CO-3	To aware and employ the various aspects of seasonal management of beehives, by-products of honey bees and their role in crop pollination.
	CO-4	To understand the types of the basic information about types of fishery, cultural methods and their importance in human life.
	CO-5	To evaluate harvesting methods of fishes and fish preservation techniques.
	CO-6	To express about major by-products of fisheries.
	S. Y. B.Sc. Semester-IV ZO-243: Zoology Practical Paper	
12.	CO-1	To understand and remember the study the Class Reptilia: Venomous & Non-venomous snakes and their Identification with the help of pictorial taxonomic keys with their examples.
	CO-2	To understand and classify the study of Class Aves, Class Mammalia and Study of types of beaks & feet in birds with examples.
	CO-3	To illustrate and evaluate the morphology anatomy of rat.
	CO-4	To classify different species of honey bees, life cycle, bee keeping equipments, bee products, enemies etc.
	CO-5	To differentiate fresh water fish species and other aquatic animals of fishery.

		importance.
	CO-6	To assemble and justify crafts and gears used for harvesting fishes, fish preservation techniques and by-products of fisheries.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Zoology	
	T. Y. B.Sc. Semester-V ZO-351: Pest Management	
13.	CO-1	Define pest management
	CO-2	Explain medical, veterinary, Household and stored grain pests
	CO-3	Identify ecological and biological characteristics important in development of pest populations.
	CO-4	Describe the economic, ecological, and sociological benefits of IPM
	CO-5	Analyze and compare management tactics to determine the best approach to reducing pest populations, weeds, and disease presence.
	CO-6	Compile the society's role in IPM decisions.
	T. Y. B.Sc. Semester-V ZO-352: Histology	
14.	CO-1	Understand, classify and identify the different types of tissue.
	CO-2	Explain the complexity of various tissues in an organ.
	CO-3	Differentiate structure & functions of various tissues.
	CO-4	Distinguish the various diseases related to organs.
	CO-5	Describe the histological structure of various glands and its functions.
	CO-6	Elaborate the structure & functions of various tissues in organ system.
	T. Y. B.Sc. Semester-V ZO-353: Biological Chemistry	
15.	CO-1	Describe the basic concepts and significance of biochemistry.
	CO-2	Illustrate the basic concepts pH and Buffers.
	CO-3	Differentiate the chemical structures of carbohydrate, and their biological and clinical significance.
	CO-4	Explain the structure and importance of proteins.
	CO-5	Analyze the variations in enzyme activity and kinetics.
	CO-6	Evaluate the structure ,importance and significance of lipid
	T. Y. B.Sc. Semester-V ZO-354: Genetics	
16.	CO-1	Define the basic terminologies in genetics.
	CO-2	Illustrate the modified Mendelian law of inheritance.
	CO-3	Explain the gene mutation and mutagenic agent
	CO-4	Describe the types of sex determination.
	CO-5	Explain the principle of population genetics.
	CO-6	Identify genetic disorders based on karyotypes and trait, with its diagnostic and breeding technology.
	T. Y. B.Sc. Semester-V ZO-355: Developmental Biology	
17.	CO-1	Define the terms in developmental biology.
	CO-2	Explain the types of eggs, concept of fertilization and cleavage pattern.
	CO-3	Compare and contrast spermatogenesis and oogenesis.
	CO-4	Describe neural competence and induction.
	CO-5	Explain the concept of mesoderm induction and pattern formation with examples.
	CO-6	To analyze developmental stages in the chick.
	T. Y. B.Sc. Semester-V ZO-356: Parasitology	
18.	CO-1	Understand basic terms and scope of parasitology
	CO-2	Illustrate of the types host and parasites
	CO-3	Describe the morphology, life cycle, pathogenicity and treatment of common parasites (Protist and Platyhelminthes).
	CO-4	Summarize host -parasite relationships and their effects on host body
	CO-5	Explain the arthropod parasites and their role as vector
	CO-6	Describe the role of parasites in public health and hygiene

	T. Y. B.Sc. Semester-V ZO-357: Zoology Practical Paper 1	
19.	**CO-1**	Identify beneficial insects.
	CO-2	Enumerate pests and diseases of honeybees.
	CO-3	Perform chromatography for separation of plant products.
	CO-4	Differentiate different type of blood cells on smear.
	CO-5	Prepare temporary mount of mammalian tissue.
	CO-6	Identify permanent slides of different types of tissues
	T. Y. B.Sc. Semester-V ZO-358: Zoology Practical Paper II	
20.	**CO-1**	Prepare Acid, Alkali & its standardization.
	CO-2	Estimate sugar and protein by suitable biochemical method, and isolate protein from biological source.
	CO-3	Prepare buffer of desired pH and molarity.
	CO-4	Identify human karyotypes and numerical alterations, structural chromosome aberrations.
	CO-5	Deduce application of Mendelian monohybrid and dihybrid laws by hypothetical data.
	CO-6	Elaborate external characters, life cycle, mutants and rearing of *Drosophila*.
	T. Y. B.Sc. Semester-V ZO-359: Zoology Practical Paper III	
21.	**CO-1**	Identify different types of eggs, developmental stages of chick embryo (24 hrs, 33 hrs and 48 hrs).
	CO-2	Describe T. S. and V. S. of chick embryo of Brain & Heart with the help of slide (24 hrs, 33 hrs).
	CO-3	Describe life cycle, pathogenicity, diagnosis and treatment of Ascaris lumbricoides and Taenia soleum.
	CO-4	Describe role of parasites as a vector.
	CO-5	Enumerate parasites from the gut of cockroach.
	CO-6	Illustrate parasitic association with their example
	T. Y. B.Sc. Semester-V ZO-3510 Aquarium Management	
22.	**CO-1**	Understand the principle of aquarium management.
	CO-2	Design and setup aquarium.
	CO-3	Select and care for aquarium fish and plant.
	CO-4	Maintain the water quality in an aquarium.
	CO-5	Troubleshoot problems in an aquarium.
	CO-6	Illustrate the preparation and management of fish culture ponds
	T. Y. B.Sc. Semester-V ZO-3511 Poultry Management	
23.	**CO-1**	Enumerate the basics of Poultry Farming and it's important.
	CO-2	know the economic importance of poultry products
	CO-3	Employ the housing management and equipment of Poultry farming.
	CO-4	To understand food, feeding and digestion mechanism of chickens
	CO-5	Identify the poultry diseases and their control.
	CO-6	To adminitise the breeding management of broilers and layers of chickens.
	T. Y. B.Sc. Semester-VI ZO-361: Medical & Forensic Zoology	
24.	**CO-1**	Define the basics principles of Medical and Forensic Zoology.
	CO-2	Describe the fundamental principles and functions of forensic science and its significance to human society
	CO-3	Describe the scientific methods in crime detection
	CO-4	Establish modern tools, techniques and skills in forensic investigations.
	CO-5	Evaluate the advancements in the field of Medical and Forensic Zoology.
	CO-6	Correlate knowledge of handling different types of evidences and their examinations.
	T. Y. B.Sc. Semester-VI ZO-362: Animal Physiology	

25.	CO-1	Classify the various physiological organ-systems and their importance to the integrative functions of the human body.
	CO-2	Illustrate the anatomy and physiology of heart and cardiac cycle
	CO-3	Describe the excretory system, nitrogenous wastes and renal regulation
	CO-4	Discuss the neuronal physiology and various potentials
	CO-5	Explain the concept of nutrition and digestion.
	CO-6	Explain the structure, contraction and types of contraction of muscle
	T. Y. B.Sc. Semester-VI ZO-363: Molecular Biology	
26.	CO-1	Explain the DNA structure & types, topology, Physical properties; chromatin structure and organization.
	CO-2	Explain mechanism of DNA damage and repair.
	CO-3	Illustrate the process of DNA replication, transcription, translation and their regulations.
	CO-4	Justify the post translational and post transcriptional modifications.
	CO-5	Focus on concept of gene regulation
	CO-6	Illustrate the recombinant DNA technology.
	T. Y. B.Sc. Semester-VI ZO-364: Entomology	
27.	CO-1	Define basic concepts in Entomology and its scope.
	CO-2	Describe morphology and anatomy of Insects.
	CO-3	Establish concept of social organization in Insects.
	CO-4	Analyze the development process of Insects.
	CO-5	Identify disease causing insect vectors.
	CO-6	Summarize design and implement pest controlling methods against pests.
	T. Y. B.Sc. Semester-VI ZO-365: Techniques in Biology	
28.	CO-1	Demonstrate the working of different microscopes.
	CO-2	Illustrate the tools used in histological preparations
	CO-3	Justify the use of various stains and dyes used in microtomy.
	CO-4	Justify the importance of Immunohistochemistry.
	CO-5	Describe different type of blood cells.
	CO-6	Calculate various biodiversity indices.
	T. Y. B.Sc. Semester-VI ZO-366 Evolutionary Biology	
29.	CO-1	Define overview of Concept of Evolution.
	CO-2	Understanding of Analogy, Homology, Paleontological Evidences, Embryological Evidences and Molecular Phylogeny.
	CO-3	Differentiate between Lamarckism, Darwinism and Neo-Darwinism theories.
	CO-4	Describe Micro-evolutionary changes, Speciation and Adaptive Radiation.
	CO-5	Able to apply Hardy –Weinberg law of population genetics
	CO-6	Enumerate fauna of various zoological realm.
	T. Y. B.Sc. Semester-VI ZO-367: Zoology Practical Paper 1	
30.	CO-1	Demonstrate the ability to identify and collect animal specimens for medical and forensic purpose.
	CO-2	Perform dissection of animal specimen to study their anatomy and physiology.
	CO-3	Conduct experiment to investigate the function of animal systems
	CO-4	Apply the principle of medical and forensic zoology to solve problem in the field of medicine and forensic.
	CO-5	Prepare and present reports on animal specimen and experiment.
	CO-6	Communicate effectively with other student, professionals, and public about medical and forensic zoology and animal physiology.
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI ZO-368: Zoology Practical Paper II	
31.	CO-1	Demonstrate the ability to isolate and purify DNA and RNA.
	CO-2	Perform PCR and other molecular biology techniques.

	CO-3	Identify and classify insect using morphological and molecular methods
	CO-4	Conduct experiment to investigate the structure and function of gene and protein.
	CO-5	Apply the principles of molecular biology to solve problems in the field of entomology.
	CO-6	Prepare and present report on molecular biology experiment and insect specimens.
	T. Y. B.Sc. Semester-VI ZO-369: Zoology Practical Paper III	
32.	CO-1	Demonstrate the ability to use a variety of technique in biology and evolutionary biology.
	CO-2	Apply these technique to solve problems in these fields
	CO-3	Be familiar with the ethical consideration in the use of these techniques
	CO-4	Prepare and present reports on techniques used in biology and evolutionary biology
	CO-5	Communicate effectively with other students, professionals and public about techniques in biology and evolutionary biology
	CO-6	Contribute to the advancement of knowledge in biology and evolutionary biology
	T. Y. B.Sc. Semester-VI ZO-3610 Environmental Impact Assessment	
33.	CO-1	Define environmental impact assessment and explain its purpose
	CO-2	Identify the different types of environmental impacts
	CO-3	Describe the steps involved in conducting an environmental impact assessment
	CO-4	Analyze the environmental regulations related to environmental impact assessment
	CO-5	Evaluate the environmental impact of proposed projects
	CO-6	Communicate the results of an environmental impact assessment to stakeholders
	T. Y. B.Sc. Semester-VI ZO-3611 Project	
34.	CO-1	Plan the project by selecting a suitable title
	CO-2	Establish Hypothesis, Objectives of the project
	CO-3	Perform review of the available literature
	CO-4	Choose Methodology to be used in Project work
	CO-5	Infer outcomes of the Project work
	CO-6	Predict conclusion, discussion and recommend future plans

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) UG: MICROBIOLOGY

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), F. Y. B. Sc. -Microbiology	
	After the completion of course Students should be able to-	
	F. Y. B.Sc. Semester-I MB-111: Introduction to Microbial World	
1.	CO-1	Students will discover the contributions of different scientists in the fields of Microbial science.
	CO-2	Students will have identified about different types of microbes.
	CO-3	Students will have understood emerging fields of science with respect to Microbiology.
	CO-4	Students will able to predict the basic concepts related to the fields of microbiology.
	CO-5	Students will understand the different research experiment.
	F. Y. B.Sc. Semester-I MB-112: Basic Techniques in Microbiology	
2.	CO-1	Students will be able to understand the basics techniques used in Microbiology
	CO-2	Students will be able to apply applications of basic techniques.
	CO-3	Students will understand Different staining techniques.
	CO-4	Students will be able to classify microorganism on the basis of their morphology.
	CO-5	Students will learn sterilization and disinfection techniques used in microbiology field.
	F. Y. B.Sc. Semester-I MB-113: Practical Course based on theory papers	
3.	CO-1	Students will learn safety measures and Good laboratory practices in microbiology laboratory.
	CO-2	Students will able to prepare slide and observe microorganisms
	CO-3	Students will understand handling of different instruments in microbiology laboratory
	CO-4	Students will be able to classify microorganism on the basis of their morphology.
	CO-5	Students will learn sterilization and disinfection techniques used in microbiology field.
	F. Y. B.Sc. Semester-II MB-121: Bacterial Cell	
4.	CO-1	Students will be able to illustrate bacterial cytology.
	CO-2	Students will Distinguish bacterial cell based on morphological characters.
	CO-3	Students will understand different types of biomolecules.
	CO-4	Students will get idea about nucleic acid
	CO-5	Students will be Introduced with Bergey's Manual of Determinative and

		Systemic Bacteriology
	F. Y. B.Sc. Semester-II MB-122: Microbial Cultivation and Growth	
5.	CO-1	Students will learn about the technique of isolation and enumeration of microbes.
	CO-2	Concepts related to extremophilic microbes chemo-lithotrophic bacteria archea and fungi.
	CO-3	Design and preparation of media
	CO-4	Maintenance of bacterial and fungal cultures using different techniques.
	CO-5	Students will understand the bacterial growth kinetics and measurements
	F. Y. B.Sc. Semester-II MB-123: Practical Course based on theory papers MB121 and MB122	
6.	CO-1	Preparation of laboratory media for growth of microorganism
	CO-2	Students will learn to differentiate bacteria based on different stating technique.
	CO-3	Students will learn different technique for Preservation of cultures.
	CO-4	Students will learn about the technique of isolation and enumeration of microbes.
	CO-5	Students will able to illustrate bacterial cytology.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Microbiology	
	S. Y. B.Sc. Semester-III MB-231: Medical Microbiology and Immunology	
7.	CO-1	Students will be able to correlate disease symptoms with causative agent.
	CO-2	Knowledge of basic and general concepts of causation of disease by the pathogenic microorganism.
	CO-3	Understanding the concept of antigen and antibody.
	CO-4	Students will able to predict different chemotherapeutic agent.
	CO-5	Students will able learn practical skills in immunological experiments those undertaken in diagnostic laboratories and research laboratories.
	S. Y. B.Sc. Semester-III MB-232: Bacterial Physiology and Fermentation Technology Microbiology	
8.	CO-1	Students will define the metabolic pathways unique to microorganism
	CO-2	Students will ask the basic concept of Enzymes
	CO-3	They will apply the knowledge of industrially important microbial strains.
	CO-4	Analyze the various fermented product and Media involved in fermentation conditions.
	CO-5	Students will assess the fermentation techniques used in industry.
	S. Y. B.Sc. Semester-III MB-233: Practical based on MB 231 and MB 232	
9.	CO-1	Knowledge to define diagnostic skills, including the use and interpretation of laboratory tests in the diagnosis of infectious diseases.
	CO-2	Students will able to disscuss slide and observe microorganisms
	CO-3	By the end of the course, the student should be able to apply different methods for isolation of industrially important microorganism.
	CO-4	Classify the various fermented product and Media involved in fermentation conditions.
	CO-5	Students will evaluate fermentation techniques used in industry.
	S. Y. B.Sc. Semester-IV MB-241: Bacterial Genetics	
10.	CO-1	Students will able to state the detailed structure of nucleic acids
	CO-2	Students will summarize the concept of replication, transcription and translation
	CO-3	Students will evaluate the mechanisms of gene expression, gene transfer and regulation.
	CO-4	To justify types and effects of mutations and recombination.
	CO-5	Students will relate the knowledge about concept of plasmid.
	S. Y. B.Sc. Semester-IV MB-242: Air, Water and Soil Microbiology	
11.	CO-1	Student should be able to define the microbial flora of air.

	CO-2	Describe the role microorganism in composting and humus formation.
	CO-3	Be applying the knowledge with the role of microorganism in nitrogen fixation.
	CO-4	Analyze the mechanism of microbial interaction with microbes, plant, animal and insects.
	CO-5	Decide the role of microorganism as a indicator of fecal pollutions.
	S. Y. B.Sc. Semester-IV MB-243: Practical based on MB 241 and MB 242	
12.	CO-1	Students will be able to define isolation and preparation of bioinoculant.
	CO-2	Students will estimate different ways of isolation of bacterial mutants.
	CO-3	Students will act on different methods to Carry out mutations in bacteria.
	CO-4	Analyze epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.
	CO-5	Assess Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Microbiology	
	T. Y. B.Sc. Semester-V MB-351: Medical microbiology I	
13.	CO-1	Describe the human anatomy,pathogen sassociated with diseases.
	CO-2	Undersand the knowledge of principles underlying establishment of pathogens in humanbody.
	CO-3	Predict the epidemiological patterns of microbial disease transmission as variousmodes,intensityat local andglobal level.
	CO-4	Focus on Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strat egiesto mitigate.
	CO-5	Assess the identification systems for microbial disease diagnosis, disease treatment and prevention measures.
	T. Y. B.Sc. Semester-V MB-352: Immunology I	
14.	CO-1	Acquire knowledge of principles underlying establishment of pathogens in human body.
	CO-2	Understand the human anatomy, pathogens associated with diseases.
	CO-3	Comprehend of pathogenesis of specific pathogens causing microbial diseases.
	CO-4	Assessepidemiologicalpatternsofmicrobialdiseasetransmissionasvariousmodes, intensity at local and global level.
	CO-5	Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	T. Y. B.Sc. Semester-V MB-353: Enzymology	
15.	CO-1	To describe methods of active site determination, role of enzymes.
	CO-2	To explain the perform enzyme assay, purification and quantification of enzymes activity.
	CO-3	To illustrate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes.
	CO-4	To analyze mechanisms of transport of solutes across the membrane.
	CO-5	To get evaluate mechanism of biosynthesis and degradation of biomolecules.
	T. Y. B.Sc. Semester-V MB--354: Genetics	
16.	CO-1	To recognize aknowledge basein Genetics and Molecular Biology.
	CO-2	To illustrates the central dogma of Molecular Biology
	CO-3	To construct genetic map of bacteria and fungi
	CO-4	To get connect to concept of recombination and bacteriophage Genetics
	CO-5	To estimate the concept cloning in bacteria
	T. Y. B.Sc. Semester-V MB-355: Fermentation Technology -I	
17.	CO-1	To acquaint fermentation economics, process patentability, process validation.
	CO-2	To impart technical understanding of commercial fermentations.

	CO-3	To optimize and sterilize media used in fermentation industry for commercially economical and efficient fermentations.
	CO-4	To comprehend the large scale productions of commercially significant fermentation products of classical and recent significance.
	CO-5	To apply classical, advanced strain improvement and isolation techniques for fermentation processes
	T. Y. B.Sc. Semester-V MB-356: Agriculture Microbiology	
18.	CO-1	To acquaint importance of microorganisms in sustainable agriculture, biotechnological application of bio films, edible vaccines.
	CO-2	To understand plant growth improvement with respect to disease resistance, environment tolerance.
	CO-3	To correlate Soil Microbiome and Role of microorganisms in soil health
	CO-4	To correlate stages of plant disease development, epidemiology and symptom based classification, control methods.
	CO-5	To determine the use of Microorganisms as tools in plant genetic engineering.
	T. Y. B.Sc. Semester-V MB-357: Practical course- I	
19.	CO-1	To describe laboratory analysis of clinical specimens in cases when an infectious disease is suspected.
	CO-2	To identify Physical, Chemical and Microscopic examination of Clinical samples.
	CO-3	To illustrate Development of hypothesis, Data collection, organization, statistical analysis, graphical representation using computers and interpretation, Preparation of report.
	CO-4	To explain Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strat egiesto mitigate.
	CO-5	Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures
	T. Y. B.Sc. Semester-V MB-358: Practical course- II	
20.	CO-1	To describe the basics of microbiology and biochemistry.
	CO-2	Students will understand study the detailed structure of nucleic acids.
	CO-3	To determine chromatography in biochemistry.
	CO-4	To explain mechanisms of transport of solutes across the membrane.
	CO-5	To asses the concept cloningin bacteria.
	T. Y. B.Sc. Semester-V MB-359: Practical course- III	
21.	CO-1	Students will describe bout the different types of fermentation processes, equipment's used and microbiological processes involved
	CO-2	To illustratec about Soil Microbiome
	CO-3	To explain knowledge about soil health.
	CO-4	To plan optimize and sterilize me diause dinfermentation industry for commercially economical and efficient fermentations
	CO-5	To formulate the use of Microorganisms a tools inplant genetic engineering.
	CO-6	To understand techniques in dairy products.
	T. Y. B.Sc. Semester-VI MB-361: Medical Microbiology II	
22.	CO-1	Recall identification systems for microbial disease diagnosis, disease treatment and prevention measures.
	CO-2	To estimate the human anatomy, pathogens associated with diseases.
	CO-3	Compute knowledge of principles underlying establishment of pathogens in human body
	CO-4	Criticize Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate
	CO-5	Assess epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.

	T. Y. B.Sc. Semester-VI MB-362: Immunology II	
23.	**CO-1**	Acquire knowledge of principles underlying establishment of pathogens in human body.
	CO-2	Understand the human anatomy, pathogens associated with diseases.
	CO-3	Comprehend of pathogenesis of specific pathogens causing microbial diseases.
	CO-4	Assessepidemiologicalpatternsofmicrobialdiseasetransmissionasvariousmodes, intensity at local and global level.
	CO-5	Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	T. Y. B.Sc. Semester-VI MB-363: Metabolism II	
24.	**CO-1**	To describe the mechanisms of transport of solutes across them membrane
	CO-2	To explain the methods of active site determination, role of enzymes and its cofactors in microbial physiology.
	CO-3	To apply basic concept of autotrophic mode of metabolism of prokaryotes.
	CO-4	To correlate regulation of metabolism at enzymatic levels.
	CO-5	To criticize mechanism of biosynthesis and degradation of biomolecules
	T. Y. B.Sc. Semester-VI MB-364: Molecular Biology II	
25.	**CO-1**	To recognize aknowledge basein Genetics and Molecular Biology.
	CO-2	To illustrates the central dogma of Molecular Biology
	CO-3	To construct genetic map of bacteria and fungi
	CO-4	To get connect to concept of recombination and bacteriophage Genetics
	CO-5	To estimate the concept cloning in bacteria
	T. Y. B.Sc. Semester-VI MB-365: Fermentation Technology -II	
26.	**CO-1**	To recall fermentation process including microbial metabolism, fermentation equipment and proces opimiztion.
	CO-2	To impart technical understanding of commercial fermentations.
	CO-3	To apply classical, advance strain improvement isolation techniques for fermentation processs.
	CO-4	To analyse product recovery using suitable methods and ensuring quality of the finish end product by quality assurance test.
	CO-5	To criticize fermentation economics, process patentability and process validation.
	T. Y. B.Sc. Semester-VI MB-366 Food Microbiology	
27.	**CO-1**	To describe food classification based on their perishability, intrinsic and extrinsic factors affecting the growth of microbes in foods, role of microorganisms in food fermentation
	CO-2	To estimate about food spoilage ,food borne diseases,predit sposition and preventive and control measures
	CO-3	To apply principles of sanitation, heat treatment, irradiation, modified atmosphere,antimicrobial preservatives and combination of method (hurdle concept) to controlmicrobialgrowth with emphasis on HACCP guidelines.
	CO-4	To analyse food safety problem and solutions in India and global scale.
	CO-5	To justify and classify types of microorganism in food processing and compare their characteristics and behavior
	T. Y. B.Sc. Semester-VI MB-367: Practical Course-I	
28.	**CO-1**	To describe laboratory analysis of clinical specimens in cases when an infectious disease is suspected.
	CO-2	To identify Physical,ChemicalandMicroscopicexaminationofClinicalsamples.
	CO-3	To illustrate Development of hypothesis,Datacollection,organization,statistical analysis,graphicalrepresentationusingcomputersandinterpretation,Preparationof report.

	CO-4	To explain Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	CO-5	Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI MB-368: Practical Course-II	
29.	CO-1	To be able to know and describe about various cell types present in blood, their genesis and function, and to communicate and discuss the molecular basis of blood coagulation.
	CO-2	To be able to predict and discuss fundamental metabolic processes
	CO-3	To apply performing biochemistry test.
	CO-4	To analyze mechanisms of transport of solutes across the membrane.
	CO-5	To summarize genetic map of bacteria and fungi
	T. Y. B.Sc. Semester-VI MB-369: Practical Course-III	
30.	CO-1	Describe diversity of microorganisms, bacterial cell structure and function, microbial growth
	CO-2	To explain the diverse physical and chemical conditions needed for bacterial development.
	CO-3	To develop fermentation product.
	CO-4	To explain acquire knowledge about food spoil age, food borne diseases, predisposition and preventive and control measures
	CO-5	To assess to apply principles of sanitation, heat treatment, irradiation, modified atmosphere, antimicrobial preservatives and combination of method (hurdle concept) to control microbial growth with emphasis on HACCP guidelines.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science
Estd. 1964
Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) UG: B.B.A. - Computer Applications

Sr. No.	CO Number	Course Outcomes
	Faculty: Commerce (UG), Program: Bachelor of Commerce (B.B.A. -CA) F. Y. B. B. A. - CA	
	After the completion of course Students should be able to-	
	F. Y. B. B. A. – CA Semester-I CA 101: Business Communication	
1.	CO-1	Identify key principles in business communication.
	CO-2	Discuss different processes and considerations involved in writing in business.
	CO-3	Differentiate various types of business reports.
	CO-4	Compose e-mails and Voice mail.
	F. Y. B. B. A. – CA Semester-I CA 102: Principle of Management	
2.	CO-1	Identify various approaches in management.
	CO-2	Classify the roles and responsibilities associated with managerial functions.
	CO-3	Analyze the key contributors and their contributions in the development of management decisions.
	CO-4	Decide what a manager does and how they are integral to planning, organizing, leading, and controlling a modern organization.
	F. Y. B. B. A. – CA Semester-I CA 103: C Language	
3.	CO-1	Define the basic Structure of C program and identify the I/O functions.
	CO-2	Construct If-else statement, Loop control structures, Conditional and looping statements.
	CO-3	Distinguish arrays and Strings and types of Functions.
	CO-4	Create Pointers and Structures.
	F. Y. B. B. A. – CA Semester-I CA 104: Database Management System	
4.	CO-1	Identify the basic concepts and various data model used in database design ER modeling concepts and architecture use and design queries using SQL.
	CO-2	Apply relational database theory and be able to describe relational algebra expression, tuple and domain relation expression from queries.
	CO-3	Evaluate the purpose of query processing and optimization and also Demonstrate the basic of query evaluation.
	CO-4	Develop the concept of transaction, concurrency control and recovery in database.
	F. Y. B. B. A. – CA Semester-I CA 105: Statistics	
5.	CO-1	Define the concept of statistics and role of statistics.
	CO-2	Apply the measures of central tendency and dispersion
	CO-3	Evaluate the concept of dispersion.
	CO-4	Formulate the Concept of correlation and regression.
	F. Y. B. B. A. – CA Semester-I CA 106: Computer Laboratory Based on 103 &104	
6.	CO-1	Identify the need of programming languages and problem solving techniques.
	CO-2	Develop an in-depth understanding of functional and logical concepts of C Programming and DBMS.

K.J. Somaiya College of Arts Commerce & Science Estd. 1971 Kopargaon

	CO-3	Analyze logical thinking Implement the algorithms and queries in DBMS.
	CO-4	Develop real time applications using the power of C language and DBMS.
	F. Y. B. B. A. – CA Semester-I CA 107: ADD-On (PPA) (30 Hours)	
7.	CO-1	Define Algorithm and describe the characteristics of an algorithm.
	CO-2	Construct flowchart for algorithms implemented.
	CO-3	Categorize library function and recursion function.
	CO-4	Design and develop algorithm and flowchart using array.
	F. Y. B. B. A. – CA Semester-II CA 201: Organization Behavior & Human Resource Management	
8.	CO-1	Define the basic concept of OB&HRM to develop knowledge about major trends.
	CO-2	Describe the role of HR Manager And its Functions.
	CO-3	Compare the concept of HRP, Recruitment and Selection.
	CO-4	Develop the decision making skill.
	F. Y. B. B. A. – CA Semester-II CA 202: Financial Accounting	
9.	CO-1	Describe and explain the ethical and social responsibilities of accountants in ensuring the integrity of financial information.
	CO-2	Develop an understanding of internal control issues and the effects of the regulatory environment on financial reporting
	CO-3	Classify the bank reconciliation Statements.
	CO-4	Develop the ability to importance of software in accounting.
	F. Y. B. B. A. – CA Semester-II CA 203: Business Mathematics	
10.	CO-1	Define and understand Ratio, Proportion and Percentage.
	CO-2	Compute Profit and loss statement.
	CO-3	Calculate interest and future value of annuity
	CO-4	Formulate NWCM, LCM, VAM.
	F. Y. B. B. A. – CA Semester-II CA 204: Relational database	
11.	CO-1	List the various RDBMS product and its uses.
	CO-2	Describe writing of compact code, triggers and understanding of exact data retrieval.
	CO-3	Analyze transaction concept and transaction properties.
	CO-4	Conclude Concurrency control and recovery system.
	F. Y. B. B. A. – CA Semester-II CA 205: Web Technology HTML-JS-CSS	
12.	CO-1	Define WWW and Client Server Communication.
	CO-2	Explain Web Design.
	CO-3	Develop web pages using HTML and CSS.
	CO-4	Create Web application Using JS
	F. Y. B. B. A. – CA Semester-II CA 206: Computer Laboratory Based on 204 & 205	
13.	CO-1	Identify the need of Web Application.
	CO-2	Develop an in-depth understanding of HTML, CSS and RDBMS.
	CO-3	Analyze the queries in RDBMS.
	CO-4	Design the web pages using GUI.
	F. Y. B. B. A. – CA Semester-II CA 207: ADD-On (Advance C) (30 Hours)	
14.	CO-1	Describe union and enumeration.
	CO-2	Distinguish various functions and file management.
	CO-3	Correlate graphics function in C program.
	CO-4	Develop C Fundamentals.
	Faculty: Commerce (UG), Program: Bachelor of Commerce (B.B.A. -CA) F. Y. B. B. A. - CA	
	S. Y. B. B. A. – CA Semester-III CA 301: Digital Marketing	
15.	CO-1	Define E-Commerce and understand B-B, C-B, C-C relationship.
	CO-2	Distinguish between Digital and Real Marketing.
	CO-3	Designing effective content for digital marketing using various Digital Marketing tools.
	CO-4	Developing an effective marketing strategy using CRM
	S. Y. B. B. A. – CA Semester-III CA 302: Data Structure	

16.	CO-1	Define the concepts of ADTs.
	CO-2	Develop skills in the implementation and application of different types of data structures
	CO-3	Classify basic algorithms related to sorting, searching and hashing.
	CO-4	Create algorithm and data structure in various real-life software problems.
	S. Y. B. B. A. – CA Semester-III CA 303: Software Engineering	
17.	CO-1	Define software engineering concepts and their applications.
	CO-2	Develop knowledge of the SDLC process
	CO-3	Differentiate the software development models such as waterfall, spiral, and prototyping.
	CO-4	Evaluate Restructuring and forward Engineering.
	S. Y. B. B. A. – CA Semester-III CA 304: PHP	
18.	CO-1	Define variables, numbers, string, structures and loops.
	CO-2	Classify PHP's Built-in functions.
	CO-3	Distinguish Session and Cookie concept.
	CO-4	Create database connectivity.
	S. Y. B. B. A. – CA Semester-III CA 305: Big data	
19.	CO-1	Define basic techniques that form the foundations of Big Data
	CO-2	Differentiate big data applications and big data analytics.
	CO-3	Classify building blocks of Big Data and specialized aspects of big data with the help of different big data applications.
	CO-4	Generalize data using exploratory data analysis and visualization using graphs
	S. Y. B. B. A. – CA Semester-III CA 306: Computer Laboratory Based on 302, 304 and 305	
20	CO-1	Identify the need of Web Application.
	CO-2	Develop an in-depth understanding of PHP and DS
	CO-3	Analyze the Web applications.
	CO-4	Develop the web pages using GUI.
	S. Y. B. B. A. – CA Semester-III CA 307: Environment Awareness	
21.	CO-1	Define multidisciplinary nature of environmental studies.
	CO-2	Give examples of Air pollution, water pollution, soil pollution, marine pollution, noise pollution.
	CO-3	Develop knowledge about prevention of pollution.
	CO-4	Create any type of pollution report presentation
	S. Y. B. B. A. – CA Semester-IV CA 401: Networking	
24.	CO-1	Describe Computer Network concepts.
	CO-2	Classify working of networking models, addresses, transmission media and Connectivity devices.
	CO-3	Distinguish network security and cryptography.
	CO-4	Develop network security to protect computers.
	S. Y. B. B. A. – CA Semester-IV CA 402: Object Oriented Concepts Through CPP	
25.	CO-1	Define basic object-oriented concepts and the issues involved in effective class design
	CO-2	Develop programming skills using C++ features.
	CO-3	Classify various object-oriented concepts used to solve real-life problems.
	CO-4	Construct different concepts of file handling and exception handling
	S. Y. B. B. A. – CA Semester-IV CA 403: Operating System	
26.	CO-1	Define fundamental operating system abstraction such as process, semaphore, threads.
	CO-2	Discover the services provided by Operating System.
	CO-3	Analyze process scheduling, CPU Scheduling, and memory management algorithms.
	CO-4	Design issues related to file management and various related algorithms.
	S. Y. B. B. A. – CA Semester-IV CA 404: Advance PHP	
27.	CO-1	Define concepts of internet programming.
	CO-2	Develop server-side programming works on the web.

	CO-3	Compare PHP Frameworks like (Joomla / Drupal)
	CO-4	Create Web application.
	S. Y. B. B. A. – CA Semester-IV CA 405: Project	
28.	CO-1	Identify specific Project name and which technology is used.
	CO-2	Construct Various modules of application.
	CO-3	Connect the Database.
	CO-4	Develop the application.
	S. Y. B. B. A. – CA Semester-IV CA 406: Computer Laboratory Based on 402,404 (2 credits each)	
29	CO-1	Identify the need of Application.
	CO-2	Develop an in-depth understanding of PHP and CPP
	CO-3	Analyze the Web applications.
	CO-4	Develop the web pages using GUI.
	S. Y. B. B. A. – CA Semester-IV CA 407: ADD-On	
30.	CO-1	Define jQuery introduction.
	CO-2	Describe jQuery Syntax.
	CO-3	Classify HTML Manipulation.
	CO-4	Develop web pages.
	Faculty: Commerce (UG), Program: Bachelor of Commerce (B.B.A. -CA) F. Y. B. B. A. - CA	
	T. Y. B. B. A. – CA Semester-IV CA-501: Cyber Security	
31.	CO-1	Define Cyber Security and the Tools.
	CO-2	Differentiate Cyber Security and Cybercrime.
	CO-3	Analysis of Cyber laws.
	CO-4	Develop Cyber forensics awareness.
	T. Y. B. B. A. – CA Semester-V CA-502: OOSE	
32.	CO-1	Define Object oriented software engineering.
	CO-2	Construct different UML diagrams.
	CO-3	Differentiate software design with design patterns.
	CO-4	Generalize software against its requirements specification.
	T. Y. B. B. A. – CA Semester-V CA-503: Core Java	
33.	CO-1	Define java collection framework and I/O classes
	CO-2	Classify OOP techniques.
	CO-3	Develop applets for web applications.
	CO-4	Design GUI-based applications.
	T. Y. B. B. A. – CA Semester-V CA-504: Python	
34.	CO-1	Identify importance of Python language
	CO-2	Develop a program to solve a real-world problem
	CO-3	Classify GUI application
	CO-4	Create Application.
	T. Y. B. B. A. – CA Semester-V CA-505: Project	
35.	CO-1	Identify specific Project name and which technology is used.
	CO-2	Construct Various modules of application.
	CO-3	Connect the Database.
	CO-4	Develop the application.
	T. Y. B. B. A. – CA Semester-V CA-506: Computer Laboratory Based on 503 and 504	
36.	CO-1	Identify the need of Application.
	CO-2	Develop an in-depth understanding of Core java and Python
	CO-3	Analyze the applications.
	CO-4	Develop the various programs and applications.
	T. Y. B. B. A. – CA Semester-V CA-507: Add on Course-IOT	
37.	CO-1	Define fundamentals of IOT.

	CO-2	Compare wired and wireless communication.
	CO-3	Assess IOT Protocol.
	CO-4	Develop application of IOT.
	T. Y. B. B. A. – CA Semester-VI CA-601: Recent Trends in Information Technology	
38.	CO-1	Define basic concepts of AI.
	CO-2	Apply basic, intermediate and advanced techniques to mine the data.
	CO-3	Evaluate concept of Spark programming.
	CO-4	Construct architecture of data warehouse.
	T. Y. B. B. A. – CA Semester-VI CA-602: Software Testing	
39.	CO-1	Describe the various process of developing different type's mobile applications use in the real world to solve the problems.
	CO-2	Create various mobile applications on the Android Platform
	CO-3	Design various mobile application and implement that application which uses data storage of SQLite
	CO-4	Adapt location based services while developing applications
	T. Y. B. B. A. – CA Semester-VI CA-603: Advanced Java	
40.	CO-1	Define concepts of JDBC Programming, Multithreading and Socket Programming.
	CO-2	Classify concepts of spring and Hibernate, JSP and JDBC.
	CO-3	Develop applications in spring and hibernate.
	CO-4	Design website by using JDBC and JSP.
	T. Y. B. B. A. – CA Semester-VI CA-604: Android Programming	
41.	CO-1	Describe simple GUI applications, use built-in widgets and components.
	CO-2	Classify fundamentals of Android operating systems.
	CO-3	Establish Database Connectivity.
	CO-4	Develop skills in using Android software development tools.
	T. Y. B. B. A. – CA Semester-VI CA-605: Project	
42.	CO-1	Identify specific Project name and which technology is used.
	CO-2	Construct Various modules of application.
	CO-3	Connect the Database.
	CO-4	Identify specific Project name and which technology is used.
	T. Y. B. B. A. – CA Semester-VI CA-606: Computer Laboratory Based on 603 and 604	
43.	CO-1	Identify the need of Application.
	CO-2	Develop an in-depth understanding of java and Android
	CO-3	Analyze the applications.
	CO-4	Develop the various programs and applications.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) UG: COMPUTER SCIENCE

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.-CS) F. Y. B. Sc. - CS	
	After the completion of course Students should be able to	
	F. Y. B.Sc. - CS Semester-I CS-111: Problem Solving using Computers and C Programming	
1.	CO-1	To explore algorithmic approaches to problem soling
	CO-2	To understand structured programming approach
	CO-3	To test, debug and execute programs.
	CO-4	To develops modular programs using control structures and arrays in 'C'.
	F. Y. B.Sc. - CS Semester-I CS-112: Database Management System	
2.	CO-1	SolIe real world problems using appropriate set, function, and relational models. Design E-R Model for given requirements and convert the same into database tables.
	CO-2	Design E-R Model for given requirements and convert the same into database tables.
	CO-3	Use SQL.
	CO-4	To understand creations, manipulation and querying of data in databases
	F. Y. B.Sc. - CS Semester-I CS-113: Practical on CS-111 & CS-112	
3.	CO-1	Deifies pseudo codes and flowchart for computational problems
	CO-2	Write, debug and execute simple programs in 'C'.
	CO-3	Create database tables in postage SQL
	CO-4	Write and execute simple, nested queries
	F. Y. B.Sc. - CS Semester-I ELC-111: Semiconductor Devices and Basic Electronic System	
4.	CO-1	Remember the basic concept of electronics
	CO-2	To understand basic electronic component
	CO-3	To test electronic devices in various circuit application
	CO-4	Develop circuit designing skill using various electronic component
	F. Y. B.Sc. - CS Semester-I ELC-112: Principle of Digital Electronics	
5.	CO-1	Remember the basic digital principles
	CO-2	To understand basic digital electronic logic
	CO-3	To test digital electronics circuits in various application
	CO-4	Develop computer hardware skill through digital electronics
	F. Y. B.Sc. - CS Semester-I ELC-113: Electronics Lab IA	
6.	CO-1	Remember the basic concept of electronics
	CO-2	To understand basic electronic component
	CO-3	To understand basic digital electronic logic
	CO-4	To test digital electronics circuits in various application
	F. Y. B.Sc. - CS Semester-I MTC-111: Matrix Algebra	
7.	CO-1	Organize, manage and present Matrix operations.

