

Gokhale Education Society's
RNC Arts, JDB Commerce NSC Science College, Nashik
Road-422101

Bachelor of Business Administration (BBA)

Programme Outcome:

Students will be able to :

- Demonstrate knowledge of the functional areas of business.
- Demonstrate knowledge of the ethical obligations of business and apply them to business decisions.
- Describe global and economic environment of business.
- Demonstrate effective analytical and critical thinking skills in an organizational context.
- Work effectively in a team situation.
- Demonstrate the ability to write and orally present ideas effectively in Business English.
- Demonstrate specialized knowledge and competency in their respective area (Finance & Marketing).

Course Outcome:

After completing the BBA course students will get the following skills

- Managerial Skills
- Decision Making Skills
- Analytical Skills
- Communication Skills
- Marketing Skills

Career Opportunities after BBA:

- Usually after completing BBA students often opt for **MBA (Masters of Business Administration)** for their further study which is of two years.

- Competitive Exams such as **MPSC, UPSC, IBPS** etc.
- Government Departmental exams such as Railway, Note Press, Security Press, MSEB, Forest etc.
- M. Com, M. A

`G.E. Society's

RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE, NASHIK-ROAD

Department of Biotechnology

Programme Outcomes: B. Sc. Biotechnology

Programme Outcomes	<p>PO-1: B.Sc. Biotechnology programme is meant to give students a thorough understanding of the fundamentals of Biotechnology, including all its principles and perspectives.</p> <p>PO-2: Various branches of Biotechnology such as Chemistry, Physics, Biochemistry, Biophysics, Animal and Plant Science, Microbiology, Biomathematics and Biostatistics, Computers, Cell Biology, Molecular Biology, Metabolism, Environmental Biotechnology, Bioanalytical techniques, Immunology, Animal and Plant Development, Microbila Biotechnology, Industrial Biotechnology, Recombinant DNA Technology, Applied Biotechnology, Plant and Animal Tissue Culture, Biodiversity and systematics, Enzyme and Enzyme technology, Agricultural Biotechnology, Food and Pharmaceutical, bioinformatics, Bioethics & Bioethic, and IPR expose the various aspects of Biotechnology where the Students gain a broader understanding of the subject.</p> <p>PO-3: It helps them to Demonstrate, solve and an understanding of major concepts in all disciplines of Biotechnology and society.</p> <p>PO-4: The three year B.Sc. Biotechnology course curricula are separately classified to provide incremental progression.</p>
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	<p>PO-5: The practical activities performed in the laboratories teach students about numerous isolation and estimation techniques.</p>
	<p>PO-6: Knowledge related to Bioinstruments like gel electrophoresis, spectrophotometer, centrifuge, incubator, laminar air hood, COD digester, Muffle furnace, SDS, inverted microscope, shaker incubator, etc</p> <p>PO-5: Programme helps to derive green technology and sustainable development that will help society at large.</p> <p>PO-6: It helps in inculcating the scientific temperament in the students and outside the scientific community.</p> <p>PO-7: It helps in understanding modern techniques, equipment and Kit.</p>
Programme Specific Outcomes	<p>PSO-1: Students will understand the processes of several types of organic, inorganic reactions, Microbial techniques, aseptic transfer technique, Surface tension, viscometer, micrometer screw gauge, vernier caliper, fermentation technique, DNA isolation technique, etc.</p> <p>PSO-2: Students will help to comprehend theoretical knowledge Physics, Biophysics, Chemistry, Biochemistry, Genetics, Immunology, Environment and Biodiversity, Plant and animal development, Plant and animal tissue culture, Genetic engineering, etc.</p> <p>PSO-3: Biotechnology practical classes, help students to learn to estimate Biology samples both qualitatively and quantitatively using conventional methods of analysis.</p> <p>PSO-4: Students will learn how to manufacture Biology products by Fermentation, Plant Tissue Culture and Food Technology under optimal reaction conditions.</p> <p>PSO-5: Learn about different Biodiversity assessment using different indexes (Simpson and Shannon index), species richness, evenness, density, relative abundance through theoretical and practical knowledge.</p> <p>PSO-6: Students will help to comprehend theoretical knowledge Bioethical handling of Biological samples, levels Biosafety for specific microorganism, role of international Bioethical committees.</p> <p>PSO-7: IPR and its legal protection in research, tools of IPR, terminologies of IPR - Patent, copyright, trade mark, trade secret, Indian patent law, etc.</p> <p>PSO-8: Learn about online software (NCBI, EMBL, Hinden Markow Model) handling and analysis for finding sequence similarity, gene bank, and protein bank.</p>

	PSO-9: Recognize safe laboratory methods and procedures.
Course Outcomes B. Sc Biotechnology Semester I (2020-21)	
Course Outcomes	After completion of these courses students should be able to
BBt 101 Fundamentals of Chemistry	CO-1: The students will understand the Qualitative analysis, Quantitative analysis, Rate of the reaction, saponification, models of molecules, Titration reaction and separation techniques .
BBt 102 Fundamental of Physics	CO-1: Students will understand the basic concept of different physical properties like surface tension, viscosity, fluid mechanics, properties of waves, etc CO-2: Students will learn the Principles of Physics which will help them to apply it in other aspects of life.
BBt-103 Biochemistry I	CO-1: Students will understand the chemistry of different Biomolecules like Water, Carbohydrates, and Lipids.
BBt-104 Biophysics	CO-1: Students will learn the basics concept of atomic structure, radioactivity, etc. CO-2: Students will learn basic principles of different techniques.
BBt-105 Animal Sciences I	CO-1: Students will understand the classification of Animal Kingdom. CO-2: Students will learn about histological aspects. CO-3: Students will learn the different model organisms that will help them to use it practically.
BBt-106 Plant Sciences I	CO-1: Students will understand the classification of Plant Kingdom. CO-2: Students will understand modification in the plant kingdom as well as its reproductive system. CO-3: Students will learn about internal organ structure and internal organization of the plant body..
BBt-107 Microbiology I	CO-1: We can apply the knowledge of microbiology to understand the microbial physiology and to identify microorganisms. CO-2: to understand the regulation of biochemical pathways and possible process modification for improved control over microorganisms for microbial product synthesis.

BBt-108 Biomathematics and Biostatistics-I	CO-1: Students will learn Math and Statistics in relation to Biology. CO-2: Students will understand Fundamentals Mathematical Calculations, Matrices, Introduction to Statistics, Descriptive biostatistics, etc correlating with respect to Biology.
Course Outcomes B. Sc Biotech Semester II (2020-21)	
Course Outcomes	
BBt-201 Fundamentals of Chemistry II	CO-1: Students will learn concepts of Ionic equilibria, Chemical kinetics, Electrochemistry, and Basics of mole concept. CO-2: Students will learn theoretical knowledge of acid-base titration, rates of reactions, order of reaction, mole concept, normality, molarity, etc.
BBt-202 Biochemistry II	CO-1: Students will learn concepts of proteins, vitamins, enzymes and nucleic acids. CO-2: Students will learn about Biomolecules and its importances in Biotechnological techniques.
BBt-203 Bioinstrumentation	CO-1: Students will learn theoretical concepts spectroscopy, microscopy, separation techniques, and Bioinstruments. CO-2: Students will understand the Principles of Lamberts and Beer's law, Chromatography, microscopy, pH meter, Centrifuge, mass spectroscopy and Absorption spectroscopy. CO-3: Students will learn principles of thermoregulations, thermocouple, and body temperature regulation.
BBt-204 Animal Sciences II	CO-1: Students will learn concepts of metabolism, digestion, excretion, endocrine system, etc. CO-2: Students will understand the relation between Host and parasite and its symptoms and its treatment. CO-3: Students will learn the economic importance of apiculture, sericulture, vermiculture and aquaculture.
BBt-205 Plant Sciences II	CO-1: Students will understand the process of Permeability, Diffusion & imbibition, Osmosis & its types, osmotic pressure (OP), turgor pressure (TP) and wall pressure (WP) , DPD (Suction pressure), etc. CO-2: Students will understand plant metabolism, Photosynthesis, Nitrogen metabolism, Respiration, etc.