K.J.Somaiya College of Arts, Commerce & Science Estd. 1964 Kopargaon

	CO-2	Analyze system of Linear equations and Solution sets of linear system.
	CO-3	Analyze the matrix of linear transformation, Dimension and Rank.
	CO-4	Use the basic properties of determinants, Volume and linear transformations.
	F. Y. B.Sc. - CS Semester-I MTC-112: Discrete Math	
8.	CO-1	Translate real-world problems into Predicates and Quantifiers.
	CO-2	Derive the relations, types of relations, equivalence relations, Partial ordering relations.
	CO-3	Calculate Basics of counting and Cardinality of set.
	CO-4	Analyze Recurrence Relations and Homogeneous Solutions.
	F. Y. B.Sc. - CS Semester-I MTC-113: Math Practical-I	
9.	CO-1	Tabulation and construction of Matrix operations.
	CO-2	Analyze system of linear equations and comparison for the matrix of linear transformation using EXCEL.
	CO-3	Calculate Basics of counting and Cardinality of set.
	CO-4	Analyze Recurrence Relations and Homogeneous Solutions.
	F. Y. B.Sc. - CS Semester-I CSST-111: Descriptive Statistics	
10.	CO-1	Organize, manage and present data.
	CO-2	Analyze statistical data graphically using frequency distributions and cumulative frequency distributions.
	CO-3	Analyze statistical data using measures of central tendency, dispersion and location.
	CO-4	Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.
	F. Y. B.Sc. - CS Semester-I CSST-112: Mathematical Statistics	
11.	CO-1	Translate real-world problems into probability models.
	CO-2	Derive the probability density function of transformation of random variables.
	CO-3	Calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.
	CO-4	Analyze Statistical data using MS-Excel.
	F. Y. B.Sc. - CS Semester-I CSST-113: Statistics Practical-I	
12.	CO-1	Tabulation and construction of frequency distribution.
	CO-2	Summary statistics for ungrouped data and comparison for consistency using EXCEL.
	CO-3	Measure of Skewness and kurtosis based on moments.
	CO-4	Fitting of Binomial distribution and computation of expected frequencies.
	F. Y. B.Sc. - CS Semester-II CS-121: Advanced C Programing	
13.	CO-1	Design and develop solutions to real world problems using C.
	CO-2	To Develop modular programs using control structures, pointers, arrays, strings and structures.
	CO-3	Understand code organization with complex data types and structures.
	CO-4	Work with files.
	F. Y. B.Sc. - CS Semester-II CS-122: Relational Database Management System	
14.	CO-1	Design and develop solutions to real world problems using C.
	CO-2	To Develop modular programs using control structures, pointers, arrays, strings and structures.
	CO-3	Understand code organization with complex data types and structures.
	CO-4	Work with files.
	F. Y. B.Sc. - CS Semester-II CS-123: Practical on CS-121 & CS-122	
15.	CO-1	Remember the components of instrumentation system
	CO-2	To understand principle of instrumentation system
	CO-3	To test electronic sensors and smart sensor in various circuit application
	CO-4	Develop smart instrumentation system
	F. Y. B.Sc. - CS Semester-II ELC-121: Instrumentation System	
16.	CO-1	Tabulation and construction of frequency distribution.
	CO-2	Summary statistics for ungrouped data and comparison for consistency using EXCEL.

	CO-3	Measure of Skewness and kurtosis based on moments.
	CO-4	Fitting of Binomial distribution and computation of expected frequencies.
	F. Y. B.Sc. - CS Semester-II ELC-122: Basics of Computer Organization	
17.	CO-1	Remember the basic fundamental concept of computer.
	CO-2	To understand computer organization and its components
	CO-3	To test digital and electronics circuits used in computer system
	CO-4	Develop computer hardware skill through digital logics and various component of electronics
	F. Y. B.Sc. - CS Semester-II ELC-123: Electronic Lab IB	
18.	CO-1	To understand principle of instrumentation system
	CO-2	To test electronic sensors and smart sensor in various circuit application
	CO-3	To test digital and electronics circuits used in computer system
	CO-4	Develop computer hardware skill through digital logics and various component of electronics
	F. Y. B.Sc. - CS Semester-II MTC-121: Linear Algebra	
19.	CO-1	Tabulation and construction of frequency distribution.
	CO-2	Summary statistics for ungrouped data and comparison for consistency using EXCEL.
	CO-3	Measure of Skewness and kurtosis based on moments.
	CO-4	Fitting of Binomial distribution and computation of expected frequencies.
	F. Y. B.Sc. - CS Semester-II MTC-122: Graph theory	
20.	CO-1	Define graphs, digraphs and trees, and identify their main properties.
	CO-2	Describe and apply some basic algorithms for graphs.
	CO-3	Explain Hamilton path, circuit, elementary properties and examples.
	CO-4	Demonstrate different traversal methods for trees and graphs
	F. Y. B.Sc. - CS Semester-II MTC-123: Mathematics practical-2	
21.	CO-1	Remembering vector spaces and subspaces.
	CO-2	Understanding the concept of eigen values and eigen vector function.
	CO-3	Applying Hamilton path to study elementary properties and examples.
	CO-4	Creating different traversal methods plotting of various functions.
	F. Y. B.Sc. - CS Semester-II CSST-121: Methods of applied statistics	
22.	CO-1	Calculate and interpret the correlation between two variables.
	CO-2	Represent graphically and calculate the simple linear regression and nonlinear regression equations for a set of data. Interpret the results of bivariate regression and correlation analysis, for forecasting.
	CO-3	Calculate multivariate regression for three variables. Interpret the results of multivariate regression for forecasting.
	CO-4	Analyze the trend in time series and how to remove it.
	F. Y. B.Sc. - CS Semester-II CSST-122: Continuous probability distributions and testing of hypothesis	
23.	CO-1	Apply the knowledge of standard continuous probability distributions to solve real life problems by calculating probabilities.
	CO-2	Apply the concepts and definitions related to testing of hypothesis.
	CO-3	Perform Test of Hypothesis for a population parameter for single sample and two sample cases. Understand the concept of p-values.
	CO-4	Ability to generate model sample from given distributions.
	F. Y. B.Sc. - CS Semester-II CSST-123: Statistics Practical-II	
24.	CO-1	Model sampling form continuous uniform, exponential and normal distribution using EXCEL.
	CO-2	Fitting of normal distribution and computation of expected frequencies.
	CO-3	Time series - Estimation of trends by using the method of moving averages.
	CO-4	Linear correlation and regression and Large sample tests.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. –Comp. Science	

	S. Y. B.Sc. -CS Semester-III CS-231: Data Structure-I	
25.	**CO-1**	To learn the systematic way of solving problems
	CO-2	To design algorithms and different data structures efficiently
	CO-3	To understand the different methods of organizing large amount of data
	CO-4	To efficiently implement the non-linear data structures.
	S. Y. B.Sc. Semester-III CS-232: Software Engineering	
26.	**CO-1**	To learn the systematic way of solving problem
	CO-2	To understand the different methods of organizing large amount of data.
	CO-3	To efficiently implement the different data structures
	CO-4	To efficiently implement solutions for specific problems.
	S. Y. B.Sc. Semester-III CS-233: Practical On CS-231-& CS-232	
27.	**CO-1**	To learn the systematic way of solving problems
	CO-2	To design algorithms and different data structures efficiently
	CO-3	To understand the different methods of organizing large amount of data
	CO-4	To efficiently implement the non-linear data structures.
	S. Y. B.Sc. Semester-III MTC-231: Groups and Coding Theory	
28.	**CO-1**	Describe G.C.D. using division algorithm and expressing it as linear combination.
	CO-2	Demonstrate when a binary algebraic structure forms a group.
	CO-3	Determine cyclic subgroups and their generators.
	CO-4	Construct basic ideas of coding theory and cryptography.
	S. Y. B.Sc. Semester-III MTC-232: Numerical Techniques	
29.	**CO-1**	To Define different errors and approximations.
	CO-2	To Describe the difference between various difference operators.
	CO-3	To Calculate the integrals using different methods.
	CO-4	To Evaluate differential equation using various methods.
	S. Y. B.Sc. Semester-III MTC-233: Python Programming Language-I	
30.	**CO-1**	Explain strings, Lists, Tuples.
	CO-2	To apply Conditional and alternative statements, Chained and Nested Conditionals: if, if-else, if-elif-else.
	CO-3	Evaluate system of linear equations.
	CO-4	Explain strings, Lists, Tuples.
	S. Y. B.Sc. Semester-III ELC-231: Microcontroller Architecture and Programming	
31.	**CO-1**	Describe the architecture of 8051 microcontroller.
	CO-2	To interface I/O peripherals to 8051 microcontroller
	CO-3	To write programs for 8051 microcontroller
	CO-4	To design small microcontroller based projects
	S. Y. B.Sc. Semester-III ELC-232: Digital Communication Technique	
32.	**CO-1**	Define and explain terminologies of data communication
	CO-2	Understand the impact and limitations of various digital modulation techniques
	CO-3	To acknowledge the need of spread spectrum schemes.
	CO-4	Identify functions of data link layer and network layer while accessing communication link
	S. Y. B.Sc. Semester-III ELC-233: Electronics Practical - I	
33.	**CO-1**	To design and build his/her own microcontroller based projects.
	CO-2	To acquire skills of Embedded C programming
	CO-3	To know multiplexing and modulation techniques useful in developing wireless application
	CO-4	Do build and test own network and do settings
	S. Y. B.Sc. Semester-IV CS-241: Data Structure-II	
34.	**CO-1**	To learn the systematic way of solving problem
	CO-2	To understand the different methods of organizing large amount of data.

	CO-3	To efficiently implement the different data structures
	CO-4	To efficiently implement solutions for specific problems.
	S. Y. B.Sc. Semester-IV CS-242: Computer Network-1	
35.	CO-1	To prepare students with basic networking concepts: data communication, protocols and standards, various topologies and applications of network.
	CO-2	To Have a good understanding of the OSI and TCP/IP Reference Models and in particular have a good knowledge of Layers.
	CO-3	To Understand the working of various protocols
	CO-4	To Analyze the requirements for a given organizational structure
	S. Y. B.Sc. Semester-IV CS-243: Practical On CS-241-& CS-242	
36.	CO-1	To learn the systematic way of solving problems
	CO-2	To design algorithms and different data structures efficiently
	CO-3	To understand the different methods of organizing large amount of data
	CO-4	To efficiently implement the non-linear data structures.
	S. Y. B.Sc. Semester-IV MTC-241: Computational Geometry	
37.	CO-1	Describe 2D Transformation and Matrices.
	CO-2	Explain 3D Transformation and multiple Transformations.
	CO-3	To Classify the types of projection.
	CO-4	To construct Bezier Curve of order 2 and 3.
	S. Y. B.Sc. Semester-IV MTC-242: Operations Research	
38.	CO-1	To Define Two variable LP model and Linear programming applications and explain LP model in equation form and simplex method.
	CO-2	To calculate Dual of LPP.
	CO-3	Evaluate optimality Test of Transportation model.
	CO-4	To Formulate Assignment model, Hungarian method for assignment model.
	S. Y. B.Sc. Semester-IV MTC-243: Python Programming Language-II	
39.	CO-1	To describe and develop the skill of different formats of graphs and three dimensional points and lines.
	CO-2	Explain the Programming concepts and Graphical representation of two- and three-dimensional objects in Python.
	CO-3	To calculate the Generation of Bezier curve with given control points.
	CO-4	Design and implement a program to solve a real-world problem like Linear Programming Problems.
	S. Y. B.Sc. Semester-IV ELC-241: Embedded System	
40.	CO-1	Identify and label various instruments and equipment.
	CO-2	Understand and design experiments to test a hypothesis.
	CO-3	Discover the theoretical background of experiments.
	CO-4	Setup experimental equipment to implement an experimental approach.
	S. Y. B.Sc. Semester-IV ELC-242: Wireless Communication & IoT	
41.	CO-1	Know working of wireless technologies such as Mobile communication, GSM, GPRS
	CO-2	Become familiar with 3G and 4G Cellular Network Technologies for Data Connections.
	CO-3	Understand working principles of short range communication application.
	CO-4	Explore themselves and develop new IoT based applications
	S. Y. B.Sc. Semester-IV ELC-243: Electronics Practical - II	
42.	CO-1	To design and develop own smart applications using Raspberry-Pi
	CO-2	To Implement basic IoT applications on embedded platform
	CO-3	To build own IoT based system
	CO-4	To build experimental setup and test the circuits.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Comp. Science	
	T. Y. B.Sc.- CS Semester-V CS-351: Operating Systems – I	

43.	CO-1	Remember the various coordinate systems.
	CO-2	Understand special orthogonal coordinate system, parameters and writing gradient, divergence, curl and Laplacian.
	CO-3	Analyze Galilean and Lorentz transformation to study kinematic effects.
	CO-4	Applying various methods to solve different differential equations.
	T. Y. B.Sc.- CS Semester-V CS-352: Computer Networks – II	
44.	CO-1	Student will understand the different protocols of Application layer.
	CO-2	Develop understanding of technical aspect of Multimedia Systems
	CO-3	Develop various Multimedia Systems applicable in real time.
	CO-4	Understand, compare and apply cryptographic techniques for data security
	T. Y. B.Sc.- CS Semester-V CS-353: Web Technologies – I	
45.	CO-1	To describe basic concept of CSS, HTML and Web Server
	CO-2	Discuss Parameters and Types of String in PHP.
	CO-3	Apply Files and Database Handling techniques.
	CO-4	To create Structure of an Email Message.
	T. Y. B.Sc.- CS Semester-V CS-354: Foundations of Data Science	
46.	CO-1	Describe the concepts of Data Science, use appropriate models of analysis and derive insight from results.
	CO-2	Analyze the data using Descriptive statistics, inferential statistics.
	CO-3	Apply different data Transformation, data Reduction and data Discretization techniques.
	CO-4	Generalize the concept of data visualization.
	T. Y. B.Sc.- CS Semester-V CS-355: Object Oriented Programming using Java - I	
47.	CO-1	Describe the use of OOPs concepts.
	CO-2	Discuss use of classes, objects, Packages and Inheritance in java.
	CO-3	Develop and understand exception handling and working with files.
	CO-4	Design GUI based applications and develops applets for web applications.
	T. Y. B.Sc.- CS Semester-V CS-356: Theoretical Computer Science	
48.	CO-1	Differentiate between finite automata vs pushdown automata vs Turing machine
	CO-2	To understand the Regular Language, Context Free Language, Context Sensitive Language and Unrestricted Language
	CO-3	To understand the relation between Automaton and Language
	CO-4	To create Turing Machine
	T. Y. B.Sc.- CS Semester-V CS-357: Practical course based on CS 351	
50.	CO-1	Describe the concept of process synchronization
	CO-2	Discuss the processes and thread scheduling by operating system.
	CO-3	Analyze multiple queue scheduling and multilevel feedback queue scheduling
	CO-4	Express various memory management schemes like continuous allocation paging and segmentation.
	T. Y. B.Sc.- CS Semester-V CS-358: Practical course based on CS 353 and CS 354	
51.	CO-1	To describe basic concept of CSS,HTML and Web Server
	CO-2	Discuss Parameters and Types of String in PHP.
	CO-3	Apply Files and Database Handling techniques.
	CO-4	To create Structure of an Email Message.
	T. Y. B.Sc.- CS Semester-V CS-359: Practical Course based on CS 355	
52.	CO-1	Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
	CO-2	Discuss how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
	CO-3	Determine use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development

	CO-4	Able to identify and describe common abstract user interface components to design GUI in Java using Applet & AWT along with response to events .
	T. Y. B.Sc.- CS Semester-V CS-3510: Python Programming	
53.	CO-1	Develop logic for problem solving
	CO-2	Determine the methods to create and develop Python programs by utilizing the data structures like lists, dictionaries, tuples and sets.
	CO-3	To be familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.
	CO-4	To write python programs and develop a small application project
	T. Y. B.Sc.- CS Semester-V CS-3511: Block chain Technology	
54.	CO-1	Learn the fundamentals of Blockchain Technology
	CO-2	Learn Blockchain programming
	CO-3	Basic knowledge of Smart Contracts and how they function
	CO-4	Learn about Bitcoin, Cryptocurrency and Ethereum
	T. Y. B.Sc.- CS Semester-VI CS-361: Operating Systems – II	
55.	CO-1	Describe the concepts of memory management
	CO-2	Compare and analyze the performance of different algorithms.
	CO-3	Apply deadlock handling techniques to determine existence of deadlock and recover it.
	CO-4	Implement different operating system related algorithms.
	T. Y. B.Sc.- CS Semester-VI CS-362: Software Testing	
56.	CO-1	To understand various software testing methods and strategies.
	CO-2	To understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software
	CO-3	To design test cases and test plans, review reports of testing for qualitative software
	CO-4	To understand latest testing methods used in the software industries.
	T. Y. B.Sc.- CS Semester-VI CS-363: Web Technologies – II	
57.	CO-1	To describe error handling in php.
	CO-2	Discuss XML document structure.
	CO-3	Apply javascript control statement and loop statement to design web pages.
	CO-4	To create web pages using MVC architecture.
	T. Y. B.Sc.- CS Semester-VI CS-364: Data Analytics	
58.	CO-1	Describe the concepts of Data analytics
	CO-2	Analyze data choose relevant models and algorithms for respective application.
	CO-3	Apply different data mining techniques like classification, prediction, clustering and association rule mining.
	CO-4	Express modeling and data analysis techniques to the solution of real world business problems.
	T. Y. B.Sc.- CS Semester-VI CS-365: Object Oriented Programming using Java - II	
59.	CO-1	Learn how to implement concurrent applications using threads; describe problems related to concurrent programming and how to solve these problems.
	CO-2	Student will Express database handling by using jdbc tool.
	CO-3	Develop web applications by using servlet, JSP etc.
	CO-4	Design and develop GUI application using Spring MVC.
	T. Y. B.Sc.- CS Semester-VI CS-366: Compiler Construction	
60.	CO-1	Understand the process of scanning and parsing of source code
	CO-2	Learn the conversion code written in source language to machine language
	CO-3	Understand tools like LEX.
	CO-4	Understand tools like YACC.
	T. Y. B.Sc.- CS Semester-IV CS-367: Practical course based on CS 361	
61.	CO-1	Management of deadlocks by operating system.

	CO-2	Develop understanding File System management
	CO-3	Develop various Disk space management and scheduling for processes
	CO-4	implement various algorithms of disk scheduling
	T. Y. B.Sc.- CS Semester-VI CS-368: Practical course based on CS 363 and CS 364	
62.	CO-1	To Learn XML and XML parsers
	CO-2	To Learn Java Script to program the behavior of web pages.
	CO-3	To Learn AJAX to make our application more dynamic
	CO-4	To create One PHP framework for effective design of web application.
	T. Y. B.Sc.- CS Semester-VI CS-369: Practical Course based on CS 365	
63.	CO-1	To Learn database Programming using Java.
	CO-2	Understand and Create dynamic web pages using Servlets and JSP.
	CO-3	To understand server-side programming.
	CO-4	To create basics of framework to develop secure web applications
	T. Y. B.Sc.- CS Semester-VI CS-3610: Software Testing Tools	
64.	CO-1	To understand various software testing methods and strategies.
	CO-2	To understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software.
	CO-3	To design test cases and test plans, review reports of testing for qualitative software.
	CO-4	To understand latest testing methods used in the software industries.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science
Estd. 1954
Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) UG: B. C. A. SCIENCE

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (UG), Program: Bachelor of Science (B.C.A. Sci.) F. Y. B. C. A. - Science	
	After the completion of course Students should be able to-	
	F. Y. B. C. A. – Sci. Semester-I BCA 111: Fundamentals of Computer	
1.	CO-1	Define working of computer and peripherals, types of software languages
	CO-2	Classify Storage devices, I/O devices, network devices
	CO-3	Choose commands and features of operating system and application software
	CO-4	Design open source software
	F. Y. B. C. A. – Sci. Semester-I BCA 112: Problem Solving and C Programming	
2.	CO-1	Define algorithm and explain its characteristics
	CO-2	Explain use of appropriate data types, control statements
	CO-3	Establish ability to use top-down program design
	CO-4	Formulate algorithm and draw flow carts to solve a given problem
	F. Y. B. C. A. – Sci. Semester-I BCA 113: Applied Mathematics	
3.	CO-1	Relate and apply techniques to makes use of appropriate set operation ,propositions logic to solve problems
	CO-2	Apply function and relation models to interpret associated relationships.
	CO-3	Compute various statistical measures of central tendency
	CO-4	Simulate appropriate sampling techniques
	F. Y. B. C. A. – Sci. Semester-I BCA 114: Business Communication	
4.	CO-1	Identify key principles in business communication.
	CO-2	Discuss different processes and considerations involved in writing in business.
	CO-3	Differentiate various types of business reports.
	CO-4	Compose e-mails and Voice mail and deliver an effective oral business presentation
	F. Y. B. C. A. – Sci. Semester-I BCA 115: Fundamentals of Computer Laboratory	
5.	CO-1	Install operating system and execute various commands
	CO-2	Classify various features of application software
	CO-3	Prepare effective Presentation
	CO-4	Create and use spreadsheets effectively
	F. Y. B. C. A. – Sci. Semester-I BCA 116: C Programming Laboratory	
6.	CO-1	Identify the need of programming languages and problem solving techniques.
	CO-2	Implement the given algorithm in C
	CO-3	Formulate an algorithm and draw flowchart for the given problem
	CO-4	Create programs using appropriate data types and control structures in C
	F. Y. B. C. A. – Sci. Semester-I BCA 117: Applied Mathematics Laboratory	
7.	CO-1	Define mathematical and statistical concepts to solve problems

K.J. Somaiya College of Arts, Commerce & Science Estd. 1964 Kopargaon

	CO-2	Apply the measures of central tendency and dispersion
	CO-3	Create a matrix using R and platform the operation addition, Inverse ,transpose and multiplication operation
	CO-4	Construct standard deviation and skewness
	F. Y. B. C. A. – Sci. Semester-I BCA 118: Business Communication Laboratory	
8.	CO-1	Observe to lecture, public announcement and news on TV and radio
	CO-2	Relate telephone conversation
	CO-3	Focus on how to communicate effectively and accurately in English
	CO-4	Develop ability to prepare documents used in business correspondence
	F. Y. B. C. A. – Sci. Semester-II BCA 121: Computer Organization	
9.	CO-1	Explain block diagram of CPU, memory and types of I/O transfers
	CO-2	Design of sequential circuits
	CO-3	Design of combination circuits
	CO-4	Create K-map for product of sum form
	F. Y. B. C. A. – Sci. Semester-II BCA 122: Advanced C Programming	
10.	CO-1	Write program using pointer, structure and unions
	CO-2	Use ore-processor directives
	CO-3	Manipulate strings using library function
	CO-4	Create program to perform operations on files
	F. Y. B. C. A. – Sci. Semester-II BCA 123: Operating Systems Concepts	
11.	CO-1	Explain basic concept of operating system
	CO-2	Construct basic Linux commands and Linux documentation
	CO-3	Write shell scripts
	CO-4	Design issues related to file management and various related algorithms
	F. Y. B. C. A. – Sci. Semester-II BCA 124: Database Management Systems – I	
12.	CO-1	Distinguish between file system vs. DBMS
	CO-2	Design E-R models for given requirements and convert the same into database table
	CO-3	Formulate database queries using SQL
	CO-4	Design a database in appropriate normal form
	F. Y. B. C. A. – Sci. Semester-II BCA 125: Computer Organization Laboratory	
13.	CO-1	Identify combinational circuits
	CO-2	Discuss flip-flops and counters memory organization
	CO-3	Design and implement sequential circuits
	CO-4	Develop real world problems into digital logic formulations
	F. Y. B. C. A. – Sci. Semester-II BCA 126: Advanced C Programming Laboratory	
14.	CO-1	Manipulate strings using library function
	CO-2	Choose pre-processor directives
	CO-3	Writer program using pointer, structure and unions
	CO-4	Create program to perform operations on files
	F. Y. B. C. A. – Sci. Semester-II BCA 127: Operating Systems Laboratory	
15.	CO-1	Install Linux and packages, configure environment
	CO-2	Construct commands and editors and use documentation
	CO-3	Configure security and network environment
	CO-4	Create a new user and add it to sudo configuration file
	F. Y. B. C. A. – Sci. Semester-II BCA 128: Database Management Systems -I Laboratory	
16.	CO-1	Learns about oracle software and install the package
	CO-2	Prepare E-R diagram for the given problem statement
	CO-3	Formulate appropriate SQL DDL queries
	CO-4	Formulate appropriate SQL DML queries
	Faculty: Science (UG), Program: Bachelor of Science (B.C.A.-Sci.) S. Y. B. C. A. – Science	
	S. Y. B. C. A. – Sci. Semester-III BCA 231: Data Structures	

17.	CO-1	Discuss about different sorting techniques and complexity
	CO-2	Construct different operations on link list
	CO-3	Design an efficient algorithm for the given problems
	CO-4	Design the time and space complexity of a given algorithm
	S. Y. B. C. A. – Sci. Semester-III BCA 232: Database Management Systems – II	
18.	CO-1	Apply Mechanisms for database security
	CO-2	Compare and construct different concurrency control and recovery techniques
	CO-3	Formulate SQL queries using advanced SQL features
	CO-4	Formulate SQL queries using advanced SQL features
	S. Y. B. C. A. – Sci. Semester-III BCA 233: Computer Networks	
19.	CO-1	Illustrate applications of Computer Network
	CO-2	Compare and contrast different routing and switching algorithms
	CO-3	Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols
	CO-4	Analyze the requirements for a given organization and select appropriate network architecture
	S. Y. B. C. A. – Sci. Semester-III BCA 234: Data Structures Laboratory	
20.	CO-1	Determine the time and space complexity of a given algorithm
	CO-2	Apply appropriate data structures for the given problem.
	CO-3	Design an efficient algorithm for the given problem and implement it using C Programming
	CO-4	Calculate out-degree and in-degree of matrix representation
	S. Y. B. C. A. – Sci. Semester-III BCA 235: Database Management Systems - II Laboratory	
21.	CO-1	Construct simple and nested queries
	CO-2	Write stored procedures, cursors and triggers using PL/Postgre SQL.
	CO-3	Formulate SQL queries using advanced features
	CO-4	Design a database using database normalization technique
	S. Y. B. C. A. – Sci. Semester-III BCA 236: Computer Networks and Web Programming Laboratory	
22.	CO-1	Explain networking commands, Identify network devices and topology
	CO-2	Write java script programming
	CO-3	Interpret and formulate XML queries
	CO-4	Design a website using HTML and CSS
	S. Y. B. C. A. – Sci. Semester-III BCA 237: Environmental Science I	
23.	CO-1	Articulate the interconnected and interdisciplinary nature of environmental studies
	CO-2	Define basic reduce waste, reuse resources and recycle materials in Environment studies
	CO-3	Understand and evaluate the global scale of environmental problems
	CO-4	Reflect critically on their roles, responsibilities, and identities as citizens, consumers and environmental actors in a complex, interconnected world.
	S. Y. B. C. A. – Sci. Semester-III BCA 238: Language Communication - I	
24.	CO-1	Ability to be comfortable with English in use while reading or listening
	CO-2	Develop style in speech and writing and manipulate the tools of language for effective communication.
	CO-3	Exposure to the learners in Good Prose texts and Poems and expose the learners to value based ideas
	CO-4	Enhance their language skills especially in the areas of grammar and pronunciation
	S. Y. B. C. A. – Sci. Semester-IV BCA 241: Object Oriented Programming and C++	
25.	CO-1	Contrast procedural and object oriented programming
	CO-2	Apply principles of OOP
	CO-3	Design and develop applications using object oriented programming language C++
	CO-4	Justify Random access files and Exception handling mechanism
	S. Y. B. C. A. – Sci. Semester-IV BCA 242: Web Technology	
26.	CO-1	Develop web based application using suitable client side and server side web technologies

	CO-2	Build Dynamic web site using server side PHP Programming and Database connectivity.
	CO-3	Create applications using AJAX and XML
	CO-4	Create Relational database and SQL using advance techniques
	S. Y. B. C. A. – Sci. Semester-IV BCA 243: Software Engineering	
27.	CO-1	Discuss on appropriate process model for a developing a software project
	CO-2	Classify software applications and Identify unique features of various domains
	CO-3	Prepare System Requirement Specification (SRS) for the given problem
	CO-4	Design and analyze Data Flow diagrams
	S. Y. B. C. A. – Sci. Semester-IV BCA 244: C++ Programming Laboratory	
28.	CO-1	Define basic object-oriented concepts and the issues involved in effective class design
	CO-2	Develop programming skills using C++ features.
	CO-3	Classify various object-oriented concepts used to solve real-life problems.
	CO-4	Construct different concepts of file handling and exception handling
	S. Y. B. C. A. – Sci. Semester-IV BCA 245: Web Technology Laboratory	
29	CO-1	Develop web based application using suitable client side and server side web technologies
	CO-2	Build Dynamic web site using server side PHP Programming and Database connectivity
	CO-3	Create applications using AJAX and XML
	CO-4	Create Relational database and SQL using advance techniques
	S. Y. B. C. A. – Sci. Semester-IV BCA 246: Python Programming Laboratory	
30.	CO-1	Discuss about python scripting
	CO-2	Execute different commands and basic operator
	CO-3	Write programs using Python programming constructs
	CO-4	Develop applications using Python programming.
	S. Y. B. C. A. – Sci. Semester-IV BCA 247: Environmental Science-II	
31.	CO-1	Articulate the interconnected and interdisciplinary nature of environmental studies
	CO-2	Define basic reduce waste, reuse resources and recycle materials in Environment studies
	CO-3	Understand and evaluate the global scale of environmental problems
	CO-4	Reflect critically on their roles, responsibilities, and identities as citizens, consumers and environmental actors in a complex, interconnected world.
	S. Y. B. C. A. – Sci. Semester-IV BCA 248: Language Communication – II	
32.	CO-1	Ability to be comfortable with English in use while reading or listening
	CO-2	Develop style in speech and writing and manipulate the tools of language for effective communication.
	CO-3	Exposure to the learners in Good Prose texts and Poems and expose the learners to value based ideas
	CO-4	Enhance their language skills especially in the areas of grammar and pronunciation
	Faculty: Science (UG), Program: Bachelor of Science (B.C.A.-Sci.) T. Y. B. C. A. - Science	
	T. Y. B. C. A. – Sci. Semester-V BCA 351: DSE I (Programming in Java)	
33.	CO-1	Identify classes, objects, class members and relationships for available problem.
	CO-2	Apply collection of classes for storing collection of java objects
	CO-3	Create JAVA APIs for program development and their use in practical use
	CO-4	Design end to end applications using object oriented constructs.
	T. Y. B. C. A. – Sci. Semester-V BCA 352: DSE II (Data Mining and Data Science)	
34.	CO-1	Identify the important process of data mining, data warehousing and knowledge discovery
	CO-2	Identify exact data mining algorithms to solve real world and practical problems
	CO-3	Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining
	CO-4	Choose an appropriate method to perform exploratory analysis.
	T. Y. B. C. A. – Sci. Semester-V BCA 353: DSE III (Principles of Operating Systems)	
35.	CO-1	Describe algorithms for process, memory and disk scheduling

	CO-2	Apply technique for inter-process communication and Multithreading.
	CO-3	Compare and contrast deadlock avoidance and prevention
	CO-4	Adapt functions for file system management
	T. Y. B. C. A. – Sci. Semester-V BCA 354: SEC I (Artificial Intelligence)	
36.	CO-1	Identify and apply suitable Intelligent agents for various AI applications
	CO-2	Apply the suitable algorithms to solve AI problems
	CO-3	Create smart system using different informed search / uninformed search or heuristic approaches
	CO-4	Develop critical problems with expressive language of representation
	T. Y. B. C. A. – Sci. Semester-V BCA 355: SEC II (Cloud Computing)	
37.	CO-1	Explain the core issues in cloud computing such as security, privacy, and interoperability
	CO-2	Discuss recent trends in cloud computing
	CO-3	Choose the appropriate technologies, algorithms, and exact way to complete given application
	CO-4	Compare and contrast various cloud services
	T. Y. B. C. A. – Sci. Semester-V BCA 356: DSE I Lab (Programming in Java)	
38.	CO-1	Identify classes their objects and its class members and relationships with given problem.
	CO-2	Apply collection classes for storing java objects.
	CO-3	Develop program using various Java API
	CO-4	Design end to end applications using object oriented constructs
	T. Y. B. C. A. – Sci. Semester-V BCA 357: DSE II Lab (Data Mining)	
39.	CO-1	Describe various data mining task using R
	CO-2	Apply the various python packages to carry out different data mining task.
	CO-3	Create data analysis and data visualization using python packages.
	CO-4	Evaluate different data mining techniques like classification, prediction, clustering and association rule mining
	T. Y. B. C. A. – Sci. Semester-V BCA 358: DSE III Lab (Operating Systems and AI)	
40.	CO-1	Describe various process of synchronization and multithreading
	CO-2	Define algorithms for Process scheduling and Memory management
	CO-3	Compare and contrast the various algorithms of memory management and its different allocation policies.
	CO-4	Adapt searching algorithms
	T. Y. B. C. A. – Sci. Semester-VI BCA 361: DSE IV Android Programming	
41.	CO-1	Describe the various process of developing different type's mobile applications use in the real world to solve the problems.
	CO-2	Create various mobile applications on the Android Platform
	CO-3	Design various mobile application and implement that application which uses data storage of SQLite
	CO-4	Adapt location based services while developing applications
	T. Y. B. C. A. – Sci. Semester-VI BCA 362: DSE V Programming in GO	
42.	CO-1	Describe the various important features and concepts in Go
	CO-2	Apply various defining methods and Go Interfaces
	CO-3	Create Simple Go programs using various functions and concepts
	CO-4	Adapt various Go routines and Channels and explore Go Packages
	T. Y. B. C. A. – Sci. Semester-VI BCA 363: DSE VI Software Project Management	
43.	CO-1	Memories various Software Project Management Concepts
	CO-2	Discover various tools and use it for Software Project Management Schedule various activities in software projects
	CO-3	Examine project and mange changes
	CO-4	Apply Agile Project Management concepts
	T. Y. B. C. A. – Sci. Semester-VI BCA 364: SEC III Management Information Systems	
44.	CO-1	Describe MIS, BPR, EMS

	CO-2	Identify various ERP modules for a given application
	CO-3	list the applications of MIS in Manufacturing and service sectors
	CO-4	Compare MIS with BPR, DSS and EMS
	T. Y. B. C. A. – Sci. Semester-VI BCA 365: SEC IV Internet of Things (IoT)	
45.	CO-1	Define Embedded Systems its application, uses and the Internet of Things and its uses
	CO-2	Apply merging technologies for developing IoT systems for betterment of humans life
	CO-3	Analyze different protocols for communication among IoT devices and for security
	CO-4	Describe cloud-based IoT systems
	T. Y. B. C. A. – Sci. Semester-VI BCA 366: DSE IV Lab (Android Programming)	
46.	CO-1	Describe the various process of developing mobile applications.
	CO-2	Create mobile applications on the Android Platform
	CO-3	Design and implement mobile applications involving data storage in SQLite database
	CO-4	Adapt location-based services while developing applications
	T. Y. B. C. A. – Sci. Semester-VI BCA 367: DSE V Lab (Programming in GO and IoT)	
47.	CO-1	Write programs using features supported in GO
	CO-2	Define programs on File handling
	CO-3	Design Simple IoT application
	CO-4	Compare and contrast features of GO with other object oriented languages
	T. Y. B. C. A. – Sci. Semester-VI BCA 368: DSE VI Project Lab	
48.	CO-1	Demonstrate a sound technical knowledge of selected project topic.
	CO-2	Apply techniques for project management
	CO-3	Create various documents used during the development of the project and a project report
	CO-4	Design and develop GUI application using Spring MVC.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. ANagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) UG: COMMERCE

Sr. No.	CO Number	Course Outcomes
	After the completion of course Students should be able to-	
	Faculty: Commerce (UG), Program: Bachelor of Commerce (B. Com.), F. Y. B. Com.	
	F. Y. B.Com. Semester-I 111: Compulsory English- I	
1.	CO-1	Describe effective verbal and non-verbal communication techniques in various social and professional settings
	CO-2	Explain different literary devices and themes of the literary text
	CO-3	Develop an understanding of economic concepts, including the black economy, taxation, and economic disparities
	CO-4	Analyze prose and poetry
	CO-5	Argue constructively in group discussions
	CO-6	Adapt public speaking skill and use it in the correspondence.
	F. Y. B.Com. Semester-I 112: Financial Accounting- I	
2.	CO-1	Describe important concepts, conventions and principles and emerging trends in accounting.
	CO-2	Illustrate, practicing and preparing the problems of piecemeal distribution of cash in partnership accounts
	CO-3	Illustrate and prepare the financial statements as per double entry system from incomplete records of the business organization
	CO-4	Define and explain important terms of GST
	F. Y. B.Com. Semester-I 113: Business Economics- I	
3.	CO-1	Define business economics as applied branch of economics
	CO-2	Apply the consumer's behavior with real life situations
	CO-3	Analyze the charts and graphs
	CO-4	Interpret the fundamental theories of business economics
	CO-5	Classify micro economic concepts of cost and revenue
	CO-6	Explain the basic theories of factor pricing
	F. Y. B.Com. Semester-I 114(A): Business Mathematics and Statistics - I	
4.	CO-1	Define, describe, calculate and compare the different types of calculations of bank interest
	CO-2	Describes, compare and calculate rate of return on shares, mutual fund and SIP
	CO-3	Define and classify population and samples in statistics and research
	CO-4	Tabulate, convert, construct and compute statistical data, graphs, and central values in business
	F. Y. B.Com. Semester-I 114(B): Computer Concepts and Application- I	
5.	CO-1	Describes basics of operating systems

	CO-2	Discuss and apply of office automation tools for business administration and management
	CO-3	Describes basics of computer network and internet use for business organization
	CO-4	Apply, analyze and facilitate E-commerce applications for business organization
	F. Y. B.Com. Semester-I 115: a. Organization Skill Development-I Financial Accounting- I	
6.	CO-1	Define and ask important concepts of modern office for set-up proper office for business organization
	CO-2	Develop organizational and office management skills for efficient office management of the business organization
	CO-3	Develop skills for digitization of office records management
	CO-4	Identify office work for process improvement of office of business organization
	F. Y. B.Com. Semester-I 115: c. Commercial Geography-I	
7.	CO-1	Explain the correlation between economic activities and geographical factors
	CO-2	Explain the various economic activities in geographical environment.
	CO-3	Correlate dynamic aspects of resources and need for their conservations
	CO-4	Consider the role of dynamics of population in Commerce
	F. Y. B.Com. Semester-I 116: Marketing & Salesmanship-I (Fundamental of Marketing)	
8.	CO-1	Define and classify various concepts in marketing of business organization
	CO-2	Explain basic of market segmentation and marketing mix in business organization
	CO-3	Explain the process and importance of product mix and price mix in the marketing of product in the market.
	CO-4	Explain the process and importance of place mix and promotion mix in the marketing of product in the market.
	F. Y. B.Com. Semester-I 117: Additional English-I	
9.	CO-1	Define the interdisciplinary relevance of the literary texts
	CO-2	Associate with diverse cultural and global perspectives presented in the texts, fostering empathy and cross-cultural understanding
	CO-3	Develop critical and creative thinking
	CO-4	Analyze variety of literary forms, including essays and poetry, to identify themes, motifs, and literary techniques
	F. Y. B.Com. Semester-I 117: Additional Marathi-I	
10.	CO-1	विविध क्षेत्रातील भाषा व्यवहाराचे स्वरूप व गरज समजावून देणे.
	CO-2	या व्यवहार क्षेत्रातील मराठी भाषेचे स्थान स्पष्ट करणे व त्यातील मराठीच्या प्रत्यक्ष वापराचा अभ्यास करणे.
	CO-3	विविध क्षेत्रीय मराठी भाषेच्या वापराची कौशल्ये विकसित करणे.
	CO-4	वाणिज्य व व्यावसायिक क्षेत्रातील भाषा उपयोजानाचे महत्त्व समजून घेणे.
	F. Y. B.Com. Semester-I 117: Additional Hindi-I	
11.	CO-1	छात्रों को हिंदी गद्य एवं पद्य साहित्य का परिचय देना
	CO-2	भाषा ज्ञान के द्वारा संवाद तथा लेखन कौशल विकसित करना
	CO-3	मौलिक लेखन की ओर छात्रों का रुझान बढ़ाना
	CO-4	हिंदी कंप्यूटिंग का परिचय देना
	F. Y. B.Com. Semester-II 121: Compulsory English- II	
12.	CO-1	Define leadership qualities from the literary texts prescribed
	CO-2	Classify different types of job correspondence
	CO-3	Prepare letters, Reports, E-mails, Blogs and Resume
	CO-4	Analyze prose and poetry
	F. Y. B.Com. Semester-II 122: Financial Accounting- II	
13.	CO-1	Describe, explain, and prepare books of account of business using accounting software
	CO-2	Interpret, construct, and prepare the financial statement of charitable trust like

		clubs, hospitals, and libraries.
	CO-3	Define, compare, compute, and justify the value of intangibles of company.
	CO-4	Describe and compute royalties for business organization
	F. Y. B.Com. Semester-II 123: Business Economics- II	
14.	CO-1	Define business economics as applied branch of economics
	CO-2	Interpret the fundamental theories of business economics
	CO-3	Classify micro economic concepts of cost and revenue
	CO-4	Analyze the market structure
	F. Y. B.Com. Semester-II 124 (A): Business Mathematics and Statistics - II	
15.	CO-1	Describes various types of matrices and determinants
	CO-2	Describe and construct LPP
	CO-3	Describes, correlate and compute correlation and regression for decision making in business organization
	CO-4	Read and compute index number for understanding price changes
	F. Y. B.Com. Semester-II 124 (B): Computer Concepts and Application- II	
16.	CO-1	Explain the process of E-commerce and activities conducting by business organization
	CO-2	Describes and appraise tools for E-Marketing, E-Customers relationship Management and Supply Chain Management
	CO-3	Describe and appraise electronic payment system for business organization.
	CO-4	Describe and appraise Mobile -Commerce for business organization.
	F. Y. B.Com. Semester-II 125: A. Organization Skill Development-II	
17.	CO-1	Assess the skills required for office manager for efficient office management
	CO-2	Explain the process and types of office reports required for management reporting
	CO-3	Evaluate the time study and motion study for work measurement for standardization of office work
	CO-4	Describes the procedure of modern office automation.
	F. Y. B.Com. Semester-II 125: C. Commercial Geography -II	
18.	CO-1	Define the industrial pollution and its association
	CO-2	Identify the role of transport and communication in trade and commerce
	CO-3	Compare the relationship between economic activities and geographical factors
	CO-4	Formulate the cartographic techniques with commercial database
	F. Y. B.Com. Semester-II 126: Marketing & Salesmanship-II	
19.	CO-1	Explain the concepts of salesmanship
	CO-2	Describes and determine the skills required for salesman for modern business world.
	CO-3	Describes the process and importance of rural marketing
	CO-4	Discuss and appraise new trends in marketing and social media marketing
	F. Y. B.Com. Semester-II 127: Additional English-II	
20.	CO-1	Identify various literary techniques used in the texts
	CO-2	Compare and contrast the various literary forms
	CO-3	Develop the ability to critically appreciate the literary texts
	CO-4	Expressing their interpretations, philosophical reflections
	F. Y. B.Com. Semester-II 127: Additional Marathi-II	
21.	CO-1	या व्यवहार क्षेत्रातील मराठी भाषेचे स्थान स्पष्ट करणे व त्यातील मराठीच्या प्रत्यक्ष वापराचा अभ्यास करणे.
	CO-2	विविध क्षेत्रीय मराठी भाषेच्या वापराची कौशल्ये विकसित करणे.
	CO-3	वाणिज्य व व्यावसायिक क्षेत्रातील भाषा उपयोजानाचे महत्त्व समजून घेणे.
	CO-4	विविध लेखन प्रकारांचा अभ्यास व प्रत्यक्ष लेखनाची कौशल्ये वापरण्यास सक्षम करणे.
	F. Y. B.Com. Semester-II 127: Additional Hindi-II	

22.	CO-1	हिंदी पद्य एवं गद्य साहित्य का परिचय करना
	CO-2	हिंदी भाषा संबंधी विविध कौशल विकसित करना
	CO-3	विज्ञापन लेखन के प्रकारों से अवगत करना
	CO-4	अनुवाद का स्वरूप और पारिभाषिक शब्दावली से परिचित कराना
	Faculty: Commerce (UG), Program: Bachelor of Commerce (B. Com.), S. Y. B. Com.	
	S. Y. B.Com. Semester-III 231: Business Communication- I	
23.	CO-1	Explain the concept, process, and importance of communication in business.
	CO-2	Describes and write business letter for inculcating skills of business correspondence
	CO-3	Practice and appraise soft skills for achieving career goals
	CO-4	Practice and appraise the skills of writing resume and job application for career setting
	S. Y. B.Com. Semester-III 232: Corporate Accounting -I	
24.	CO-1	Describe and review the accounting standards
	CO-2	Compare and calculate the profit prior to and post incorporation of business organization
	CO-3	Interpret, construct, and prepare the financial statement of company
	CO-4	Define, compare, compute and justify the value of shares of company.
	S. Y. B.Com. Semester-III 233: Business Economics - I (Macro)	
25.	CO-1	Relate the Nature and Scope of Business Economics
	CO-2	Understand the basic theories and concepts of Macro Economics and their application
	CO-3	Analyze the relationship between broad aggregates
	CO-4	Analyze Measurement of National Income and its Components
	S. Y. B.Com. Semester-III 234: Business Management - I	
26.	CO-1	Discuss and compare the various management theories as foundation of effective management of business
	CO-2	Explain the planning and decision-making function for effective management of business
	CO-3	Explain the Organizing and staffing function for effective management of business
	CO-4	Describes and explain the function of direction and team work for effective management function of business
	S. Y. B.Com. Semester-III 235: Elements of Company Law- I	
27.	CO-1	Describes the process of company formation and incorporation of company
	CO-2	Read and explain important documents of companies like memorandum of association, article of association and prospectus
	CO-3	Discuss and appraise capital of the company and its legal provisions
	CO-4	Describes the process of company formation and incorporation of company
	S. Y. B.Com. Semester-III 236: e. Cost and Works Accounting	
28.	CO-1	Describes basic concepts in cost accounting and role of cost accountant in business
	CO-2	Explain and prepare cost sheet for production in business unit
	CO-3	Discuss purchase procedure for material control
	CO-4	Discuss, calculate, and estimate inventory control tools for business organization
	S. Y. B.Com. Semester-IV 241: Business Communication- II	
29.	CO-1	Explain and practice report writing and internal correspondence for business organization
	CO-2	Explain recent trends in digital business communication
	CO-3	Explain and practice of drafting business letters for business correspondence
	CO-4	Explain and practice of writing mails and blogs for business correspondence
	S. Y. B.Com. Semester-IV 242: Corporate Accounting- II	

30	CO-1	Describe, Compare and calculate the profit prior to and post incorporation of business organization
	CO-2	Describes and compute of absorption schemes for companies
	CO-3	Discuss and compute schemes for liquidation of companies
	CO-4	Explain concept of forensic accounting in new age of companies
	S. Y. B.Com. Semester-IV 243: Business Economics – II (Macro)	
31.	CO-1	Recognize the Nature and Scope of Business Economics
	CO-2	Apply the basic theories and concepts of Macro Economics
	CO-3	Evaluate supply of money and theories of money
	CO-4	Understand the causes and consequences of inflation and the concept of stagflation
	S. Y. B.Com. Semester-IV 244: Business Management - II	
32.	CO-1	Explain important theories of motivation for develop motivation skills for improve employee's efficiency
	CO-2	Discuss and evaluate leadership skills for successful business management
	CO-3	Describes the skills for coordination and control for achieving success at work
	CO-4	Review the emerging trends in business management
	S. Y. B.Com. Semester-IV 245: Elements of Company Law- II	
33.	CO-1	Explain procedure and practice in management of company
	CO-2	Explain and evaluate various key personal in management of company
	CO-3	Explain and review the company meetings and documentation of meetings
	CO-4	Describes procedure for E-Governance and winding up procedure of company
	S. Y. B.Com. Semester-IV 246: e) Cost and Works Accounting	
34.	CO-1	Explain the procedure for material accounting and solve the examples of store ledger
	CO-2	Explain the procedure for labour cost and payroll and solve the examples of wage payment
	CO-3	Describe the concepts of labour turnover, job analysis, Job evaluation and merit rating
	CO-4	Explain the recent trends in cost and management accounting
	Faculty: Commerce (UG), Program: Bachelor of Commerce (B. Com.), T. Y. B. Com.	
	T. Y. B.Com. Semester-V 351: Business Regulatory Framework - I	
35.	CO-1	Explain the knowledge about the framework of business laws in India
	CO-2	Explain and discuss the legal framework of Indian Contract Act and Partnership Firm Act for business regulations.
	CO-3	Describes emerging issues relating to E-Commerce, E-Transaction and E-Contract for smooth functioning of organization
	CO-4	Explain the legal provision of Sales of Goods Act and concepts of Arbitration and Conciliation
	T. Y. B.Com. Semester-V 352: Advanced Accounting - I	
36.	CO-1	Describe and review the accounting standards
	CO-2	Explain and compute the scheme of capital restructuring scheme for company.
	CO-3	Interpret, construct, and prepare the financial statement of banking company
	CO-4	Explain, prepare and compare various calculations of investment account preparation
	T. Y. B.Com. Semester-V 353: Indian and Global Economic Development - I	
37.	CO-1	Explain present economic scenario of Indian economy as well as world economy
	CO-2	Discuss various aspects of development in agricultural, industrial and service sector in India
	CO-3	Evaluate critically the role of India in international economy
	CO-4	Evaluate the working of international financial organization and institutions.

	T. Y. B.Com. Semester-V 354: Auditing & Taxation - I	
38.	**CO-1**	Explain the concepts of auditing, types of audits and audit process to acquaint the knowledge and understanding of auditing
	CO-2	Explain and compare the concepts of Vouching, Verification and valuation in Audit process and Examine Audit Report and Auditing Standard
	CO-3	Discuss and criticize Qualification, Disqualifications, Appointment, Removal, Rights, Duties and Responsibilities of Auditor in company audit and provisions of Tax Audit
	CO-4	Explain the concepts of Auditing in an EDP environment and forensic audit
	T. Y. B.Com. Semester-V 355: e. Cost and Works Accounting-II	
39.	**CO-1**	Explain the concepts and principals of overheads in cost accounting of organization
	CO-2	Describes and calculate the distribution of overhead in business organization
	CO-3	Compute, illustrate and solve the problems of Absorption and under and over absorption in cost accounting
	CO-4	Explain and solve the problems of Activity Based Costing in Cost Accounting practices of business
	T. Y. B.Com. Semester-V 356: e) Cost and Works Accounting-III	
40.	**CO-1**	Explain and solve the problems of Marginal Costing as a Cost Accounting techniques in cost control and decision making for business organization
	CO-2	Explain, appraise, and prepare various budgets and budgetary control for anticipating future cost and revenue in business organization
	CO-3	Explain the concepts of uniform costing and inter firm comparison for competitive advantages for business organization
	CO-4	Explain the concepts of MIS and Supply Chain Management in business organization
	T. Y. B.Com. Semester-VI 361: Business Regulatory Framework - II	
41.	**CO-1**	Explain procedure and practices about negotiable instruments and liabilities of parties in case of dishonor of negotiable instruments
	CO-2	Describes and give examples about the E-Content, E-Commerce and their legal aspects
	CO-3	Discuss and analyze regulatory mechanism of consumer protection and procedural aspects of redressal of consumers grievances
	CO-4	Describes emerging developments in the area of intellectual property laws and their impact on the Indian businesses.
	T. Y. B.Com. Semester-VI 362: Advanced Accounting - II	
42.	**CO-1**	Interpret, construct, and prepare the financial statement of banking company
	CO-2	Explain, compute and prepare accounts for branches of business organizations
	CO-3	Discuss various recent trends in accounting
	CO-4	Identify, compare, compute, and formulate various ratios from financial statements of business organizations
	T. Y. B.Com. Semester-VI 363: Indian and Global Economic Development - II	
43.	**CO-1**	Explain the role of foreign capital in economic development
	CO-2	Discuss and evaluate critically the Indian foreign trade policy
	CO-3	Analyze the role of international financial institutions
	CO-4	Discuss and evaluate the success of regional economic cooperations
	T. Y. B.Com. Semester-VI 364: Auditing & Taxation - II	
44.	**CO-1**	Explain various important concepts in Income tax act and development in tax in India
	CO-2	Compute and prepare income from salary, house property, business and profession, capital gain and other sources of individual

	CO-3	Compute and prepare taxable income and tax liability of individual person
	CO-4	Describes and explain procedure of e-filling and changes in income tax in India
	T. Y. B.Com. Semester-VI 365: e) Cost and Works Accounting-II	
45.	CO-1	Discuss about various methods cost Accounting for business organization and prepare cost sheet
	CO-2	Explain application of different methods of costing in manufacturing and service industries
	CO-3	Prepare cost statements under different types of manufacturing industries and service industries
	CO-4	Establish cost accounting standards in the methods of costing
	T. Y. B.Com. Semester-VI 366: e) Cost and Works Accounting-III	
46.	CO-1	Explain the concepts of standard costing and calculate and prepare variance analysis through standard costing techniques
	CO-2	Define and describes product pricing and pricing policy and and calculate selling price under different pricing method
	CO-3	Explain and determine cost accounting standards and cost management practices in agriculture sector
	CO-4	Describes and examine the compliance about the preparation of cost accounting records and role of cost auditor in cost audit

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J.Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) PG: PHYSICS

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M. Sc.) -Physics	
	After the completion of course Students should be able to-	
	M. Sc. Semester-I PHCT-111: Mathematical Methods in Physics	
1.	CO-1	Describe how to expand a function in a Fourier series.
	CO-2	Understanding the mathematics in physics.
	CO-3	Apply the knowledge to solve problems in various branches of physics.
	CO-4	Analyze the matrix & determinant operation.
	CO-5	Evaluate & understand complex problems.
	CO-6	Solve the special function of mathematical physics.
	M. Sc. Semester-I PHCT-112: Classical Mechanics	
2.	CO-1	Describe Variational principle and its applications.
	CO-2	Understand Lagrangian and Hamiltonian equation of motion.
	CO-3	Apply the knowledge to solve problems in various branches of physics.
	CO-4	Analyze the Central Forces and Non-inertial Frames of Reference
	CO-5	Evaluate & understand Rigid Body Dynamics and Small Oscillations
	CO-6	Solve the Kepler problems.
	M. Sc. Semester-I PHCT-113: Electronics	
3.	CO-1	Identify different type of semiconductor devices and its application.
	CO-2	Describe the DC-DC converter and SMPS.
	CO-3	Explain special function IC's and their application.
	CO-4	Analyze the digital logic circuits.
	CO-5	Decide the combinational and sequential logic.
	CO-6	Understand the Data converters.
	M. Sc. Semester-I PHOT-114: Laser and Application	
4.	CO-1	Describe the phenomenon of Laser.
	CO-2	Identify the properties of Laser.
	CO-3	Explain construction, working, application of Laser.
	CO-4	Analyze the threshold condition of Laser.
	CO-5	Classify the type of Laser.
	CO-6	Solve problem in all topics.
	M. Sc. Semester-I PHCT-115: Physics Lab-I	
5.	CO-1	Describe the fundamental working of IC's.
	CO-2	Observe the specifications of IC's.
	CO-3	Construct the circuits using IC's.
	CO-4	Correlate the applications of circuits made by using IC's in daily life.

K.J. Somaiya College of Arts, Commerce & Science Kopargaon Estd. 1954

	CO-5	Measure the outputs of the circuits using IC's.
	CO-6	Analyze the outputs of the circuits using IC's.
	M. Sc. Semester-II PHCT-121: Electrodynamics	
6.	CO-1	Identify electromagnetic potential, gauge transformation & Lorentz transformation.
	CO-2	Describe the time varying field.
	CO-3	Determine electromagnetic wave equation in different medium.
	CO-4	Analyze inhomogeneous wave equation & their significance.
	CO-5	Decide the presence of ether in the medium on the basis of special theory of relativity.
	CO-6	Understanding the electrodynamics to create a scientific temperament.
	M. Sc. Semester-II PHCT-122: Atoms & Molecules	
7.	CO-1	Describe the revision of atomic structures, origin of spectral lines and Zeeman effect.
	CO-2	Classify the spectra of rotational and vibrational diatomic molecules.
	CO-3	Determine the dissociation energy and dissociation products.
	CO-4	Explain the microwave spectroscopy.
	CO-5	Determine the infrared spectroscopy & Raman spectroscopy.
	CO-6	Describe the resonance spectroscopy.
	M. Sc. Semester-II PHCT-123: Quantum Mechanics	
8.	CO-1	Recall the Schrodinger equation.
	CO-2	Describe the postulate of quantum mechanics.
	CO-3	Determine the state of Dirac notation.
	CO-4	Calculate the angular momentum.
	CO-5	Distinguish between the time independent perturbation theory and time dependent perturbation theory.
	CO-6	Formulate the WKB approximation method.
	M. Sc. Semester-II PHOT-124: Physics of Nanomaterials	
9.	CO-1	Describe different synthesis method of nanomaterials.
	CO-2	Explain different properties of nanomaterials.
	CO-3	Explain chemical bath deposition method.
	CO-4	Distinguish between different types of special nanomaterials and their applications.
	CO-5	Evaluate different factors of nucleation and growth phenomenon.
	CO-6	Justify carbon nanotubes and their types.
	M. Sc. Semester-II PHCP-125: Physics Lab-II	
10.	CO-1	Recall theoretical and practical background behind the experiments.
	CO-2	Observe the experimental setup.
	CO-3	Understand the different sections of the experimental setup.
	CO-4	Explain the working of different sections of the experimental setup.
	CO-5	Observe the experimental outputs and interpret data.
	CO-6	Apply the experiment for scientific research and daily life.
	M. Sc. Semester-III PHCT-231: Statistical Mechanics	
11.	CO-1	Understand the basic concepts of thermodynamic.
	CO-2	Describe experiments regarding the measurement and calibration of temperatures and pressures.
	CO-3	Determine the properties of substances.
	CO-4	Calculate the statistical distribution of system.
	CO-5	Distinguish the concept of ensembles and its types.
	CO-6	Hypothesize the quantum statistics such as MB, BE & FD Statistics.
	M. Sc. Semester-III PHCT-232: Solid State Physics	
12.	CO-1	Describe band theories of solid.
	CO-2	Explain dielectric properties of material.
	CO-3	Explain superconductivity phenomenon and its applications.
	CO-4	Distinguish between different types of magnetism.

	CO-5	Evaluate different factors of different crystal structures.
	CO-6	Solve problem on different theories.
	M. Sc. Semester-III PHCT-233: Experimental Techniques in Physics-I	
13.	CO-1	Describe ranges of vacuum.
	CO-2	Explain mean free path and its variation with temperature and pressure.
	CO-3	Explain basic of vacuum pumps.
	CO-4	Distinguish between different vacuum pumps.
	CO-5	Evaluate different gauges according to operating principle, range, limitations etc.
	CO-6	Design vacuum system for given UHV range.
	M. Sc. Semester-III PHOT-234: Energy Studies-I	
14.	CO-1	Describe various types of energy sources.
	CO-2	Explain different instruments of measuring solar radiations.
	CO-3	Explain solar radiation, its nature and types.
	CO-4	Distinguish between different types of heat transfer.
	CO-5	Evaluate non dimension numbers.
	CO-6	Describe various Types of energy storage systems,
	M. Sc. Semester-III PHCP-235: Physics Lab-III	
15.	CO-1	Recall theoretical and practical background related to C programming language.
	CO-2	Explain mathematical methods used to solve physics problem.
	CO-3	Construct algorithm and flow chart to solve problems.
	CO-4	Explain solution of problem.
	CO-5	Evaluate the problem to find solution.
	CO-6	Develop C program to solve the problem.
	M. Sc. Semester-IV PHCT-241: Nuclear Physics	
16.	CO-1	Describe different properties of nucleus.
	CO-2	Explain different types of radiation detectors.
	CO-3	Explain different nuclear models with their advantages and limitations.
	CO-4	Classify nuclear interactions and elementary particles.
	CO-5	Compare nuclear reactions, reactors and accelerators.
	CO-6	Solve problems based on topics.
	M. Sc. Semester-IV PHCT-242: Experimental Techniques in Physics-II	
17.	CO-1	Describe different properties of electromagnetic radiation.
	CO-2	Explain different types of detectors in UV region.
	CO-3	Explain Fourier transform infrared spectroscopy.
	CO-4	Classify different sources in UV, IR, Visible, X-ray region.
	CO-5	Compare TEM with optical microscope.
	CO-6	Solve problems on electron microscopy.
	M. Sc. Semester-IV PHOT-243: Physics of Semiconductor devices	
18.	CO-1	Describe different properties of semiconductor.
	CO-2	Explain the p-n junction.
	CO-3	Explain the different transistor and field effect devices.
	CO-4	Define the various terms in transistor.
	CO-5	Compare metal and metal insulating semiconductor devices.
	CO-6	Solve problems based on topics.
	M. Sc. Semester-IV PHOT-244: Energy Studies-II	
19.	CO-1	Describe Solar photovoltaic (SPV) Conversion:
	CO-2	Explain Photo-thermal Applications of Solar Energy
	CO-3	Explain Hydrogen Energy.
	CO-4	Classify Wind and Bio Energy.
	CO-5	Compare various types of collectors and concentrators.

	CO-6	Solve problems based on topics.
	M. Sc. Semester-IV PHCP-245: Project	
20.	CO-1	Identify the problem to finalize Project title.
	CO-2	Do literature survey regarding project work.
	CO-3	Develop experimental / theoretical, computational skill.
	CO-4	Design Experimental setup/ Computational Model.
	CO-5	Collect and analyze secondary data from experiment.
	CO-6	Develop writing and presentation skill.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Kopargaon Estd. 1964

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) PG: CHEMISTRY

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M.Sc.) -Chemistry	
	After the completion of course Students should be able to-	
	M. Sc. Semester-I CHP-110: Fundamentals of Physical Chemistry	
1.	CO-1	To learn the concept of thermodynamic parameters, Quantum Mechanical Postulates, Rate law of chemical reactions and computation of microscopic properties.
	CO-2	To understand quantum mechanical methods to deduce molecular properties and establish the link between thermodynamics and quantum mechanics
	CO-3	To apply the knowledge to solve problems in various branches of Chemistry.
	CO-4	To analyze the chemical reaction rates theoretically and experimentally
	CO-5	To evaluate & understand complex problems.
	CO-6	Students will differentiate between various thermodynamic properties
	M. Sc. Semester-I CHI-130: Inorganic Chemistry	
2.	CO-1	Students Should visualize / Imagines molecules in 3D and student should visualize periodic table.
	CO-2	To understand The concept of Symmetry and able to pass various symmetry Elements through the molecule.to understand position of Hydrogen and element present in P- block
	CO-3	To Understand the Concept and point group and Apply it to molecule.to understand closo nido and arachno molecule and distinguish it.
	CO-4	To Understand Product of Symmetry Operations To understand oxide , sulphide of P block element and interhalogen compound, oxide of nobel gases and their application.
	CO-5	To Apply the Concept of Point group for determining Optical Activity and Dipole Moment. To prepare Organometallic compound and their applications.
	M. Sc. Semester-I CHO-150: Basic Organic Chemistry	
3.	CO-1	To study structure, formation, stability and related name reaction of intermediates like Carbocation, Carbanion, Free Radical, Carbenes and nitrenes; Recognize neighboring group participation
	CO-2	To study rearrangement reaction with specific mechanism and migratory aptitude of different groups, Ylides and their reaction.
	CO-3	To study heterocyclic compound containing one and two hetero atoms with their structure, synthesis and reactions
	CO-4	To understand some fundamental aspects of organic chemistry, to learn the concept aromaticity, to understand the various types of aromaticity.
	CO-5	To know stereochemistry of organic compounds; able to do interconversion of

K.J. Somaiya College of Arts, Commerce & Science Estd. 1964 Kopargaon

		Fischer to Newmann, Newmann to Sawhorse and vice versa, Able to assign R and S to given molecules; understand stereoselective and stereospecific reactions; acquire knowledge
	CO-6	To understands the basis of redox reaction; acquire knowledge about the reagents which causes selective oxidation / reduction in various compounds; learn the basic mechanism of oxidation / reduction in organic compounds
	M. Sc. Semester-I CHG-190: Introduction to Solid State of Matter	
4.	CO-1	Student will learn the concept of Bonding in solids – band theory and Electronic conductivity.
	CO-2	Students will understand Semiconductors, photoconductivity, Non-stoichiometry, defects and types of defects in solids
	CO-3	To apply the knowledge to synthesis of solids
	CO-4	Superconductivity and theory of superconductivity
	CO-5	To evaluate & understand complex problems.
	M. Sc. Semester-I CHP-190: Inorganic Practical Chemistry	
5.	CO-1	To understand method and analyze metals from ores with characterization.
	CO-2	To perform experiment accurately and analyze components from alloy.
	CO-3	Explain theoretical principal with experimentally and synthesize solid state materials.
	CO-4	Apply knowledge of solid state materials in kinetic and adsorption studies.
	M. Sc. Semester-I CHP-107: Basic Practical Chemistry	
6.	CO-1	Students should be able to determine reaction rates by analyzing changes in concentrations over time using experimental data.
	CO-2	Students will be able to analyze experimental data obtained from various physical chemistry experiments, including measurements, observations, and calculations.
	CO-3	Students should perform titrations using spectrophotometry to monitor color changes and determine endpoints
	CO-4	Students will learn to calculate enthalpy changes for various reactions based on calorimetric data.
	M. Sc. Semester-II CHP-210: Molecular Spectroscopy and Nuclear Chemistry	
7.	CO-1	To learn the concept of Physical Spectroscoy and Nuclear Chemistry
	CO-2	To understand molecule on the basis of moment of inertia and rotational spectra
	CO-3	To apply the knowledge to solve problems in various branches of Nuclear Chemistry.
	CO-4	To analyze the Nuclear reaction rates theoretically and experimentally
	CO-5	To evaluate & understand complex problems.
	CO-6	To differentiate between various Spectroscopic Techniques
	M. Sc. Semester-II CHG-227: Basic Practical Chemistry	
8.	CO-1	Prepare solution of required conc. and the handle laboratory equipment properly.
	CO-2	Perform experiment accurately and able to perform calculation.
	CO-3	Explain experiment and principal of experiment in detail and Perform calculations and discuss results and write conclusions of the experiment.
	CO-4	Apply knowledge to a) design experiment for given aim or modify experiment to enhance results. b) to find out lacuna in experimental procedure. Solve problem/ numerical depending on given experimental data / information.
	M. Sc. Semester-II CHI-230: Coordination and Bioinorganic Chemistry	
9.	CO-1	Define R. S. term, configuration, microstate, paramagnetic, diamagnetic antiferromagnetic, Curie and Neel temperature and Define metalloproteins, metallo-eznymes, photosynthesis, HSAB concept, nucleic acids, metalloregulation, Biopolymer effects and acetylcholine receptor
	CO-2	Identify complex ions showing same R.S. terms, degeneracy of ground state terms

		of metal ions, and spin multiplicities of different configuration Explain chelate effect and Irving-William series, pKa values of coordinated ligands, Tuning of redox potential, and Reactions of coordinated ligands
	CO-3	Interpret electronic spectra forspin allowed Oh and Td complexes using Orgel diagram,Magnetic properties of A, E and T ground terms in complexes Describe Fe-S clusters, model compounds and spontaneous self-assembly, metals inmedicine, blue copper proteins, and cytochromes, and Na/K pumps.
	CO-4	Calculate frequencies of absorption spectrum, 10Dq, Racah and nepholauxetic parameter for a complex, and magnetic moments of complexes Express nitrogen fixation, detoxification of mercury, structure of RNA, cis-platin, amino acids, siderophore,and calmoduline zinc finger proteins.
	CO-5	Construct microstate table for various configuration and prepare correlations diagram and Tanabe-Sugano diagram for various configurations in Td an Oh ligand field Distinguish between hemoglobin and myoglobin, transferrin and ferritin, photosystem-I and photosystem-II
	M. Sc. Semester-II CHO-250: Pericylic reaction and photochemistry	
10.	CO-1	Student remember the basic name reaction
	CO-2	Understand the basic reaction and there Mechanism
	CO-3	By Appling basic idea of mechanism to solve the different mechanism
	CO-4	Analyze the different pericyclic reaction
	CO-5	Evaluate the different photochemical reaction and there Quantum Yield
	CO-6	Create the different chart of pericylic reaction to evaluate the the pericylic reaction
	M. Sc. Semester-II CHG-290: Electrochemical Methods of Analysis	
11.	CO-1	Understand methods of identification of substance by chemical methods.
	CO-2	Verify theoretical principles experimentally.
	CO-3	Correlate theory to experiments.
	CO-4	Perform Instrumental Analysis
	M. Sc. Semester-II CHG-290: Organometallic and Inorganic Reaction Mechanism	
12.	CO-1	Student will learn the Valence electron count, back bonding in Organometallics
	CO-2	Students will understand the concept of Catalytic reaction involving organometallic compounds and Mechanism of these reactions
	CO-3	To apply the knowledge to stereochemistry of reaction in Co-ordination
	CO-4	To Analyse Spectral Characterization of Organomettalic Compounds and 18e- Rule
	CO-5	To evaluate & understand Types of reactions in coordination compounds
	M. Sc. Semester-III P CHO-350: Organic Reaction Mechanism and Biogenesis	
13.	CO-1	To describe the methods of determination of reaction Mechanism
	CO-2	To understanding the way of writing the reaction mechanism
	CO-3	To apply the knowledge to solve problems in various reaction in Organic chemistry
	CO-4	To analyze the stability and reactivity of different free radicals
	CO-5	To evaluate & understand the reaction substituent constant and rho value in Hammet plots
	CO-6	To solve the mechanism in organic synthesis
	M. Sc. Semester-III CHO-351: Structure Determination of Organic Compounds by Spectroscopic Methods	
14.	CO-1	To describe the chemical surrounding around the carbon
	CO-2	To understand NMR techniques
	CO-3	Problem Solving: Students will be capable of solving complex problems by applying a combination of UV, IR, 1H and 13C NMR, 2D NMR, and Mass Spectrometry techniques in chemical analysis and reaction sequencing.
	CO-4	Mass fragmentation of various functional group
	CO-5	Quantitative Determination of Isomers: by using mass spectroscopy

	CO-6	To develop the problem solving aptitude
	M. Sc. Semester-III CHO-352: Stereochemistry and Asymmetric Synthesis of Organic Compounds	
15.	CO-1	To describe how to calculate the energy for chair conformation
	CO-2	To understanding the role of different reagents in asymmetric synthesis
	CO-3	To apply the knowledge to solve problems in various concepts in stereo
	CO-4	To analyze the difference between 2D and 3D structure in stereo.
	CO-5	To evaluate & understand stereochemistry of the molecules.
	CO-6	To solve the some reference examples.
	M. Sc. Semester-III CHO-353: Designing Organic Syntheses and Heterocyclic Chemistry	
16.	CO-1	Define/explain terms in retro synthesis, umpolung, natural products and nomenclature for heterocyclic compounds.
	CO-2	To understand retrosynthetic approach for various functional group and structural effects in heterocyclic compounds.
	CO-3	To assign different retrosynthetic and synthetic route for various functional groups.
	CO-4	To explain reactivity and effects of group on three, four and five member heterocyclic compounds.
	CO-5	To analyze and synthesize retrosynthetic groups in functional groups and naturally occurring products.
	M. Sc. Semester-IV CHO-354: Practical I: Solvent Free Organic Synthesis	
17.	CO-1	Recognize which organic reactions are amenable to solvent-free conditions and understand the limitations of solvent-free synthesis.
	CO-2	Demonstrate a strong understanding of safety protocols and risk assessment when working with solvent-free reactions, including precautions related to pressure, temperature, and potential hazards
	CO-3	Apply solvent-free synthesis to the preparation of various organic compounds, including pharmaceuticals, agrochemicals, and materials, and understand the advantages of this approach in these applications.
	CO-4	Analyze and understand the mechanisms of solvent-free reactions, considering factors like steric effects and reaction kinetics
	CO-5	Stay informed about the latest advancements in the field of solvent-free organic synthesis by reading and analyzing current research literature
	CO-6	Effectively communicate the results of solvent-free organic synthesis experiments through written reports and oral presentations.
	M. Sc. Semester-IV CHO-450: Chemistry of Natural Products	
18.	CO-1	Understand basic terms and isolation and characterization of natural products.
	CO-2	Understand the principles and strategies involved in the chemical synthesis of natural products, including retrosynthetic analysis, reaction mechanisms, and multi-step synthesis
	CO-3	Comprehend the biosynthetic pathways that produce natural products in living organisms, and the enzymes and mechanisms involved in their production.
	CO-4	comprehensive understanding of the chemistry of natural products, including the structure, properties, and functions of various classes of compounds such as alkaloids, terpenes, polyphenols
	CO-5	Use of retrosynthesis techniques in compound Analysis.
	CO-6	Recognize the interdisciplinary nature of natural product chemistry and its connections to fields such as pharmacology, botany, microbiology, and ecology.
	M. Sc. Semester-IV CHO-451: Organometallic Reagents in Organic Synthesis	
19.	CO-1	Understand the fundamental principles of organometallic chemistry

	CO-2	Develop the ability to design and optimize reactions using organometallic reagents to achieve specific synthetic goals.
	CO-3	Apply organometallic reagents to the synthesis of complex organic molecules
	CO-4	Understand the reactivity and stability of various organometallic species.
	CO-5	Learn how to prepare and handle organometallic reagents.
	CO-6	Identify and describe key organometallic reactions, such as metal-catalyzed cross-coupling reactions, carbonylation reactions, and oxidative additions.
	M. Sc. Semester-IV CHO-452: Medicinal Chemistry	
20.	CO-1	To recall the role of drug molecule in body
	CO-2	To understand the mechanism of drug molecule in the body
	CO-3	To apply the knowledge of drug to solve different problems in various human body.
	CO-4	to explain the working of different drug in the body
	CO-5	To evaluate the result of different drug molecule
	CO-6	To basic knowledge of drug synthesis to help to developed new drug
	M. Sc. Semester-IV CHO-453: Section-I: Ternary Mixture Separation Section-I: Carbohydrates Synthesis and Isolation of Natural Products	
21.	CO-1	Course outcomes for a ternary mixture separation course encompass the intended learning objectives for students upon course completion.
	CO-2	Carbohydrate synthesis course outcomes vary by level, field (chemistry, biochemistry), and material depth, defining what students should learn post-course.
	CO-3	Students should be able to understand and grasp the concepts related to ternary mixtures.
	CO-4	Course outcomes for a pigment isolation course specify students & expected achievements, outlining learning objectives and goals after completing the course.
	M. Sc. Semester-IV CHO-454: Practical II: Convergent and Divergent Organic Syntheses	
22.	CO-1	Foster innovation and adaptability in the laboratory by experimenting with unconventional techniques and approaches to achieve experimental goals.
	CO-2	Acquire proficiency in a wide range of experimental techniques, allowing for flexibility and adaptability in addressing diverse research questions.
	CO-3	Demonstrate the ability to explore and employ diverse methodologies and experimental approaches in the laboratory.
	CO-4	Recognize and apply connections between convergent practicals and related disciplines, fostering an understanding of how different areas of study intersect in laboratory settings.
	CO-5	Demonstrate the ability to integrate theoretical knowledge from various disciplines into practical laboratory applications.
	CO-6	Conduct critical analysis and interpretation of experimental data generated through convergent practicals, fostering a deeper understanding of the outcomes.
	M. Sc. Semester-IV Skill-I: Skill development -I	
23.	CO-1	Develop proficiency in laboratory techniques, including precision in measurements, handling of chemicals, and safe laboratory practices.
	CO-2	Acquire proficiency in handling and interpreting results from analytical instruments such as spectrophotometers, chromatographs, and mass spectrometers.
	CO-3	Cultivate the ability to work collaboratively in teams, demonstrating effective interpersonal skills and contributing positively to group dynamics
	CO-4	Cultivate a thorough understanding of chemical safety protocols, risk assessment, and emergency response in laboratory settings.
	CO-5	Develop strong data analysis skills, including statistical analysis and graphical representation of experimental results.

	CO-6	Foster leadership qualities and initiative, empowering individuals to take charge, make informed decisions, and guide others towards achieving common goals.
	M. Sc. Semester-IV Skill-I: Skill development -II	
24.	CO-1	Develop critical thinking skills to analyze and solve complex problems, fostering the ability to approach challenges with a logical and analytical mindset.
	CO-2	Enhance communication skills, both verbal and written, to effectively convey ideas, information, and solutions in various contexts.
	CO-3	Cultivate the ability to work collaboratively in teams, demonstrating effective interpersonal skills and contributing positively to group dynamics
	CO-4	Develop adaptability and flexibility in response to changing situations, encouraging the ability to navigate uncertainties and embrace new challenges.
	CO-5	Acquire proficiency in utilizing relevant technologies, tools, and software applicable to the field of study or industry, enhancing overall technological literacy
	CO-6	Foster leadership qualities and initiative, empowering individuals to take charge, make informed decisions, and guide others towards achieving common goals.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) PG: MATHEMATICS

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M.Sc.) -Mathematics	
	After the completion of course Students should be able to-	
	M. Sc. Semester-I MTUT111: Linear Algebra	
1.	CO-1	Recall vector spaces, Linear independent sets, Dependent sets and Basis.
	CO-2	Represent the Linear Transformations and Matrices.
	CO-3	Find the Inner product and Jorden Canonical forms.
	CO-4	Analyze the Dual vector spaces and Elementary divisor theorem.
	CO-5	Explain Orthogonal and Unitary transformations.
	M. Sc. Semester-I MTUT112: Real Analysis	
2.	CO-1	Define the Lebesgue Measure
	CO-2	Describe the Littlewood's Three Principles, Egoroff's Theorem.
	CO-3	Evaluate Differentiation of Indefinite Integral.
	CO-4	Analyze Sequential Pointwise limits and Lusin's Theorem.
	CO-5	Explain the Lebesgue's Differentiation theorem, Jordan's Theorem and Fundamental Theorem.
	M. Sc. Semester-I MTUT113: Group Theory	
3.	CO-1	Recall the Groups, Subgroups and Cyclic Groups.
	CO-2	Describe the Permutation Groups.
	CO-3	Find the factor group, Normal subgroup and Kernel.
	CO-4	Analyze Lagrange's theorem and consequences.
	CO-5	Apply Sylow theorems for groups of finite orders.
	M. Sc. Semester-I MTUT114: Advanced Calculus	
4.	CO-1	Recall the Scalar and Vector fields, Directional derivatives.
	CO-2	Describe the first and second Fundamental theorem of calculus.
	CO-3	Find Surface Integrals.
	CO-4	Evaluate the Line integrals and Multiple Integral.
	CO-5	Apply the Green's theorem in the plane.
	M. Sc. Semester-I MTUT115: Ordinary Differential Equation	
5.	CO-1	Recall the linear equation of first order.
	CO-2	Explain the linear equations with constant coefficients.
	CO-3	To find solution of linear equations with variable coefficients.
	CO-4	Analyze the Euler equation and Bessel's equation.
	CO-5	Determine the existence and uniqueness of solution.
	M. Sc. Semester-II MTUT121: Complex Analysis	
6.	CO-1	Recall Basic properties of Complex Numbers.