	<p>CO-3: Students will learn Growth and development of plants, Photoperiodism, Vernalisation, etc</p> <p>CO-4: Students will learn Economic importance of Cereals, Pulses, Oil seeds, Fiber plants, Medicinal Plants, Timber yielding, Beverages.</p>
BBt-206 Microbiology II	<p>CO-1: Students will learn how to Cultivate, grow and isolate of microorganisms, Preservation and Maintenance methods.</p> <p>CO-2: Students will learn Sterilization and Disinfection, pasteurization, Autoclave, Chemical Agents and their Mode of Action, Disinfectant, Antibiotics and other chemotherapeutic agents, etc.</p> <p>CO-3: Students will understand Microbial Interactions with Plant and animal</p>
BBt-207 Biomathematics and Biostatics-II	<p>CO-1: Students will learn Homogeneous and non-homogeneous linear equation system, Differentials equations, Homogeneous and non-homogeneous differential equations, etc.</p> <p>CO-2: Students will learn Differential Calculus, Integral Calculus, etc.</p> <p>CO-3: Students will understand Probability and probability distribution, Probability theory experiments, Discrete random variable, binomial distribution and the poisson distribution, Normal distribution and application in biosciences.</p> <p>CO -4: Students will understand Hypothesis testing and correlation, Purpose of hypothesis testing, data, assumptions and hypothesis, significance level, types of errors, etc</p>
BBt-208 Computer in biology	<p>CO-1: Students will learn history of Generations of computers (I, II, III, IV, V) Modern computers: The workstation, The Minicomputer, mainframe Computers, Parallel processing Computer & the Supercomputer, etc.</p> <p>CO- 2: Students will understand Data processing & presentation, Computer viruses, Internet searches, etc.</p>

	CO- 3: Students will learn Databases, E-R Model (Entity and entity sets; Relations and relationship sets; E-R diagrams; Reducing E-R Diagrams to tables), B + Tree indexed files, B Tree indexed files, etc.
Course Outcomes B. Sc Biotech Semester III (2020-21)	
BBt-301 Cell Biology	CO 1- students will understand cell theory basic structure function of cell in multicellular organization CO 2- roles of cell organelles cell death different method to understand the structure of cells
BBt-302 Molecular Biology	CO 1- understanding the central dogma of life nucleic acid organization CO 2- chromosomal organization, genetic code , replication transcription , translation of genes
BBt-303 Genetics	CO-1 Understanding the chemical basis of heredity. CO-2 Understanding how the genetic concepts affect broad social issues including health and disease, food and natural resources, environmental sustainability.
BBt-304 Metabolism	CO-1. It will help to understand role of enzymes which is a very important part of metabolic pathways. CO-2 It will help to understand the metabolism of biomolecules such as Carbohydrates, lipids, amino acids and nucleic acids.
BBt-305 Environmental Biotechnology	CO-1 Students will understand basic concepts of Environmental Biotechnology'. CO-2 Students will understand various types of Ecosystems, their structure and functions. CO-3. They will also understand how the knowledge of Biotechnology is useful in protection of Environment.
BBt-306 Bio analytical Techniques	CO-1 Students will learn the basic concept and principle behind bioanalytical techniques. CO-2 It will help to learn the theoretical part of every technique such as Chromatography, Electrophoresis, Spectrophotometer etc.
EVS- 231 AECC-I Environment science theory paper 1	CO-1 It helps to learn the components of Environment and how to conserve the use of ecosystem, natural resources etc. CO-2 Environment Protection awareness is created.
BBt-403 Immunology	CO1- Study of Immunology help to demonstrate the basic knowledge of immunological processes. CO-2 Outline, compare and contrast the key mechanisms and cellular players of innate and adaptive immunity and how they relate. CO-3 Understand and explain the immunological tolerance, autoimmunity and transplantation.

BBt-404 Animal Development	CO-1 Students will understand the basic concept of reproduction and development, gastrulation, blastulation. CO-2 The morphogenetic movements of developing tissue, the effect of maternal genes in pattern formation, stem cells and concept of aging.
BBt-405 Plant Development	
BBt-406 Microbial Biotechnology	CO-1 Apply the knowledge to understand the microbial physiology and to identify micro organism. CO-2 Understand the regulation of biochemical pathways and possible process modifications for improved control over microorganisms for microbial product synthesis.
Course Outcomes B. Sc Biotech Semester V (2020-21)	
BBt-501 Industrial Microbiology	CO-1 students will understand overall industrial fermentation process bioreactor design strain improvement techniques CO 2- it will help to understand media optimization tech and different bioprocess parameters
BBt-502 R- DNA technology	CO-1: Students will understand Introduction to Recombinant DNA Technology, history, basic layout of laboratory. CO-2: Students will understand Molecular tools used in Recombinant DNA Technology such as restrictions enzymes, ligases, etc. CO-3: Students will learn Vectors used in Recombinant DNA Technology like Plasmid, Phagemid, Cosmid, Agrobacterial Vectors – Ti plasmid, etc. CO-4: Students will learn construction of Genomic and cDNA Library, etc. CO -5: Students will learn process PCR, RT PCR, etc CO - 6: Students will learn Sequencing of Genes and Genomes, Sanger’s enzymatic method, Maxam- Gilbert Method, Automated DNA sequencing, etc CO-7: Student will understand Applications of Recombinant DNA Technology like Recombinant

	Biotherapeutics (Insulin production), Gene therapy, introduction to CRISPR/Cas9 as genome editing tool
BBt-503 Plant Tissue Culture	CO-1 it will help to understand basic concept of plant tissue culture ,different techniques basic facilities of present in PTC How to grow plants in bottles without soil in miniaturized scale
BBt-504 Animal Tissue Culture	CO1- students will understand how to grow animal cell lines in artificial media different equipments used in animal tissue culture CO-2 it will help to understand applications of animal tissue culture
BBt-505 Applied biotechnology I	CO-1: Students will understand the Biotechnology in Agriculture Waste Recycling, Waste Management, Biomass Briquetting. CO-2: Students will understand Biotechnology in Diagnosis Molecular Diagnostics, Immunodiagnostic techniques: DNA reporters, fluorogenic reporters, electro-chemiluminescent tags & label free immunoassays, etc. CO-3: Students will learn Marine Biotechnology, it's Significance, Marine derived pharmaceuticals, Marine actinobacterial metabolites & their pharmacological potential, Barophilic organisms & their applications, etc. CO -4: Students will learn the concepts of Nanobiotechnology, Introduction, what is Nanotechnology and Nanobiotechnology, Principles of nanoparticle synthesis using living organisms and characterization,etc.
BBt-506 Biodiversity and Systematics	CO 1- students will understand variety and variability of living organisms and how to calculate biodiversity CO 2- it will help to understand tools of techniques in biosystematics
BBt-507 SEC – I : Summer Industrial Internship / Review writing/ Start up Design or Case study Report	CO-1 students will get opportunity to work in biotech industry It will help to understand different techniques , processes, instruments used in biotech industry CO-2 at the end of the training they will get certificate which will help them in future
BBt-508 SEC – II : Project formulation and presentation	CO 1- students will experience research activity by doing different techniques by their own CO 2- students will explore different ideas and their knowledge for formulation of project

**Course Outcomes B. Sc Biotech
Semester VI (2020-21)**

BBt-601 Enzyme and Enzyme Technology	<p>CO 1- This subject will help to understand overall basics about enzymes</p> <p>CO 2- students will understand enzyme catalysis, kinetics, regulation, immobilization and applications in biosensor</p>
BBt-602 Agriculture Biotechnology	<p>CO 1- it will help to understand how to develop draught and herbicide tolerant varieties traditional and modern agriculture biotechnology</p> <p>CO 2- students will understand how to prepare biopesticides and biofertilizers</p>
BBt-603 Applied Biotechnology II	<p>CO-1: Students will learn Biotechnology in Environment, Generation of plant origin alternate fuels, 1st Generation Biofuels, 2nd Generation Biofuels, 3rd Generation Biofuel, etc.</p> <p>CO -2: Students will have perspective of Biotechnology in Human Welfare, Application to Forensic science, Genetically modified (GM) crops and food, GUARDIAN, etc.</p> <p>CO - 3: Students will learn Systems and Synthetic Biology in Biotechnology.</p> <p>CO -4: Students will learn about Stem Cell technology, etc.</p>
BBt-605 Bioinformatics	<p>CO-1: Students will learn History of Bioinformatics and its relationship with biotechnology.</p> <p>CO-2: Students will have theoretical knowledge about different databases, NCBI, DDBJ, GENBANK and EMBL, etc.</p> <p>CO -3: Students will learn Data Generation Tools like NGS Genome Sequencing, protein sequencing, NMR Spectroscopy, and Microarray, etc.</p> <p>CO -4: Students will understand Retrieval of Data, Classification and Presentation of Data, Quality of data, private and public data sources, file Format (Genbank, DDBJ, FASTA, PDB, SwissProt), introduction to Metadata and search; Indices and Boolean.</p> <p>CO -5: Students will understand sequence Alignments and Visualization, BLAST and FASTA Algorithm, Clustal-W, etc.</p>

	CO -6: Students will learn Protein structure and visualization tools, SPDBV, PyMol etc.
BBt-606 Bio safety and Bioethics and IPR	CO 1-it will help to understand basic principles of bioethics Regulatory bodies CO- 2 students will understand what is IPR ,GMOs , what are biosafety levels and good laboratory prtices
BBt-607 & 608 SEC – III & SEC – IV : Project	CO 1- students will get research ideas and methodology for scientific research CO 2- it will help to understand literature review objectives of this course in organization of research ideas, experiential learning through focused skill building activity

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Department of Chemistry

Programme Outcomes: B. Sc. Chemistry

Programme Outcomes	<p>PO-1: B.Sc. Chemistry programme is meant to give students a thorough understanding of the fundamentals of chemistry, including all principles and perspectives.</p> <p>PO-2: Various branches of Chemistry such as Organic Chemistry, Inorganic Chemistry, and Physical Chemistry, Analytical Chemistry Industrial and Bio Chemistry expose the various aspects of chemistry where the Students gain a broader understanding of the subject.</p> <p>PO-3: It help them to Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry.</p> <p>PO-4: The three year B.Sc. Chemistry course curricula are separately classified to provide incremental progression.</p> <p>PO-5: The practical activities performed in the laboratories teach students about numerous chemical reagents and reactions.</p> <p>PO-6: They are also taught about the dangers of toxic substances and how to administer first aid.</p> <p>PO-5. It helps to find out the green route for chemical reaction for sustainable development.</p> <p>PO-6. To inculcate the scientific temperament in the students and outside the scientific community.</p> <p>PO-7. Use modern techniques, decent equipment and Chemistry software's</p>
Programme Specific Outcomes	<p>PSO-1: Students will understand the processes of several types of organic and inorganic reactions and will attempt to predict the outcomes of unknown reactions.</p> <p>PSO-2: Students will comprehend the presence of matter in the universe as solids, liquids, and gases made up of molecules, atoms, and subatomic particles.</p>

	<p>PSO-3 Chemistry practical classes, help students to learn to estimate inorganic salt mixtures and organic compounds both qualitatively and quantitatively using conventional methods of analysis.</p> <p>PSO-4: Students will learn how to manufacture chemical compounds by manipulating reagent under optimal reaction conditions.</p> <p>PSO-5: Learn about different aspects of Green Chemistry through theoretical and practical knowledge.</p> <p>PSO-6. Study about nomenclature, stereochemistry, structures, reactivity, and mechanism, numerical problems and formulae</p> <p>PSO-7: Use contemporary chemical tools, models, chem-draw, charts, and equipment to create</p> <p>PSO-8. Recognize safe laboratory methods and procedures.</p> <p>PSO-9. Improve research skills. and awareness of and operate advanced instruments/equipment.</p>
<p>Course Outcomes B. Sc Chemistry</p> <p>Semester III (2020-21)</p>	
Course Outcomes	After completion of these courses students should be able to;
CH-331 Physical Chemistry	<p>CO-1. Expression for rate constant k for third order reaction</p> <p>CO-2. Graphical evaluation of energy of activation</p> <p>CO-3. Ohm's law and electrical units such as coulomb, Ampere, Ohm and Volt.</p> <p>CO-4. Understand the term additive and constitutive properties</p> <p>CO-5. Meaning and Types of equilibrium such as true or static, metastable and Unstable equilibrium</p> <p>CO-6: Solve the numerical problems based on this topic.</p>
CH-332 Inorganic Chemistry	<p>CO-1 The content of syllabus have been framed in such a way that student could be able to understand basic principles of chemistry</p> <p>CO-2 Syllabus inspired & boosted the interest of students towards chemistry as main subject.</p>

<p>CH-333 Organic Chemistry</p>	<p>CO-1 Definition and types of organic acid and base 2. The pka and pkb concepts 3. Effect of temperature on pka/pkb 4. Comparison between strengths of acids/bases 5. What is acid-base catalysis</p> <p>CO-2. To draw different types of disubstituted cyclohexane in Chair form 2. To distinguish between geometrical and optical isomerism 3. Stability, energy calculations with potential energy diagram and optical activity of these conformers</p> <p>CO-3. Definition and type of nucleophiles and leaving groups 2. Different types of nucleophilic substitution reactions</p> <p>CO-4. An S_Ni mechanism in presence and absence of pyridine</p> <p>CO-5. Orientation / rules in addition reactions , The structure of carbonyl group , Reactivity concept</p> <p>CO-6: To predict product/s or supply the reagent/s for such reactions.</p>
<p>CH-334 Analytical Chemistry</p>	<p>CO-1. Principles of common ion effect and solubility product CO-2. Methods of thermo gravimetric analysis</p> <p>CO-3. Principles of Spectrophotometric analysis and properties of electromagnetic radiations</p> <p>CO-4. Construction, working, advantages and disadvantages of DME</p> <p>CO-5. Precautions during filtration, drying and ignition of precipitate</p> <p>CO-6. Mathematical Statement and derivation of Lambert's Law and Beer's Law</p>
<p>CH-335 Industrial Chemistry</p>	<p>CO-1. Student will know the importance of chemical industry</p> <p>CO-2. The student will understand the various unit operations and unit processes in chemical industry and also gain the knowledge of various industrial aspects</p> <p>CO-3. The student will understand the manufacturing process of ammonia, sulphuric acid, nitric acid</p> <p>CO-4. The student will understand the physicochemical principles involved in manufacturing process of ammonia, sulphuric acid, nitric acid and know various uses of these chemicals.</p> <p>CO-5. The student will know the various petrochemical products, the extraction, purification and their uses</p>

	<p>CO-6. The student will understand the scope of food industry, food preservation and food additives</p> <p>CO-7 The student will understand the cement and glass manufacturing process, various types of cement and glass</p>
CH-336-C Biochemistry	<p>CO-1. The student will understand Cell types, structure and function of various cell organelles Concepts of biomolecules, Bonds in biomolecules.</p> <p>CO-2. The student will understand the types of carbohydrates and their Structure and biochemical significance</p> <p>CO-3. Know the types of lipids with examples, structure of lipids, properties of lipids</p> <p>CO-4. The structure and types of amino acids. Reactions of amino acids. Properties of amino acids.</p> <p>CO-5. Classes of enzymes, subclasses and examples. Enzyme Specificity, Equations of enzyme kinetics K_m and its significance, Enzyme inhibitions, industrial applications of enzymes.</p> <p>CO-6 Basic concepts of Endocrinology. Types of Endocrine glands and their hormones. Biochemical nature of hormones. Mechanism of action of lipophilic and hydrophilic hormones.</p>
<p>Course Outcomes B. Sc Chemistry</p> <p>Semester IV(2020-21)</p>	
Course Outcomes	After completion of these courses students should be able to;
CH-341 Physical Chemistry	<p>CO-1. Origin of EMF of electrochemical cell. iii. Conventions used to represent electrochemical cell.</p> <p>CO-2. The atom its nucleus and outer sphere. ii. Classification of nuclides with suitable examples such as isotope, isobar, isotone and isomers</p> <p>CO-3. Distinguish between crystalline and amorphous solids / anisotropic and isotropic solid</p> <p>CO-4. Concept of quantization, Atomic spectra iii. Wave particle duality</p> <p>CO-5. Solve the numerical problems based on this topic.</p>
CH-342 Inorganic Chemistry	CO-1 The content of syllabus have been framed in such a way that student could be able to understand basic principles of chemistry