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

	CO-2	Describe the Polynomials, Rational Functions and Analytical functions.
	CO-3	Find the Contour Integration.
	CO-4	Evaluate Zeros and Poles.
	CO-5	Apply Jordan's Inequality, Schwarz's Lemma.
	M. Sc. Semester-II MTUT122: Topology	
7.	CO-1	Memorize Cartesian Products, Countable and Uncountable Sets.
	CO-2	Describe Topological Spaces and Continuous Functions.
	CO-3	Compare Connected Spaces and Compact spaces.
	CO-4	Explain Order Topology, Subspace Topology and Product Topology.
	CO-5	Apply Tietze Extension Theorem and Tychonoff's Theorem.
	M. Sc. Semester-II MTUT123: Ring Theory	
8.	CO-1	Recall Basic Terminologies of Rings.
	CO-2	Describe the Maximal Ideals, Quotient Rings and Local Rings.
	CO-3	Find UFD, PID and ED.
	CO-4	Explain the Fundamental theorems and Prime fields.
	CO-5	Determine Quotient modules, Free modules and Simple modules.
	M. Sc. Semester-II MTUT124: Advanced Numerical Analysis	
9.	CO-1	List the root finding methods.
	CO-2	Describe the Gaussian elimination and Nonlinear system of equations.
	CO-3	Find the Eigen values and Eigen vectors.
	CO-4	Explain Newton-cotes Quadrature
	CO-5	Solve the examples by using Euler's Method, Runge-kutta Methods.
	M. Sc. Semester-II MTUT125: Partial Differential Equation	
10.	CO-1	Recall the Compatible systems, Charpit's method and Jacobi's method.
	CO-2	Describe the Canonical forms.
	CO-3	Find the solution of One-dimensional wave equation by canonical reduction.
	CO-4	Explain Dirichlet problem for rectangle and Dirac Delta function.
	CO-5	Solve the Boundary Value Problems.
	M. Sc. Semester-III MTUT131: Functional Analysis	
11.	CO-1	Describe the term Banach Space.
	CO-2	Discuss the Hahn-Banach theorem.
	CO-3	Explain the concept of Hilbert Spaces.
	CO-4	Classify the Normal and Unitary operators.
	CO-5	Solve the problems of Matrices, Determinants and the Spectrum of an operator.
	M. Sc. Semester-III MTUT132: Field Theory	
12.	CO-1	Define Algebraic extension of fields.
	CO-2	Describe Normal and Separable extensions.
	CO-3	Find the Splitting fields, Multiple roots and Separable extension of given field.
	CO-4	Analyze the fundamental theorem of Galois theory.
	CO-5	Calculate the cyclic extensions of field.
	M. Sc. Semester-III MTUT133: Programming with Python(Theory)	
13.	CO-1	Define features, Syntax of Python
	CO-2	Compare the if, if-else and if- elif-else constructs.
	CO-3	Evaluate the factorial and power of a number by using For and While loop.
	CO-4	Classify the different types of functions.
	CO-5	Explain the Classes, Objects and Inheritance in Python.
	M. Sc. Semester-III MTUT135: Mechanics	
14.	CO-1	Describe Lagrange's Formulation in classical Mechanics.
	CO-2	Explain the Variational Principles in Mechanics.
	CO-3	Distinguish between Hamilton's Principle for Conservative and Non-Conservative

		systems.
	CO-4	Evaluate the Isoperimetric Problems.
	CO-5	Solve the problems of Two Body Central Force Motion.
	M. Sc. Semester-III MTUT137: Integral Equations	
15.	CO-1	Describe various types of Integral Equation.
	CO-2	Discuss the Fredholm Integral Equations.
	CO-3	Evaluate the Volterra Integral Equations using different methods.
	CO-4	Explain the Integro- Differential Equations.
	CO-5	Solve the Singular Integral Equations.
	M. Sc. Semester-IV MTUT141: Fourier series and Boundary Value Problem	
16.	CO-1	Define Fourier series.
	CO-2	Discuss the terms of Convergence of Fourier Series.
	CO-3	Evaluate the Sturm-Liouvilles Problems and Orthonormal sets.
	CO-4	Explain the Fourier Method.
	CO-5	Solve the Boundary Value Problem.
	M. Sc. Semester-IV MTUT142: Differential Geometry	
17.	CO-1	Define the terms Graphs and Level Sets, Vector Fields, and Surfaces.
	CO-2	Explain the Gauss Map, Geodesics and Parallel Transport.
	CO-3	Evaluate the Arc Length and Line Integrals.
	CO-4	Illustrate the Weingarten Map.
	CO-5	Determine the Curvature of Surfaces.
	CO-6	Define the terms Graphs and Level Sets, Vector Fields, and Surfaces.
	M. Sc. Semester-IV MTUT143: Introduction to Data Science (Theory)	
18.	CO-1	Describe the Data Science in a big world.
	CO-2	Discuss the Data Science process.
	CO-3	Estimate the First step in big data.
	CO-4	Explain the Machine Learning and Handling large data.
	CO-5	Determine the Text mining techniques and Data visualization options.
	M. Sc. Semester-IV MTUT144: Number Theory	
19.	CO-1	Recall the Congruence and the Chinese Remainder Theorem.
	CO-2	Describe the Unique Factorization in Z, PID and K[x].
	CO-3	Evaluate the Quadratic Residues and Quadratic Reciprocity.
	CO-4	Explain Algebraic Number Fields and Quadratic Fields.
	CO-5	Write the Mobius Inversion Formula.
	M. Sc. Semester-IV MTUT147: Coding Theory	
20.	CO-1	Observe the different techniques of error detection.
	CO-2	Describe the sphere covering bounds, Hamming bounds and MDS codes.
	CO-3	Find the Hamming weight, Linear codes, Generator Matrix and parity check matrix.
	CO-4	Analyze Generator polynomials, Decoding of cyclic codes.
	CO-5	Determine the BCH codes and Parameters of BCH codes.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J.Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

CO (COURSE OUTCOMES) PG: BOTANY

Date : / /202

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M.Sc.) -Botany	
	After the completion of course Students should be able to-	
	M. Sc. Semester-I BOUT-111: Plant Systematics I	
1.	CO-1	Students takes knowledge about Principles, Concept of species and hierarchical taxa, Classification of algae up to order level as per Fritsch system
	CO-2	Students deeply understand Algal habitats, Pigmentation, Reserve food, Modes of perennation in algae, Origin and evolution of sex, & Applications of algae.
	CO-3	Explore Thallus structure, Nutrition, Cell structure, Hyphal modifications in Fungi. Classification of fungi as per Ainsworth et al system.
	CO-4	Students introduces with characters, Affinities with thallophytes and pteridophytes, Contributions of bryologists in world and India (any three), system of classification according to G.M. Smith 1955.
	CO-5	Briefly know the Applications of fungi & Bryophytes.
	M. Sc. Semester-I BOUT-112: Cell Biology and Evolution	
2.	CO-1	Briefly studied Universal features of cells: cell chemistry and biosynthesis, chemical organization of cells.
	CO-2	Deeply understands internal organization of the cell & various cell oraganelles
	CO-3	Also know the Cellular signaling, transport and trafficking in Plant cells.
	CO-4	Various Cellular Processes i.e. Cell cycle and its regulation, Programmed cell death Studied.
	CO-5	Understands the Theories of Evolution, Origin of cells and cellular evolution, Molecular Evolution & Paleontology and Evolutionary History.
	M. Sc. Semester-I BOUT-113: Cytogenetics and plant breeding	
3.	CO-1	Takes learning of Classical Genetics, Principles of Mendelian inheritance and Interaction of genes, Cytoplasmic inheritance, Linkage, Recombination and Crossing Over in genetics.
	CO-2	Also understands the Microbial & Phage Genetics, Karyotype and Chromosome Banding, Structural alterations of chromosomes.
	CO-3	Understanding the Linkage and crossing over , Linkage maps, lod score for linkage testing, mapping by 3 point test cross ,Mapping by tetrad analysis in Yeast and *Neurospora*
	CO-4	Studied & understands the concepts of Plant Breeding, Plant Genetic Resources, and Methods in plant breeding & Asexual reproduction in crop plants.
	CO-5	Also Takes knowledge in Mutation Breeding, Breeding for nutritional traits.
	M. Sc. Semester-I BODT-114: Pomoculture and Fruit Processing Technology	
4.	CO-1	Introduced about Scope and Importance of Fruit crops, Nutritive value of fruits in human nutrition, Classification of Fruits based on: climate adaptability, fruit morphology, Botanical Classification.
	CO-2	Understanding the Present status of fruit growing In India and Maharashtra
	CO-3	Studies fruit Growth & Fruiting Habits

K.J. Somaiya College of Arts, Commerce & Science Kopargaon Estd. 1964

	CO-4	Understands Fruit Processing Technology & Making of various fruit products.
	CO-5	Also know about By Product Waste Utilization, Marketing of fruits: systems of marketing, export potential, air transport, transport by sea, cold storage of fruits.
	M. Sc. Semester-I BODP-114: Botany practical based on BODT 114	
5.	CO-1	Studies microorganisms used in bio fertilizer production & Isolation of Nitrogen fixing cyanobacteria.
	CO-2	Studies Isolation of Rhizobium from root nodules of leguminous crop.
	CO-3	Understands Culture establishment and production of Azolla biofertilizers.
	CO-4	Studies sea weeds with their applications. Estimates Phycobiliproteins from Cyanobacteria.
	M. Sc. Semester-I BOUP-115: Botany practical paper based on BOUT 111, 112, and 113	
6.	CO-1	Observed & documented Charophyta, Euglenophyta, Bascilariophyta and Chrysophyta, Cyanophyta.
	CO-2	Structure & reproductive studies on fungi from Sub-divisions: Myxomycotina, Mastigomycotina and Zygomycotina.
	CO-3	Studied mitosis and meiosis, polytene chromosome from Chironomous larvae.
	CO-4	Estimetes Chlorophyll & Isolation of Lysosomal fraction and estimation of acid phosphatase activity.
	CO-5	Analyse Karyotype, Meiotic configuration in *Rhoeo* buds, Study of Polytene / Salivary gland Chromosomes from *Drosophilla / Chironomous* larva, with Balbiani rings, puff balls, bands & inter bands.
	M. Sc. Semester-II BOUT-121: Plant Systematics II	
7.	CO-1	Students understand Pteridophytes with Distinguishing Characters, Classification as per Sporne System, Contributions of Indian and world Pteridologist.
	CO-2	Learned applications of Pteridophytes: medicinal, horticultural, biotechnological and secondary metabolites.
	CO-3	Students understand Classification of gymnosperms by Raizada and Sahni (1960) & Affinities of gymnosperms with Pteridophytes and Angiosperms.
	CO-4	Understands Comparative account of morphology, anatomy, sporogenesis, gametogenesis, embryology, and interrelationship of Cycadales and Ginkgoales.
	CO-5	Students take knowledge on Characteristic features of angiosperms, Importance and need for classification, hierarchical classification & Various systems of Classifications and plant families.
	M. Sc. Semester-II BOUT-122: Molecular Biology	
8.	CO-1	Gain excess knowledge in Techniques and Tools in Molecular Biology.
	CO-2	Studied DNA – Structure, Functions and Damage & Types of DNA damages, multiple repair pathways.
	CO-3	Understands Gene structure and Function Organization and structure of Prokaryotic and Eukaryotic gene & Mechanism of protein synthesis: Initiation, elongation and termination.
	CO-4	Gets deep understanding of Gene Regulation, Transposable elements, Genomics and Proteomics.
	CO-5	Working of Minor equipment's & Major equipment's like Vortex, magnetic stirrer, Micropipettes, Incubator, Microfuge, microwave oven, pouch sealer and refrigerator.
	M. Sc. Semester-II BOUT-123: Biochemistry	
9.	CO-1	Fundamental aspects of water, buffers, various solutions & laws of Thermodynamics, free energy, energy changes, Redox reactions, chemical bonds.
	CO-2	Studies biomolecules like Carbohydrates , Lipids & Nucleic acids.
	CO-3	Understands Protein Biochemistry & Classification, structure and properties of amino acids
	CO-4	Overview of primary and secondary metabolites, integration of metabolism.
	CO-5	Knowing of Extraction methods, qualitative and quantitative analysis of alkaloids, glycosides, terrenes, phenols, pigments.
	M. Sc. Semester-II BODT-124: Floriculture and Nursery Management	
10.	CO-1	Understands concept, definition, Scope and Importance of floriculture, global scenario of

		flowers, and scope of floriculture in India.
	CO-2	Also studied Harvesting and processing of flowers & Commercial production of flowers.
	CO-3	Studied Nursery Management-Nursery Site: Types of Nurseries, Water, Location, Topography, Size of Nursery, Soil.
	CO-4	Know the Seed Handling, Seed Procurement and Storage, Seed Dormancy and Pre-Treatment, Germination Process, Time of Sowing, Method of Sowing, Care of Seed and Transplanting the Young Seedlings.
	CO-5	Growing Mędia for Propagation and Germination Beds, Growing Media for Transplant Beds.
	M. Sc. Semester-II BODP-124: Botany Practical paper 4- based on BODP 124	
11.	CO-1	Knowing of methods of post-harvest technology for flowers.
	CO-2	Studies special cultural practices for flower crops under protected structure.
	CO-3	Prepared Bed for nursery, growing media.
	CO-4	Studies Grafting, budding, Air Layering budding method and cutting method.
	M. Sc. Semester-II BOUP-125: Botany Practical paper based on BOUT 121, OUT 122 and BOUT 123	
12.	CO-1	Studies families as per Bentham and Hooker's system of classification
	CO-2	Morphological, anatomical and reproductive studies with the help of live material.
	CO-3	Morphological, anatomical and reproductive studies of the following *Psilotum, Lycopodium, Selaginella, Equisetum, Pteris, Adiantum,* and *Marsilea.*
	CO-4	Observed fossils.
	M. Sc. Semester-III BOUT-231: Computational Botany	
13.	CO-1	Introduced Statistics, Measures of central tendency, properties Measures of dispersion.
	CO-2	Learned Correlation and regression Bivariate correlation, positive correlation, negative correlation Measures of correlation.
	CO-3	Students see Importance& types of scientific communication, Different modes of scientific communication.
	CO-4	Understanding Bio-analytical techniques & Bioinformatics, Making solutions, pH measurements and preparation of buffers.
	CO-5	Employ critical thinking based problem solving and practical skills pertaining to botanical techniques and computational knowledge.
	M. Sc. Semester-III BOUT-232: Developmental Botany	
14.	CO-1	Students understand Basic concepts of Plant development i.e. Polarity & Symmetry, Polarity & Symmetry.
	CO-2	Also learned basics of Embryology-Gametophyte development, Fertilization, Development of Endosperm, Polyembryony, Apomixis
	CO-3	Studied plant development on Physiological & Molecular Basis.
	CO-4	Sees Molecular and Cellular events in Inflorescence, flower, mutant's development.
	CO-5	Understanding the Radial and Axial Pattern of development, Process of Senescence.
	M. Sc. Semester- III BOUT-233: Plant Physiology	
15.	CO-1	Covers topic Plant Nutrition in which Soil, Essential elements, Mechanism of absorption of mineral elements, Active and passive transport studied.
	CO-2	Understands process of Photosystem I and II, Calvin cycle, C4 pathway, and different metabolic pathway.
	CO-3	Covers Various pathways under Respiration and lipid metabolism.
	CO-4	Understands Solute transport, Growth and development in plants.
	CO-5	Studied Plant growth regulators, Stress physiology.
	M. Sc. Semester- III BODT-234: Seed science	
16.	CO-1	Introduced Scope, Importance and Definition of Seed Technology.
	CO-2	Parameter studied under Quality testing, Seed Production.
	CO-3	Learned Seed production techniques in hybrids.
	CO-4	Clearly understands the Procedure of seed production in tomato, okra, soybean, cotton and maize.

	CO-5	To study different parameters of seed dormancy and seed germination.
	M. Sc. Semester- III BODP-234: Botany Practical Paper based on BODT 234	
17.	CO-1	Studied chemical composition and seed structure & methods of breaking seed dormancy.
	CO-2	Understands Sampling, dividing and mixing equipment.
	CO-3	Deeply understanding the seed germination (apogeal, hypogeal and viviparous types).
	CO-4	Testing a seed by moisture meter and oven method.
	M. Sc. Semester- III BOUP-235: Botany Practical Paper based on BOUT 231,BOUT 232, BOUT 233	
18.	CO-1	Measured of central tendency, skewness and measures of Kurtosis & Various practical completed under the computational botany.
	CO-2	Analyse secondary growth primary to secondary axis, comparison between vegetative And reproductive induced SA.
	CO-3	Isolation of Developing Embryo, Isolation of Endosperm learned.
	CO-4	Students prepared standard solutions, transpiration and stomata physiology under abiotic stress & other practical studied.
	M. Sc. Semester-IV BOUT-241: Botanical Techniques	
19.	CO-1	Various Microscopic techniques studied like Optical microscopy, Microtomy & camera lucida.
	CO-2	Introduced Chromatography techniques & Applications.
	CO-3	Also understanding the Spectroscopic techniques with their principle, working & Applications.
	CO-4	Radioactive techniques learned with Radioisotopes, Autoradiography, Safe handling of radio isotopes.
	CO-5	Covers Centrifugation techniques, Electrochemical techniques, Immunological techniques.
	M. Sc. Semester-IV BOUT-242: Advanced Ecology	
20.	CO-1	The course covers various topics related to species diversity levels, ecosystem classification, aquatic ecology, ecosystem stability, biomes, agro-ecological zones in India, and forest types in India.
	CO-2	Gain knowledge about the conservation and sustainable use of natural resources, such as forests, freshwater, and marine ecosystems.
	CO-3	Understand the different types of plant-plant interactions, such as competition, facilitation, and allelopathy.
	CO-4	Overviewed of Environmental Laws in India.
	CO-5	Define and explain the fundamental concepts and principles of Environmental Impact Assessment.
	M. Sc. Semester-IV BODT-243: Seed Technology	
21.	CO-1	Implement proper diagnostic techniques to identify plant health issues
	CO-2	Develop skills in systematic data collection during field inspection
	CO-3	Analyze and interpret field data to make informed recommendations for crop management
	CO-4	Studied Seed treatment, Packaging and handling of seeds, Seed Deterioration and Seed Storage.
	CO-5	Students understand general procedure for seed certification.
	M. Sc. Semester-IV BODP-243: Botany Practical paper based on BODT 243	
22.	CO-1	Students learned to identify seed borne fungi by various detection methods.
	CO-2	Studied of important Pest of fiber crop, pulses, vegetable and storage grain.
	CO-3	Demonstrated seed processing and treating equipment.
	CO-4	Students visited seed industries.
	M. Sc. Semester-IV BODT-244: Research Methodology	
23.	CO-1	Deeply understanding Basic Concepts of Research.
	CO-2	Students starts to learn Data Collection and Documentation of Observations.
	CO-3	Students overviewd biological problems.
	CO-4	Understanding Ethics and Good Practical's and Art of Scientific Writing.
	CO-5	student will be able to understand Ethics and Good practicals and Art of scientific writing.

	M. Sc. Semester-IV BODP-244: Botany Practical Paper based on BODT 244	
24.	CO-1	Laerned Plant microtechnique experiments.
	CO-2	Presented posters on defined topics.
	CO-3	Different type of research in day by day life identified by students.
	CO-4	Checking of plagiarism using recommended software .
	M. Sc. Semester-IV BOUP-245: Botany Practical paper based on BOUT 241 and BOUT 242	
25.	CO-1	Practically techniques study by students i.e.Micrometry ,Maceration technique,Rocket immune electrophoresis & others.
	CO-2	Cytochemically analyse Nucleus, Golgi bodies, Mitochondria.
	CO-3	Learned to Prepare shoot/canopy profile of tree stand along the line transect.
	CO-4	Estimated dissolved oxygen content in eutrophic and oligotrophic water samples by azide modification of Winkler's method.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science
Estd. 1964
Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) PG: ZOOLOGY

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M.Sc.) -Zoology	
	After the completion of course Students should be able to-	
	F. Y. B.Sc. Semester-I ZOUT- 111: Animal Diversity I	
1.	CO-1	To identify and observe the importance of taxonomy & systematics.
	CO-2	To understand the associate animal diversity and discuss its importance.
	CO-3	To enlist and prepare chart of differences and similarities between different primitive animal phyla.
	CO-4	To analyze the importance of classification and correlation between different primitive animal phyla.
	CO-5	To distinguish and assess the different groups of animals like i.e. protozoa, porifera, cnidaria, platyhelminths on the basis of their characters.
	CO-6	To construct and express their views about different lower non chordates i.e. protozoa, porifera, cnidaria, platyhelminths.
	F. Y. B.Sc. Semester-I ZO-112: Animal Ecology	
2.	CO-1	To define, identify and evaluate their own beliefs, values & actions, and its impact on ecosystem and biosphere due to the dynamics in population.
	CO-2	To understand the interactions of food chains, food webs and can correlate it with human life for its betterment.
	CO-3	To apply and appreciates the diversity of ecosystems and can apply remedies to overcome the problems of the community.
	CO-4	To analyze and evaluate natural resource issues and act on alifestyle that conserves nature.
	CO-5	To facilitate non-exploitation of the biotic and abiotic components of environment.
	CO-6	To develop strategies to save environment will help to promote betterment of environment.
	F. Y. B.Sc. Semester-I ZO-113: Zoology Practical Paper	
3.	CO-1	To identify and examine the distinguishing characters of protozoa, porifera, cnidarian, Platyhelminthes.
	CO-2	To understand and discuss physiology of paramecium, importance of spicules in sponges, histology of cnidaria and platyhelminthes, also discover taxonomic identification key of lower non chordates.
	CO-3	To analyze the importance of physicochemical parameter like DO, alkalinity, turbidity, Co2 in water.
	CO-4	To evaluate the density, frequency and abundance of species in water, water holding capacity of soil and eutrophication in lake or river.

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

	F. Y. B.Sc. Semester-II ZO-121: Animal Diversity II	
4.	CO-1	To identify, describe and list the distinguishing characters of claases of phylum aschelminth, annelida, arthropoda, mollusca and echinodermata.
	CO-2	To understand, classify compare the distinguishing characters of higher non chordates.
	CO-3	To determine the importance nematoda, vermiculture, insects, molluscs and echinoderms by applying their role in respective ecosystem.
	CO-4	To categorize role and importance of higher invertebrates on earth.
	CO-5	To evaluate and discuss the ecology, physiology of sea star.
	CO-6	To compile and express the economic important characters of Echinodermata.
	F. Y. B.Sc. Semester-II ZO-122: Cell Biology	
5.	CO-1	To define and remember the Microscopy techniques and importance of cell as a structural and functional unit of life.
	CO-2	To understand and compares between the prokaryotic and eukaryotic cells / systems and extrapolates the life to the aspect of development.
	CO-3	To evaluate the dynamics of biomolecules in cytoplasm, nucleus and membranes indicating the dynamism of life.
	CO-4	To analyze cell & cell organelles and their role in cellular functions.
	CO-5	To analyze the cellular mechanisms and its functioning depends on endo-membranes and structures. They are best studied with microscopy techniques.
	CO-6	To express cell cycle, types of cell division: mitosis and meiosis their role in development, growth, reproduction etc. in life of organisms.
	F. Y. B.Sc. Semester-II ZO-123: Zoology Practical Paper	
6.	CO-1	To observe and describe the characters of aschelminthes, annelida, arthropoda, mollusca and Echinodermata.
	CO-2	To understand and discuss the importance of mouth parts in insects, types of shells in molluscs, economic importance of insects.
	CO-3	To discover and determine importance of vermicomposting by visiting vermiculture unit.
	CO-4	To analyze and compare different microscope and micrometric measurements.
	CO-5	To estimate the importance of human buccal epithelial cells and mitotic cells from onion root tip cells.
	CO-6	To Formulate and express types of blood cells in human and importance of cell organelles by studying microphotograph.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Zoology	
	S. Y. B.Sc. Semester-III ZO-231: Animal Diversity III	
7.	CO-1	To Identify, examine and describe characters of phylum chordata and protochordata.
	CO-2	To understand and differentiate characters of different groups of vertebrata.
	CO-3	To determine employ the distinguishing character of pisces and amphibia.
	CO-4	To analyze and compare characters of agnatha and gnathostomata, types of scales and fins in fishes, parental care in amphibia.
	CO-5	To Evaluate and estimate the importance of ecology, morphology and physiology of scoliodon.
	CO-6	To compile and express the role of nervous and reproductive system of scoliodon along with its development.
	S. Y. B.Sc. Semester-III ZO-232: Applied Zoology I	
8.	CO-1	To identify and understand the entire biology of species of silkworms and silk moths, life cycle of silkworms.
	CO-2	To describe the varieties and methods of mulberry cultivation
	CO-3	To apply the methods of Silkworm rearing techniques.
	CO-4	To classify the post-harvest processing of the cocoons to produce raw silk.

	CO-5	To distinguish and evaluate the types of pests, major pests of agricultural importance.
	CO-6	To express life cycle of major agricultural pests and Pest control practices.
	S. Y. B.Sc. Semester-III ZO-233: Zoology Practical Paper	
9.	CO-1	To identify and describe the study of Group Protochordata, Class Pisces and Class Amphibia and their examples.
	CO-2	To classify the study of scales, fin pattern, morphology and anatomy of locally available fishes.
	CO-3	To correlate different species and distribution of silkworms, life cycle of varieties of silkworms.
	CO-4	To distinguish different species of agricultural pests, their importance and control measures.
	CO-5	To decide non insect pests, their importance and control measures.
	CO-6	To construct and employ Pesticide appliances useful for pest control practices.
	S. Y. B.Sc. Semester-IV ZO-241: Animal Diversity IV	
10.	CO-1	To identify and describe the characters of higher chordates like reptiles, aves and mammals.
	CO-2	To discuss and distinguish between reptiles, aves and mammals.
	CO-3	To discover venomous and non-venomous snakes, snake bite and first aid, desert adaptation in reptiles.
	CO-4	To analyze and correlate aerial habitat in birds, types of beak and feet in birds and migration in birds.
	CO-5	To compare and distinguish different habitat of mammals and primitive egg laying mammals.
	CO-6	To express and generalize detail study of rat including habit, habitat, morphology and physiology.
	S. Y. B.Sc. Semester-IV ZO-242: Applied Zoology II	
11.	CO-1	To define and describe the basic knowledge of different honey bee, species of India, nesting behavior, life cycle of honey bees, etc.
	CO-2	To choose and apply the basics about beekeeping tools, equipments and rearing techniques of honey bee colonies for commercial practice of beekeeping.
	CO-3	To aware and employ the various aspects of seasonal management of beehives, by-products of honey bees and their role in crop pollination.
	CO-4	To understand the types of the basic information about types of fishery, cultural methods and their importance in human life.
	CO-5	To evaluate harvesting methods of fishes and fish preservation techniques.
	CO-6	To express about major by-products of fisheries.
	S. Y. B.Sc. Semester-IV ZO-243: Zoology Practical Paper	
12.	CO-1	To understand and remember the study the Class Reptilia: Venomous & Non-venomous snakes and their Identification with the help of pictorial taxonomic keys with their examples.
	CO-2	To understand and classify the study of Class Aves, Class Mammalia and Study of types of beaks & feet in birds with examples.
	CO-3	To illustrate and evaluate the morphology anatomy of rat.
	CO-4	To classify different species of honey bees, life cycle, bee keeping equipments, bee products, enemies etc.
	CO-5	To differentiate fresh water fish species and other aquatic animals of fishery importance.
	CO-6	To assemble and justify crafts and gears used for harvesting fishes, fish preservation techniques and by-products of fisheries.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. –Zoology	
	T. Y. B.Sc. Semester-V ZO-351: Pest Management	

13.	CO-1	Define pest management
	CO-2	Explain medical, veterinary, Household and stored grain pests
	CO-3	Identify ecological and biological characteristics important in development of pest populations.
	CO-4	Describe the economic, ecological, and sociological benefits of IPM
	CO-5	Analyze and compare management tactics to determine the best approach to reducing pest populations, weeds, and disease presence.
	CO-6	Compile the society's role in IPM decisions.
	T. Y. B.Sc. Semester-V ZO-352: Histology	
14.	CO-1	Understand, classify and identify the different types of tissue.
	CO-2	Explain the complexity of various tissues in an organ.
	CO-3	Differentiate structure & functions of various tissues.
	CO-4	Distinguish the various diseases related to organs.
	CO-5	Describe the histological structure of various glands and its functions.
	CO-6	Elaborate the structure & functions of various tissues in organ system.
	T. Y. B.Sc. Semester-V ZO-353: Biological Chemistry	
15.	CO-1	Describe the basic concepts and significance of biochemistry.
	CO-2	Illustrate the basic concepts pH and Buffers.
	CO-3	Differentiate the chemical structures of carbohydrate, and their biological and clinical significance.
	CO-4	Explain the structure and importance of proteins.
	CO-5	Analyze the variations in enzyme activity and kinetics.
	CO-6	Evaluate the structure ,importance and significance of lipid
	T. Y. B.Sc. Semester-V ZO-354: Genetics	
16.	CO-1	Define the basic terminologies in genetics.
	CO-2	Illustrate the modified Mendelian law of inheritance.
	CO-3	Explain the gene mutation and mutagenic agent
	CO-4	Describe the types of sex determination.
	CO-5	Explain the principle of population genetics.
	CO-6	Identify genetic disorders based on karyotypes and trait, with its diagnostic and breeding technology.
	T. Y. B.Sc. Semester-V ZO-355: Developmental Biology	
17.	CO-1	Define the terms in developmental biology.
	CO-2	Explain the types of eggs, concept of fertilization and cleavage pattern.
	CO-3	Compare and contrast spermatogenesis and oogenesis.
	CO-4	Describe neural competence and induction.
	CO-5	Explain the concept of mesoderm induction and pattern formation with examples.
	CO-6	To analyze developmental stages in the chick.
	T. Y. B.Sc. Semester-V ZO-356: Parasitology	
18.	CO-1	Understand basic terms and scope of parasitology
	CO-2	Illustrate of the types host and parasites
	CO-3	Describe the morphology, life cycle, pathogenicity and treatment of common parasites (Protist and Platyhelminthes).
	CO-4	Summarize host -parasite relationships and their effects on host body
	CO-5	Explain the arthropod parasites and their role as vector
	CO-6	Describe the role of parasites in public health and hygiene
	T. Y. B.Sc. Semester-V ZO-357: Zoology Practical Paper 1	
19.	CO-1	Identify beneficial insects.
	CO-2	Enumerate pests and diseases of honeybees.
	CO-3	Perform chromatography for separation of plant products.

	CO-4	Discuss the neuronal physiology and various potentials
	CO-5	Explain the concept of nutrition and digestion.
	CO-6	Explain the structure, contraction and types of contraction of muscle
	T. Y. B.Sc. Semester-VI ZO-363: Molecular Biology	
26.	CO-1	Explain the DNA structure & types, topology, Physical properties; chromatin structure and organization.
	CO-2	Explain mechanism of DNA damage and repair.
	CO-3	Illustrate the process of DNA replication, transcription, translation and their regulations.
	CO-4	Justify the post translational and post transcriptional modifications.
	CO-5	Focus on concept of gene regulation
	CO-6	Illustrate the recombinant DNA technology.
	T. Y. B.Sc. Semester-VI ZO-364: Entomology	
27.	CO-1	Define basic concepts in Entomology and its scope.
	CO-2	Describe morphology and anatomy of Insects.
	CO-3	Establish concept of social organization in Insects.
	CO-4	Analyze the development process of Insects.
	CO-5	Identify disease causing insect vectors.
	CO-6	Summarize design and implement pest controlling methods against pests.
	T. Y. B.Sc. Semester-VI ZO-365: Techniques in Biology	
28.	CO-1	Demonstrate the working of different microscopes.
	CO-2	Illustrate the tools used in histological preparations
	CO-3	Justify the use of various stains and dyes used in microtomy.
	CO-4	Justify the importance of Immunohistochemistry.
	CO-5	Describe different type of blood cells.
	CO-6	Calculate various biodiversity indices.
	T. Y. B.Sc. Semester-VI ZO-366 Evolutionary Biology	
29.	CO-1	Define overview of Concept of Evolution.
	CO-2	Understanding of Analogy, Homology, Paleontological Evidences, Embryological Evidences and Molecular Phylogeny.
	CO-3	Differentiate between Lamarckism, Darwinism and Neo-Darwinism theories.
	CO-4	Describe Micro-evolutionary changes, Speciation and Adaptive Radiation.
	CO-5	Able to apply Hardy –Weinberg law of population genetics
	CO-6	Enumerate fauna of various zoological realm.
	T. Y. B.Sc. Semester-VI ZO-367: Zoology Practical Paper 1	
30.	CO-1	Demonstrate the ability to identify and collect animal specimens for medical and forensic purpose.
	CO-2	Perform dissection of animal specimen to study their anatomy and physiology.
	CO-3	Conduct experiment to investigate the function of animal systems
	CO-4	Apply the principle of medical and forensic zoology to solve problem in the field of medicine and forensic.
	CO-5	Prepare and present reports on animal specimen and experiment.
	CO-6	Communicate effectively with other student, professionals, and public about medical and forensic zoology and animal physiology.
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI ZO-368: Zoology Practical Paper II	
31.	CO-1	Demonstrate the ability to isolate and purify DNA and RNA.
	CO-2	Perform PCR and other molecular biology techniques.
	CO-3	Identify and classify insect using morphological and molecular methods
	CO-4	Conduct experiment to investigate the structure and function of gene and protein.
	CO-5	Apply the principles of molecular biology to solve problems in the field of entomology.

	CO-6	Prepare and present report on molecular biology experiment and insect specimens.
	T. Y. B.Sc. Semester-VI ZO-369: Zoology Practical Paper III	
32.	CO-1	Demonstrate the ability to use a variety of technique in biology and evolutionary biology.
	CO-2	Apply these technique to solve problems in these fields
	CO-3	Be familiar with the ethical consideration in the use of these techniques
	CO-4	Prepare and present reports on techniques used in biology and evolutionary biology
	CO-5	Communicate effectively with other students, professionals and public about techniques in biology and evolutionary biology
	CO-6	Contribute to the advancement of knowledge in biology and evolutionary biology
	T. Y. B.Sc. Semester-VI ZO-3610 Environmental Impact Assessment	
33.	CO-1	Define environmental impact assessment and explain its purpose
	CO-2	Identify the different types of environmental impacts
	CO-3	Describe the steps involved in conducting an environmental impact assessment
	CO-4	Analyze the environmental regulations related to environmental impact assessment
	CO-5	Evaluate the environmental impact of proposed projects
	CO-6	Communicate the results of an environmental impact assessment to stakeholders
	T. Y. B.Sc. Semester-VI ZO-3611 Project	
34.	CO-1	Plan the project by selecting a suitable title
	CO-2	Establish Hypothesis, Objectives of the project
	CO-3	Perform review of the available literature
	CO-4	Choose Methodology to be used in Project work
	CO-5	Infer outcomes of the Project work
	CO-6	Predict conclusion, discussion and recommend future plans

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science
Estd. 1964
Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) PG: MICROBIOLOGY

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M.Sc.) -Microbiology	
	After the completion of course Students should be able to-	
	F. Y. B.Sc. Semester-I MB-111: Introduction to Microbial World	
1.	CO-1	Students will discover the contributions of different scientists in the fields of Microbial science.
	CO-2	Students will have identified about different types of microbes.
	CO-3	Students will have understood emerging fields of science with respect to Microbiology.
	CO-4	Students will able to predict the basic concepts related to the fields of microbiology.
	CO-5	Students will understand the different research experiment.
	F. Y. B.Sc. Semester-I MB-112: Basic Techniques in Microbiology	
2.	CO-1	Students will be able to understand the basics techniques used in Microbiology
	CO-2	Students will be able to apply applications of basic techniques.
	CO-3	Students will understand Different staining techniques.
	CO-4	Students will be able to classify microorganism on the basis of their morphology.
	CO-5	Students will learn sterilization and disinfection techniques used in microbiology field.
	F. Y. B.Sc. Semester-I MB-113: Practical Course based on theory papers	
3.	CO-1	Students will learn safety measures and Good laboratory practices in microbiology laboratory.
	CO-2	Students will able to prepare slide and observe microorganisms
	CO-3	Students will understand handling of different instruments in microbiology laboratory
	CO-4	Students will be able to classify microorganism on the basis of their morphology.
	CO-5	Students will learn sterilization and disinfection techniques used in microbiology field.
	F. Y. B.Sc. Semester-II MB-121: Bacterial Cell	
4.	CO-1	Students will be able to illustrate bacterial cytology.
	CO-2	Students will Distinguish bacterial cell based on morphological characters.
	CO-3	Students will understand different types of biomolecules.
	CO-4	Students will get idea about nucleic acid
	CO-5	Students will be Introduced with Bergey's Manual of Determinative and Systemic Bacteriology
	F. Y. B.Sc. Semester-II MB-122: Microbial Cultivation and Growth	
5.	CO-1	Students will learn about the technique of isolation and enumeration of microbes.
	CO-2	Concepts related to extremophilic microbes chemo-lithotrophic bacteria archea

K.J. Somaiya College of Arts, Commerce & Science Estd. 1964 Kopargaon

		and fungi.
	CO-3	Design and preparation of media
	CO-4	Maintenance of bacterial and fungal cultures using different techniques.
	CO-5	Students will understand the bacterial growth kinetics and measurements
	F. Y. B.Sc. Semester-II MB-123: Practical Course based on theory papers MB121 and MB122	
6.	CO-1	Preparation of laboratory media for growth of microorganism
	CO-2	Students will learn to differentiate bacteria based on different stating technique.
	CO-3	Students will learn different technique for Preservation of cultures.
	CO-4	Students will learn about the technique of isolation and enumeration of microbes.
	CO-5	Students will able to illustrate bacterial cytology.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), S. Y. B. Sc. -Microbiology	
	S. Y. B.Sc. Semester-III MB-231: Medical Microbiology and Immunology	
7.	CO-1	Students will be able to correlate disease symptoms with causative agent.
	CO-2	Knowledge of basic and general concepts of causation of disease by the pathogenic microorganism.
	CO-3	Understanding the concept of antigen and antibody.
	CO-4	Students will able to predict different chemotherapeutic agent.
	CO-5	Students will able learn practical skills in immunological experiments those undertaken in diagnostic laboratories and research laboratories.
	S. Y. B.Sc. Semester-III MB-232: Bacterial Physiology and Fermentation Technology Microbiology	
8.	CO-1	Students will define the metabolic pathways unique to microorganism
	CO-2	Students will ask the basic concept of Enzymes
	CO-3	They will apply the knowledge of industrially important microbial strains.
	CO-4	Analyze the various fermented product and Media involved in fermentation conditions.
	CO-5	Students will assess the fermentation techniques used in industry.
	S. Y. B.Sc. Semester-III MB-233: Practical based on MB 231 and MB 232	
9.	CO-1	Knowledge to define diagnostic skills, including the use and interpretation of laboratory tests in the diagnosis of infectious diseases.
	CO-2	Students will able to discuss slide and observe microorganisms
	CO-3	By the end of the course, the student should be able to apply different methods for isolation of industrially important microorganism.
	CO-4	Classify the various fermented product and Media involved in fermentation conditions.
	CO-5	Students will evaluate fermentation techniques used in industry.
	S. Y. B.Sc. Semester-IV MB-241: Bacterial Genetics	
10.	CO-1	Students will able to state the detailed structure of nucleic acids
	CO-2	Students will summarize the concept of replication, transcription and translation
	CO-3	Students will evaluate the mechanisms of gene expression, gene transfer and regulation.
	CO-4	To justify types and effects of mutations and recombination.
	CO-5	Students will relate the knowledge about concept of plasmid.
	S. Y. B.Sc. Semester-IV MB-242: Air, Water and Soil Microbiology	
11.	CO-1	Student should be able to define the microbial flora of air.
	CO-2	Describe the role microorganism in composting and humus formation.
	CO-3	Be applying the knowledge with the role of microorganism in nitrogen fixation.
	CO-4	Analyze the mechanism of microbial interaction with microbes, plant, animal and insects.
	CO-5	Decide the role of microorganism as a indicator of fecal pollutions.
	S. Y. B.Sc. Semester-IV MB-243: Practical based on MB 241 and MB 242	
12.	CO-1	Students will be able to define isolation and preparation of bioinoculant.
	CO-2	Students will estimate different ways of isolation of bacterial mutants.
	CO-3	Students will act on different methods to Carry out mutations in bacteria.