	CO-2 Syllabus inspired & boosted the interest of students towards chemistry as main subject.
CH-343 Organic Chemistry	<p>CO-1 Definition and formation of carbanions 2. Possible mechanism of some known name reactions involving carbanions 3. Synthetic applications some reagents</p> <p>CO-2. Meaning of terms Disconnection, Synthons, Synthetic equivalence, Functional Group Interconversion, Target Molecule.</p> <p>CO-3. What is rearrangement reaction? , Different types of intermediate in rearrangement reactions?</p> <p>CO-4. Types of energy levels with diagram , Brief idea about the advantages of spectroscopic methods</p> <p>CO-5. Various terms used in UV spectroscopy ,What is the effect of conjugation on UV band , To calculation of λ max for dienes and enone systems</p> <p>CO-6: Various terms used in PMR spectroscopy</p> <p>CO-7: Various methods of isolation/extraction of these natural products.</p>
CH-344 Analytical Chemistry	<p>CO-1 i) Principles of solvent extraction. ii) Difference between KD and D iii) Various types of techniques of solvent extraction such as- (a) extraction (b) continuous extraction (c) counter current extraction.</p> <p>CO-2. Principle of chromatographic methods 2. Relation between theoretical plates and column efficiency</p> <p>CO-3. Principle of GSC and GLC analysis</p> <p>CO-4. Separation mechanism involved in adsorption and partition HPLC</p> <p>CO-5. Comparison between electrophoresis and chromatography</p> <p>CO-6: Difference between Nephelometry and Turbidimetry ,Application and numerical problems</p>
CH-345 Industrial Chemistry	<p>CO-1. The student will understand the concept of polymers, various terms in polymer chemistry</p> <p>CO-2. The student will understand the types of polymers, structures, types of polymers, synthesis of polythene, SBR, Nylon 6, Teflon etc.</p> <p>CO-3. The student will understand the importance of sugar industry, manufacture of cane sugar, refining of cane sugar, manufacture of ethyl alcohol from molasses, food grains, fruits, hydrocarbons.</p> <p>CO-4. The student will know the various types of alcoholic beverages- beer, rum, whisky etc</p>

	<p>CO-5. The student will understand the importance of soap and detergent industry, types of soaps, detergents and cosmetics.</p> <p>CO-6. The student will understand the various cosmetic products and additives used in soap, detergent and cosmetics</p> <p>CO-7. The student will understand the various types of pharmaceutical preparations, synthetic methods of synthesis of paracetamol, aspirin, sulphanilamide</p> <p>CO-8. The student will understand the various methods of pollution prevention and waste management, treatment of industrial waste</p>
CH-346-C Biochemistry	<p>CO-1. The student will understand the significance of metabolism and energetics. Role of ATP, metabolic pathways, various enzymes and coenzymes, energetic and features of the pathway.</p> <p>CO-2. The concepts of biological oxidation. Types of electron carriers and their location in mitochondria.</p> <p>CO-3. The structures of purines, pyrimidine, nucleosides and nucleotides, structural features of nucleic acid types and their role.</p> <p>CO-4. Central dogma of molecular biology. Experimental procedures that prove DNA as genetic material and its interpretations.</p> <p>CO-5. Features of semi conservative DNA replication, stepwise events involved in replication of DNA.</p> <p>CO-6 Stepwise events of transcription and translation of RNA</p> <p>CO-7 Applications of genetic engineering in various fields like agriculture, industries and medicine.</p>
<p>Course Outcomes B. Sc Practical Chemistry</p> <p>Semester III and IV(2020-21)</p>	
Physical Chemistry Practicals: CH- 347	<p>CO-1. To study the effect of concentration of the reactants on the rate of hydrolysis of an ester</p> <p>CO-2. To determine the molecular weight of a high polymer by using solutions of different concentrations..</p> <p>CO-3. To study the effect of addition of salt on critical solution temperature of phenol water System</p> <p>CO-4. To determine the transport number of cation by moving boundary method.</p> <p>CO-5. To determine the specific refractivity's of the given liquids</p> <p>CO-6 Determination of λ_{max} and concentration of unknown solution</p>

	CO-7 To determine the cell constant of the given cell
In Organic Chemistry Practical (CH-348)	CO-1 Encouraged students to know & verify principles experimentally & perform lab activities to improve the practical skills. CO-2 Syllabus also encouraged interdisciplinary approach of inorganic chemistry with bio-inorganic chemistry, medicinal chemistry, environmental chemistry, biology....etc.
Organic Chemistry Practical (CH-349)	Students are expected to find the- CO-1 Type, Separation of mixture, Preliminary tests, Physical constants, Elements and Functional groups of the given organic compound. CO-2 Purification of the sample by suitable method CO-3 Separation and qualitative analysis of the binary Mixtures should be carried out on micro scale using micro scale kits.

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Department of Chemistry

Programme Outcomes: M. Sc. Organic Chemistry

Programme Outcomes	<p>PO-1. A graduate with a Master's degree in Chemistry has in-depth and detailed functional knowledge of the fundamental theoretical concepts and experimental methods of chemistry.</p> <p>PO-2. The graduate has specific skills in planning and conducting advanced chemical experiments and applying structural-chemical characterization techniques.</p> <p>PO-3. Skilled in examining specific phenomena theoretically and/or experimentally, the graduate is able to contribute to the generation of new scientific insights or to the innovation of new applications of chemical research.</p> <p>PO-4. Work in the pure, interdisciplinary and multidisciplinary areas of chemical sciences and its applications.</p> <p>PO-5. Apply the knowledge to develop the sustainable and eco-friendly technology in Industrial Chemistry</p> <p>PO-6. Communicate scientific information in a clear and concise manner both orally and in Writing.</p>
Programme Specific Outcomes	<p>PSO-1 Gains knowledge about fundamental aspects of the elements of chemistry.</p> <p>PSO-2. Understands the background of organic reaction mechanisms, stereochemistry, complex chemical structures, organometallic chemistry, name reactions and separation techniques.</p> <p>PSO-3. Learns about the potential uses of organic chemistry, industrial chemistry, medicinal chemistry and green chemistry.</p> <p>PSO-4. Carry out experiments in the area of organic qualitative & quantitative analysis, small scale preparation of compounds, isolation of natural products, separation, derivatization, etc</p> <p>PSO-5. To educate and prepare post graduate students from rural and urban area who will get employment on large scale in academic institutes, R & D and Quality control laboratories of Indian</p>

	<p>chemical/pharmaceutical industries as well as multinational and forensic Laboratories</p> <p>PSO-6. In-depth knowledge helps students to succeed in competitive exams.</p> <p>PSO-7. Understand principles of different kinds of spectroscopic techniques & their applications.</p>
<p>Course Outcomes M. Sc Chemistry</p> <p>Semester III (2020-21)</p>	
Course Outcomes	After completion of these courses students should be able to;
CHO-350 Organic Reaction Mechanism and Biogenesis	<p>CO-1. In depth knowledge about organic chemical reactions with a focus on principles for effective synthetic strategies.</p> <p>CO-2. Understand the concept and definitions of Nucleophilic and electrophilic reactions and fundamentals of free radical reactions.</p> <p>CO-3. Have the core idea about advanced organic chemistry principles and reaction mechanisms</p> <p>CO-4. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals.</p> <p>CO-5. Develop interest in writing and finding mechanisms of new reactions.</p> <p>CO-6. Understand mechanisms in biological reactions that will help students to understand nature better.</p>
CHO-351 Structure Determination of Organic Compounds by Spectroscopic Methods	<p>CO-1. Students can interpret spectroscopic data for structure determination.</p> <p>CO-2. Analysis of stereochemistry of different organic compounds by using spectroscopic techniques such as NOE.</p> <p>CO-3. Understand principle of spectroscopy and analyze molecules by spectroscopic techniques.</p> <p>CO-4. Students can solve structural problems based on UV-Visible, IR, ^1HNMR, ^{13}CNMR and mass spectral data</p>

	CO-5. Determines the chemical environment using ¹ H and ¹³ C NMR spectra
CHO-352 Stereochemistry and Asymmetric Synthesis of Organic Compounds	CO-1. Helpful to study the spatial arrangement of the atoms in the molecule. CO-2. Students able to assign relative and absolute configuration of the different chiral compounds. CO-3. Conformational analysis of cycloalkanes, reactivity, chirality, interconversion & resolution CO-4. Introduction to asymmetric synthesis & basics of asymmetric organocatalysis. CO-5. To know Transition metal catalyzed homogenous asymmetric hydrogenation, hydroxylation & epoxidation
CHO-353(A) Protection - De- protection, Chiron approach and Carbohydrate	CO-1. Students can construct organic compounds (e.g. (S)-Propanediol, (R) & (S)-Epichlorohydrin, L(+)-Alanine, (-)-Multistriatin, etc.) by using Chiron approach. CO-2. Understanding concepts of selectivity, protection and deprotection, etc., helps students to become good organic chemists. CO-3. Awareness about basics & synthesis of carbohydrates. CO-4. It helps the students to emphasise the trends in synthesis of organic molecules.
Course Outcomes M. Sc Chemistry	
Semester IV(2020-21)	
Course Outcomes	After completion of these courses students should be able to;
CHO-450 Chemistry of Natural Products	CO-1. Have the core idea about advanced organic chemistry principles and theories to develop research oriented skills in applied organic chemistry. CO-2. Understand different Secondary metabolites and their importance. CO-3. Become familiar with many reagents used in organic synthesis. CO-4. Understand nature better by studying mechanisms in biological reactions.

	<p>CO-5. Understand various laboratory methods to determine structure of unknown organic sample.</p> <p>CO-6. Develop interest in Biogenesis of naturally occurring essential compounds.</p>
<p>CHO-451 Organometallic Reagents in Organic Synthesis</p>	<p>CO-1. It develops ability to apply organometallic reagents for synthesis of organic compounds</p> <p>CO-2. To gain knowledge about palladium catalyzed coupling reactions including mechanism and synthetic application</p> <p>CO-3. Use of transition metal based catalysts for different organic reactions.</p> <p>CO-4. Use of reagents for different reaction transformations and their applications in industry.</p> <p>CO-5. Understanding the reactivity and reaction mechanism of various organometallic compounds</p> <p>CO-6. It is also helps to developed research approach in students</p>
<p>CHO-452(A) Concepts and Applications of Medicinal Chemistry</p>	<p>CO-1. Medicinal Chemistry is introduced in postgraduate course which have basic grounding in chemistry.</p> <p>CO-2. This topic convey to student in interesting style, an understanding drug design and molecular mechanism by which drug act in the body.</p> <p>CO-3. This topic focuses to develop and build research mind of students for synthesis of an effective drug.</p> <p>CO-4. It also helps to those students who might be considering a future career in the pharmaceutical industry.</p>

**Program Outcomes, Program Specific Outcomes and
Course Outcomes**

Program	Program Outcomes
Program Outcomes	<p>After successfully Completing B.Com. programme, students will able to-</p> <ol style="list-style-type: none"> 1. In depth knowledge, understanding and skills in commerce. 2. Build a strong foundation of knowledge in different areas of Commerce. 3. Develop the skill of applying concepts and techniques used in Commerce for real life problems. 4. Inculcate reading, writing, speaking skills and Businesscorrespondence. 5. Creates awareness among society about Law and Legislations related to commerce and business. 6. Use effectively recent Trends in Business, Organizations and Industries. 7. Communicate effectively about Economic Environment of Country as well as World. 8. Use effectively practical skills in real life related to banking and corporate world. 9. Provides a platform for overall development and develop knowledge level and awareness about Recent Trends of World 10. Use new technologies effectively to communicate ideas in the area of commerce. 11. Critically evaluate new research findings, ideas, methodologies and theoretical frame work in specialized study. 12. Work collaboratively and productively in groups.

Program	Program Specific Outcome
Program Specific Outcomes	<ol style="list-style-type: none">1. Students will be able to apply basic skills learnt in commerce necessary for analysis of various problems in accounting, marketing, business economics, management and finance.2. Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.3. Students will able to demonstrate quantitative and qualitative knowledge in key areas of organization behavior.4. Students will able to evaluate national and international issue and discussion on economic, commercial and business related topics

Course Outcomes

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Semester I		
Subject Code	Subject Name	Outcome
111	Compulsory English – I	After completing this course, students will be able - 1.
112	Financial Accounting – I	After completing this course, students will be able - 1. Get basic knowledge of basic accounting concepts. 2. Understand process of dissolution of partnership firm. 3. Understand the process of conversion of single entry into double entry system. 4. Get knowledge about GST.
113	Business Economics – I	After completing this course, students will be able - 1. Be aware of concepts in micro economics and difference between micro and macro economics. 2. Get knowledge of cardinal and ordinal approach and concept of consumer surplus. 3. Get knowledge of law of supply and the determinants of law of supply 4. Understand the relation between revenue concepts
114	Business Mathematics and Statistics	
115 (A)	Organisation Skill and Development	After completing this course, students will be able - 1. Understand the concept of modern office, office organisation, communication and time management 2. Get knowledge records, classification of files, Different types of forms and digitization of records 3. Understand the meaning of Office Environment, Office Location and its Layout 4. Understand meaning and the role of Scientific Office Management
115 (B)	Banking and Finance	After completing this course, students will be able – 1. To understand knowledge of evolution of banking & structure of Indian Banking 2. To understand the primary and secondary functions of a bank 3. To know the process of opening and operating procedure of bank accounts. 4. To understand various methods of remittance.

<p>116 (B)</p>	<p>Marketing and Salesmanship – I</p>	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the meaning and concept of Market and Marketing 2. To get knowledge of Classification of Markets 3. Get proper insight of Product and Price Mix 4. Develop the skills of promoting a product alongwith gaining knowledge about the distribution channels
<p>116 (D)</p>	<p>Consumer Protection and Business Ethics – I</p>	<p>After completing this course, students will be able to -</p> <ol style="list-style-type: none"> 1. Define Consumerism and Consumer Movement and its nature and scope 2. Get idea about emerging issues about consumer protection and acquaint knowledge and skills for career opportunity. 3. Identify the legal provisions of Consumer Protection Act 1986 and study of Mechanism for redressal agency 4. To understand the concept of E- Commerce, its scope and limitations
<p>117</p>	<p>Additional English</p>	

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Semester II

Subject Code	Subject Name	Outcome
121	Compulsory English	
122	Financial Accounting – II	After completing this course, students will be able - <ol style="list-style-type: none">1. To classify the types, uses and installation of Accounting Software.2. To maintain Accounting Records of Charitable Trusts, Clubs, Hospitals and Libraries etc, and to prepare the Income and Expenditure Account, Balance Sheet, etc.3. To the concept of intangible assets and the methods of their valuation.4. To Understand the process and methods of leasing.
123	Business Economics (Micro) – II	After completing this course, students will be able - <ol style="list-style-type: none">1. To understand the concept and types of cost and to get knowledge about types of revenue2. To gain the knowledge about Pure and Perfect Competition as well as equilibrium of firm and3. To understand industry in short and long run and to understand the market structures under imperfect competition.4. To gain knowledge about the Ricardian Theory of Rent, Theory of Marginal Productivity and Concept of Quasi Rent. And to to understand meaning and types of Wages.
124	Business Mathematics and Statistics – II	
125(A)	Organisational Skills Development – II	After completing this course, students will be able - <ol style="list-style-type: none">1. Get the necessary skills of good Manager.2. Develop knowledge of communication skills and latest tools in communication