	CO-4	Analyze epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.
	CO-5	Assess Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	Faculty: Science (UG), Program: Bachelor of Science (B. Sc.), T. Y. B. Sc. – Microbiology	
	T. Y. B.Sc. Semester-V MB-351: Medical microbiology I	
13.	CO-1	Describe the human anatomy,pathogen sassociated with diseases.
	CO-2	Undersand the knowledge of principles underlying establishment of pathogens in humanbody.
	CO-3	Predict the epidemiological patterns of microbial disease transmission as variousmodes,intensityat local andglobal level.
	CO-4	Focus on Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strat egiesto mitigate.
	CO-5	Assess the identification systems for microbial disease diagnosis, disease treatment and prevention measures.
	T. Y. B.Sc. Semester-V MB-352: Immunology I	
14.	CO-1	Acquire knowledge of principles underlying establishment of pathogens in human body.
	CO-2	Understand the human anatomy, pathogens associated with diseases.
	CO-3	Comprehend of pathogenesis of specific pathogens causing microbial diseases.
	CO-4	Assessepidemiologicalpatternsofmicrobialdiseasetransmissionasvariousmodes, intensity at local and global level.
	CO-5	Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	T. Y. B.Sc. Semester-V MB-353: Enzymology	
15.	CO-1	To describe methods of active site determination, role of enzymes.
	CO-2	To explain the perform enzyme assay, purification and quantification of enzymes activity.
	CO-3	To illustrate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes.
	CO-4	To analyze mechanisms of transport of solutes across the membrane.
	CO-5	To get evaluate mechanism of biosynthesis and degradation of biomolecules.
	T. Y. B.Sc. Semester-V MB--354: Genetics	
16.	CO-1	To recognize aknowledge basein Genetics and Molecular Biology.
	CO-2	To illustrates the central dogma of Molecular Biology
	CO-3	To construct genetic map of bacteria and fungi
	CO-4	To get connect to concept of recombination and bacteriophage Genetics
	CO-5	To estimate the concept cloning in bacteria
	T. Y. B.Sc. Semester-V MB-355: Fermentation Technology -I	
17.	CO-1	To acquaint fermentation economics, process patentability, process validation.
	CO-2	To impart technical understanding of commercial fermentations.
	CO-3	To optimize and sterilize media used in fermentation industry for commercially economical and efficient fermentations.
	CO-4	To comprehend the large scale productions of commercially significant fermentation products of classical and recent significance.
	CO-5	To apply classical, advanced strain improvement and isolation techniques for fermentation processes
	T. Y. B.Sc. Semester-V MB-356: Agriculture Microbiology	
18.	CO-1	To acquaint importance of microorganisms in sustainable agriculture, biotechnological application of bio films, edible vaccines.
	CO-2	To understand plant growth improvement with respect to disease resistance, environment tolerance.

	CO-3	To correlate Soil Microbiome and Role of microorganisms in soil health
	CO-4	To correlate stages of plant disease development, epidemiology and symptom based classification, control methods.
	CO-5	To determine the use of Microorganisms as tools in plant genetic engineering.
	T. Y. B.Sc. Semester-V MB-357: Practical course- I	
19.	CO-1	To describe laboratory analysis of clinical specimens in cases when an infectious disease is suspected.
	CO-2	To identify Physical, Chemical and Microscopic examination of Clinical samples.
	CO-3	To illustrate Development of hypothesis, Data collection, organization, statistical analysis, graphical representation using computers and interpretation, Preparation of report.
	CO-4	To explain Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strat egiesto mitigate.
	CO-5	Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures
	T. Y. B.Sc. Semester-V MB-358: Practical course- II	
20.	CO-1	To describe the basics of microbiology and biochemistry.
	CO-2	Students will understand study the detailed structure of nucleic acids.
	CO-3	To determine chromatography in biochemistry.
	CO-4	To explain mechanisms of transport of solutes across the membrane.
	CO-5	To assess the concept cloning in bacteria.
	T. Y. B.Sc. Semester-V MB-359: Practical course- III	
21.	CO-1	Students will describe bout the different types of fermentation processes, equipment's used and microbiological processes involved
	CO-2	To illustrate about Soil Micro biome
	CO-3	To explain knowledge about soil health.
	CO-4	To plan optimize and sterilize me disuse dinfermentation industry for commercially economical and efficient fermentations
	CO-5	To formulate the use of Microorganisms a tools implant genetic engineering.
	CO-6	To understand techniques in dairy products.
	T. Y. B.Sc. Semester-VI MB-361: Medical Microbiology II	
22.	CO-1	Recall identification systems for microbial disease diagnosis, disease treatment and prevention measures.
	CO-2	To estimate the human anatomy, pathogens associated with diseases.
	CO-3	Compute knowledge of principles underlying establishment of pathogens in human body
	CO-4	Criticize Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate
	CO-5	Assess epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.
	T. Y. B.Sc. Semester-VI MB-362: Immunology II	
23.	CO-1	Acquire knowledge of principles underlying establishment of pathogens in human body.
	CO-2	Understand the human anatomy, pathogens associated with diseases.
	CO-3	Comprehend of pathogenesis of specific pathogens causing microbial diseases.
	CO-4	Assessepidemiologicalpatternsofmicrobialdiseasetransmissionasvariousmodes, intensity at local and global level.
	CO-5	Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	T. Y. B.Sc. Semester-VI MB-363: Metabolism II	
24.	CO-1	To describe the mechanisms of transport of solutes across them membrane

	CO-2	To explain the methods of active site determination, role of enzymes and its cofactors in microbial physiology.
	CO-3	To apply basic concept of autotrophic mode of metabolism of prokaryotes.
	CO-4	To correlate regulation of metabolism at enzymatic levels.
	CO-5	To criticize mechanism of biosynthesis and degradation of biomolecules
	T. Y. B.Sc. Semester-VI MB-364: Molecular Biology II	
25.	CO-1	To recognize aknowledge basein Genetics and Molecular Biology.
	CO-2	To illustrates the central dogma of Molecular Biology
	CO-3	To construct genetic map of bacteria and fungi
	CO-4	To get connect to concept of recombination and bacteriophage Genetics
	CO-5	To estimate the concept cloning in bacteria
	T. Y. B.Sc. Semester-VI MB-365: Fermentation Technology -II	
26.	CO-1	To recall fermentation process including microbial metabolism, fermentation equipment and process optimization.
	CO-2	To impart technical understanding of commercial fermentations.
	CO-3	To apply classical, advance strain improvement isolation techniques for fermentation process.
	CO-4	To analyses product recovery using suitable methods and ensuring quality of the finish end product by quality assurance test.
	CO-5	To criticize fermentation economics, process patentability and process validation.
	T. Y. B.Sc. Semester-VI MB-366 Food Microbiology	
27.	CO-1	To describe food classification based on their perishability, intrinsic and extrinsic factors affecting the growth of microbes in foods, role of microorganisms in food fermentation
	CO-2	To estimate about food spoilage ,food borne diseases,predit sposition and preventive and control measures
	CO-3	To apply principles of sanitation, heat treatment, irradiation, modified atmosphere,antimicrobial preservatives and combination of method (hurdle concept) to controlmicrobialgrowth with emphasis on HACCP guidelines.
	CO-4	To analyse food safety problem and solutions in India and global scale.
	CO-5	To justify and classify types of microorganism in food processing and compare their characteristics and behavior
	T. Y. B.Sc. Semester-VI MB-367: Practical Course-I	
28.	CO-1	To describe laboratory analysis of clinical specimens in cases when an infectious disease is suspected.
	CO-2	To identify Physical,ChemicalandMicroscopicexaminationofClinicalsamples.
	CO-3	To illustrate Development of hypothesis,Datacollection,organization,statistical analysis,graphicalrepresentationusingcomputersandinterpretation,Preparationof report.
	CO-4	To explain Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
	CO-5	Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures
	T. Y. B.Sc. T. Y. B.Sc. Semester-VI MB-368: Practical Course-II	
29.	CO-1	To be able to know and describe about various cell types present in blood, their genesis and function, and to communicate and discuss the molecular basis of blood coagulation.
	CO-2	To be able to predict and discuss fundamental metabolic processes
	CO-3	To apply performing biochemistry test.
	CO-4	To analyze mechanisms of transport of solutes across the membrane
	CO-5	To summarize genetic map of bacteria and fungi

	T. Y. B.Sc. Semester-VI MB-369: Practical Course-III	
30.	CO-1	Describe diversity of microorganisms, bacterial cell structure and function, microbial growth
	CO-2	To explain the diverse physical and chemical conditions needed for bacterial development.
	CO-3	To develope fermentation product.
	CO-4	To explain acquire knowledge about food spoil age, food borne diseases, predisposition and preventive and control measures
	CO-5	To assess to apply principles of sanitation, heat treatment, irradiation, modified atmosphere, antimicrobial preservatives and combination of method (hurdle concept) to control microbial growth with emphasis on HACCP guidelines.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

CO (COURSE OUTCOMES) PG: COMPUTER SCIENCE

Sr. No.	CO Number	Course Outcomes
	Faculty: Science (PG), Program: Master of Science (M. Sc.) –Comp. Science	
	After the completion of course Students should be able to-	
	M. Sc. Semester-I CSUT-111: Paradigm of Programming Language	
1.	CO-1	Describe Separate syntax from semantics
	CO-2	Compare programming language designs
	CO-3	Choose basic language implementation techniques
	CO-4	Learn to compile small programs in different programming Languages
	M. Sc. Semester-I CSUT-112: Design and Analysis of Algorithms	
2.	CO-1	Students will learn fundamental concepts of asymptotic notations of an algorithm, Space & Time Complexity, Searching & Sorting Algorithms, Divide and Conquer techniques.
	CO-2	Discuss design and analysis techniques such as greedy algorithms, dynamic programming.
	CO-3	Apply backtracking, branch and bound techniques for real time problems.
	CO-4	Express the concepts of P, NP and NP-Complete problems.
	M. Sc. Semester-I CSUT-113: Database Technologies	
3.	CO-1	Students will get knowledge of advance database technology
	CO-2	Students will be able to choose appropriate database technology as per application
	CO-3	Students will learn to design responsive web application
	CO-4	Students could design and implement scalable web application
	M. Sc. Semester-I CSDT-114B: Artificial Intelligence	
4.	CO-1	Visualize a strong foundation of fundamental concepts in Artificial Intelligence
	CO-2	Represent a basic exposition to the goals and methods of Artificial Intelligence.
	CO-3	Apply these techniques in applications which involve perception, reasoning.
	CO-4	Express the ideas in AI research and programming language related to emerging technology.
	M. Sc. Semester-I CSDP-114B: Artificial Intelligence Practical	
5.	CO-1	Describe the good programming skills to formulate the solutions for computational problems.
	CO-2	Generalize solutions for informed and uninformed search problems in AI
	CO-3	Apply AI tools to synthesize information and develop models within constraints of application area
	CO-4	Design advanced package like NLTK for implementing artificial intelligence.
	M. Sc. Semester-I CSUP-115: PPL and Database Technologies Practical	
6.	CO-1	Knowledge to compare the features of various programming languages.
	CO-2	Understand to express syntax and semantics in formal notation
	CO-3	Employ to apply suitable programming paradigm for the application.
	CO-4	Design to program in different language paradigms and evaluate their relative benefits

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

	M. Sc. Semester-II CSUT-121: Advanced Operating System	
7.	CO-1	Introduction to UNIX/Linux Kernel. Basic to advanced understanding of kernel system.
	CO-2	Understand the use File and Directory I/O
	CO-3	Able to use specific system calls as per applications need. Process Environment, Process Control and Process Relationships
	CO-4	To design the Memory Management, Signal Handling.
	M. Sc. Semester-II CSUT-122: Mobile Technologies	
8.	CO-1	Define mobile technologies in terms of hardware, software, and communications.
	CO-2	Utilize mobile computing nomenclature to describe and analyze existing mobile computing frameworks and architectures.
	CO-3	Evaluate the effectiveness of different mobile computing frameworks.
	CO-4	analyze various routing algorithms used in mobile/wireless networks. Identify the issues in transport and application layers.
	M. Sc. Semester-II CSUT-123: Software Project Management	
9.	CO-1	Remember life cycle of Project Management
	CO-2	Understand the Project Management Components
	CO-3	Understand to apply Scope Management
	CO-4	To design large scale software projects
	M. Sc. Semester-III PHCP- CSUT-231 : Software Architecture and Design Pattern	
10.	CO-1	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	CO-2	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	CO-3	Build and deploy robust Django Web App.
	CO-4	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	M. Sc. Semester-III CSUT-232: Machine Learning	
11.	CO-1	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	CO-2	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	CO-3	Build and deploy robust Django Web App.
	CO-4	Integrate with Restful web services
	M. Sc. Semester-III CSUT-233: Web Framework	
12.	CO-1	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	CO-2	Students will be ready with the technology which is used widely in Industry as a part of full stack developer.
	CO-3	Build and deploy robust Django Web App.
	CO-4	Integrate with Restful web services
	M. Sc. Semester-III CSDP-235: Practical on Software Architecture and Design Pattern and Machine Learning	
13.	CO-1	Able to use specific frameworks as per applications need.
	CO-2	Design java application using design pattern techniques.
	CO-3	Process available data using python libraries and predict outcomes using Machine Learning algorithms to solve given problem.
	CO-4	Able to estimate Machine Learning models efficiency using suitable metrics.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) PG: COMMERCE

Sr. No.	CO Number	Course Outcomes
	Faculty: Commerce (PG), Program: Master of Commerce (M. Com.)	
	After the completion of course Students should be able to-	
	M. Com. Semester-I 101: Management Accounting	
1.	CO-1	Develop the concept of management accounting and its significance in the business.
	CO-2	Analyze the financial statements.
	CO-3	Understand, develop, and apply the techniques of management accounting in the financial decision making in the business corporates
	CO-4	Develop competence with their usage in managerial decision making and control.
	CO-5	Develop the concept of management accounting and its significance in the business.
	CO-6	Analyze the financial statements.
	M. Com. Semester-I 102: Strategic Management	
2.	CO-1	Introduce the students to the emerging changes in the modern business environment.
	CO-2	Develop the analytical, technical and managerial skills of students in the various areas of Business Administration
	CO-3	Empower to students with necessary skill to become effective future managers and leaders
	CO-4	Develop technical skills among the students for designing and developing effective Functional strategies for growth and sustainability of business
	M. Com. Semester-I 103: Advanced Accounting	
3.	CO-1	A theoretical foundation of Accounting & Accounting Standards.
	CO-2	Understanding the Consolidation of Financial Statements of Holding Companies & two Subsidiary Companies
	CO-3	Prepare Statement of Affairs of the Companies in Liquidation
	CO-4	Prepare Statement of Affairs of the Companies in Liquidation
	M. Com. Semester-I 104: Income Tax	
4.	CO-1	Understand the basic knowledge of Income Tax Act. 1961
	CO-2	Understand and compute the concepts of Heads of Income and to compute the income under each head.
	CO-3	understand the concept of deductions and provisions of Sec. 80C to 80U
	CO-4	Understand and compute the taxable income of an Individual, Hindu Undivided Family and Companies.
	M. Com. Semester-I 113: Production & Operation Management	
5.	CO-1	Understand and develop deep insight of Production & Operation Management
	CO-2	Understand & identity business problems involving operational function, planning and control, design development and quality management.

K.J. Somaiya College of Arts, Commerce & Science Estd. 1964 Kopargaon

	CO-3	Demonstrate awareness and importance of application, operation and supply chain management.
	CO-4	Effectively analyze and synthesize the many inter relationship inherent in complex socio-economic productive systems.
	M. Com. Semester-I 114: Financial Management	
6.	CO-1	Understanding Financial Management and recognizing the Financial System of India.
	CO-2	Understand the concepts relating to Financing & Financial Statement Analysis
	CO-3	Enable the students to make Investment Decisions
	CO-4	Understand the meaning and nature of Working Capital and enable the students to formulate Credit and Collection policy
	M. Com. Semester-II 201: Financial Analysis & Control	
7.	CO-1	Understanding basics of financial analysis.
	CO-2	comparing financial results of different years and different companies
	CO-3	Understand the importance of cash liquidity in an organization and understand the computation of cash and fund flows under operating, investing and financing categories
	CO-4	Develop the skill of appropriate use of different ratios to evaluate the financial performance of entities.
	M. Com. Semester-II 202 (A): Industrial Economics	
8.	CO-1	Know about the concepts used in industrial economics
	CO-2	Understand the theories of industrial location and know about industrial imbalance in India
	CO-3	Know about industrial productivity and efficiency
	CO-4	Know about industrial finance and its sources and understand problems of small and micro industries in India
	M. Com. Semester-II 203: Specialized Areas in Accounting	
9.	CO-1	Describe how contract accounting is used for performance evaluation and decision making
	CO-2	Recalls the distinction between Amalgamation in the nature of of purchase and analyses the situation where the Alteration of share capital and internal reconstruction is required
	CO-3	solve problems relating Special areas in accounting including accounting for Services Sector
	CO-4	Maintain different types of ledgers, prepare documents such as Invoice, Credit Note and Debit Note, identify the different types of returns and their applicability to the business, Monthly Returns, Quarterly Return
	M. Com. Semester-II 204: Business Tax assessment and planning	
10.	CO-1	To understand the provision for computation of income of various entities.
	CO-2	To understand the provisions of returns, assessment and procedure of assessment
	CO-3	To understand need and importance of Tax Planning and Management
	CO-4	To understand the Basic concept and framework under GST Act & Customs Act.
	M. Com. Semester-I 213: Business Ethics & Professional Values	
11.	CO-1	Understanding Knowledge of established methodologies of solving ethical problems and Recognizing significance of Professional Values
	CO-2	Knowing CSR and its scope and forms and Analysis of Corporate Governance and Value Based Management
	CO-3	Recognizing the unethical issues in Finance , Marketing , IT , HRM and at workplace
	CO-4	Recognizing environmental issues and its impact on Business and Achieving Sustainable Development
	M. Com. Semester-II 214: Elements of Knowledge Management	
12.	CO-1	Develop Analytical and Research oriented skills among the students.
	CO-2	Understand value application and relevance of Knowledge management in today's corporate world.

	CO-3	Promote research and innovation ideas based on Knowledge Management
	CO-4	Enhance knowledge level and practice of linking theoretical background with applied Social Science.
	M. Com. Semester-III 301: Business Finance	
13.	CO-1	Understand the role and importance of corporate finance, and learn the calculation value of money.
	CO-2	Understand the financial planning, theories of capitalization and estimation of finance need of firm
	CO-3	Learn the sources of finance to be tapped for running business successfully.
	CO-4	Apply best practice in working capital management.
	M. Com. Semester-III 302: Research Methodology for Business	
14.	CO-1	Understanding of basic knowledge of Business Research, Research Process, ethical issues and modern practices in research.
	CO-2	Learning the formulation of Research Problem, Hypotheses, Research Design and Sampling
	CO-3	Gaining knowledge of Sources of Data Collection Measurement & Scaling, Processing of Data
	CO-4	Understanding the procedure of Research Report and mode of citation and bibliography
	M. Com. Semester-III 303: Advanced Auditing	
15.	CO-1	Develop the knowledge about auditing standard.
	CO-2	Know about the practice of Company Auditor
	CO-3	Develop knowledge about Corporate Governance and audit committee
	CO-4	Audit under CIS Use of computer in audit
	M. Com. Semester-III 304: Specialized Auditing	
16.	CO-1	Understand various concepts of Audit under GST
	CO-2	Understand need and importance of internal audit in an organization
	CO-3	Know the need and importance of the audit in banks and understand Process of audit in banks.
	CO-4	Understand need and Importance of Auditing in co- operative sector.
	M. Com. Semester-III 313: Human Resource Management	
17.	CO-1	Understand the basic concepts of Human Resource Management and changing role of HRM in business.
	CO-2	Analytical skills in the field of HRM, HRP and development, Recruitment and Selection Process.
	CO-3	Understand the concepts of Training and Development, Performance Appraisal and Merit Rating
	CO-4	Understand the meaning and concept of retirement, resignation, discharge, dismissals, suspension of an employee and Layoff
	M. Com. Semester-II 314: Organizational Behavior	
18.	CO-1	Understand various concepts of organization behaviour
	CO-2	Provide in depth knowledge about process of formation of group behaviour in an organization set up
	CO-3	Know the motivational process and emotional intelligence.
	CO-4	Understand the concept of stress and conflict and effects of work culture
	M. Com. Semester-IV 401: Capital Market and Financial Services	
19.	CO-1	Learn the importance and working of capital market.
	CO-2	Understand the working of BSE and NSE, and OTCEI in detail.
	CO-3	Know the role of inter-mediatories, Mutual funds. Portfolio management.
	CO-4	know the role of SEBI in regulating stock exchanges and investors' education, financial advisors
	M. Com. Semester-IV 402: Industrial Economic Environment	
20.	CO-1	understand the impact of economic and non – economic factors affecting industrial environment

	CO-2	understand role of various types of industries in India like small scale industries, public sector industries, MNCs etc
	CO-3	Critically evaluate industrial polices in India and Analyze the impact of new industrial policy adopted by India.
	CO-4	understand role, progress and problems of manufacturing and service industries in India
	M. Com. Semester-IV 403: Recent Advances in Accounting, Taxation & Auditing.	
21.	CO-1	know the professionalism in Accounting process
	CO-2	understand the benefit of new reforms among different stakeholders
	CO-3	understand the application of new accounting methods for better efficacy building
	CO-4	understand the need for emerging trends in accountancy
	M. Com. Semester-IV 404: Project Work / Case Studies	
22.	CO-1	Explain the concept, process, and importance of Business Research in accounting and taxation
	CO-2	Learn the research Methodology for writing project work in accounting and taxation
	CO-3	Analysis and interpretation of data in research project in accounting and taxation
	CO-4	Write research project in the field of commerce in accounting and taxation
	M. Com. Semester-IV 413: Recent Advances in Business Administration	
23.	CO-1	Understanding about tools and their application in the business.
	CO-2	Understand the basic concepts of Change Management and their approaches.
	CO-3	Impart adequate knowledge and analytical of cross cultural Management.
	CO-4	Impart the basic concept and strategies of customer centric Management..
	M. Com. Semester-IV 414: Project Work / Case Studies	
24.	CO-1	Explain the concept, process, and importance of Business Research in business administration
	CO-2	Learn the research Methodology for writing project work in business administration
	CO-3	Analysis and interpretation of data in research project in business administration
	CO-4	Write research project in the field of commerce in business administration

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J.Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

CO (COURSE OUTCOMES) PG: M. A.

Date : / /202

Sr. No.	CO Number	Course Outcomes
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-I - History	
	After the completion of course Students should be able to-	
	M. A. Semester-I: HS:CC-I History: Theory and Method	
1	CO-1	Student will know the importance of tools while writing history.
	CO-2	From this the student understood Greek Roman Arab and Church history writing.
	CO-3	Students will know the importance of footnotes, reference books while interpreting history.
	CO-4	Rationalist Romantic Positivist Historical Materialist Historiography will be easier for students to understand.
	CO-5	Acquire research skills, including the ability to locate and use primary and secondary sources effectively.
	CO-6	Explore the historiographical development of key historical topics and themes, understanding how interpretations change over time.
	M. A. Semester-I: HS:CC-II Evolution of Ideas and Institution in Early India	
2	CO-1	Ancient India's perceptions, limitations, and range of sources will be analyzed by students.
	CO-2	Political and social ideas and institutions of Ancient India will be explained by students.
	CO-3	Caste-based societies in Ancient India can be illustrated by students.
	CO-4	Students may explain the emergence of states in ancient India.
	CO-5	Explore the historiography of early India, including how different historians and scholars have interpreted its history over time.
	CO-6	Analyze the roles and status of women in early Indian society, as well as changes in gender norms and practices.
	M. A. Semester-I: HS:CC-III Maratha Polity	
3	CO-1	Students will have the opportunity to analyze Marathas Administrative System.
	CO-2	The students will have an opportunity to explain Maratha Polity.
	CO-3	The Maratha administrative system's strengths and weaknesses will be identified by students.
	CO-4	Students will have the opportunity to review the socio-political structure of The Maratha period.
	CO-5	Legacy and Influence: Assess the lasting legacy of the Maratha Empire on Indian history and politics, as well as its influence on later Indian states.
	CO-6	Administrative Systems: Examine the administrative systems and governance structures of the Maratha Empire, including revenue collection, justice, and diplomacy.
	M. A. Semester-I: HS:EC-III Social Background of Dalit Movement in Maharashtra	
4	CO-1	Through this subject, the students got to know about Dalits and Dalit consciousness.

	CO-2	Sant Janabai, Chokha Mela, Soyra Bai, Karma Mela etc. It helped to understand the teachings of the saints.
	CO-3	Among other Dalit reformers, the works of Mahatma Phule, Savitribai Phule, Rajarshi Shahu Maharaj are important.
	CO-4	Before Dr. Ambedkar, Dalit social reformers Gopal Baba Valangkar, Mukta Salve, and Shivram Janaba Kamble did important work that was understandable.
	CO-5	Investigate how factors such as gender, class, and religion intersect with Dalit identity and influence their experiences within society.
	CO-6	Evaluate the role of Dalit social movements and activism in addressing discrimination, advocating for justice, and promoting social equality.
	M. A. Semester-II: HS:CC-IV Approaches to History	
5	CO-1	Students acquired about terms like "food culture," "family culture," "cultural history," and "political".
	CO-2	From a historical perspective, colonialist, nationalist, Cambridge, and Marxist writings can be understood.
	CO-3	The students learned about Annals, Subaltern, Dakar, and Feminist among the new historical currents that emerged.
	CO-4	Mythology, folklore, oral history will help in understanding.
	CO-5	Encourage students to explore history from interdisciplinary perspectives.
	CO-6	Develop strong written and oral communication skills to express historical arguments and analysis clearly and persuasively.
	M. A. Semester-II: HS:CC-V Ideas and Institutions in Medieval India	
6	CO-1	Identify the many different sources that historians have used to write about medieval India.
	CO-2	Explain the changes that have occurred in the social, industrial, and agrarian spheres.
	CO-3	Students understanding of current concepts of the medieval state.
	CO-4	Understanding of the nature of society, and the problems of the challenge to that society, through colonialism.
	CO-5	Develop a comprehensive understanding of the major historical events, figures.
	CO-6	Understand the economic systems, trade routes, and commercial activities that played a crucial role in shaping medieval Indian society.
	M. A. Semester-II: HS:CC-VI Socio-Economic History of the Marathas	
7	CO-1	Students can better comprehend Maratha history by using Marathi sources.
	CO-2	It will help in understanding villagers' lifestyle of life during the Maratha era.
	CO-3	Types of agriculture, the land system, the land revenue system, etc. inevitably observe something.
	CO-4	Information about Maratha period trade, trade routes, types of coins, all these matters are obtained from this.
	CO-5	Develop a comprehensive understanding of the history of the Maratha Empire, including its origins, expansion.
	CO-6	Understand the administrative structures, revenue collection methods, and mechanisms of governance within the Maratha state.
	M. A. Semester-II: HS: EC-XII Nature of Dalit Movement in Maharashtra	
8	CO-1	Analyzing the philosophy and structure of the Dalit movement.
	CO-2	Dr. Babasaheb Ambedkar led the Dalit movement and won rights for Dalits in Maharashtra
	CO-3	To understand the contribution of marginalized sections of society in the socio-religious reform movement in Maharashtra.

	CO-4	Examine the caste system's structure and the effects it has on discrimination and social inequality.
	CO-5	Explore the role of Dalits in politics, including their participation in elections, formation of political parties, and advocacy for political representation.
	CO-6	Examine initiatives and policies aimed at improving the socio-economic status of Dalits in Maharashtra.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-II - History	
	M. A. Semester-III: CC-7 Cultural History of Maharashtra	
9	CO-1	Appreciate the rich diversity of Maharashtra's culture by exploring the influences of various dynasties.
	CO-2	Explore the various social practices, rituals, and festivals that are integral to Maharashtra's cultural identity.
	CO-3	Understand the role of Marathi language in shaping Maharashtra's cultural identity and recognize its historical evolution.
	CO-4	Drawing connections between historical events, art, literature, philosophy, religion, and social practices.
	CO-5	Study the Marathi language, its historical evolution, and the literary traditions that have flourished in Maharashtra.
	CO-6	Explore the rich folk traditions, rituals, and festivals celebrated in Maharashtra.
	M. A. Semester-III: CC-8 Intellectual History of the Modern World	
10	CO-1	Analyze the contributions of key philosophers, thinkers, and intellectuals who have played pivotal roles in shaping modern thought.
	CO-2	Explore major philosophical paradigms that have influenced modern thought, Lutheranism, Calvinism, Anglicanism.
	CO-3	Understand the impact of the Scientific Revolution and Enlightenment on challenging traditional beliefs, promoting reason and empiricism.
	CO-4	Examine how intellectual discourses responded to Totalitarianism, Feminism, and the subsequent emergence of Post-modernism thought and identity.
	CO-5	Analyze the historical, social, political, and cultural contexts in which intellectual movements and ideas emerged and evolved.
	CO-6	Understand the Scientific Revolution and its role in reshaping conceptions of the natural world, knowledge, and human agency.
	M. A. Semester-III: CC-9 Economic History of the Modern India	
11	CO-1	Develop an understanding of the historical context that shaped India's economic trajectory, including the impact of colonial rule, global trade networks.
	CO-2	Analyze the economic policies and practices of the colonial era.
	CO-3	Understand the process of industrialization and urbanization in India.
	CO-4	Study the evolution of the agrarian economy, land reforms and tenancy patterns.
	CO-5	Examine the development of financial institutions, banking, and monetary policies in modern India.
	CO-6	Improve research skills, including the ability to locate and analyze economic data.
	M. A. Semester-III: EC-18 East Asia : Japan (1853-2000)	
12	CO-1	Understand the historical context and consequences of Japan's opening to the West after Commodore Matthew Perry's arrival in 1853.
	CO-2	Analyze the Meiji Restoration and the subsequent modernization and westernization efforts that transformed Japan's political, economic, and social systems.

	CO-3	Analyze Japan's imperialistic ambitions, its territorial expansion, and its involvement in conflicts such as the Sino-Japanese War and Russo-Japanese War.
	CO-4	Understand Japan's involvement in World War II, the consequences of the war.
	CO-5	Explore the cultural and artistic expressions in post-war Japan, including literature.
	CO-6	Develop critical thinking skills to assess historical sources, arguments, and interpretations related to modern Japan critically.
	M. A. Semester-IV: CC-10 Modern Maharashtra :History of Ideas (1818-1960)	
13	CO-1	Develop a historical understanding of the role of missionaries in India during the specified period.
	CO-2	Explore the life stories and backgrounds of Mukta Salve, Jyotirao Phule, Shahu Maharaj, understanding their motivations and the personal experiences that shaped their caste critiques.
	CO-3	Study the economic visions of Panjabrao Deshmukh and B. R. Ambedkar, focusing on their efforts for rural development and social justice.
	CO-4	Analyze how Satyashodhaki Jalse, Marathi farces and plays, Tamasha, Rashtreeya Kirtan, and Mele served as platforms for cultural expression, dissent, and critique.
	CO-5	Analyze the impact of modernization and Western ideas on Maharashtra, including changes in education, social norms, and urbanization.
	CO-6	Study the role of literature, journalism, and media in shaping public opinion, disseminating ideas.
	M. A. Semester-IV: CC-11 Debates in Indian Historiography	
14	CO-1	Understanding the evolution of historical methodologies, such as nationalist, Marxist, postcolonial, subaltern, and cultural approaches.
	CO-2	Students should gain the ability to recognize and appreciate multiple narratives and viewpoints that exist within Indian historiography.
	CO-3	Students should be encouraged to engage with primary sources from different time periods in Indian history.
	CO-4	Students should be exposed to historical controversies and debates that have emerged within Indian historiography.
	CO-5	Encourage students to reflect on their own perspectives and biases as historians and critically examine how their understanding of Indian history evolves over the course of the class.
	CO-6	Consider the contemporary relevance of historiographical debates in Indian history.
	M. A. Semester-IV: CC-12 World After World War –II (1945-2000)	
15	CO-1	Students should be able to analyze the challenges and processes of post-war reconstruction in various regions, including Europe, Asia, and Africa.
	CO-2	Students should gain insights into the origins, evolution, and consequences of the Cold War between the United States and the Soviet Union.
	CO-3	Students should be able to analyze significant global conflicts and crises that occurred during this period, such as the Korean War, the Vietnam War, the Cuban Missile Crisis, and the Middle East conflicts.
	CO-4	Students should be able to analyze the increasing interconnectedness of nations through trade, communication.
	CO-5	Understand the process of decolonization and the struggles for national independence in Asia.
	CO-6	Study the cultural and artistic movements of the post-war period, including literature.
	M. A. Semester-IV: EC-28 Modern India	
16	CO-1	Analyze the impact of British colonial rule on India, including economic exploitation, social

		changes, and cultural interactions.
	CO-2	Students should gain insights into the rise of Indian nationalism, the formation of Indian National Congress.
	CO-3	Analyze the factors that led to the partition of India in 1947 and the subsequent independence.
	CO-4	Analyze India's foreign policy and diplomatic relations with different countries and regions.
	CO-5	Examine the changing roles and status of women in Modern India, as well as the challenges and opportunities they have faced.
	CO-6	Understand the diversity of India's regions, languages, cultures, and traditions, and how these factors have influenced its history and society.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-I - English	
	M. A. Semester-I: 10601 English Literature from-1550-1978	
17	CO-1	Identify and differentiate various elements of English Literature. (Novel, Poetry)
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of plots and acts. (Novel, Poetry)
	CO-4	Evaluate different varieties of Drama. (Novel, Poetry)
	M. A. Semester-I: 10602 English Literature from 1978 to the present	
18	CO-1	Identify and differentiate various elements of English Literature. (Poetry, Drama)
	CO-2	Practice listening, speaking and writing.
	CO-3	Analyze structure of plots and acts. (Poetry, Drama.)
	CO-4	Evaluate different varieties of Drama.(Poetry, Drama)
	M. A. Semester-I: 10603 Contemporary Studies in English Language	
19	CO-1	Identify and differentiate various elements of English language and Literature. (Phonology, Morphology)
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of word and sentence.(syntax, semantics)
	CO-4	Evaluate different varieties of sounds.
	M. A. Semester-I: 10604 Literary Criticism and Theory	
20	CO-1	Identify various elements of English Literary Criticism.
	CO-2	Practice critical approaches.
	CO-3	Analyze structure of Criticism.(approaches)
	CO-4	Evaluate different types of criticism.
	M. A. Semester-II: 20601 English Literature from-1550-1978	
21	CO-1	Identify and differentiate various elements of English Literature (Novel, Poetry.)
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of plots and acts.(Novel, Poetry.)
	CO-4	Evaluate different varieties of Drama.(Novel, Poetry.)
	M. A. Semester-II: 20602 English Literature from-1978 to the present	
22	CO-1	Identify and differentiate various elements of English Literature (Poetry, drama.)
	CO-2	Practice listening, speaking and writing.
	CO-3	Analyze structure of plots and acts. (Poetry, drama.)
	CO-4	Evaluate different varieties of Drama. (Poetry, drama.)
	M. A. Semester-II: 20603 Contemporary Studies in English Language	
23	CO-1	Identify and differentiate various elements of English language and Literature (Phonology, Morphology)
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of word and sentence.(syntax, semantics)
	CO-4	Evaluate different varieties of sounds.