		<ol style="list-style-type: none"> 3. Acquire knowledge about the writing, presentation, interpersonal skills for effective formal corporate reporting. 4. Develop knowledge about the recent trends in communication technology and tools of office automation
125(B)	Fundamentals of Banking	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To learn about Lending Principles and Balance Sheet of a Bank 2. To learn about Negotiable instruments 3. To learn about Endorsement. 4. To acquire knowledge about current trends in Banking Technology
126 (C)	Marketing and Salesmanship – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. Acquire knowledge about Characteristics and Qualities of Salesmanship. 2. Gain practical knowledge of Stages in Process of Selling and can enhance their skills in the field of marketing. 3. Insights about Rural Marketing and its uniqueness. 4. Get knowledge about Various Recent trends in Marketing.
126 (D)	Business Ethics – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. Equip the skills to resolve the business problems with ethical norms. 2. Know about the global trends in different CSR activities. 3. Acquaint the knowledge of corporate governance and global business ethics. 4. Identify and apply the knowledge of sustainable development for educating people.
127	Additional English	

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Semester III

Subject Code	Subject Name	Outcome
231	Business Communication – I	After completing this course, students will be able - <ol style="list-style-type: none">1. To Study Meaning, Characteristics, Importance, Principles and Process of Communication and Barriers of Communication details2. To understand importance of Business letters and its essential qualities3. To acquire the fundamental knowledge about soft skills and understand elements of soft skills4. To understand Resume writing and Job application letter
232	Corporate Accounting – I	After completing this course, students will be able - <ol style="list-style-type: none">1. To develop Conceptual understanding about various accounting standards and its applicability in corporate accounting2. To develop Conceptual understanding about pre and Post – Incorporation Period and develop analytical skills about its accounting3. To understand Practical Application of financial statements along with various adjustment and understand revised format of company final accounts4. To understand the concept, need and methods of valuation of shares
233	Business Economics – I	After completing this course, students will be able - <ol style="list-style-type: none">1. To understand the concepts of macro economics2. To understand the basic concepts in National Income3. To understand the concept of employment and theory of output4. To impart the knowledge of Consumption function, Saving and Investment
234	Business management – I	After completing this course, students will be able -

		<ol style="list-style-type: none"> 1. To acquire knowledge about the importance of management and various management principles and thoughts 2. To develop knowledge of planning decision making. 3. To get acquainted with process of organizing & staffing. 4. To develop knowledge of Direction & communication skills.
235	Elements of Company Law – I	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the meaning of Company and Types of Companies. 2. To acquire the Knowledge of various stages in the Formation and Incorporation of a Company. 3. To understand the role and importance of various documents like Memorandum 4. To have Comprehensive insight about the capital of Company and various aspects of shares.
236 (A)	Business Administration - I	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the basics of business administration concepts, Meaning Commerce, functions of Administration. 2. To understand the various forms of business organizations 3. To understand the concept of Business Environment, its various aspects and its impact on business 4. To study the various stages in business promotion and important factors to be emphasized for Business Development
236 (B)	Banking and Finance – I	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the structure of Indian Banking System and analyze its role in Economics Development 2. To understand about the Central Banking in India 3. To understand of role and performance of Private Banking in India and analyze the challenges before Private Banks in India 4. To understand about Public Sector Banking in India and analyze the challenges before Public Sector Banks in India
236(C)	Business Law and Practice – I	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To get the basic knowledge of the MAPM Act 1963. Awareness about Marketing of Agricultural Produce 2. To gain insights of General Insurance 3. To provide legal recognition to all transactions conducted through electronic data exchange, electronic communication or other means of e-commerce.

		4. To Understand the process and methods of Registration, understand the regulation of conditions of work and employment in shops, and various establishments
236 (E)	Cost and Works Accounting –I	After completing this course, students will be able - 1. To understand the concept of Cost, Costing and Cost Accounting, trace the cost to cost centre and cost units 2. To Understand different elements of cost and learn to prepare a cost sheet 3. To understand the purchase procedure and its documentation 4. To understand the different methods of inventory control and to calculate EOQ , stock levels and inventory ratio
236 (H)	Marketing Management – I	After completing this course, students will be able - 1. To get the basic knowledge of Marketing Management. 2. To understand how marketing strategy plays a vital role in making today’s customers want to buy the products and services. 3. To plan and make the best possible utilization of all the human and physical resources so that predetermined marketing objectives of the firm can be achieved. 4. To explain value of Market Research and its impact in decision making.

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Semester IV

Subject Code	Subject Name	Outcome
241	Business Communication – II	After completing this course, students will be able - <ol style="list-style-type: none">1. To understand the Report Writing and Internal Correspondence, Office Correspondence, and Trade correspondence2. To understand the Recent Trends in Business Communication3. To acquire the fundamental knowledge about types of Business Letters and create ability among the students for Drafting of Business Letters4. To understand the Writing Formal Mails and Blog writing.
242	Corporate Accounting – II	After completing this course, students will be able - <ol style="list-style-type: none">1. To develop Conceptual Understanding of Holding Company Accounts and its practical application2. To Understand on the concept of Absorption of companies and its Practical application skills in the process of accounting for Absorption3. To gain practical knowledge of Liquidation process of Companies4. To acquire knowledge about forensic accounting and its implication
243	Business Economics(Macro) – II	After completing this course, students will be able - <ol style="list-style-type: none">1. To gain knowledge about Demand, Supply and Value of Money2. To understand the concept Inflation

		<ol style="list-style-type: none"> 3. To understand the concept and phases of trade cycle. 4. To understand Public Finance.
244	Business Management – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the importance of Motivation & Motivation theories and develop skills regarding retaining motivation 2. To learn the meaning of Leadership, Qualities of leader & Understanding followers and their views on various organizational matters 3. To understand the meaning of Co-ordination & steps in the process of control. 4. To acquire knowledge about the recent trends in Business Management i.e. Business Ethics, Corporate Governance, CSR.
245	Elements of Company Law – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To acquire the Knowledge of Management of Company and Types of Directors. 2. To have Comprehensive understanding about the Key Managerial Persons and CSR 3. To understand about different types of Company meetings and their different procedure 4. To be able to appreciate the emerging E Governance and E- filing under the Companies Act, 2013. Learn the winding up of company.
246 (A)	Business Administration – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To develop a better understanding of the legal compliances in business 2. To understand the term productivity and its importance in business administration 3. To develop an understanding of the various forms of liasoning required in business administration 4. To get acquainted with the growth strategies of business
246 (B)	Banking and Finance – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the Co-operative Banking structure in India 2. To understand the functions and analyze the role of development Banking in India. 3. To understand various concepts of Banking 4. To understand the Goals and measures of Banking Reforms in India and analyze the role of various committees on Banking Sector reforms
246 (C)	Business Law and Practice - II	<p>After completing this course, students will be able -</p>

		<ol style="list-style-type: none"> 1. To Understand the order and laws for development of cooperative societies in the state of Maharashtra. 2. To help the students to gain insights of Life Insurance 3. To create more awareness about prevented practices that adversely affect competition, and to maintain competition in markets and protect the interests of consumers. 4. To Understand the concepts of dispute, Disputes that relate to the terms and conditions of employment or no employment or employment of a person.
246 (E)	Cost and Works Accounting – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand different pricing methods used for issuing the material and gain knowledge about the documents used in store departments. 2. To Understand the difference between salary and wages, know the methods of time keeping and time booking, calculation wages and incentives and understand meaning and components of payroll. 3. To understand the labour turnover, job analysis and evaluation 4. To understand the concept of direct cost and recent trends in cost and management accounting
246 (H)	Marketing Management – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the core principles required to create competitive advantage in the marketplace by implementing innovative green marketing strategies. 2. To understand Professionals working in E-Marketing to design and implement Internet marketing plans. 3. To understand how and why to use digital marketing for multiple goals within a larger organization 4. To expand student’s knowledge of significant strategic marketing techniques this will give them great advantage to develop their career in marketing.

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Semester V

Subject Code	Subject Name	Outcome
351	Business Regulatory Framework – I	After completing this course, students will be able - <ol style="list-style-type: none">1. To understand the concept of Contract and its contents, nature and performance and breach of Contracts.2. To understand the nature of partnership, Rights and duties of Partner, handling the registration and dissolution of the partnership and get basic knowledge about LLP3. To get Compressive understanding about the sale of Goods Act and get knowledge about ownership and delivery of goods.4. To get Comprehensive insight about the emerging trend of Arbitration and conciliation and its regulatory mechanism
352	Advanced Accounting- I	After completing this course, students will be able - <ol style="list-style-type: none">1. To develop conceptual understanding about various Accounting Standards and its applicability and basic introduction to IFRS – Fair Value Accounting.2. To get conceptual understanding about accounting for capital restructuring in the form of internal reconstruction.

		<ol style="list-style-type: none"> 3. To understand the various legal provisions regarding banking companies and the procedure regarding preparation of final accounts of banking companies. 4. To understand the meaning of different costs incurred in investment business and get the knowledge and skill regarding Investment Accounting.
353	Indian and Global Economic Development	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To become aware of concept of Development and also compare Indian Economy with other developed and competitive economies 2. To get the knowledge about varied aspects of agricultural sector in India. 3. To get idea about importance and status of Industrial Development in Indian Economy and the latest policies for Industrial development in India. 4. To get the knowledge about importance and status of Service Sector and Infrastructure Development in Indian Economy
354	Auditing	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the concept of Auditing, Various type of Audit, to find out Errors frauds and help to improve internal control system in business organization 2. To know the procedure of vouching, Verification, and Valuation use for audit and to know the terms used in Audit Report, Certificate and Auditing Assurance Standard. 3. To understand work as Company Auditor as per Companies Act 2013 and provisions of audit under Income Tax Act 1961 used for Conduct Tax Audit. 4. To get knowledge of Computerized Systems and Forensic Audit used for new techniques applicable for new business trends
355(A)	Business Administration – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To develop Conceptual understanding and Conceptual Clarity Learning of the Latest development in Human Resource 2. To contribute to the development, implementation, and evaluation of employee recruitment, selection, and retention plans and processes. 3. To understand the basics of career development and succession planning 4. To understand the basics of performance appraisal

355 (B)	Banking and Finance – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the Indian Financial System and understand the meaning, structure and role of Financial System in India. 2. To understand the meaning, functions, credit instruments, deficiencies and recent development in Money Market in India. 3. To understand the meaning, definition functions, credit instruments, deficiencies and recent development in Capital Market in India 4. To understand the meaning, definition functions, participants and recent development in Foreign Exchange Market.
355 (C)	Business Laws and Practices – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understanding of evolution & historical legal framework of Labour Laws in India. 2. To get the basic knowledge about various provisions under factories Act 1948. 3. To gain insights of the Employees State Insurance Act,1948. 4. To learn various provisions & applications of the Employees Provident funds & Miscellaneous Provisions Act, 1952.
355 (E)	Cost and Works Accounting – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the concept of Overhead and classification of overheads and able to relate the cost Accounting Standard with respective overheads. 2. To understand the stages in the process of accounting overheads and to calculate total departmental overheads after implementing primary and secondary Distribution. 3. To get conceptual understanding of under and over absorption and understand accounting treatment for under and over absorption. 4. To identify overheads as per various activities.
355(H)	Marketing Management – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. Get a comprehensive understanding of the key factors in demand and sales forecast. 2. To familiarize with application of the concept & need of marketing in Non-profit organization. 3. To understand marketing organization and its changing role. 4. To understand the concept and importance of Building Brand Strategy, as well as its relationship in reviewing to competitive advantage.

356 (A)	Business Administration – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To get knowledge of corporate finance and basic knowledge Indian Financial System 2. To understand meaning, nature characteristics, scope steps and importance of financial planning 3. To get knowledge about capitalization, its concepts and capital structure and factors affecting capital structure 4. To understand the different sources of capital and the concept of risk and return
356 (B)	Banking and Finance – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the Banking Regulation Act 1949 with Objectives and selective Provisions. 2. To understand the Provisions of Negotiable Instruments Act, 1881 3. To understand the Objectives, Importance, Selective Definitions and Provisions Insolvency and Bankruptcy 4. To understand the details Banking Ombudsman Scheme, 2006
356 (C)	Business Laws and Practices – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To have the understanding of the basic aspects of Customs Law and various procedures involved in importation and exportation of goods 2. To get acquainted with Constitutional Background of GST Laws ,definitions & concepts under CGST Act, 2017 3. To understand Applicability & Registration under GST, learn the online Registration procedures under Goods & Service Tax Laws and understand the Administration of GST 4. To get knowledge of Accounting & Books to be maintained under GST, understand applicability of Audit under GST and the various Offences & Penal Provisions under GST Laws
356 (E)	Cost and Works Accounting – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understanding of important concepts in Marginal Costing and develop the ability to make short-term decisions with the help of Marginal Costing. 2. To understand the basics of Budget and Budgetary Control and get an idea of how to prepare different types of Budgets 3. To understand essential concepts of Uniform Costing and Inter-Firm Comparison.

		4. To familiarize with MIS and SCM and understand the basic concept of SCM
356 (H)	Marketing Management - III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To get conceptual clarity of the meaning of advertising and get the knowledge about Advertising Media 2. To get knowledge about the appeals and approaches in Advertisement and to acquaint themselves with direct and indirect appeals 3. To understand the Effects of Advertising on Production Cost, Distribution Costs and Consumer Prices and develop the knowledge of Economic and Social and Regulatory Aspects of Advertising. 4. To get Conceptual clarity of meaning of brand and impart knowledge about Brand identity, Brand Extension and Brand loyalty.

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Semester VI

Subject Code	Subject Name	Outcome
361	Business Regulatory Framework	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand meaning, concept and importance of negotiable instrument. 2. To get comprehensive understanding about the EContracts, E-Commerce and their legal aspects 3. To understand consumer rights, unfair trade, ways and means to seek justice under Consumer Protection Act 2019. 4. To understand Meaning, Importance of Intellectual Property Rights and understand Definition, Concept of various types of IPRs like Patents, Copyright, Trademark, Designs etc.
362	Advanced Accounting – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To develop the skill regarding preparation & presentation of final accounts of Credit Co-op. Societies & Consumer Co-op. Societies. 2. To develop conceptual understanding about accounting for different branches.

		<ol style="list-style-type: none"> 3. To develop conceptual understanding about forensic accounting, corporate social responsibility, derivative contracts and artificial intelligence in accounting. 4. To develop analytical skills & decision making skills of students through analysis of financial statements.
363	Indian and Global Economic Development	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand about concept of Human Resources Development and HDI 2. To get the knowledge about Foreign Capital and issues related to Foreign capital in India. 3. To become aware about the situation of Foreign Trade and Balance of Payments. 4. To get the knowledge about International Financial Institutions and Regional Economic Cooperation
364	Auditing and Taxation – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the concept of Income and tax on Income, Income tax provision and tax payable for the development of the country 2. To know the procedure of computation of income under different heads of income and tax payable on the income. 3. To understand the calculation of total income and tax payable by individual person. 4. To know the e-filing due dates, recent changes in income tax provisions.
365 (A)	Business Administration – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To develop the understanding of marketing type of market & evolution of marketing concept amongst the students to update students with the knowledge of varied dimensions of branding & price management 2. To inculcate the knowledge amongst the students on various aspects of promotion, distribution & recent trends in the field of marketing. 3. To get knowledge on the various elements of marketing mix & market segmentation. 4. To get conceptual understanding amongst the on the topic of core product basic product, expected product & product life cycle.
365 (B)	Banking and Finance – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. Understand basic concept of stock market, types of stock, IPO, FPO.