	M. A. Semester-II: 20604 Literary Criticism and Theory	
24	CO-1	Identify various elements of English Literary Criticism.
	CO-2	Practice critical approaches.
	CO-3	Analyze structure of Criticism.(approaches)
	CO-4	Evaluate different types of criticism.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-II - English	
	M. A. Semester-III: 30601 Indian Writing in English	
25	CO-1	Identify and differentiate various elements of in Indian Writing in English Literature (Novel, Poetry, drama.)
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of plots and acts. (Novel, Poetry, drama)
	CO-4	Evaluate different varieties of Drama.(Novel, Poetry, drama.)
	M. A. Semester-III: 30604 Indian Lit. In English Translation	
26	CO-1	Identify and differentiate various elements of in Indian Writing in English Literature (Poetry, drama.)
	CO-2	Practice multiple skills like listening, speaking, reading and, writing.
	CO-3	Analyze structure of plots and acts. (Novel, Poetry, drama.)
	CO-4	Evaluate different varieties of Drama. (Novel, Poetry, drama.)
	M. A. Semester-III: 30606 American Literature	
27	CO-1	Identify various elements of in American Literature in English (Novel, Poetry, drama.)
	CO-2	Practice multiple skills like reading and, writing.
	CO-3	Analyze structure of ancient work literature and letters.(Novel, Poetry)
	CO-4	Evaluate different varieties American Literature. (Novel, Poetry.)
	M. A. Semester-III: 30608 World Literature	
28	CO-1	Differentiate various elements of in World Literature in English (Novel, drama)
	CO-2	Practice multiple skills like speaking, reading and writing.
	CO-3	Analyze structure of Drama and Novel.(Novel, Drama)
	CO-4	Evaluate different varieties of Novel and Drama. (Novel, Drama.)
	M. A. Semester-IV: 40601 Indian Writing in English	
29	CO-1	Identify and differentiate various elements of in Indian Writing in English Literature (Novel, Poetry, drama.)
	CO-2	Practice multiple skills like listening, speaking, reading and, writing.
	CO-3	Analyze structure of plots and acts. (Novel, Poetry, drama.)
	CO-4	Evaluate different varieties of Drama. (Novel, Poetry, drama.)
	M. A. Semester-IV: 40604 Indian Lit. In English Translation	
30	CO-1	Identify and differentiate various elements of in Indian Writing in English Literature (Poetry, drama.)
	CO-2	Practice multiple skills like listening, speaking reading and, writing.
	CO-3	Analyze structure of plots and acts. (Novel, Poetry, drama.)
	CO-4	Evaluate different varieties of Drama. (Novel, Poetry, drama.)
	M. A. Semester-IV: 40606 American Literature	
31	CO-1	Identify various elements of in American Literature in English (Novel, Poetry, drama.)
	CO-2	Practice multiple skills like reading and, writing.
	CO-3	Analyze structure of ancient work literature and letters.(Novel, Poetry)
	CO-4	Evaluate different varieties American Literature. (Novel, Poetry.)
	M. A. Semester-IV: 40608 World Literature	
32	CO-1	Differentiate various elements of in World Literature in English (Novel, drama)
	CO-2	Practice multiple skills like speaking, reading and writing.
	CO-3	Analyze structure of Drama and Novel.(Novel, Drama)
	CO-4	Evaluate different varieties of Novel and Drama. (Novel, Drama)
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-I- Hindi	

	M. A. Semester-I: 10501 पाठ्यचर्या -1 मध्ययुगीन काव्य	
33	CO-1	हिंदी की मध्ययुगीन काव्यप्रवृत्तियों का परिचय प्राप्त करेंगे।
	CO-2	मध्ययुगीन काव्य के प्रतिनिधि कवियों के व्यक्तित्व एवं कृतित्व से परिचित होंगे।
	CO-3	मध्ययुगीन काव्य की प्रासंगिकता(Relevance) समझ सकेंगे।
	CO-4	मध्ययुगीन काव्य की भाषाशैली से अवगत होंगे।
	CO-5	मध्ययुगीन काव्य के समीक्षा कौशल को विकसित कर पाएँगे।
	CO-6	मध्ययुगीन कवियों के दोहों और पदों की प्रस्तुति करने में सक्षम होंगे।
	M. A. Semester-I: 10502 कथासाहित्य	
34	CO-1	गद्य की उपन्यास और कहानी विधा का तात्विक परिचय प्राप्त करेंगे।
	CO-2	छात्रों के उपन्यास और कहानी विधा की समीक्षा कौशल का विकास होगा।
	CO-3	साहित्यिक रचना का आस्वादन लेने की क्षमता विकसित होगी।
	CO-4	सृजनात्मक क्षमता का विकास संभव होगा।
	CO-5	तुलनात्मक अध्ययन क्षमता में वृद्धि होगी।
	CO-6	आलोचनात्मक दृष्टि का विकास होगा।
	M. A. Semester-I: 10504 भारतीय काव्यशास्त्र	
35	CO-1	काव्य और काव्यशास्त्र का विशेष परिचय प्राप्त करेंगे।
	CO-2	भारतीय काव्यशास्त्र के विकासक्रम से परिचित होंगे।
	CO-3	भारतीय काव्यशास्त्र के प्रमुख संप्रदायों /सिद्धांतों का विश्लेषण कर पाएँगे।
	CO-4	रचना वैशिष्ट्य और मूल्यबोध को परखने की क्षमता का विकास होगा।
	CO-5	आलोचनात्मक कौशल का विकास संभव होगा।
	M. A. Semester-I: 10505 हिंदी पत्रकारिता	
36	CO-1	हिंदी पत्रकारिता के क्षेत्र से परिचित होंगे।
	CO-2	पत्रकारिता के क्षेत्र में रोजगार के अवसरों की जानकारी प्राप्त कर सकेंगे।
	CO-3	पत्रकारिता कौशल का विकास करने में सक्षम होंगे।
	CO-4	पत्रकारिता की भाषा सीखेंगे।
	CO-5	हिंदी भाषा और साहित्य के विकास में पत्र-पत्रिकओं का योगदान समझ सकेंगे।
	CO-6	हिंदी पत्रकारिता के क्षेत्र से परिचित होंगे।
	M. A. Semester-II: 20501 कथेतर गद्य साहित्य	
37	CO-1	व्यंग्य ,निबंध,रेखाचित्र और संस्मरण कथेतर साहित्य से परिचित होंगे।
	CO-2	कथेतर हिंदी साहित्य का तत्वगत अध्ययन करेंगे।
	CO-3	कथेतर हिंदी साहित्य की आलोचनात्मक दृष्टि विकसित करने की क्षमता रखेंगे।
	CO-4	कथेतर हिंदी साहित्य का भाषिक अध्ययन करेंगे।
	M. A. Semester-II: 20502 शोध प्रविधि	
38	CO-1	शोध प्रविधि से अवगत होंगे।
	CO-2	शोध दृष्टि का विकास कर सकेंगे।
	CO-3	नए शोध-प्रवाहों से परिचित होंगे।
	M. A. Semester-II: 20503 पाश्चात्य साहित्यशास्त्र	
39	CO-1	पाश्चात्य साहित्यशास्त्र के विकासक्रम से अवगत होंगे।
	CO-2	पाश्चात्य साहित्यशास्त्र के प्रमुख सिद्धांतों से परिचित होंगे।
	CO-3	साहित्यशास्त्रीय समीक्षा कौशल हाँसिल कर सकेंगे।
	CO-4	पाश्चात्य साहित्यशास्त्र के सिद्धांतों में साम्य-वैषम्य पहचान सकेंगे।
	M. A. Semester-II: 20505 हिंदी उपन्यास साहित्य	
40	CO-1	हिंदी उपन्यास साहित्य के विकासक्रम से परिचित होंगे।
	CO-2	पठित उपन्यासों का संवेदना एवं शिल्पगत अध्ययन करेंगे।
	CO-3	उपन्यास साहित्य के आस्वादन की क्षमता प्राप्त करेंगे।
	CO-4	उपन्यास साहित्य में प्रतिबिंबित जीवनमूल्यों का परिचय प्राप्त करेंगे।
	CO-5	उपन्यास मूल्यांकन कौशल हाँसिल करेंगे।
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-II- Hindi	
	M. A. Semester-III: 30501 आधुनिक काव्य (आदर्शवादी,छायावादी तथा अन्य काव्य)	

41	CO-1	आधुनिक काव्य की प्रमुख प्रवृत्तियों से परिचित होंगे।
	CO-2	आधुनिक काव्य समीक्षा कौशल हाँसिल करेंगे।
	CO-3	आधुनिक काव्य का संवेदना एवं शिल्पगत अनुशीलन कर सकेंगे।
	CO-4	काव्य-सृजन कला का विकास करेंगे।
	M. A. Semester-III: 30502 भाषाविज्ञान	
42	CO-1	भाषा विज्ञान के स्वरुप से परिचित होंगे।
	CO-2	भाषा विज्ञान के अध्ययन की दिशाओं का परिचय प्राप्त करेंगे।
	CO-3	छात्रों को भाषा विज्ञान के अनुप्रयोगात्मक पक्ष का बोध होगा।
	M. A. Semester-III: 30503 हिंदी साहित्य का इतिहास	
43	CO-1	हिंदी साहित्येतिहास लेखन से परिचत होंगे।
	CO-2	हिंदी साहित्येतिहास का कालविभाजन तथा नामकरण समझ सकेंगे।
	CO-3	आदिकालीन, भक्तिकालीन,रीतिकालीन प्रमुख साहित्यिक प्रवृत्तियों, रचनाकारों और रचनाओं से परिचय प्राप्त करेंगे।
	CO-4	हिंदी साहित्येतिहास लेखन से परिचत होंगे।
	CO-5	हिंदी साहित्येतिहास का कालविभाजन तथा नामकरण समझ सकेंगे।
	CO-6	आदिकालीन, भक्तिकालीन,रीतिकालीन प्रमुख साहित्यिक प्रवृत्तियों, रचनाकारों और रचनाओं से परिचय प्राप्त करेंगे।
	M. A. Semester-III: 30505 वैकल्पिक –(ख) संचार माध्यम :सिद्धांत और स्वरूप	
44	CO-1	संचार माध्यम और संप्रेषण की अवधारणाओं का परिचय प्राप्त करेंगे।
	CO-2	संचार माध्यम की अवधारणा और स्वरूप से परिचित होंगे।
	CO-3	संचार माध्यम की बहुआयामी भूमिका समझ पाएँगे।
	CO-4	संचार माध्यम कौशल विकसित कर सकेंगे।
	M. A. Semester-IV: 40501 आधुनिक कविता	
45	CO-1	आधुनिक कविता का संवेदना एवं शिल्प पक्ष विश्लेषित कर सकेंगे।
	CO-2	आधुनिक काव्य की समीक्षा दृष्टि को विकसित करेंगे।
	CO-3	सृजनात्मक कौशल प्राप्त करेंगे।
	CO-4	आधुनिक कविता की विविध विधाओं से परिचय।
	M. A. Semester-IV: 40502 हिंदी भाषा का विकास	
46	CO-1	हिंदी भाषा की ऐतिहासिक पृष्ठभूमि का परिचय प्राप्त करेंगे।
	CO-2	आधुनिक आर्यभाषाओं से परिचित होंगे।
	CO-3	हिंदी की स्वनिम व्यवस्था का अनुशीलन करने में सक्षम होंगे।
	M. A. Semester-IV: 40503 हिंदी साहित्य का इतिहास (आधुनिक काल)	
47	CO-1	हिंदी गद्य के उद्भव और विकास से अवगत होंगे।
	CO-2	द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद और नई कविता के प्रमुख साहित्यिक प्रवृत्तियों से परिचित होंगे।
	CO-3	द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद और नई कविता के प्रमुख रचनाकारों से परिचित होंगे।
	CO-4	द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद और नई कविता के प्रमुख साहित्यिक रचनाओं से परिचित होंगे।
	CO-5	ऐतिहासिक दृष्टि का विकास करने में सक्षम होंगे।
	CO-6	हिंदी गद्य के उद्भव और विकास से अवगत होंगे।
	M. A. Semester-IV: 40505 वैकल्पिक –(ख) भारतीय साहित्य	
48	CO-1	भारतीय साहित्य का परिचय प्राप्त करेंगे।
	CO-2	भारतीय साहित्य की अवधारणा समझ सकेंगे।
	CO-3	भारतीय साहित्य के अध्ययन की समस्याएँ सुलझा सकेंगे।
	CO-4	भारतीयता का समाजशास्त्र समझेंगे।
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-I- Political Science	
	M. A. Semester-I: 12401 PO-C1: Traditions of Political Thought	
49	CO-1	Know the history of Political Thoughts.
	CO-2	Learn the Enlightenment, Renaissance and Reformation process.
	CO-3	Acquaint with the great diversity of social context and philosophical visions.
	CO-4	Learn the contribution of political thoughts in transformation of human being.
	CO-5	Apply the Political Thoughts in practice.

	CO-6	Collect the Political Thoughts from Society and use it in life.
	M. A. Semester-I: 12402 PO-C2: Administrative Theory	
50	CO-1	Know the various terms and basic concepts.
	CO-2	Learn the process of administration.
	CO-3	Learn the structure of administration.
	CO-4	Identify the recent developments.
	CO-5	Apply the Administrative concepts in practice.
	CO-6	Collect the Administrative concepts from society and use it in life.
	M. A. Semester-I: 12403 PO-C3: Political Institutions in India	
51	CO-1	Know the history of Institutions in India.
	CO-2	Learn the Enlightenment, Renaissance and Reformation process.
	CO-3	Acquaint with the great diversity of Political Institutions in India.
	CO-4	Learn the contribution of Political Institutions in India.
	CO-5	Apply the Institutions values in practice.
	CO-6	Collect the Institutions values from Society and use it in life.
	M. A. Semester-I: 12407 PO-O4: Party System in India	
52	CO-1	Learn about the Party System in India.
	CO-2	Learn about the Party System in Indian context.
	CO-3	Define a critical appraisal of Party System.
	CO-4	Define Challenges of Political Party System.
	CO-5	Apply the Political process in practice.
	CO-6	Collect the Data of various Parties and use it in System.
	M. A. Semester-II: 22401 PO-C4: Comparative Political Analysis	
53	CO-1	Know the history of Political Analysis.
	CO-2	Learn the Comparative Political process.
	CO-3	Acquaint with the various methods of Political Analysis.
	CO-4	Learn the use of various methods of Political Analysis.
	CO-5	Apply the Political Analysis in practice.
	CO-6	Collect the Political Analysis from Society and use it in life.
	M. A. Semester-II: 22402 PO-C5: Theory of International Politics	
54	CO-1	Identify the various terms and basic concepts.
	CO-2	Understand the structure of International Relations.
	CO-3	Analyze the importance International Relations.
	CO-4	Evaluate the process of International Relations.
	CO-5	Apply the National concepts in practice.
	CO-6	Collect the International aspects.
	M. A. Semester-II: 22403 PO-C6: Public Policy	
55	CO-1	Know the history of Public Policy in India.
	CO-2	Learn the Enlightenment, Renaissance and Reformation process.
	CO-3	Acquaint with the Policy Making process.
	CO-4	Learn the contribution of Policy Making process in India.
	CO-5	Apply the Policy related values in practice.
	CO-6	Collect the Policy related documents Society and use it in life.
	M. A. Semester-II: 22404 PO-O5: Politics and the Media	
56	CO-1	Learn about the relationship between the Media and Politics.
	CO-2	Learn the Political Media in Indian context.
	CO-3	Define a critical appraisal of practices.
	CO-4	Define Challenges of Political Media.
	CO-5	Apply the Political media in practice.
	CO-6	Collect the Political Data from media and use it in life.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-II- Political Science	

	M. A. Semester-III: 32401 PO-C7: Modern Political Thought	
57	**CO-1**	Know the history of Modern Political Thoughts.
	CO-2	Learn the importance of Modern Political Thoughts.
	CO-3	Acquaint with the great diversity of social context and philosophical visions.
	CO-4	Learn the contribution of political thoughts in transformation of human being.
	CO-5	Apply the Political Thoughts in practice.
	CO-6	Collect the Political Thoughts from Society and use it in life.
	M. A. Semester-III: 32402 PO-C8: Political Sociology	
58	**CO-1**	Know the various terms and basic concepts.
	CO-2	Learn the structure and process of Political Sociology.
	CO-3	Learn the importance of Political Sociology.
	CO-4	Identify the recent developments in society.
	CO-5	Apply the socio-political concepts in practice.
	CO-6	Collect the socio-political concepts from society and use it in life.
	M. A. Semester-III: 32403 PO-C9: World Politics- New Developments	
59	**CO-1**	Know the history of World Politics.
	CO-2	Learn the Structure of Developments.
	CO-3	Acquaint with the importance of Developments in India.
	CO-4	Learn the contribution of Developments in India.
	CO-5	Apply the new global principle in practice.
	CO-6	Collect the developmental concepts and try to create new model.
	M. A. Semester-III: 32404 PO-O9: Indian Administration – Structure and Organization	
60	**CO-1**	Know the history of Administration in India.
	CO-2	Learn the Structure of organization.
	CO-3	Acquaint with the importance of Administration – Structure in India.
	CO-4	Learn the contribution of Administration in India.
	CO-5	Apply the Organizational principle in practice.
	CO-6	Collect the Administrative values from Society and use it in life.
	M. A. Semester-IV: 42401 PO-C10: Fundamentals of Political Theory	
61	**CO-1**	Identify the various terms and basic concepts.
	CO-2	Understand the structure of Political Theory.
	CO-3	Analyze the importance Political Theory.
	CO-4	Evaluate the Fundamental process of Political Theory.
	CO-5	Apply the Fundamental concepts in practice.
	CO-6	Collect the Political Theory aspects.
	M. A. Semester-IV: 42402 PO-C11: Political Process in India	
62	**CO-1**	Know the various terms and basic concepts of Political Process.
	CO-2	Learn about the Political Process in India.
	CO-3	Learn the importance of Political Process.
	CO-4	Identify the recent developments through Political Process in society.
	CO-5	Apply the socio-political concepts in practice.
	CO-6	Collect the concepts of Socio- Political Process from society and use it in life.
	M. A. Semester-IV: 42403 PO-C12: Politics and Society	
63	**CO-1**	Know the various terms and basic concepts.
	CO-2	Learn about the structure of Society.
	CO-3	Learn the importance of Politics and Society.
	CO-4	Identify the recent developments in society.
	CO-5	Apply the socio-political concepts in practice.
	CO-6	Collect the socio-political concepts from society and use it in life.
	M. A. Semester-IV: 42406 PO-O15: Election Studies	
64	**CO-1**	Know the history of Election process in India.

	CO-2	Learn the Structure of Election Body in India.
	CO-3	Acquaint with the importance of Election Body.
	CO-4	Learn the contribution of Election Body in India.
	CO-5	Apply the Elections ethic's in practice.
	CO-6	Collect the Electoral data from Society and use it in political life.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-I- Economics	
	M. A. Semester-I: 1001 Micro Economic Analysis-I	
65	CO-1	Understand the basic principles of economics.
	CO-2	Apply micro economic concepts in various contexts.
	CO-3	Evaluate the equilibrium levels under different market conditions.
	CO-4	Apply production function in different sectors of economy.
	CO-5	Understand Perfect Market structure.
	CO-6	Evaluate the equilibrium levels under Monopoly market conditions.
	M. A. Semester-I: 1002 Public Economics-I	
66	CO-1	Understand the changing role of the government and define fiscal functions of the modern governments.
	CO-2	Evaluate the allocation and distribution of resources for the provision of public goods.
	CO-3	Classify the principles of taxation.
	CO-4	Analyze the trend in growth and direction in Public Expenditure.
	CO-5	Describe Public Revenue and its Components.
	CO-6	Analyze the concepts of Budget and its Components.
	M. A. Semester-I: 1003 International Trade	
67	CO-1	Recall the concept of International Economics and International Trade.
	CO-2	Describe the theories of International Trade.
	CO-3	Compare and correlate the Terms of Trade.
	CO-4	Understand role of international economic organization and global crisis development.
	CO-5	Analyze the components of Balance of Payment.
	CO-6	Explain the concept of Exchange Rate and Foreign Exchange Rate.
	M. A. Semester-I: 1004 Agricultural Economics	
68	CO-1	Examine the role of Agriculture in Indian Economy.
	CO-2	Describe the trend in Agriculture Productivity in India.
	CO-3	Evaluate the finance sector reforms and rural credit.
	CO-4	Compare the WTO Agreements and Indian Agriculture System.
	CO-5	Define the concept of Agriculture labour in the theoretical context.
	CO-6	Classify the various issues and challenges faced by labour with reference to division of labour, employment, wage determination.
	M. A. Semester-II: 2001 Micro Economic Analysis-II	
69	CO-1	Understand the basic principles of economics.
	CO-2	Apply micro economic concepts in various contexts.
	CO-3	Evaluate the equilibrium levels under different market conditions.
	CO-4	Apply production function in different sectors of economy.
	CO-5	Understand Perfect Market structure.
	CO-6	Evaluate the equilibrium levels under Monopoly market conditions.
	M. A. Semester-II: 2002 Public Economics- II	
70	CO-1	Understand the changing role of the government and define fiscal functions of the modern governments.
	CO-2	Evaluate the allocation and distribution of resources for the provision of public goods.
	CO-3	Classify the principles of taxation.
	CO-4	Analyze the trend in growth and direction in Public Expenditure.
	CO-5	Describe Public Revenue and its Components.

	CO-6	Analyze the concepts of Budget and its Components.
	M. A. Semester-II: 2003 International Finance	
71	CO-1	Recall the concept of International Economics and International Finance.
	CO-2	Describe the sources of International Finance.
	CO-3	Analyze the components of Balance of Payment.
	CO-4	Explain the concept of Exchange Rate and Foreign Exchange Rate.
	CO-5	Understand the issues relating to Foreign Capital.
	CO-6	Understand role of International Banks.
	M. A. Semester-II: 2004 Labour Economics	
72	CO-1	Define the concept of labour economics in the theoretical context.
	CO-2	Understand the various issues and challenges faced by labour with reference to division of labour, employment, wage determination.
	CO-3	Explain the various aspects of Labour dynamics and Labour Relations.
	CO-4	Differentiate the men and women workforce.
	CO-5	Examine the role of Agriculture in employment.
	CO-6	Describe the trend in Agriculture Productivity and Labour participation.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-II- Economics	
	M. A. Semester-III: 3001 Macro Economic Analysis-I	
73	CO-1	Understand Traditional Approaches to Macroeconomics.
	CO-2	Examine the various concepts of National Income.
	CO-3	Analyze the value of money and its approaches.
	CO-4	Analyze the approaches of money supply.
	CO-5	Analyze the relationship between broad aggregates such as aggregate demand and aggregate supply.
	CO-6	Understand the causes and consequences of inflation and the concept of stagflation.
	M. A. Semester-III: 3002 Growth & Development -I	
74	CO-1	Understand of the basic concepts and process to measure the growth and economic development.
	CO-2	Evaluate the classical theories of economic development.
	CO-3	Analyze the obstacles in the process of economic growth and development.
	CO-4	Examine the role of Human Capital In economic Development.
	CO-5	Analyze interconnection between environment and economic Development.
	CO-6	Examine role of the Government in the Developmental process.
	M. A. Semester-III: 3003 Research Methodology	
75	CO-1	Understand Research and its methods under various areas of economics.
	CO-2	Identify the research problem.
	CO-3	Analyze the primary and secondary data.
	CO-4	Construct the hypothesis for research work.
	CO-5	Analyze the primary and secondary data.
	CO-6	Design and write the project report.
	M. A. Semester-III: 3004 Demography	
76	CO-1	Understand various Demographic topics under economics.
	CO-2	Evaluating Traditional Theories of Population.
	CO-3	Compute birth rate and death rate.
	CO-4	Establish the relation between Population and Development.
	CO-5	Analyze the sectorial distribution of population.
	CO-6	Understand the importance of population as human capital.
	M. A. Semester-IV: 4001 Macro Economic Analysis-II	
77	CO-1	Understand Traditional Approaches to Macroeconomics.
	CO-2	Examine the various concepts of National Income.

	CO-3	Analyze the value of money and its approaches.
	CO-4	Analyze the approaches of money supply.
	CO-5	Analyze the relationship between broad aggregates such as aggregate demand and aggregate supply.
	CO-6	Understand the causes and consequences of inflation and the concept of stagflation.
	M. A. Semester-IV: 4002 Growth & Development - II	
78	CO-1	Understand of the basic concepts and process to measure the growth and economic development.
	CO-2	Evaluate the classical theories of economic development.
	CO-3	Analyze the obstacles in the process of economic growth and development.
	CO-4	Examine the role of Human Capital In economic Development.
	CO-5	Analyze interconnection between environment and economic Development.
	CO-6	Examine role of the Government in the Developmental process.
	M. A. Semester-IV: 4003 Research Project	
79	CO-1	Identify the research problem.
	CO-2	Analyze the primary and secondary data.
	CO-3	Construct the hypothesis for research work.
	CO-4	Analyze the primary and secondary data.
	CO-5	Design and write the project report.
	CO-6	Acquire the project presentation technique.
	M. A. Semester-IV: 4004 Economics of Environment	
80	CO-1	Understand the economics of environment.
	CO-2	Understand the importance of environment.
	CO-3	Analyze tools to comprehend various environmental challenges.
	CO-4	Evaluate the Environmental Regulation and Environmental Value Assessment.
	CO-5	Examine Climate Change and Environmental Agreements.
	CO-6	Analyze interconnection between environment and economic Development.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-I- Geography	
	M. A. Semester-I: GGUT-111 Principles of Geomorphology	
81	CO-1	Explain principal terms, definitions, concept and theories of Geomorphology and also the models for landscape evolution.
	CO-2	Discuss how different scales of time and space affect geomorphological processes and the development of micro to mega scale landforms.
	CO-3	Describe the exogenous and endogenous processes in the landscape, their importance in landform development, and distinguish the mechanisms that control these processes.
	CO-4	Describe the different Materials of the earth crust, rock types, types of weathering, mass movements and types of slope.
	CO-5	Apply knowledge of basic landforms from tectonic, volcanic, fluvial, glacial, Aeolian and coastal environments.
	CO-6	Categorizes slope Segments in various types and compares different landforms.
	M. A. Semester-I: GGUT-112 Principles of Climatology	
82	CO-1	Explain principal terms and concept of Climatology.
	CO-2	Describe composition and Structure of Earth Atmosphere and also explain electromagnetic spectrum, its effect on earth atmosphere and types of insolation.
	CO-3	Explain basic concepts of air temperature, air pressure and its measurement and explain basic concepts of wind and wind measurement.
	CO-4	Explain basic concepts of hydrological cycle, condensation and evaporation. Also describes concept of Lapse Rate, Stable and unstable Atmosphere, Air Masses & Fronts.
	CO-5	Apply skill of weather forecasting and application in deferent sectors of Climatology.
	M. A. Semester-I: GGUT-113 Principles of Economic Geography	
83	CO-1	Explain principal terms, definitions, concept, nature, scope and recent trends in Economic Geography. Also discuss types of hypotheses in economic geography and formation and testing of hypotheses.

	CO-2	Explain economic landscape, theories and models. Describe resources and explain significance of natural and human resources in economic development.
	CO-3	Discuss pre and post-independence economic development in India. Impact of Green Revolution, Privatization, Globalization.
	CO-4	Explain measures of economic development classification of countries and also categorizes and compares different countries with their economic development.
	M. A. Semester-I: GGUT-114 Principles of Population and Settlement Geography	
84	CO-1	Explain Evaluation of settlement and population geography globally.
	CO-2	Describe factors influencing growth and distribution of settlements. Also identify various patterns of settlement using toposheet.
	CO-3	Analyze factors influencing the nucleation, Measure degree of dispersion and nearest neighbour using Toposheet. Apply concepts of Nodality, Centrality, Range, Threshold and Hierarchy to describe the features of settlement.
	CO-4	Analyse factors responsible for urbanization and influencing the distribution of settlement globally.
	CO-5	Apply of theories of population growth to study settlement history.
	M. A. Semester-I: GGUT-115 Practical's of Physical and Human Geography	
85	CO-1	Describe drainage network analysis and drainage basin relief analysis. Also demonstrate Horton and Strahler methods of stream ordering and explaining the relationship between stream order and number.
	CO-2	Demonstrate climatic diagrams. Describe climatic classification of Koppen and Thornthwaite. Also construct water budget diagram using Precipitation & potential evapotranspiration data.
	CO-3	Calculate agricultural efficiency and analysis of methods, network structures, Lorenz curve and location quotient, logarithmic graph papers, child women ratio, age sex pyramid & dependency ratio, infant mortality rate and age specific mortality and population growth rate and population projection.
	CO-4	Perform a quantitative analysis of experimental data including use of computational and statistical methods where relevant.
	CO-5	Assess the language used to describe Geography experiments and how it can alter perceptions of the method and results.
	M. A. Semester-II: GGUT-121:Geoinformatics Ist	
86	CO-1	Students can know about concept and components of Geographical Information System.
	CO-2	To understand and develop the different types of models for GIS spatial analysis
	CO-3	Describe various GIS tools and techniques within spatial analytical framework
	CO-4	Visualize GIS outputs in different dimensions and to design and produce thematic maps
	CO-5	Understand existing data dissemination systems and download appropriate spatial and non-spatial data using web services.
	M. A. Semester-II: GGUT- 125:Population Geography	
87	CO-1	To learn the nature and scope of population geography and various sources of population data.
	CO-2	To understand the population distribution, density and determinants of population growth in the World.
	CO-3	To review and understand the subject matter with the help of population theories.
	CO-4	To study the measures of nuptiality, fertility, mortality and analyses levels & trends of fertility & mortality in India
	M. A. Semester-II: GGUT-129: Geography of Rural Settlement	
88	CO-1	To understand the evolution of settlements & sequence of occupancy from Neolithic to modern period.
	CO-2	To learn the historical, cultural and geographical aspects of settlements reflected in place names.
	CO-3	To understand the growth and distribution of settlements and also know about factors affecting on the growth of settlements.
	CO-4	To understand the concept of dispersion, nucleation and accordingly measuring the degree

		of dispersion.
	CO-5	To explain the Von Thunen & Ricardo theories of rural land use.
	M. A. Semester-II: GGDT-130: Geography of Tourism	
89	CO-1	Students will get introduced with the basic and recent concepts related to tourism.
	CO-2	The course will help the students to understand various factors which affect tourism.
	CO-3	Students will comprehend various roles of accommodation in tourism.
	CO-4	Students will be aware of Indian tourism through various case studies. Students will get overall knowledge about tourism section in India
	M. A. Semester-II: GGDP-133: Practical in Map Projection	
90	CO-1	Students will know the basic fundamentals concept of Projection.
	CO-2	Student will understand type of Projection.
	CO-3	Student will prepare for compare various projection.
	CO-4	Student will understand Graphical Constriction.
	CO-5	Study and understand the techniques of projection e.g. UTM
	M. A. Semester-II: GGDP-134: Practical of statistical techniques for Geography	
91	CO-1	Students will know the basic fundamentals statistical techniques. e.g. mean, mode median.
	CO-2	Student will understand geographical data.
	CO-3	Student will prepare for compare various geographical data.
	CO-4	Student will understand correlation and regression analysis.
	CO-5	Study and understand the techniques of surveying, using dumpy level and theodolite for practical, field work, research, and measurement and management of area.
	Faculty: Arts (PG), Program: Master of Arts (M. A.), M. A. Part-II- Geography	
	M. A. Semester-III: GGUT-235 Geoinformatics II	
92	CO-1	Students will be understood to use remote sensing techniques and acquire the earth data.
	CO-2	Students will be learned various world level institutes of space research, launches satellites and remote sensing data
	CO-3	Students will be able to explain the applications, skill, of the GIS and Remote sensing techniques
	M. A. Semester-III: GGUT-236 Geographical Thoughts	
93	CO-1	Students will be writing the description of evolution of geography subject.
	CO-2	Students will be promoted toward the different approaches to study the geography.
	CO-3	This course will be estimating the applications of geographical knowledge in various fields.
	CO-4	Students will get the knowledge of historical development of geographical thought and contribution of world level geographer.
	M. A. Semester-III: GGUT-240 Urban Geography	
94	CO-1	Students will be understood urban structure & Morphology.
	CO-2	Students will be able to map out the problems in the urban settlements.
	CO-3	Students will be do project or draw structure to learn the urban planning and development.
	M. A. Semester-III: GGDP-241 Practical in Geoinformatics	
95	CO-1	Students will be interpreted satellite images and recognized land use & land cover.
	CO-2	Students will be applied GIS software for analyze raster & vector data.
	CO-3	Students will be evaluating GIS database.
	CO-4	Students will be acquainting the methods & tools of GIS.
	M. A. Semester-III: GGUT-243 Watershed Management	
96	CO-1	Students will be identified and delineate watershed using DEM & Toposheets.
	CO-2	Student will be analyzing and evaluate the linear, aerial & relief properties of watershed.
	CO-3	Students will be design maps using satellite images & aerial photographs.
	M. A. Semester-III: GGUP-248 Practical in Population and Settlement Geography	
97	CO-1	The skill of population data acquisition, management, analysis and mapping will develop amongst the students.
	CO-2	Student will be clear the socio-economic survey and report writing.

	CO-3	Students will learn and able to draw the stages according to urbanization curve.
	CO-4	Students will classify an impact of pull and push factor in migration.
	M. A. Semester-IV: GGUT–250 Oceanography	
98	CO-1	They understand the contributions of various Oceanographers in the development of the subject.
	CO-2	They understand origin of the ocean basins and various theories related the same.
	CO-3	They understand the oceanic process and availability of ocean resources.
	CO-4	They examine the properties of Sea water and Marine sediments particles with correlation, distribution and deposits.
	CO-5	They understand causes and measures of Oceanic pollution and its impact of human being.
	M. A. Semester-IV: GGUT-249 Geography of India	
99	CO-1	Identifying and explaining the Indian Geographical Location, from global to local scales.
	CO-2	They understand the about the physiographic division of India.
	CO-3	They understand the River system & its importance in human life of India.
	CO-4	They understand the climatic variation in India with the reference of Soil, Agriculture, and Forest region of India.
	CO-5	They understand the social distribution of population, Industrial regions and distribution and utilization of minerals & energy resources of their country.
	CO-6	Applying geographical knowledge to everyday living.
	M. A. Semester-IV: GGUT-258 Geography of World	
100	CO-1	Students will become able to understand the Earth and Solar System, continents and oceans, Geological time scale.
	CO-2	Students will be able to understand regional geography of Europe, North America, South America, Africa, Australia, Asia and Antarctica.
	CO-3	Students will become able to demonstrate an understanding World contemporary issues and Role of WTO and IMF.
	CO-4	They will be able to understand the challenges and opportunities between 21st century with reference to food security, climate change, terrorism, globalization and tourism.
	M. A. Semester-IV: GGUT – 251 Research Methodology	
101	CO-1	Students should be able to understand meaning, types and process of research.
	CO-2	Students should be able to distinguish a purpose statement, a research problem.
	CO-3	They understand purpose of good research design.
	CO-4	Students should be able to define the advantages, disadvantages, characteristics and types of sampling.
	CO-5	Students should be able to understand methods of data collection methods.
	CO-6	Students should be able to define the meaning of a variable, hypothesis, and various data analysis methods.
	M. A. Semester-IV: GGUT – 254 Political Geography	
102	CO-1	Students will get familiarized with Historical development and recent trends in Political Geography.
	CO-2	Students will be able to discuss about concepts of Nations and State.
	CO-3	Students will be able to understand meaning and difference between Frontiers & Boundaries.
	CO-4	They can identify Geopolitical aspects and its related theories.
	CO-5	They can discuss and explain the thoughts on contemporary issues relation to India
	M. A. Semester-IV: GGDP – 256 Practical in Watershed Analysis	
103	CO-1	Analyze watershed characteristics on the map based on toposheets. without going to field
	CO-2	Measure physical watershed characteristics (basin perimeter, shape and area) and interpret them.
	CO-3	They estimate linear aspects of drainage and stream densities of the watershed and evaluate the result.
	CO-4	They estimate relief aspects of drainage and stream densities of the watershed and draw the relief maps.
	CO-5	They know how samples can be collected with purpose of watershed management on based

		on the computer software.
	CO-6	They can present DEM based model for watershed management

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Estd. 1964 Kopargaon K.J. Somaiya College of Science

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

CO (COURSE OUTCOMES) UG: B.

Sr. No.	CO Number	Course Outcomes
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. - History	
	After the completion of course Students should be able to-	
	F. Y. B. A. Semester-I: Early India: From Prehistory to the Age of the Mauryas	
1.	CO-1	The institutional basis of ancient India will be analyzed by students.
	CO-2	The student will gain knowledge of the origins of ancient India's history.
	CO-3	Paleolithic life will be studied by the student.
	CO-4	Students will study arts, architecture and science Progress in ancient India.
	CO-5	Students should develop a comprehensive understanding of the history of early India
	CO-6	Students should be able to accurately place significant events, periods, and figures in Indian history within a chronological framework
	F. Y. B. A. Semester-II: Early India: Post Mauryan Age to the Rashtrakutas	
2.	CO-1	Ancient India's history's sources will be learned by the student.
	CO-2	The student will acquire knowledge about the concept of state in ancient India.
	CO-3	The student will gain an understanding of the religious and political life of ancient India.
	CO-4	The development of empire can be illustrated by students.
	CO-5	Students should appreciate the historical significance of this period in shaping the cultural, political, and social landscape of India
	CO-6	Students should be able to communicate their understanding of Early India effectively through written assignments, presentations, and class discussions
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. - History	
	S. Y. B. A. Semester-III History Gen.- II CC-1(3) History of the Marathas (1630-1707)	
3.	CO-1	Student will develop the ability to analyze sources for Maratha History.
	CO-2	Student will learn significance of regional history and political foundation of the region.
	CO-3	It will enhance their perception of 17th century Maharashtra and India in context of Maratha history.
	CO-4	Appreciate the skills of leadership and the administrative system of the Marathas.
	CO-5	The course may also explore the Maratha Empire's interactions with other regions and empires, highlighting its place in world history.
	CO-6	The course may help students appreciate the diversity within the Maratha Empire, including its various regions, languages, and cultural practices.
	S. Y. B. A. Semester-III History Spl- I DSE-1A(3): Medieval India-Sultanat Period	
4.	CO-1	Provides examples of sources used to study various periods in history.
	CO-2	Relates key historical developments during medieval period occurring in one place with another.

	CO-3	Analyses socio - political and economic changes during medieval period
	CO-4	Estimate the foreign invasion and the achievement of rulers
	CO-5	Students will analyze major conflicts, invasions, and battles that took place during the Sultanate Period and their impact on the region
	CO-6	Students will assess the enduring legacy of the Sultanate Period and its influence on the subsequent history and culture of India.
	S. Y. B. A. Semester-III History Spl- II DSE-2A(3): Glimpses of the Modern World- Part-I	
5.	CO-1	It will enable students to develop the overall understanding of the Modern World.
	CO-2	The students will get acquainted with the Renaissance, major political, socio-religious and economic developments during the Modern World.
	CO-3	It will enhance their perception of the history of the Modern World.
	CO-4	It will enable students to understand the significance of the intellectual, economic, political developments in the Modern World.
	S. Y. B. A. Semester-III History SEC-2A (2): Tourism Management	
6.	CO-1	Students will get an overall understanding of the process of Tourism Management.
	CO-2	They will learn to work in the Tourism Management with great potential.
	CO-3	They will be able to seek self-employment by starting their own tourism related business.
	S. Y. B. A. Semester-IV History Gen.- II CC-2(3) History of the Marathas (1707-1818)	
	CO-1	Students will be able to analyze the Marathas policy of expansionism and its consequences.
	CO-2	They will understand the role played by the Marathas in the 18th century India.
	CO-3	They will be acquainted with the art of diplomacy in the Deccan region.
	CO-4	It will help to enrich the knowledge of the administrative skills and profundity of diplomacy.
	S. Y. B. A. Semester-IV History Spl- I DSE-1B(3): Medieval India-Mughal Period	
7.	CO-1	Draws comparisons between policies of different rulers.
	CO-2	Understanding Role of Akbar in the consolidation of Mughal rule in India.
	CO-3	Understand Aurangzeb's conflict with Rajputas, Maratha and weakening Mughals age.
	CO-4	Analyses factors which led to the emergence of new religious ideas and movements (bhakti and Sufi)
	CO-5	Students will gain a comprehensive understanding of the Mughal Empire, including its origins, expansion, key rulers, and major historical events during this period.
	CO-6	Students will be able to analyze the political structure of the Mughal Empire, including its administrative system, key rulers, and their policies
	S. Y. B. A. Semester-IV History Spl- II DSE-2B (3): Glimpses of the Modern World- Part-II	
8.	CO-1	It will enable students to develop the overall understanding of the Modern World.
	CO-2	The students will get acquainted with the major nationalist movements, the World War II and its consequences, the Cold War and its Consequences.
	CO-3	It will enhance their overall perception of the history of the Modern World.
	CO-4	It will enable students to understand the significance of the strategic political developments in the Modern World.
	S. Y. B. A. Semester-IV History SEC-2B (2): Travel Agency & Tour Business	
9.	CO-1	The students will understand the details of the business of Travel Agency.
	CO-2	They will be trained on both Theory and Practical aspect and Travel Agency and creating professionals for Tourism Industry.
	CO-3	It will enable student to seek self-employment by starting their own Travel Agency related to business.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. - History	
	T. Y. B. A. Semester-V History Gen.- III CC-3 (3): Indian National Movement (1885-1947)	
	CO-1	It will enable students to develop an overall understanding of Modern India.

10.	CO-2	It will increase the spirit of healthy Nationalism, Democratic Values and Secularism among the Students.
	CO-3	Students will understand various aspects of the Indian Independence, Movement and the creation of Modern India.
	CO-4	To highlight the ideas, institutions, forces and movements that contributed to be shaping of Indian Modernity.
	CO-5	Evaluating the successes and failures of the Indian National Movement in achieving its objectives, leading to the eventual attainment of independence in 1947.
	CO-6	Reflecting on the enduring legacy of the Indian National Movement in post-independence India
	T. Y. B. A. Semester-V History Spl-III DSE-3 C (3): Introduction To Historiography	
11.	CO-1	Students will be introduced to the information and importance of Historiography.
	CO-2	Students will be introduced to the different Methods and Tools of data collection.
	CO-3	Students can study the interdisciplinary approach of History.
	CO-4	Students will learn about the usefulness of History in the 21st century, its changing.
	CO-5	Students should become familiar with the major historiographical traditions and approaches that have shaped the study of history over time.
	CO-6	Students should develop critical thinking skills that enable them to evaluate historical arguments and interpretations.
	T. Y. B. A. Semester-V History Spl-IV DSE-4 D (3): Maharashtra In The 19th Century	
12.	CO-1	Student will develop the ability to analyze sources for 19th century Maharashtra History.
	CO-2	Student will learn significance of Regional History and Socio- religious reformism foundation of the region.
	CO-3	It will enhance their perception of 19th Century Maharashtra.
	CO-4	Appreciate the skills of leadership and the Socio-religious System of the Maharashtra.
	CO-5	Students should be able to analyze the dynamics of society in 19th-century Maharashtra, including issues related to caste, class, and gender.
	CO-6	Students should develop research skills, including the ability to critically analyze historical sources from the 19th century and apply appropriate historical methods to study the region's history.
	T. Y. B. A. Semester-V History SEC 2C (2): Museology	
13.	CO-1	The Students will understand the Concepts of Museum ad learn the basic Principles of Musicology.
	CO-2	The Students will gain Comprehensive Knowledge of the Process of Cringe and Conserving Museum of objects
	CO-3	To encourage the students to collect the material or sources of History for local, regional and National History through Museum.
	T. Y. B. A. Semester-VI History Gen- 3 CC-4(3): India After Independence-(1947-1991)	
14.	CO-1	It will enable students to develop an overall understanding of the Contemporary India.
	CO-2	To increase the spirit of healthy Nationalism, Democratic Values and Secularism among the students.
	CO-3	Students will understand various aspects of India's domestic and foreign policies that shaped Post-Independence India.
	CO-4	To acquaint the students with various Interpretative and Analytical perspectives.
	CO-5	Gain a comprehensive understanding of the major historical events, figures, and developments in India from 1947 to 1991
	CO-6	Examine the economic policies and reforms undertaken in post-independence India
	T. Y. B. A. Semester-VI History Spl-III DSE-3 C(3): Applied History	
	CO-1	Students will be introduced to the information and importance of applied history.
	CO-2	Student will learn about the Historical significance of Archaeology and Archives and

15.		opportunities in the field of Archaeology and Archives.
	CO-3	Through this course, students will be informed about the opportunities in the field of Media, Museums.
	CO-4	the about learn will Students usefulness of history in the 21st Century, its changing
	CO-5	Develop strong analytical skills to critically assess historical sources, events, and narratives
	CO-6	Acquire advanced research skills, including the ability to locate, evaluate, and synthesize historical information from primary and secondary sources
	T. Y. B. A. Semester-VI History Spl-IV DSE-4 D(3): Maharashtra In The 20th Century	
16.	CO-1	Student will develop the ability to analyses sources for 20th Century Maharashtra History.
	CO-2	Student will learn significance of regional history and Socio- Religious Reformism foundation of the region.
	CO-3	It will enhance their Perception of 20th Century Maharashtra.
	CO-4	Appreciate the skills of leadership and the Socio-Religious System of the Maharashtra.
	CO-5	Develop an awareness of the broader historical, regional, and global context within which Maharashtra's history unfolded in the 20th century
	CO-6	Examine the social and cultural transformations that occurred in Maharashtra during this period, including changes in language, literature, art, and traditions.
	T. Y. B. A. Semester-VI History SEC -2 D(2): Archaeology	
17.	CO-1	Students will learn to understand the definition, aims and scope of Archaeology so as to understand its applications in interpreting the human past.
	CO-2	They will be able to understand the nature of the archaeological record and the unique role of science in archaeology.
	CO-3	They will have an overall understanding of the Archaeology.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. – English	
	F. Y. B. A. Semester-I: 11001 Compulsory English	
18.	CO-1	Identify and discuss key themes, literary devices, and rhetorical strategies used in texts.
	CO-2	Classify different types of parts of speech and their function in the sentences
	CO-3	Practice speaking, listening, reading and writing skills.
	CO-4	Analyze prose and poetry.
	CO-5	Evaluate sentence structures and transformations
	F. Y. B. A. Semester-I: 11331 Optional English	
19.	CO-1	Identify and differentiate various components of language
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of words and sentences.
	CO-4	Evaluate different varieties of English
	CO-5	Classify different typed and their function in the Parts of Speech Sentence.
	F. Y. B. A. Semester-II: 11012 Compulsory English	
20.	CO-1	Identify and discuss literary devices, and grammatical strategies used in texts.
	CO-2	Classify different types of prepositions and their function in the sentences
	CO-3	Practice speaking, listening, reading and writing skills.
	CO-4	Analyze prose and poetry.
	CO-5	Evaluate sentence and word structures.
	F. Y. B. A. Semester-II: 12331 Optional English	
21.	CO-1	Identify various phonemes and morphemes in English language.
	CO-2	Practice listening, speaking, reading and writing.
	CO-3	Analyze structure of words and sentences.
	CO-4	Evaluate different varieties of English
	CO-5	Classify different type mechanism of speech sound.
	F. Y. B. A. Semester-II: 12331 Optional English	

22.	CO-1	Identify various phonemes and morphemes in English language.
	CO-2	Practice listening, speaking, reading and writing.
	CO-3	Analyze structure of words and sentences.
	CO-4	Evaluate different varieties of English
	CO-5	Classify different type mechanism of speech sound.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. – English	
	S. Y. B. A. Semester-III: 23001 Compulsory English	
23.	CO-1	Identify and discuss different parts of speech.
	CO-2	Discuss different forms of effective writing.
	CO-3	Determine which soft skills are essential for a particular job or role.
	CO-4	Analyze prose.
	CO-5	Evaluate poetry.
	S. Y. B. A. Semester-III: 23333 English-Gen-II	
24.	CO-1	Identify and differentiate various components of language.
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of words and sentences.
	CO-4	Evaluate different varieties of English
	CO-5	Classify different typed and their function in the Parts of Speech Sentence.
	S. Y. B. A. Semester-III: 23331 English-Spl-I	
25.	CO-1	Identify and differentiate various elements of drama
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of plots and acts
	CO-4	Evaluate different varieties of Drama.
	CO-5	Classify different typed and their function elements.
	S. Y. B. A. Semester-III: 23332 English-Spl-II	
26.	CO-1	Identify and differentiate various elements of Poetry
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of poems
	CO-4	Evaluate different types of poems
	CO-5	Classify different type and their elements.
	S. Y. B. A. Semester-IV: 24001 Compulsory English	
27.	CO-1	Identify and discuss different parts of speech.
	CO-2	Discuss different forms of effective writing.
	CO-3	Determine which soft skills are essential for a particular job or role.
	CO-4	Analyze prose.
	CO-5	Evaluate poetry.
	S. Y. B. A. Semester-IV: 24333 English-Gen-II	
28.	CO-1	Practice multiple skills like listening, speaking, reading and writing.
	CO-2	Analyze structure of words and sentences.
	CO-3	Evaluate different varieties of English
	CO-4	Classify different typed and their function in the Parts of Speech Sentence.
	CO-5	Practice multiple skills like listening, speaking, reading and writing.
	S. Y. B. A. Semester-IV: 24331 English-Spl-I	
29.	CO-1	Identify and differentiate various elements of drama.
	CO-2	Practice multiple skills like listening, speaking and, reading.
	CO-3	Analyze structure of plots and acts.
	CO-4	Evaluate different varieties of Drama.
	CO-5	Classify different typed and their function elements.
	S. Y. B. A. Semester-IV: 24332 English-Spl-II	
30.	CO-1	Identify and differentiate various elements of Poetry
	CO-2	Practice multiple skills like listening, speaking and, reading.

	CO-3	Analyze structure of poems
	CO-4	Evaluate different types of poems
	CO-5	Classify different type and their elements.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. – English	
	T. Y. B. A. Semester-V: 35001 Compulsory English	
31.	CO-1	Identify and discuss different parts of speech.
	CO-2	Discuss different forms of effective writing.
	CO-3	Determine which soft skills are essential for a particular job or role.
	CO-4	Analyze prose.
	CO-5	Evaluate poetry.
	T. Y. B. A. Semester-V: 35333 English-Gen-III	
32.	CO-1	Identify and differentiate various components of language.
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of content writing and sentences.
	CO-4	Evaluate different varieties of writings
	CO-5	Classify different words and their function in the types of Sentence.
	T. Y. B. A. Semester-V: 35331 English-Spl-III	
33.	CO-1	Identify and differentiate various components of novel.
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of novel.
	CO-4	Evaluate different types of novel.
	CO-5	Classify different elements and their function in the theory of novel.
	T. Y. B. A. Semester-V: 35332 English-Spl-IV	
34.	CO-1	Identify salient features of criticism.
	CO-2	Practice various approaches of criticism.
	CO-3	Analyze critical theories.
	CO-4	Evaluate different types of criticism.
	CO-5	Classify different elements and their function in the theory of criticism.
	T. Y. B. A. Semester-VI: 36001 Compulsory English	
35.	CO-1	Identify and discuss different parts of speech.
	CO-2	Discuss different forms of effective writing.
	CO-3	Determine which soft skills are essential for a particular job or role.
	CO-4	Analyze prose.
	CO-5	Evaluate poetry.
	T. Y. B. A. Semester-VI: 36333 English-Gen-III	
36.	CO-1	Identify and differentiate various components of language.
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of content writing and sentences.
	CO-4	Evaluate different varieties of writings
	CO-5	Classify different words and their function in the types of Sentence.
	T. Y. B. A. Semester-VI: 36331 English-Spl-III	
37.	CO-1	Identify and differentiate various components of novel.
	CO-2	Practice multiple skills like listening, speaking, reading and writing.
	CO-3	Analyze structure of novel.
	CO-4	Evaluate different types of novel.
	CO-5	Classify different elements and their function in the theory of novel.
	T. Y. B. A. Semester-VI: 36332 English-Spl-IV	
38.	CO-1	Identify salient features of criticism.
	CO-2	Practice various approaches of criticism.
	CO-3	Analyze critical theories.
	CO-4	Evaluate different types of criticism.

	CO-5	Classify different elements and their function in the theory of criticism.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. – Political Science	
	F. Y. B. A. Semester-I & II: 11161-12161 G-1 Introduction to Indian Constitution	
39.	CO-1	Know the importance, features and basic framework.
	CO-2	Learn the working of the Indian Constitution
	CO-3	Learn the Structure and working of the Central & State Government.
	CO-4	Learn the Process of Making of Indian constitution.
	CO-5	Apply the concepts of Politics in practice
	CO-6	Get vocabulary from Society and use it in life.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. – Political Science	
	S.Y.B.A. Semester-III & IV: CC- 1C& 1D (G -II) An Introduction to Political Ideologies	
40.	CO-1	Learn about the Public Policy
	CO-2	Learn the role of different ideologies in development of human being
	CO-3	Evaluate the relation between an idea and its actual realization in public policy
	CO-4	Evaluate the relevance of various political ideologies
	CO-5	Apply the concepts of Ideology in practice
	CO-6	Collect the Ideological concepts from Society and use it in life.
	S.Y.B.A. Semester-III & IV: DSE 1A & 1B (S-I) Western Political Thought	
41.	CO-1	Know the history of Political Thoughts
	CO-2	Learn the Enlightenment, Renaissance and Reformation process
	CO-3	Acquaint with the great diversity of social context and philosophical visions.
	CO-4	Learn the contribution of political thoughts in transformation of human being
	CO-5	Apply the Political Thoughts in practice
	CO-6	Collect the Political Thoughts from Society and use it in life.
	S.Y.B.A. Semester-III & IV: DSE 2A & 2B (S-II) Political Journalism	
42.	CO-1	Learn about the relationship between the Media and Politics
	CO-2	Learn the Political Journalism in Indian context
	CO-3	Define a critical appraisal of practices
	CO-4	Define Challenges of Political Journalism.
	CO-5	Apply the Political media in practice
	CO-6	Collect the Political Data from media and use it in life.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. – Political Science	
	T.Y.B.A. Semester-V & VI: CC 1E & 2E:(G3) Local Self Government in Maharashtra	
43.	CO-1	Know about the composition of local bodies
	CO-2	Learn the power and functions of local bodies
	CO-3	Learn the evolution of Local Self Government in Maharashtra
	CO-4	Define amendments.
	CO-5	Apply the concepts of Politics in practice
	CO-6	Get the Concepts of Governance from society and use it in life.
	T.Y.B.A. Semester-V & VI: DSE 1C & 1D: (S3) Public Administration	
44.	CO-1	Know the various terms and basic concepts.
	CO-2	Learn the process of public administration
	CO-3	Learn the structure of public administration
	CO-4	Identify the recent developments
	CO-5	Apply the Administrative concepts in practice
	CO-6	Collect the Administrative concepts from society and use it in life.
	T.Y.B.A. Semester-V & VI: DSE 2C & 2D: (S4) International Relations	
45.	CO-1	Identify the various terms and basic concepts.
	CO-2	Understand the structure of International Relations
	CO-3	Analyze the importance International Relations
	CO-4	Evaluate the process of International Relations

	CO-5	Apply the National concepts in practice
	CO-6	Collect the International aspects.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. – Economics	
	F.Y.B.A. Semester-I: (Gen-I) 11151 Indian Economic Environment- I	
46.	CO-1	Explain the effect of Economic Environment
	CO-2	Compare Indian Economy with Globe Economy
	CO-3	Describe Industrial Policy Resolution
	CO-4	Evaluate recent trends in Indian Agriculture
	CO-5	Define role & growth of service sector
	CO-6	Explain the policy measures to Indian Economy
	F.Y.B.A. Semester-II: (Gen-I) 12151 Indian Economic Environment- II	
47.	CO-1	Define role & growth of service sector
	CO-2	Analyze Indian banking structure
	CO-3	Evaluate recent trends in Indian banking Environment
	CO-4	Explain the policy measures to Indian Economy
	CO-5	Explain the effect of Economic Environment
	CO-6	Analyze sector wise Indian Economy
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. – Economics	
	S.Y.B.A. Semester-III: (Gen-II) 23153 Financial System-I	
48.	CO-1	Understand the fundamentals of modern financial system
	CO-2	Learn recent trends and development of modern banking system
	CO-3	Learn the meaning and importance of financial institutions.
	CO-4	Apply the knowledge of financial system for better financial decisions.
	CO-5	Examine the role of international financial Institutions.
	CO-6	Learn the recent development in Indian Financial Sector
	S.Y.B.A. Semester-III: (Spl-I) 23151 Micro Economics-I	
49.	CO-1	Define basic concepts of micro economics
	CO-2	Apply the consumer's behavior with real life situations
	CO-3	Interpret the fundamental theories of micro economics
	CO-4	Analyze the charts and graphs
	CO-5	Classify the concepts of cost and revenue for profit.
	CO-6	Analyze the market structure
	S.Y.B.A. Semester-III: (Spl-II) 23152 Macro Economics-I	
50.	CO-1	Learn the historical background and emergence of Macro Economics
	CO-2	Explain the difference between micro and macroeconomics.
	CO-3	Examine the various concepts of National Income
	CO-4	Understand the Keynesian framework of Consumption and Investment functions
	CO-5	Analyze the phases of business cycle
	CO-6	Understand the conceptual framework of inflation and deflation.
	S.Y.B.A. Semester-IV: (Gen-II) 24153 Financial System-II	
51.	CO-1	Understand the fundamentals of modern financial system
	CO-2	Learn recent trends of modern banking system
	CO-3	Learn the role of Reserve Bank of India in Indian financial system.
	CO-4	Examine the role of international financial Institutions.
	CO-5	Learn the recent development in Indian Financial Sector
	CO-6	Explain the role and functions of SEBI
	S.Y.B.A. Semester-IV: (Spl-I) 24151 Micro Economics-II	
52.	CO-1	Define basic concepts of micro economics
	CO-2	Interpret the fundamental theories of micro economics
	CO-3	Classify the concepts of cost and revenue for profit.
	CO-4	Explain the basic theories of factor pricing

	CO-5	Analyze the market structure
	CO-6	Derive the equilibrium levels under different market conditions.
	S.Y.B.A. Semester-IV: (Spl-II) 24152 Macro Economics-II	
53.	CO-1	Learn the historical background and emergence of Macro Economics
	CO-2	Explain the difference between micro and macroeconomics.
	CO-3	Analyze the role of money in economy
	CO-4	Explain the phases of business cycle
	CO-5	Understand the conceptual framework of inflation and deflation.
	CO-6	Learn the various instruments of monetary and fiscal policy
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. – Economics	
	T.Y.B.A. Semester-V: (Gen-III) 35153 Indian Economic Development-I	
54.	CO-1	Explain the indicators of economic growth and development
	CO-2	Describe the characteristics of developed and developing countries
	CO-3	Identify the constraints to development process
	CO-4	Differentiate the human resources and economic development
	CO-5	Describe the process of economic planning
	CO-6	Explain the measures for sustainable development.
	T.Y.B.A. Semester-V: (Spl-III) 35151 International Economics-I	
55.	CO-1	Recall the concept of International Economics and International Trade
	CO-2	Apply the theories of International Trade
	CO-3	Correlate the Terms of Trade with foreign trade
	CO-4	Analyze the components of Balance of Payment
	CO-5	Describe the trend in growth and direction in India's Foreign Trade
	CO-6	Understand the issues relating to Foreign Capital
	T.Y.B.A. Semester-V: (Spl-IV) 35152 Public Finance-I	
56.	CO-1	Analyze the role of Public Finance in Economic Development
	CO-2	Relate the Nature and Scope of Public Finance
	CO-3	Analyze Public Revenue and its Components
	CO-4	Describe the trend in growth and direction in Public Expenditure
	CO-5	Analyze the concepts of Budget and its Components
	CO-6	Describe Deficit Financing and its effects
	T.Y.B.A. Semester-VI: (Gen-III) 36153 Indian Economic Development-II	
57.	CO-1	Describe the process of economic planning
	CO-2	Explain the measures for sustainable development.
	CO-3	Understand the role and structure of NITI Aayog.
	CO-4	Identify the relation between environment and development
	CO-5	Evaluate the constraints to development process
	CO-6	Differentiate the human resources and economic development
	T.Y.B.A. Semester-VI: (Spl-III) 36151 International Economics-II	
58.	CO-1	Relate the concept of International Economics and International Trade
	CO-2	Describe the theories of International Trade
	CO-3	Analyze the trend in growth and direction in India's Foreign Trade
	CO-4	Evaluate the concept of Exchange Rate and Foreign Exchange Rate
	CO-5	Understand the issues relating to Foreign Capital
	CO-6	Analyze the functioning of Regional and International Co-Operation
	T.Y.B.A. Semester-VI: (Spl-IV) 36152 Public Finance-II	
59.	CO-1	Relate the role of Public Finance in Economic Development
	CO-2	Relate the Nature and Scope of Public Finance
	CO-3	Explain and assess the components and instruments of Fiscal Policy
	CO-4	Analyze the concepts of Budget and its Components
	CO-5	Describe Deficit Financing and its effects

	CO-6	Explain the Centre State Financial Relationship
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. – Marathi	
	F.Y.B.A. Semester-I: (Gen-I) 11021 A मराठी साहित्य:कथा आणि भाषिक कौशल्य विकास	
60.	CO-1	मराठी भाषा, मराठी साहित्य आणि मराठी साहित्य यांचे अध्ययन करणे.
	CO-2	साहित्य विषयक आकलन, आस्वाद आणि मूल्यमापन क्षमता विकसित करणे.
	CO-3	कथा या साहित्य प्रकारच्या साहित्याभ्यासातून जीवनविषयक समज विकसित करणे.
	CO-4	मराठी भाषेची उपयोजनात्मक कौशल्य विकासित करणे.
	CO-5	समकालीन मराठी कथा या कथा संग्रहातील कथांचे आकलन व आस्वाद कौशल्ये विकसित करणे.
	F.Y.B.A. Semester-I: (Gen-I) 12021 A मराठी साहित्य:एकांकिका आणि भाषिक कौशल्य विकास	
61.	CO-1	एकांकिका या साहित्यप्रकाराची ओळख करून देणे.
	CO-2	एकांकिका या साहित्य प्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून देणे.
	CO-3	मराठी साहित्यातील निवडक एकांकीकाचे (विठ्ठल तो आला आला व हंडाभर चांदणे) अध्ययन करणे.
	CO-4	भाषिक कौशल्य विकास करणे.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. – Marathi	
	S.Y.B.A. Semester-III: (Gen-II) (CC-1 C) 23023 भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्य प्रकार कादंबरी- रारंगढांग	
62.	CO-1	संगणक आणि मोबाईलवर मराठी मुद्रणासाठी युनिकोड प्रणालीची ओळख करून देणे.
	CO-2	कादंबरी या साहित्य प्रकारचे स्वरूप, घटक, प्रकार आणि वाटचाल समजून घेणे.
	CO-3	'रारंगढांग' या नेमलेल्या कादंबरीचे आकलन, आस्वाद आणि विश्लेषण करणे.
	CO-4	भाषिक कौशल्यविकास करणे.
	S.Y.B.A. Semester-III: (Spl-I) DSE 1 A [3] 23021 आधुनिक मराठी साहित्य:प्रकाशवाटा	
63.	CO-1	आत्मचरित्र या साहित्यप्रकाराचे स्वरूप, संकल्पना समजावून घेणे.
	CO-2	'प्रकाशवाटा' या आत्मचरित्र साहित्यप्रकाराची प्रेरणा आणि वाटचाल यांची ओळख करून घेणे.
	CO-3	ललित गद्यातील अन्य साहित्यप्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण समजावून घेणे.
	CO-4	नेमलेल्या या आत्मचरित्राचे आकलन, आस्वाद आणि विश्लेषण करणे.
	S.Y.B.A. Semester-III: (Spl-II) DSE 1 B (3) 23022 साहित्यविचार	
64.	CO-1	भारतीय साहित्य विचाराच्या आधारे साहित्याची संकल्पना, स्वरूप आणि प्रयोजन विचार समजावून घेणे.
	CO-2	पाश्चात्य साहित्य विचाराच्या आधारे साहित्याची संकल्पना, स्वरूप आणि प्रयोजन विचार समजावून घेणे.
	CO-3	साहित्याची निर्मिती प्रक्रिया समजावून घेणे.
	CO-4	साहित्याची भाषा आणि शैली विषयक विचार समजावून घेणे.
	S.Y.B.A. Semester-III: SEC 2 A (2) 23025 प्रकाशन व्यवहार आणि संपादन	
65.	CO-1	प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक कौशल्ये मिळविणे.
	CO-2	प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे .
	CO-3	प्रकाशनव्यवहार आणि संपादन यासाठी प्रात्यक्षिकासह उपयोजनाची कौशल्ये मिळविणे.
	CO-4	प्रकाशन संस्था, जाहिरात संस्था, छापखाने, वृत्तपत्र कार्यालये, वितरण संस्था, ग्रंथ विक्री दुकाने, फ्लेक्स निर्मिती केंद्र, वार्ताहर यांना भेटी देऊन प्रशिक्षण घेणे.
	S.Y.B.A. Semester-IV: (Gen-II) 24023 भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्य प्रकार :ललितगद्य-साहित्यरंग	
66.	CO-1	गुगल साधनांचा अध्ययनातील स्वरूप समजून घेणे.
	CO-2	ललितगद्य या साहित्य प्रकारचे स्वरूप, घटक, प्रकार आणि वाटचाल समजून घेणे.
	CO-3	'साहित्यरंग' या नेमलेल्या अभ्यासपुस्तकातील ललितगद्याचे आकलन, आस्वाद आणि विश्लेषण करणे.
	CO-4	भाषिक कौशल्यविकास करणे.
	S.Y.B.A. Semester-IV: (Spl-I) DSE 2 A [3] 24021 मध्ययुगीन मराठी साहित्य:निवडक मध्ययुगीन गद्य, पद्य	
67.	CO-1	मध्ययुगीन गद्य साहित्य प्रकारची ओळख करून घेणे.
	CO-2	मध्ययुगीन पद्य साहित्य प्रकारची ओळख करून घेणे.
	CO-3	नेमलेल्या अभ्यासपुस्तकातील गद्याचे आकलन, आस्वाद आणि विश्लेषण करणे.
	CO-4	नेमलेल्या अभ्यासपुस्तकातील पद्याचे आकलन, आस्वाद आणि विश्लेषण करणे.
	S.Y.B.A. Semester-IV: (Spl-II) DSE 1 B (3) 24022 साहित्य समीक्षा	
68.	CO-1	साहित्य समीक्षेची संकल्पना, स्वरूप यांचा परिचय करून घेणे.
	CO-2	साहित्य आणि समीक्षा यांचे परस्पर संबंध समजावून घेणे व अभ्यासणे.

	CO-3	साहित्यप्रकारानुसार समीक्षेचे स्वरूप समजावून घेणे व अभ्यासणे.
	CO-4	ग्रंथ परिचय, परीक्षण व समीक्षण यातील फरक समजावून घेणे.
	S.Y.B.A. Semester-IV: SEC 2 B (2) 23025 उपयोजित लेखनकौशल्ये	
69.	CO-1	प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक कौशल्ये मिळविणे.
	CO-2	प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे .
	CO-3	प्रकाशनव्यवहार आणि संपादन यासाठी प्रात्यक्षिकासह उपयोजनाची कौशल्ये मिळविणे.
	CO-4	प्रकाशन संस्था, जाहिरात संस्था, छापखाने, वृत्तपत्र कार्यालये, वितरण संस्था, ग्रंथ विक्री दुकाने, फ्लेक्स निर्मिती केंद्र, वार्ताहर यांना भेटी देऊन प्रशिक्षण घेणे.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. – Marathi	
	T.Y.B.A. Semester-V: (Gen-III) CC-1 E(3) 35023 भाषिक कौशल्यविकास आणि आधुनिक साहित्यप्रकार–प्रवासवर्णन	
70.	CO-1	भाषिक कौशल्याचे मुद्रित माध्यमांसाठी लेखन कौशल्ये आत्मसात करणे.
	CO-2	प्रवास वर्णन या साहित्यप्रकाराचे स्वरूप, वाटचाल, प्रेरणा व प्रयोजने आणि वैशिष्ट्ये समजून घेणे.
	CO-3	नेमलेल्या प्रवासवर्णनाचे आकलन, आस्वाद आणि विश्लेषण करणे.
	CO-4	तीन मुलांचे चार दिवस या ग्रंथातील तीन भागातील तीन भागांचे आकलन करून घेणे.
	T.Y.B.A. Semester-V: (Spl-III) 35021 DSE 1C (3+1) मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास:प्रारंभ ते १६५०	
71.	CO-1	वाङ्मयेतिहास:संकल्पना,स्वरूप समजून घेणे.
	CO-2	या मध्ययुगीन कालखंडाची सामाजिक,सांस्कृतिक पार्श्वभूमी समजून घेणे.
	CO-3	या मध्ययुगीन कालखंडातील मराठी वाङ्मय निर्मितीमागील विविध प्रेरणा समजून घेणे.
	CO-4	या मध्ययुगीन कालखंडातील मराठी वाङ्मयातील प्रवृत्ती समजून घेणे.
	T.Y.B.A. Semester-V: (Spl-IV) DSE 2 C(3+1) 35022 वर्णनात्मक भाषाविज्ञान : भाग १	
72.	CO-1	भाषा स्वरूप, वैशिष्ट्ये व कार्य समजावून घेणे.
	CO-2	भाषा अभ्यासाची आवश्यकता स्पष्ट करणे.
	CO-3	भाषा अभ्यासाचे घटक आणि विविध पद्धतीचा थोडक्यात परिचय करून घेणे.
	CO-4	वर्णनात्मक भाषाविज्ञानाचे स्वरूप, महत्त्व समजावून घेणे.
	T.Y.B.A. Semester-V: SEC 2 C (2) 35025 कार्यक्रम संयोजनातील भाषिक कौशल्य:भाग १	
73.	CO-1	कार्यक्रम संयोजनातील माहिती समजून घेणे.
	CO-2	कार्यक्रम संयोजन कौशल्ये प्राप्त करणे.
	CO-3	कार्यक्रम आयोजानासंदर्भात भाषिक कौशल्ये विद्यार्थ्यांमध्ये निर्माण करणे.
	CO-4	कार्यक्रम आयोजनाची प्रत्यक्ष कार्यक्रम पत्रिका तयार करणे.
	T.Y.B.A. Semester-VI: (Gen-III) 36023 CC-1 F (3) भाषिक कौशल्यविकास आणि आधुनिक साहित्यप्रकार–कवितासंग्रह-रूपवेध कवितेचे	
74.	CO-1	मराठी साहित्य, भाषिक कौशल्यविकास आणि शासनव्यवहार यांची माहिती घेणे.
	CO-2	कविता या साहित्यप्रकाराचे स्वरूप, वाटचाल, वैशिष्ट्ये, प्रेरणा आणि प्रवृत्ती समजून घेणे.
	CO-3	कविता या साहित्यप्रकारातील विविध आविष्कार रूपांची संपादित कवितांच्या आधारे ओळख करून घेणे.
	CO-4	नेमलेल्या अभ्यास पुस्तकातील निवडक कवितांचे आकलन, आस्वाद आणि विश्लेषण करणे.
	T.Y.B.A. Semester-VI: (Spl-III) DSE 1 D(3+1) 36021 मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास:इ.स. १६५० ते इ.स.१८१७	
75.	CO-1	वाङ्मयेतिहास:संकल्पना,स्वरूप समजून घेणे.
	CO-2	या मध्ययुगीन कालखंडाची सामाजिक,सांस्कृतिक पार्श्वभूमी समजून घेणे.
	CO-3	या मध्ययुगीन कालखंडातील मराठी वाङ्मय निर्मितीमागील विविध प्रेरणा समजून घेणे.
	CO-4	या मध्ययुगीन कालखंडातील मराठी वाङ्मयातील प्रवृत्ती समजून घेणे.
	T.Y.B.A. Semester-VI: (Spl-IV) DSE 2 D(3+1) 36022 वर्णनात्मक भाषाविज्ञान :भाग २	
76.	CO-1	रूपविन्यास आणि मराठीची रुपव्यवस्था समजावून घेणे.
	CO-2	वाक्यविन्यास आणि वाक्य व्यवस्थेचा मराठी भाषेच्या संदर्भात परिचय करून देणे.
	CO-3	अर्थविन्यास या संकल्पनेचा भाषावैज्ञानिक अंगाने परिचय करून देणे.
	CO-4	भाषेचे वैज्ञानिक दृष्ट्या स्वरूप व महत्त्व कळते.
	T.Y.B.A. Semester-VI: SEC 2 C (2) SEC 2 B D (2) 36025 कार्यक्रम संयोजनातील भाषिक कौशल्य:भाग २	
77.	CO-1	कार्यक्रम संयोजनातील लेखन कौशल्ये समजून घेणे.

	CO-2	कार्यक्रम संयोजन करणे.
	CO-3	आभासी कार्यक्रम संयोजन करणे.
	CO-4	कार्यक्रमाच्या सूत्रसंचालनाची सूत्रे समजून घेणे.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. – Geography	
	F.Y.B.A. Semester-I: (Gen-I) 110 (A) Physical Geography	
78.	CO-1	Define the terms.
	CO-2	Explain the concepts and components of Physical Geography
	CO-3	Learn the structure of Earth.
	CO-4	Explain the theories to understand the Earth structure.
	CO-5	Learn the components of the atmosphere.
	CO-6	Learn the components of Hydrosphere.
	F.Y.B.A. Semester-II: (Gen-II) 110 (B) Human Geography	
79.	CO-1	Define the various terms related to human geography.
	CO-2	Explain the concepts and components of Human Geography.
	CO-3	Explain the factors influencing the distribution of the Population.
	CO-4	Types of rural settlement and identify various patterns of settlement.
	CO-5	Explain the factors affecting agricultural activity.
	CO-6	Solve the problems of Indian agriculture.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. – Geography	
	S.Y.B.A. Semester-III & IV : (Gen-II) 201 Practical Geography I & II (Scale & Map Projections)	
80.	CO-1	Define map scale and projection.
	CO-2	Apply practical skills to use the map scale and projection.
	CO-3	Learn the new techniques, accuracy and skills of map-making.
	CO-4	Acquired the Plan Table and Prismatic Compass Surviving techniques.
	CO-5	Known the components and functions of GPS.
	CO-6	Measure Map Scales, conversion scales.
	S.Y.B.A. Semester-III & IV: (Spl-I) 210-A & B Economic Geography	
81.	CO-1	To introduce students to the basic principles and concepts of Economic Geography.
	CO-2	Aware of Problems and Prospects in Maharashtra.
	CO-3	To Acquaint students with the application of economic geography for development in different areas
	CO-4	The students should be able to integrate various factors of economic development and dynamic aspects of economic geography.
	CO-5	Understand the various concepts in economic geography.
	S.Y.B.A. Semester-III & IV: (Spl-II) 220-A & B Geography of Maharashtra I & II	
82.	CO-1	Learn the Geography of Maharashtra state.
	CO-2	Aware of problems and prospects of Maharashtra.
	CO-3	Understand the relationship between geographic variations and society in Maharashtra.
	CO-4	Learn the recent trends in regional studies.
	CO-5	Understand the recent trends in regional studies.
	CO-6	Aware of the problems and prospects of agriculture in Maharashtra.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. – Geography	
	T.Y.B.A. Semester-V & VI : (Gen-III) 301-A &B- (DSE 2 C& D) Techniques of Spatial Analysis (I&II)	
83.	CO-1	To make students aware of Aerial Photographs and satellite Images and interpretation with help of Computer software.
	CO-2	Students understand the Observation and Identification of Geographical Features and preparation of a Brief Report on it.
	CO-3	To make aware about the open source software and techniques of visualization.
	CO-4	To make students aware of techniques of geographical analysis.

	CO-5	To make students aware of Geographical data and basic analysis of data.
	CO-6	To understand the Central Tendency and Application of test in geographical data.
	T.Y.B.A. Semester-V & VI : (Spl-III) 310 A & 310 B Geography of Tourism I & II	
84.	CO-1	Understand the history of tourism.
	CO-2	Introduce the students to the basic concepts in tourism geography.
	CO-3	Understand the types of tourism.
	CO-4	To gain knowledge different aspects of Tourism Geography.
	CO-5	To understand the importance of Tourism.
	CO-6	Understand the accommodation types in tourism.
	T.Y.B.A. Semester-V & VI : (Spl-IV) 320 A & B. Geography of India I & II	
85.	CO-1	To acquaint the students with Geography of our nation.
	CO-2	To make the students aware of the magnitude of problems and prospects at national level.
	CO-3	To help the students to understand inter- relationship between the subject and the society.
	CO-4	To understand the geographical concepts.
	CO-5	To know the geographical features of the nation.
	CO-6	To understand the recent trends in regional studies.
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), F. Y. B. A. – Hindi	
	F. Y. B. A. Semester-I: 11091 वैकल्पिक हिंदी प्रश्नपत्रक -1(A)	
86.	CO-1	हिंदी साहित्य के प्रति रूझान रखेंगे।
	CO-2	हिंदी कहानी एवं काव्य साहित्य से परिचित होंगे।
	CO-3	छात्रों को जीवनमूल्य बोध होगा।
	CO-4	प्रयोजनमूलक हिंदी से परिचित होंगे।
	CO-5	छात्रों की विचार तथा लेखन क्षमता का विकास होगा।
	CO-6	छात्रों की सृजनात्मकता का विकास होगा।
	F. Y. B. A. Semester-II: 12091 वैकल्पिक हिंदी प्रश्नपत्र -1(B)	
87.	CO-1	हिंदी काव्य तथा गद्य की विविध साहित्यिक विधाओं का सामान्य परिचय प्राप्त करेंगे।
	CO-2	स्ववृत्त लेखन कौशल हाँसिल करेंगे।
	CO-3	निबंध लेखन कौशल प्राप्त करेंगे।
	CO-4	विज्ञापन लेखन कौशल।
	CO-5	वाक्यशुद्धीकरण की प्रक्रिया समझ सकेंगे।
	CO-6	राजभाषा हिंदी का प्रचार-प्रसार करने में सक्षम होंगे।
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), S. Y. B. A. – Hindi	
	S. Y. B. A. Semester-III CC-1C (G-2) 23093 आधुनिक काव्य,कहानी तथा व्यावहारिक हिंदी	
88.	CO-1	काव्य साहित्य से परिचित होंगे।
	CO-2	कहानी साहित्य का परिचय प्राप्त करेंगे।
	CO-3	हिंदी कारक-व्यवस्था को समझ सकेंगे।
	CO-4	शब्द युग्म का अर्थ एवं प्रत्यक्ष वाक्य में प्रयोग कर पायेंगे।
	CO-5	छात्रों को संक्षेपण लेखन का प्रत्यक्ष बोध होगा।
	S. Y. B. A. Semester-III DSE-1A(S-1) 23091 काव्यशास्त्र (सामान्य)	
89.	CO-1	भारतीय काव्यशास्त्र के स्वरूप से परिचित होंगे।
	CO-2	काव्य परिभाषा तत्व आदि का बोध छात्रों को होगा।
	CO-3	काव्य के तत्व शब्द-शक्तियों का परिचय मिलेगा।
	CO-4	रस का स्वरूप समझ सकेंगे।
	CO-5	छात्रों का भारतीय काव्यशास्त्र के प्रति रुझान बढ़ेगा तथा उन्हें आलोचना-बोध होगा।
	CO-6	भारतीय काव्यशास्त्र के स्वरूप से परिचित होंगे।
	S. Y. B. A. Semester-III DSE-2A(S-2) 23092 मध्ययुगीन काव्य तथा उपन्यास साहित्य	
90.	CO-1	मध्ययुगीन हिंदी काव्य से सामान्य रूप से परिचित होंगे।

	CO-2	कबीर के साहित्य का परिचय हाँसिल कर सकेंगे।
	CO-3	मीराँबाई के साहित्य की संवेदना को समझ सकेंगे।
	CO-4	हिंदी उपन्यास की अवधारणा समझ सकेंगे।
	S. Y. B. A. Semester- SEC-2A 23096 अनुवाद: स्वरुप एवं व्यवहार	
91.	CO-1	अनुवाद कौशल हाँसिल कर सकेंगे।
	CO-2	अनुवाद का स्वरूप अवगत कर पाएँगे।
	CO-3	अनुवाद के विविध क्षेत्रों से परिचित होंगे।
	S. Y. B. A. Semester-IV MIL-1 23012 हिंदी भाषा शिक्षण	
92.	CO-1	हिंदी भाषा श्रवण कौशल हाँसिल कर पाएँगे।
	CO-2	हिंदी भाषा संवाद कौशल अवगत कर पाएँगे।
	CO-3	हिंदी भाषा संवाद कौशल का विकास करने में सक्षम होंगे।
	CO-4	हिंदी भाषा भाषा व्यवस्था समझ सकेंगे।
	S. Y. B. A. Semester- CC-1D (G-2) 24093 आधुनिक हिंदी व्यंग्य साहित्य तथा व्यावहारिक हिंदी	
93.	CO-1	व्यंग्य साहित्य से परिचित होंगे।
	CO-2	छात्रों को कहानी व्यंग्य पाठ का बोध होगा।
	CO-3	साक्षात्कार कला से अवगत होंगे।
	CO-4	भाषा का मोबाइल तंत्र समझ सकेंगे।
	CO-5	पल्लवन कला से अवगत होंगे।
	S. Y. B. A. Semester-IV DSE-1B (S-1) 24091 साहित्य के भेद	
94.	CO-1	साहित्य के भेद से अवगत होंगे।
	CO-2	पदय भेद से परिचित होंगे।
	CO-3	महाकाव्य, खंडकाव्य और मुक्तक काव्य से परिचित होंगे।
	CO-4	नाटक का स्वरूप समझ सकेंगे।
	S. Y. B. A. Semester-IV DSE-2B (S-2) 24092 मध्ययुगीन काव्य तथा नाटक साहित्य	
95.	CO-1	रहीम के काव्य का परिचय प्राप्त करेंगे।
	CO-2	बिहारी की काव्य-अभिव्यंजना को समझ सकेंगे।
	CO-3	आधुनिक हिंदी नाटक एवं रंगमंच की जानकारी प्राप्त करेंगे।
	Faculty: Arts (UG), Program: Bachelor of Arts (B. A.), T. Y. B. A. Hindi	
	T. Y. B. A. DSE 1 C(S-3) 35091 हिंदी साहित्य का इतिहास	
96.	CO-1	हिंदी साहित्येतिहास लेखन की परंपरा से परिचित होंगे।
	CO-2	हिंदी साहित्येतिहास के कालविभाजन तथा नामकरण की प्रक्रिया को समझ सकेंगे।
	CO-3	आदिकालीन,भक्तिकालीन, रीतिकालीन पृष्ठभूमि से परिचित होंगे।
	CO-4	आदिकालीन, भक्तिकालीन, रीतिकालीन प्रमुख साहित्यिक प्रवृत्तियों से परिचित होंगे।
	CO-5	आदिकालीन, भक्तिकालीन, रीतिकालीन प्रमुख कवियों के व्यक्तित्व एवं कृतित्व से परिचित होंगे।
	CO-6	हिंदी साहित्य के आदिकाल,भक्तिकाल एवं रीतिकाल की प्रमुख रचनाओं से का परिचय प्राप्त करेंगे।
	T. Y. B. A. DSE 2 C(S-4) 35092 भाषाविज्ञान	
97.	CO-1	भाषाविज्ञान के स्वरूप से परिचित होंगे।
	CO-2	भाषाविज्ञान की व्याप्ति समझ में आएगी।
	CO-3	भाषाविज्ञान के अध्ययन की दिशाओं से परिचित होंगे।
	CO-4	भाषाविज्ञान के अनुप्रयोगात्मक पक्ष को समझेंगे।
	CO-5	साहित्य-अध्ययन में भाषाविज्ञान की उपयोगिता समझ सकेंगे।
	CO-6	हिंदी की विविध बोलियों से परिचित होंगे।
	T. Y. B. A. SEC 2 C 35096 पटकथा लेखन	
98.	CO-1	स्क्रिप्ट लेखन के स्वरूप से परिचित होंगे ।
	CO-2	कथा और पटकथा के बीच के अंतर के तकनीकी पक्ष से अवगत होंगे।
	CO-3	पटकथा लेखन,शॉर्ट फिल्म लेखन,विज्ञापन लेखन कौशल हाँसिल करेंगे।
	CO-4	छात्रों को पटकथा लेखन के सॉफ्टवेयरों की जानकारी उपलब्ध होगी।

	T. Y. B. A. CC 1 F 36093 गज़ल साहित्य	
99.	**CO-1**	हिंदी गज़ल साहित्य के स्वरूप से अवगत होंगे।
	CO-2	गज़ल के शिल्प पक्ष से परिचित होंगे।
	CO-3	हिंदी गज़लकार के रूप में दुष्यंतकुमार के व्यक्तित्व एवं कृतित्व से परिचित होंगे।
	T. Y. B. A. CC 1 F DSE 1 D(S-3) 36091 हिंदी साहित्य का आधुनिक काल	
100.	**CO-1**	हिंदी साहित्य के आधुनिक काल की पृष्ठभूमि से परिचित होंगे।
	CO-2	आधुनिक हिंदी काव्य की विकासयात्रा से अवगत होंगे।
	CO-3	आधुनिक काल के प्रतिनिधि काव्य आंदोलनों से परिचिय प्राप्त करेंगे।
	CO-4	आधुनिक काल के प्रतिनिधि साहित्यकारों के व्यक्तित्व एवं कृतित्व से परिचिय प्राप्त करेंगे।
	CO-5	हिंदी गद्य साहित्य की विविध विधाओं के उद्भव और विकास से परिचित होंगे।
	CO-6	आधुनिक हिंदी गद्य की विकासयात्रा में फोर्ट विलियम कॉलेज का योगदान समझ सकेंगे।
	T. Y. B. A. DSE 2 D(S-4) SEC 2 D 36092	
101.	**CO-1**	भाषाविज्ञान का स्वरूप समझेंगे।
	CO-2	भाषाविज्ञान की व्याप्ति समझेंगे।
	CO-3	भाषाविज्ञान के अध्ययन की दिशाओं से परिचित होंगे।
	CO-4	भाषाविज्ञान के अनुप्रयोगात्मक पक्ष को समझ सकेंगे।
	CO-5	अध्ययन में भाषाविज्ञान की उपयोगिता समझेंगे।
	CO-6	नागरी लिपि के उद्भव और विकास से परिचित होंगे।
	T. Y. B. A. SEC 2 D 36096 साहित्य और फिल्मांतरण	
102.	**CO-1**	सिनेमा तकनीक से परिचित होंगे।
	CO-2	हिंदी साहित्य और सिनेमा के अन्त:संबंध से परिचित होंगे।
	CO-3	हिंदी उपन्यासों पर आधारित फिल्मों से अवगत होंगे।
	CO-4	फिल्मांतरण का स्वरूप समझ सकेंगे।
	CO-5	सिनेमा तकनीक से परिचित होंगे।
	T. Y. B. A. : CC 1 E 35093 कथेतर विधाए	
103.	**CO-1**	हिंदी संस्मरण साहित्य से अवगत हों रेखाचित्र विधा से सामान्य रूप में परिचित होंगे।
	CO-2	संस्मरण विधा से सामान्य रूप में परिचित होंगे।
	CO-3	रेखाचित्र एवं संस्मरण विधाओं की समीक्षा दृष्टि को विकसित करेंगे।

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K. J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR B. Sc. PROGRAMME	
The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:	
PO-1	**Knowledge-** Bachelor of Science provides both theoretical and practical knowledge in various subject areas.
PO-2	**Skill Development-** A student is exposed to a wide variety of topics in different subject areas and receives intensive training in each of the classes that have a laboratory job.
PO-3	**Problem Analysis-** Students have the ability to identify, formulate, analyze scientific problems and come up with concrete solutions using several of principles.
PO-4	**Modern Tool Usage-** Develop and implement appropriate techniques and IT tools to analyze data within limitations.
PO-5	**Internalization-** Developing, internalizing and expressing ethics is necessary for their professional and personal practice.
PO-6	**Logical thinking-** Applying logical thinking based on the knowledge, skills and responsibilities that come with the scientific temper.
PO-7	**Examination-** Examine hypothesis, theories, methods and various evidences in their appropriate contexts.
PO-8	**Addressing-** Addresses complex problems through critical understanding, analysis and synthesis.
PO-9	**Recognition-** Recognizing the need for lifelong learning through education.
PO-10	**Application-** The capacity to apply one's learning to real world situations.