		<ol style="list-style-type: none"> 2. To understand the basic concept and types of stock trading. 3. To understanding the functions and working of Non -Banking Financial Institutions in India . 4. To understand the role of SEBI in financial Market and Understanding the role of IRDA in Insurance Sector
365 (C)	Business Laws and Practices – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the historical development of Company law 2. To gain insights of prevention of oppression & mismanagement. 3. To get awareness about Inspection and Investigations and study & understand the Compromise and Arrangement in detail. 4. To understand the rules of Corporate Governance in detail.
365 (E)	Cost and Works Accounting – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the various methods of costing and develop the ability to prepare a job cost sheet 2. To understand the concept of contract costing and understand the process of calculation of profit on incomplete contracts 3. To prepare process accounts and understand the basic concept of CAS 19: Joint cost 4. To understand the concept of service costing and prepare a cost sheet for transportation services, hospital and hotel organization
365 (H)	Marketing Management – II	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand meaning of agricultural marketing, identify its problems and find solutions for the same 2. To familiarize the students with the different marketing regulations in India. 3. To understand the factors that has led to the growth of global marketing. 4. To get an insight on cyber security marketing in today’s digital world.
366 (A)	Business administration – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To get acquainted with knowledge of Production Management and Production Functions. 2. To get equipped with knowledge for efficient Inventory Management and the recent development in the area Inventory Management.

		<ol style="list-style-type: none"> 3. To get introduced to the concept of Quality Management and get motivated to adopt quality management even in the regular lifestyle. 4. To get updated with the knowledge of Logistics Management.
366 (B)	Banking and Finance – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the concept and types of cyber-crimes in banking 2. To understand the concept of paying and aspects of paying and collecting banker. 3. To understand the relationship between banker and customers 4. To understand the legal aspects of bank advances
366 (C)	Business Laws and Practices – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the legal provisions relating to declaration and payment of dividend and Learn about the conditions which need to be fulfilled before declaring dividend out of accumulated reserves 2. To get acquainted with preparation and maintenance of books of account etc. to be kept by company and understand the various concepts related to National Financial Reporting Authority (NFRA). 3. To understand the procedure for appointment of auditors, their removal, resignation, eligibility, qualifications, disqualifications and remuneration and Know the powers and duties of auditors 4. To get to know the provisions relating to the appointment of directors, number of directors, resident director, appointment of woman director and others and understand about the Director Identification Number (DIN), its allotment and other matters relating to DIN
366 (E)	Cost and Works Accounting – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To understand the basic concepts of Standard Costing and learn to calculate variances 2. To understand the Principles of product Pricing and Pricing Policy and learn to calculate the Selling price under different pricing methods 3. To understand the application of Cost Accounting Standards and to understand Cost Management practices in the Agricultural and IT sectors 4. To understand the compliance about the preparation of Cost Accounting records U/S 148 of

		Companies Act 2013 and to get understanding of Cost Audit and Role of a Cost Auditor
366 (H)	Marketing Management – III	<p>After completing this course, students will be able -</p> <ol style="list-style-type: none"> 1. To get knowledge about the concept Service Marketing. 2. To understand the art and craft of creating advertisements for various media. 3. To get introduced various Social Media Marketing. 4. To get Conceptual Clarity of Marketing Control and get knowledge about Marketing Audit.

**Program Outcomes, Program Specific Outcomes and
Course Outcomes**

Program	Program Outcomes
Program Outcomes	<p>After successfully completing M.com course, student will be able to –</p> <ol style="list-style-type: none"> 1. Aware the internal and external effects in developing business strategy. 2. Express an understanding of the tools and techniques necessary for research in Business. 3. Trained the students’ well-acquainted regarding current financial structure. 4. Versatile the nature of HRM and the study of linkage between labour and management. 5. Inculcated students to acquire sound knowledge, concept and structure of capital market and financial services. 6. Develop competence with their usage in managerial decision making and control. 7. Identify the role of production and operation functions in business. 8. Illustrate the implications of various financial ratios in decision making. 9. Correlate the manufacturing technology and its role in developing business. 10. Criticize the business ethics and professional values in running business. 11. Gain ability to solve problems relating to Company Accounts, Valuations and special types of situations. 12. Equip with the advanced knowledge of techniques and

Program	Program Specific Outcomes
Program Specific Outcomes	<ol style="list-style-type: none"> 1. Students will be able to apply basic skills learnt in commerce necessary for analysis of various problems in management accounting, strategic management and Production & Operation Management. 2. Students will demonstrate progressive affective domain development of values, the role of advanced accounting in society and business. 3. Students will able to demonstrate quantitative and qualitative knowledge in key areas of Industrial Economics and Human resource management. 4. Students will able to evaluate national and international issue and discussion on income tax, business tax and corporate related topics.

Course Outcomes

M.Com Part I		
Semester I		
Subject Code	Subject Name	Outcome
101	Management Accounting	<p>After successfully completing this course, student will be able to</p> <ol style="list-style-type: none">1. Explain the concepts of Management Accounting in organizational business environment.2. Demonstrate various tools of financial statements of organizational financial performance3. Illustrate methods of financial statement analysis of an organization.4. Assess different types of ratios of organizational financial performance.5. Estimate the cash flow of liquidity capacity of firm.6. Assess minimum working capital required for running organization.7. Describe concept and types of responsibility centre accounting for management controlling.8. Calculate sources and applications of funds of organization
102	Strategic Management	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none">1. Describe different approaches of strategic decision making in corporate environment.2. Describe various strategies of business and factors affecting on it.

		<ol style="list-style-type: none"> 3. Analyze techniques of organizational strengths, weakness, opportunities and threats (SWOT). 4. Analyze effectiveness and its utilization in corporate strategic planning. 5. Illustrate the different alternatives of corporate strategies. 6. Develop allocation of resources for defining corporate strategy of business. 7. Describe the different functional strategies for organizational effectiveness. 8. Evaluating the Strategic Performance with actual performance.
103	Advanced Accounting (SP – I)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe conceptual framework of accounting in business. 2. Describe Professional development of accounting in India. 3. Estimate the consolidated financial statements of holding and subsidiary types of companies. 4. Prepare statement of affairs for liquidation of company. 5. Explain the different methods of valuation of shares of company. 6. Differentiate different methods of valuation of goodwill of organization. 7. Interpret the concept of national and international branch account. 8. Prepare final statement of liquidation of company.
104	Income Tax (Sp – II)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe Income Tax structure in India. 2. Compute the Income from salary of individual person from different background. 3. Demonstrate the problems on Income from House Property. 4. Illustrate income from various types of business and profession.

		<ol style="list-style-type: none"> 5. Demonstrate the problems on Income from Capital gain. 6. Describe income from different sources of an individual. 7. Solve problems on total taxable income. 8. Examine assessment of firms and their partners related to calculation of tax.
113	Productions and Operations Management(Sp –I)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe recent trends in production and service system. 2. Describe different plant layout of production and operation management 3. Discuss process of product design of production function. 4. Illustrate techniques and tools of product development. 5. Identify production planning in production management. 6. Describe different concept of product control. 7. Illustrate role of Total Quality Management in production and operation management. 8. Summarize concepts of Quality circle, TQM, & GMP as a Quality management.
114	Financial Management (Sp – II)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Identify financial system in India & recent changes. 2. Illustrate role of RBI & SEBI in Indian financial system. 3. Discuss capital budgeting techniques for financial decision making. 4. Illustrate capital budgeting methods of investment decisions. 5. Interpret financial statement & its utility of business firm. 6. Describe limitations of financial statements in financial analysis. 7. Explain concept of working capital management. 8. Identify concept of inventory management & receivable management.

M.Com Part I

Semester II

Subject Code	Subject Name	Outcome
201	Financial Analysis and Control	After successfully completing this course, student will be able to – <ol style="list-style-type: none">1. Describe concepts of capital budgeting.2. Compute different tools and techniques to identify capital budgeting.3. Explain Tabulated measurement of cost of capital.4. Interpret expression view of marginal costing.5. Evaluate practical problems on marginal costing which correlates to BEP and P/V analysis.6. Illustrate short run managerial decision analysis.7. Distinguish concept of budget and budgetary control.8. Comparative study of different variance analysis.
202	Industrial Economics	After successfully completing this course, student will be able to – <ol style="list-style