Programme Specific Outcomes (PSOs) - B. Sc.	
PSO1	**Demonstrate and apply** basic skills to analyse and use different principles, theories of Physics and Scientific methodology.
PSO2	**Developing, Internalizing and Applying** logical thinking based on knowledge and responsibilities that comes with computational, experimental and analytical skills.
PSO3	**Encourage** students to examine, understand, recognize and apply Physics concepts and laws in real world situations and research as well as innovative work.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's
K.J. Somaiya College of Arts, Commerce & Science
Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com
NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"
Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR B.Sc.-CS PROGRAMME	
The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:	
PO-1	**Knowledge** – B.Sc. (CS) provides both theoretical and practical knowledge in various subject areas.
PO-2	**Skill Development**- B.Sc. (CS) provides necessary skill set for developing computer-based solutions for real life problems
PO-3	**Skill Development**- B.Sc. (CS) provides necessary skill set for developing computer-based solutions for real life problems
PO-4	**Modern Tool Usage**- Develop and implement appropriate techniques and IT tools to analyse data within limitations.
PO-5	**Modern Tool Usage**- Develop and implement appropriate techniques and IT tools to analyse data within limitations.
PO-6	**Logical thinking**- Apply logical thinking to solve computational problems.
PO-7	**Examination**- Examine hypothesis, theories, methods and various evidences in their appropriate contexts.
PO-8	**Addressing**- Addresses complex problems through critical understanding, analysis and synthesis.
PO-9	**Recognition**- Recognizing the need for lifelong learning through education.
PO-10	**Application**- Help students' build-up a successful career in Computer Science and apply ones learning to real world situation

Programme Specific Outcomes (PSOs) - B. Sc. Comp. Science	
PSO1	**Demonstrate and Apply**-Demonstrate understanding of the principles and working of the hardware and software aspects of computer system
PSO2	**Developing, Internalizing and Applying**-Design, Implements, Test and Evaluate a computer system components or algorithm to meet desired needs and to solve a computational problem
PSO3	**Encourage**-apply computer science concept in real world situation and research as well as innovative works like mobile application, web application, desktop application, Enterprise application.

K. J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's
K.J. Somaiya College of Arts, Commerce & Science
Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com
NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR B.C.A.-SCIENCE PROGRAMME	
The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:	
PO-1	Analyze the requirements of a computing problem using appropriate algorithms and data structures.
PO-2	Implement the solution of a computing problem using appropriate programming languages
PO-3	Use mathematical underpinnings of the discipline of computer science
PO-4	Recognize the ethical, legal and social implications of computing in a global society.
PO-5	Use oral and written communication skills to convey technical information effectively and accurately
PO-6	Use their interpersonal skills when working in a team environment
PO-7	Recognize the need for and ability to engage in continuing professional development
PO-8	Ability to use appropriate techniques, skills, and tools necessary for computing practice

Programme Specific Outcomes (PSOs) - B. Sc.	
PSO1	Analyze their abilities in systematic planning, developing, testing and executing complex computing applications in field of social media and analytics, web application development and data interpretations.
PSO2	Appraise in-depth expertise and sustainable learning that contributes to multi-disciplinary, creativity, permutation, modernization and study to address global interest.
PSO3	Explore technical comprehension in varied area of computer applications and experience a conductive environment in cultivating skill for thriving career and higher studies.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR B. A. PROGRAMME

The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:

PO-1	**Knowledge Acquisition**: Acquire in-depth knowledge, and understand fundamental concepts and correlate various theories and practices in their domain area.
PO-2	**Interdisciplinary Approach**: The program will familiarize the students with the socio-economic, political, historical, and linguistic perspectives by adopting an intercultural and interdisciplinary approach.
PO-3	**Skill Development**: Develop communicative skills and job-oriented skills in students to be able to recognize, and articulate knowledge in real-life situations.
PO-4	**Value System**: A strong sense of morals, human and social values to comprehend issues affecting the geo- socio-political, linguistic and economic framework.
PO-5	**Environment Sustainability**: Creating awareness by incorporating issues in socio-cultural contexts along with environmental needs and concerns for sustainable development.
PO-6	**Creative & Innovative Approach**: The Programme will develop an ability to think creatively and adopt an innovative approach.
PO-7	**Gender Sensitization**: The programme aims in inculcating values of equality, inclusivity and diversity, which are essential for building a healthy society.
PO-8	**Logical Thinking and Scientific Temperament**: The programme engages in developing Logical Thinking and Scientific Temperament through curriculum.
PO-9	**Use of Tools and Technology**: The students will be able to understand the importance and judicious use of technology for the sustainable growth of mankind in synergy with nature.
PO-10	**Ethical Mindset**: Recognize and respect different value systems including one's own and others for unity in diversity.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR B. Com. PROGRAMME	
The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:	
PO-1	Read, write, translate and practice language for enhance ability for business communication to drafting letters, applications and presentation.
PO-2	Describes, compute, compare and construct the accounting for partnership firms, company, charitable trust and accounting standards for accounting.
PO-3	Define, Describes, Explain, Apply, Analyze and Interpret knowledge. Theory and applications in the field of business economics at Indian as well as Global level
PO-4	Tabulate, compute, constructs, correlate and develop mathematical and statistical tools for business organization
PO-5	Define, Describes, Explain & Apply Computer tools and applications of Internet, M-Commerce, E-Commerce and Business Communication tools for smooth business operations.
PO-6	Define, describes, explain, discuss, evaluate, compare and review of business management tools for effective organization and management of business organisation
PO-7	Define, explain, correlate, consider, compare and formulate skills and knowledge in the field of tourism industry and allied development in commerce, communication and trade.
PO-8	Define, classify, explain, describes, discuss and determine knowledge, abilities and skills for developing marketing and salesmanship skills for improve organization performance.
PO-9	Define, Explain, describes, practice, write and appraise the skills and knowledge regarding oral and written communication skills for smooth operation of business
PO-10	Examine and discuss various acts and laws related to business organization
PO-11	Describes, compute, Report and evaluate the methods and techniques in auding the books of accounts of business organization and compute income tax for individual Assessee
PO-12	Define, explain, examine and prepare cost accounting records for develop cost reduction of the product for increase sales margin in successful business operations

Programme Specific Outcomes (PSOs) - B. Com.	
PSO1	Define, Explain, Evaluate, Prepare and examine the skills in the field of commerce (Financial Accounting, cost Accounting, Management Accounting, Law, Auditing and Taxation, Business Mathematics and Statistics and Computer Application) enabled students competent in the field
PSO2	Define, Explain, Evaluate, Prepare and examine the skills in the field of management (Business Management, Marketing, Office Management, Business Communication, Languages and Commercial Geography)enabled students competent in the field
PSO3	Define, Explain, Evaluate, Prepare and examine the skills in the field of economics (Micro, Macro, Indian and Global) enabled students competent in the field

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts, Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR B.B.A.-CA PROGRAMME	
The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:	
PO-1	**Knowledge Acquisition:** Acquire in depth knowledge, understand fundamental concepts and skills regarding managerial work, analytics, programming languages, accounting, communication skills required in today's fast growing technical world.
PO-2	**Skill Development:** Develop skill to apply fundamental concepts and techniques of Database management, Programming, Data presentation and communication required in IT Sector.
PO-3	**Legal Awareness:** Create awareness about law and legislations related to business, Cyber Crime and Networking.
PO-4	**Professional Accounting Practices:** Appling software basic financial statement and converting row financial data into well written financial data
PO-5	**Communication and leadeship skills:** Using written and verbal Communication along with confidence to emerge as growing leader. Be able to comprehend and write effectively business letters, reports and applications. Make effective presentations and give and receive clear instructions.
PO-6	**Analytical Skills:** Talent to classify, significantly evaluate and prepare complex computing problems using fundamentals of computer knowledge and request domains.
PO-7	**Use of Tools and Technology:** Acquire knowledge of using new Coding Languages and Programming Framework and technological tools in the areas of IT Sector.
PO-8	**Ultimate Education:** Identify the need for and enlarge the ability to appoint in permanent education as a Computing qualified.
PO-9	**Ethics:** Facility to apply and give expert principles and cyber systems in a universal monetary situation.
PO-10	**Lifelong Learning and Collaborative Skills:** Skill to select recent computing tools, skills and techniques compulsory for original software solutions a universal monetary situation.

Programme Specific Outcomes (PSOs) - B. B. A.- CA	
PSO1	**Demonstrate and apply** basics skills in Computer Application for analysis of various problems in Desktop Application, Server Side Application, Web Application, Database Application, Web Services.
PSO2	**Demonstrate** Preparing students in various disciplines of technologies such as computer applications, computer networking, software engineering, JAVA, database concepts and programming.
PSO3	**Practice Skill** to select recent computing tools, skills and techniques compulsory for original software solutions and Ability to job as a part or manager in various teams in multidisciplinary situations.

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's
K.J. Somaiya College of Arts, Commerce & Science
Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com
NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"
Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

Programme Specific Outcomes (PSOs) - B. A. - Marathi	
PSO1	त्यांच्यामध्ये वाचन कौशल्ये विकसित झाल्याने ते सक्षम नागरिक बनतात व साहित्याचे आस्वाद घेण्याची विश्लेषण करण्याची क्षमता निर्माण होते.
PSO2	पदवी पुढील शिक्षण घ्यावे ही इच्छा व क्षमता विकसित होते.
PSO3	मराठी साहित्याच्या परंपरेचे भान आल्याने आपण त्यात सहभागी व्हावे, ही इच्छा निर्माण होते.
PSO4	विद्यार्थ्यांमध्ये वाचन, लेखन, संभाषण, आकलन क्षमता निर्माण होते.

Programme Specific Outcomes (PSOs) - B. A. - English	
PSO1	**Research Skills:** Graduates will be proficient in conducting literary research, including the use of library resources, databases, and critical analysis of scholarly materials.
PSO2	**Creative Expression:** Graduates will have the ability to express themselves creatively through writing, demonstrating originality and a command of language.
PSO3	**Critical Thinking:** Graduates will develop critical thinking skills, applying literary theories and perspectives to analyze and interpret texts.

Programme Specific Outcomes (PSOs) - B. A. - Hindi	
PSO1	सृजनात्मकता एवं संभाषण कला प्राप्त कर पाएँगे।
PSO2	साहित्य की विविध विधाओं का स्वरूपात्मक ज्ञान प्राप्त कर पाएँगे।
PSO3	अनुवाद, माध्यम लेखन एवं समाचार लेखनजैसे व्यावसायिक कौशल हाँसिल कर पाएँगे।
PSO4	हिंदी साहित्य के इतिहास से अवगत होंगे ।
PSO5	साहित्यशास्त्र से परिचित होंगे।
PSO6	भाषाविज्ञान का सामान्य परिचय प्राप्त करेंगे।

Programme Specific Outcomes (PSOs) - B. A. – Political Science	
PSO1	Understand the basic principles of politics.
PSO2	Awareness of their rights.
PSO3	Understand the new trends and study of political science such as LPG, Good Governess and political parties etc.

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

Programme Specific Outcomes (PSOs) - B. A. - Economics	
PSO1	**Knowledge Acquisition and Policy Understanding:** A strong base and comprehensive knowledge of economic theories, ideologies and its application to real world and modern issues at national as well as international levels. Along with this An understanding of imperative economic policies and its role in pursuing the objectives of economic development, growth and stability.
PSO2	**Socio-economic Functioning:** An understanding of the existing socio-economic functioning of economies in multidimensional framework.
PSO3	**Technical, Analytical & Research Skills:** Analytical and Technical skills for applying theoretical knowledge to practical working of an economy at both micro as well as macro levels. A research aptitude and skill for comprehend analyses and critically evaluate different economic issues and construct a research.

Programme Specific Outcomes (PSOs) - B. A. – History	
PSO1	**Historical Knowledge:** Graduates will demonstrate a comprehensive understanding of key historical events, movements, and developments across various time periods, regions, and cultures.
PSO2	**Research Skills:** Students will be proficient in conducting historical research, including the ability to locate, analyse, and synthesize primary and secondary sources, as well as apply appropriate research methodologies.
PSO3	**Cultural and Global Awareness:** Graduates will exhibit an understanding of the interconnectedness of historical events on a global scale and appreciate the role of culture in shaping historical developments.

Programme Specific Outcomes (PSOs) - M. A. GEOGRAPHY	
PSO1	Demonstrate knowledge of the physical and cultural features of the Earth's surface.
PSO2	Define basic disciplines of Geography and its sub-branches, with study points
PSO3	Discuss the basic concepts and terminologies used in Geography.
PSO4	Distinguish between minerals and rocks, weather and climate, interior of the Earth, basic industries and farming etc.
PSO5	Describe the causes and effects of local, national and international problems like global warming, acid rain, ozone depletion, soil degradation, deforestation etc.

K. J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- Chemistry	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Advanced Knowledge:** Demonstrate a deep understanding of the fundamental principles, theories, and concepts in organic chemistry, including mechanisms, reactions, and spectroscopic techniques.
PO2	**Synthesis and Characterization:** Apply advanced techniques for the synthesis of organic compounds and their characterization using various spectroscopic and analytical methods.
PO3	**Problem Solving**: Apply organic chemistry principles to solve complex problems related to synthesis, reaction mechanisms, and functional group transformations.
PO4	**Advanced Techniques**: Gain proficiency in using advanced techniques such as NMR spectroscopy, mass spectrometry, chromatography, and computational methods to analyze and predict organic compounds' properties.
PO5	**Interdisciplinary Knowledge**: Recognize and apply connections between organic chemistry and related disciplines, such as biochemistry, materials science, and pharmaceutical chemistry.
PO6	**Designing of molecules:** Designing of targeted molecules and its synthesis followed by characterization.
PO7	**Communication Skills:** Developed their critical reasoning, judgment and communication skills.
PO8	The ability of problem solving will be enhanced. Students can apply principles in chemistry to real life problems
PO9	Apply the knowledge to develop the sustainable and eco-friendly technology in Industrial Chemistry.
PO10	Communicate scientific information in a clear and concise manner both orally and in Writing.

Programme Specific Outcomes (PSOs) - M.Sc. Chemistry	
PSO1	**Understand** the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in everyday life.
PSO2	Acquire fundamental **knowledge and applications** of chemical and scientific theories and correlate knowledge of chemistry with other branches of science & with other aspects related to life.
PSO3	**Develop mind and critical attitude** to serve in diverse fields also learn to apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- Physics	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Knowledge Acquisition:** The ability to gain knowledge through logical reasoning and develop the habit of self-learning throughout life.
PO2	**Skill Development:** The ability to effectively communicate thoughts and ideas through writing and oral communication.
PO3	**Analytical Skills:** Examine ideas, evidence and experiences with an open-minded and rational mindset.
PO4	**Use of Tools and Technology:** Demonstrate the ability to access, evaluate and utilize appropriate software for data analysis.
PO5	**Environment and Sustainability:** Be aware of the challenges of environmental contexts and sustainable development.
PO6	**Ethics:** In their professional practices, students will have the ability to develop, internalize and exercise ethics.
PO7	**Effective Citizenship:** Having a clear understanding of issues and participating in civic life through volunteering.
PO8	**Research related skills:** Having the capacity to plan, execute and report on the results of an experiment.
PO9	**Develop and carry out** an experiment, demonstrating their understanding of the scientific method and processes.
PO10	**Acquire, analyze and interpret** diverse data using various instruments.

Programme Specific Outcomes (PSOs) - M. Sc. Physics	
PSO1	**Demonstrate and apply** basics skills to analyse and use different principles, theories and scientific methodology in physics.
PSO2	**Developing, Applying** the knowledge for environment sustainability and practice ethics for effective citizenship with the help of tools and technology.
PSO3	**Introduced** student to examine, understand, apply the acquired knowledge and interpret data to plan and execute research as well as innovative work.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J.Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- Mathematics	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Knowledge Acquisition:** The ability to gain knowledge through logical reasoning and develop the habit of self-learning throughout life.
PO2	**Skill Development:** The ability to effectively communicate thoughts and ideas through writing and oral communication.
PO3	**Analytical Skills:** Examine ideas, evidence and experiences with an open-minded and rational mindset.
PO4	**Use of Tools and Technology:** Demonstrate the ability to access, evaluate and utilize appropriate software for data analysis.
PO5	**Environment and Sustainability:** Be aware of the challenges of environmental contexts and sustainable development.
PO6	**Ethics:** In their professional practices, students will have the ability to develop, internalize and exercise ethics.
PO7	**Effective Citizenship:** Having a clear understanding of issues and participating in civic life through volunteering.
PO8	**Research related skills:** Having the capacity to plan, execute and report on the results of an experiment.
PO9	**Develop and carry out** an experiment, demonstrating their understanding of the scientific method and processes.
PO10	**Acquire, analyze and interpret** diverse data using various instruments.

Programme Specific Outcomes (PSOs) - M. Sc. Mathematics	
PSO1	**In-depth Knowledge:** The students will be acquire basic and advanced knowledge of pure and applied mathematics, mathematical techniques/ methods and able to apply for solving various problems.
PSO2	**Critical and Analytical Thinking:** The students will be able to develop critical and logical thinking, creativity, communication skills and analyzing the results critically.
PSO3	**Skills Enhancement:** The students will have primary knowledge of software, programming and computational techniques and able to apply for mathematical analysis, data analysis, numerical analysis.

Coordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- Botany	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Knowledge** – Bachelor of Science provides both theoretical and practical knowledge in various subject areas.
PO2	**Skill Development**- A student is exposed to a wide variety of topics in different subject areas and receives intensive training in each of the classes that have a laboratory job
PO3	**Problem Analysis**- Students have the ability to identify, formulate, analyze scientific problems and come up with concrete solutions using several of principles.
PO4	**Modern Tool Usage**- Develop and implement appropriate techniques and IT tools to analyze data within limitations.
PO5	**Internalization**- Developing, internalizing and expressing ethics is necessary for their professional and personal practice.
PO6	**Logical thinking**- Applying logical thinking based on the knowledge, skills and responsibilities that come with the scientific temper.
PO7	**Examination**- Examine hypothesis, theories, methods and various evidences in their appropriate contexts.
PO8	**Addressing**- Addresses complex problems through critical understanding, analysis and synthesis.
PO9	**Recognition**- Recognizing the need for lifelong learning through education.
PO10	**Application**- the capacity to apply one's learning to real world situations.

Programme Specific Outcomes (PSOs) - M. Sc. Botany	
PSO1	**Recall the diversity, classification, evolution** and developmental changes among the plants with reference to lower and higher plant groups and create a knowledge base in understanding the basis of plant diversity, economic values and taxonomy of plants.
PSO2	**Understand the advanced concepts** of physiology, biochemistry and molecular biology of plants and its implementation for the improvement of crop productivity.
PSO3	**Demonstrate knowledge and scientific understanding** to identify research problems, design experiments, use appropriate methodologies, analyze and interpret data and provide solutions. Exhibit organizational skills and the ability to manage time and resources.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J.Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- Zoology	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Knowledge Acquisition:** The ability to gain knowledge through logical reasoning and develop the habit of self-learning throughout life.
PO2	**Skill Development:** The ability to effectively communicate thoughts and ideas through writing and oral communication.
PO3	**Analytical Skills:** Examine ideas, evidence and experiences with an open-minded and rational mindset.
PO4	**Use of Tools and Technology:** Demonstrate the ability to access, evaluate and utilize appropriate software for data analysis.
PO5	**Environment and Sustainability:** Be aware of the challenges of environmental contexts and sustainable development.
PO6	**Ethics:** In their professional practices, students will have the ability to develop, internalize and exercise ethics.
PO7	**Effective Citizenship:** Having a clear understanding of issues and participating in civic life through volunteering.
PO8	**Research related skills:** Having the capacity to plan, execute and report on the results of an experiment.
PO9	**Develop and carry out** an experiment, demonstrating their understanding of the scientific method and processes.
PO10	**Acquire, analyze and interpret** diverse data using various instruments.

Programme Specific Outcomes (PSOs) - M. Sc. Zoology	
PSO1	**Demonstrate** a sound understanding of the fundamental concepts of Zoology, including the structure, function, and evolution of animals.
PSO2	**Apply** the principles of Zoology, mechanisms of metabolism, etc. to solve problems in the field, such as conservation, pest control, and environmental management.
PSO3	**Communicate effectively** about Zoological concepts to a variety of audiences, including students, scientists, policymakers and the general public.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- Microbiology	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	Postgraduates should demonstrate a deep **understanding** of the theoretical and practical concepts in their chosen field of study.
PO2	Postgraduates should be able to **analyze** complex problems, apply critical thinking skills, and develop innovative solutions based on their knowledge.
PO3	Postgraduates should be equipped with research methodologies, including data collection, **analysis**, and interpretation, allowing them to contribute to the advancement of knowledge in their field.
PO4	Postgraduates should be able to **apply their knowledge** and skills to real-world situations, adapting to changing circumstances and evolving technologies.
PO5	Postgraduates should be prepared for **continued learning** and professional development throughout their careers to stay up-to-date with the latest developments in their field.

Programme Specific Outcomes (PSOs) - M. Sc. Microbiology	
PSO1	Graduates should be **capable of applying** microbial processes for various biotechnological applications, including the production of enzymes, antibiotics, vaccines, and biofuels.
PSO2	Postgraduates should **possess knowledge and skills related to the diagnosis**, treatment, and prevention of microbial infections in clinical settings. This could involve working in hospitals, diagnostic labs, and public health agencies.
PSO3	Postgraduates should be **able to design and conduct** research projects in microbiology, including experimental design, data collection, analysis, and interpretation.
PSO4	Postgraduates should be **capable of applying microbial processes** to industrial applications, such as fermentation, bioconversion, and bioremediation.
PSO5	Postgraduates should **demonstrate a strong commitment to laboratory safety protocols** and quality control measures in microbiological research and experimentation.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES) of M. Sc.- COMPUTER SCIENCE	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	The Programme seeks to instill in students a deep and comprehensive knowledge of core computer science disciplines, advanced computer science concepts, theories, and principles, including algorithms, data structures, programming languages, AI, ML, cloud computing, advanced databases, FCD, SPM, and design patterns..
PO2	Graduates should be equipped with the ability to analyze complex problems in computer science, design innovative solutions, and implement them effectively.
PO3	The program aims to develop students' research skills, enabling them to evaluate existing research, contribute to knowledge in the field, and apply critical thinking to solve computational problems.
PO4	The program aims to cultivate a passion for research, encouraging students to engage in original research projects that contribute to the advancement of computer science knowledge and address real-world problems
PO5	Students are expected to gain proficiency in multiple programming languages and develop the ability to write efficient, reliable, and maintainable code.
PO6	Depending on the chosen track or concentration, students may develop expertise in areas.
PO7	Through hands-on projects, practical assignments, and exposure to state-of-the-art tools and technologies, we aim to develop the technical proficiency and problem-solving skills necessary for success in the professional world.
PO8	Graduates should be adept at presenting complex technical concepts clearly and effectively, both in written and oral forms, to various audiences.
PO9	Computer science professionals often work in multidisciplinary teams. Students should learn to collaborate effectively with team members, understand different perspectives, and contribute productively to achieve common goals.
PO10	The program places a strong emphasis on ethical considerations, responsible use of technology, and awareness of the societal impact of computing solutions. We aim to produce graduates who approach their work with integrity and a sense of social responsibility.

Programme Specific Outcomes (PSOs) - M. Sc. Computer Science	
PSO1	Demonstrate understanding of the principles and working of the hardware and software aspects of computer system.
PSO2	Design, Implement, Test and Evaluate a computer system components or algorithm to meet desired needs and to solve a computational problem.
PSO3	Students will be able to learn principles of management which includes organization, planning, product design, development, maintenance, marketing and project management.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

POs (PROGRAM OUTCOMES): M. A. - ENGLISH	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Critical Thinking and Analysis:** Demonstrate the ability to think creatively and solve problems effectively.
PO2	**Communication Skills:** Communicate effectively in both written and oral forms.
PO3	**Specialized Knowledge:** The M.A. program gives students the knowledge and ethical foundation they need to face life's challenges with humanity and courage.
PO4	**Advanced Critical Thinking:** Conduct original and advanced research in the chosen field of study.
PO5	**Interdisciplinary Knowledge:** Demonstrate a broad understanding of the liberal arts.
PO6	**Ethical and Social Responsibility:** Students should be proficient in conducting research. This includes skills in archival research, source analysis, and the use of primary and secondary sources to construct historical narratives
PO7	**Leadership and Innovation:** The program should encourage students to see India's literature within a global context, understanding how it has been influenced by and has influenced other regions and civilizations.
PO8	Students should be able to **effectively communicate** their literary knowledge and research findings through well-written essays, reports, and presentations. They should also have good oral communication skills.
PO9	**Apply ethical principles** and commit to professional ethics and responsibilities and general practices.
PO10	**Recognize the need** for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change learned to work collaboratively and productively in groups.

Programme Specific Outcomes (PSOs) - M. A. ENGLISH	
PSO1	**Advanced Literary Analysis:** Graduates will demonstrate advanced skills in literary analysis, including the ability to critically engage with complex texts, theories, and interdisciplinary approaches.
PSO2	**Original Research:** Graduates will be capable of conducting original and substantial research in English literature, contributing to the existing body of knowledge in the field.
PSO3	**Mastery of Literary Theory:** Graduates will possess a deep understanding of literary theories and be able to apply them effectively to diverse literary texts.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES): M. A. - HINDI	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**साहित्य और समाज के अंतःसंबंध की जानकारी:** प्रस्तुत पाठ्यक्रम पूर्ण करने के उपरांत छात्रों को साहित्य में प्रतिबिंबित सामाज के चित्रण का एहसास होगा। साथ ही साथ साहित्य में लेखक के समकालीन सामाजिक संदर्भों का आकलन होगा।
PO2	**प्रबुद्ध नागरिक बनने के लिए जागरूकता:** छात्रों द्वारा हिंदी साहित्य के पठन एवं उसमें निहित मूल्यों के तहत प्रबुद्ध नागरिक बनने के लिए जागरूकता हाँसिल की जाएगी।छात्र अपने सामाजिक उत्तरदायित्व के प्रति छात्र सचेत हो जाएँगे।
PO3	**सामाजिक एवं सांस्कृतिक चेतना :**पठित मध्यकालीन एवं आधुनिक साहित्यिक रचनाओं के आधार पर छात्रों में सामाजिक स्थितियों का यथार्थ एवं उसके सांस्कृतिक संदर्भों की समझ उत्पन्न होगी।
PO4	**भारतीय साहित्य का ज्ञान:** हिंदी के अतिरिक्त विविध भारतीय भाषाओं के साहित्य का ज्ञान अपेक्षित रहेगा जो छात्रों के व्यक्तित्व एवं अभिव्यक्तिगत विकास में सहायक होगा।
PO5	**भारतीय एवं पाश्चात्य साहित्य सिद्धांतों का विश्लेषण:** भारतीय एवं पाश्चात्य काव्यशास्त्र के विविध सिद्धांत समझकर उनका विश्लेषण एवं अनुप्रयोग करने की क्षमता का विकास छात्रों में संभव होगा।
PO6	**अनुसंधानात्मक दृष्टि का विकास:** हिंदी भाषा एवं साहित्य से संबंधित विविध विषयों में अनुसंधान कार्य हेतु तैयारी करने की प्रेरणा छात्र ग्रहण कर सकेंगे।
PO7	**संवैधानिक मूल्यबोध: आधुनिक काल की** विविध गद्य एवं पद्य साहित्य रचनाओं का भावार्थ समझकर उनमें समाविष्ट राष्ट्रभक्ति,समता,बंधुता,सामाजिक न्याय जैसे संवैधानिक मूल्य समझना छात्रों को संभव होगा।
PO8	**पर्यावरण चेतना:** पाठ्यक्रम में समाविष्ट साहित्यिक रचनाओं से संदेश ग्रहण करते हुए छात्रों द्वारा पर्यावरण संवर्धन और मानव जीवन को स्वस्थ बनाने में उसकी भूमिका के बारे में ज्ञान प्राप्त किया जा सकेगा।
PO9	**महिलाओं से संबंधित मुद्दों के बारे में जागरूकता :**विविध साहित्यिक रचनाओं के माध्यम से सामंती व्यवस्था में महिलाओं द्वारा सामना किए जाने वाले शोषण के रूपों के बारे में सोचते हुए नारी के शोषण का विरोध करने की क्षमता उत्पन्न होगी।
PO10	**व्यावसायिक कौशल की प्राप्ति:** हिंदी पत्रकारिता एवं जनसंचार माध्यम हेतु आवश्यक व्यावसायिक कौशल प्राप्त करना छात्रों को साध्य होगा।
PO11	**हिंदी भाषाविज्ञान की समझ:** हिंदी भाषा की प्रकृति को पहचानना और उसका विश्लेषण करने की क्षमता प्राप्त करते हुए भाषा का नए संदर्भो एवं परिस्थितियों में प्रयोग करने का कौशल प्राप्त करना छात्रों को संभव होगा।
PO12	**अभिव्यक्तिगत कौशल:** छात्रों द्वारा हिंदी भाषा एवं साहित्य की मौखिक एवं लिखित अभिव्यक्ति का कौशल प्राप्त किया जा सकेगा।

Programme Specific Outcomes (PSOs) - M. A. HINDI	
PSO1	सृजनात्मकता एवं संभाषण कला प्राप्त कर पाएँगे।
PSO2	साहित्य की विविध विधाओं का स्वरूपात्मक ज्ञान प्राप्त कर पाएँगे।
PSO3	अनुवाद, माध्यम लेखन एवं समाचार लेखनजैसे व्यावसायिक कौशल हाँसिल कर पाएँगे।
PSO4	हिंदी साहित्य के इतिहास से अवगत होंगे।
PSO5	साहित्यशास्त्र से परिचित होंगे।
PSO6	भाषाविज्ञान का सामान्य परिचय प्राप्त करेंग।

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

POs (PROGRAM OUTCOMES): M. A. – POLITICAL SCIENCE	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Knowledge Acquisition:** Acquire in-depth knowledge, and understand fundamental concepts and correlate various theories and practices in their domain area.
PO2	**Interdisciplinary Approach:** The program will familiarize the students with the socio-economic, political, historical, and linguistic perspectives by adopting an intercultural and interdisciplinary approach.
PO3	**Skill Development:** Develop communicative skills and job-oriented skills in students to be able to recognize, and articulate knowledge in real-life situations.
PO4	**Value System:** A strong sense of morals, human and social values to comprehend issues affecting the geo- socio-political, linguistic and economic framework.
PO5	**Environment Sustainability:** Creating awareness by incorporating issues in socio-cultural contexts along with environmental needs and concerns for sustainable development.
PO6	**Creative & Innovative approach:** The Programme will develop an ability to think creatively and adopt an innovative approach.
PO7	**Gender Sensitization:** The programme aims in inculcating values of equality, inclusivity and diversity, which are essential for building a healthy society.
PO8	**Logical Thinking and Scientific Temperament:** The programme engages in developing Logical Thinking and Scientific Temperament through curriculum.
PO9	**Use of Tools and Technology:** The students will be able to understand the importance and judicious use of technology for the sustainable growth of mankind in synergy with nature.
PO10	**Ethical Mindset:** Recognize and respect different value systems including one's own and others for unity in diversity.

Programme Specific Outcomes (PSOs) - M. A. POLITICAL SCIENCE	
PSO1	Understand the basic principles of politics.
PSO2	Awareness of their rights.
PSO3	Understand the new trends and study of political science such as LPG, Good Governess and political parties etc.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. ANagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

POs (PROGRAM OUTCOMES): M. A. - ECONOMICS	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Knowledge Acquisition:** Incorporate, understand and know the correlation between various theories and practices in their domain area.
PO2	**Interdisciplinary Approach:** The program will familiarize the students with the socio-economic and political, perspectives by adopting an inter-cultural and interdisciplinary approach.
PO3	**Collaborative Skills:** Students will be able to communicate and collaborate in professional and social settings.
PO4	**Skill Development:** Develop research skills in students to be able to recognize, articulate and evaluates research-based problems and also able to recommend suitable outcomes.
PO5	**Technical & Analytical Skills:** Analytical and Technical skills for applying theoretical knowledge to practical working of an economy at both micro as well as macro levels.
PO6	**Research Skills:** A research aptitude and skill for comprehend analyses and critically evaluate different economic issues and construct a research.
PO7	**Social and Human Values:** A strong sense of morals, human and social values to comprehend issues affecting to the social and economic framework.
PO8	**Mind Set:** The program will develop the importance of nurturing a healthy mind and body.
PO9	**Creative & Innovative Thinking:** The program will develop an ability to think creatively and adopt an innovative approach.
PO10	**Personality Development:** Make Student's inclusive personality development.

Programme Specific Outcomes (PSOs) - M. A. ECONOMICS	
PSO1	**Knowledge Acquisition and Policy Understanding:** A strong base and comprehensive knowledge of economic theories, ideologies and its application to real world and modern issues at national as well as international levels. Along with this An understanding of imperative economic policies and its role in pursuing the objectives of economic development, growth and stability.
PSO2	**Technical and Analytical Skills:** Analytical and Technical skills for applying theoretical knowledge to practical working of an economy at both micro as well as macro levels.
PSO3	**Research Skills:** A research aptitude and skill for comprehend analyses and critically evaluate different economic issues and construct a research.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's
K.J. Somaiya College of Arts, Commerce & Science
Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com
NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

POs (PROGRAM OUTCOMES): M. A. - GEOGRAPHY	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	Define and develop the interdisciplinary approach through the study of Geography
PO2	Enhance employability and entrepreneurial skills among the students.
PO3	Demonstrate and appreciate the importance of diverse cultural, economic, regional, and resource perspectives.
PO4	Realization of the importance of the relationship between Geography and various branches of Humanities and mental moral sciences.
PO5	Demonstrate and understand the important concepts and theories in the field of Geography.

Programme Specific Outcomes (PSOs) - M. A. GEOGRAPHY	
PSO1	Demonstrate knowledge of the physical and cultural features of the Earth's surface.
PSO2	Define basic disciplines of Geography and its sub-branches, with study points
PSO3	Discuss the basic concepts and terminologies used in Geography.
PSO4	Distinguish between minerals and rocks, weather and climate, interior of the Earth, basic industries and farming etc.
PSO5	Describe the causes and effects of local, national and international problems like global warming, acid rain, ozone depletion, soil degradation, deforestation etc.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1954 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. :

Date : / /202

POs (PROGRAM OUTCOMES): M. A. - HISTORY	
PO No.	**Statements**
On successful completion of this course the students will be able to acquire following skills:	
PO1	**Basic knowledge:** Apply and analyze the knowledge of social sciences.
PO2	**Problem Analysis:** Identify, understand terms and particular concepts. Identify, formulate and analyze complex ideas in the social sciences.
PO3	**Understand:** identify and analyzed the knowledge such as, code of conduct of society, manners, cultural issues, political issues, economical, historical and geographical etc.
PO4	**Critical Thinking:** Identify the assumptions, checking out the degree to which assumptions are accurate and valid looking out the correct perspectives.
PO5	**Effective communication:** Apply the basic knowledge to listen, speak, read and write clearly to understand English knowledge.
PO6	**Modern tool usage:** To understand and analyzed the knowledge of ICT in communications.
PO7	**Ethics and values:** Apply the ethical principles and understand the responsibilities of the societies.
PO8	**Communications:** To communicate effectively in the society such as being able to comprehend and write effective reports and design documents for making effective presentation and exchange clear information.
PO9	**Comparative Analysis:** Post Graduates should be capable of comparing Indian history with other world histories, recognizing connections, influences, and global contexts.
PO10	**Cultural Understanding:** A program in Indian history should foster an appreciation for the diversity of cultures, religions, and societies that have shaped the Indian subcontinent over the centuries.

Programme Specific Outcomes (PSOs) - M. A. HISTORY	
PSO1	**Historical Knowledge:** Graduates will demonstrate a comprehensive understanding of key historical events, movements, and developments across various time periods, regions, and cultures.
PSO2	**Research Skills:** Students will be proficient in conducting historical research, including the ability to locate, analyze, and synthesize primary and secondary sources, as well as apply appropriate research methodologies.
PSO3	**Cultural and Global Awareness:** Graduates will exhibit an understanding of the interconnectedness of historical events on a global scale and appreciate the role of culture in shaping historical developments.

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

K.J.Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)
Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)
☎ : 9146142000, 9146152000 **Email ID :** kjscollege@rediffmail.com, **Website :** kjscollege.com

NAAC ACCREDITED 'A' GRADE | AN ISO 9001-2015 CERTIFIED INSTITUTE
SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc.,Ph.D.) **Founder President : Late K. B. Rohamare** (Ex. M.L.A.)

Ref. No. : Date : / /202

PROGRAMME OUTCOMES (POs): THREE YEAR M. Com. PROGRAMME	
The following is a specification of the key programme outcomes that highlight important areas where students are expected to acquire skills:	
PO-1	Read, write, translate and practice language for enhance ability for business communication to drafting letters, applications and presentation.
PO-2	Describes, compute, compare and construct the accounting for partnership firms, company, charitable trust and accounting standards for accounting.
PO-3	Define, Describes, Explain, Apply, Analyze and Interpret knowledge. Theory and applications in the field of business economics at Indian as well as Global level
PO-4	Tabulate, compute, constructs, correlate and develop mathematical and statistical tools for business organization
PO-5	Define, Describes, Explain & Apply Computer tools and applications of Internet, M-Commerce, E-Commerce and Business Communication tools for smooth business operations.
PO-6	Define, describes, explain, discuss, evaluate, compare and review of business management tools for effective organization and management of business organisation
PO-7	Define, explain, correlate, consider, compare and formulate skills and knowledge in the field of tourism industry and allied development in commerce, communication and trade.
PO-8	Define, classify, explain, describes, discuss and determine knowledge, abilities and skills for developing marketing and salesmanship skills for improve organization performance.
PO-9	Define, Explain, describes, practice, write and appraise the skills and knowledge regarding oral and written communication skills for smooth operation of business
PO-10	Examine and discuss various acts and laws related to business organization
PO-11	Describes, compute, Report and evaluate the methods and techniques in auding the books of accounts of business organization and compute income tax for individual Assessee
PO-12	Define, explain, examine and prepare cost accounting records for develop cost reduction of the product for increase sales margin in successful business operations

Programme Specific Outcomes (PSOs) - M. Com.	
PSO1	Define, Explain, Evaluate, Prepare and examine the skills in the field of accounting and taxation
PSO2	Define, Explain, Evaluate, Prepare and examine the skills in the field of Business Administration
PSO3	Define, Explain, Evaluate, Prepare and examine the skills in the field of Commerce

Co ordinator
IQAC, K J. Somaiya College
Kopargaon, Dist. A.Nagar

K.J. Somaiya College of Arts Commerce & Science Estd. 1964 Kopargaon

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon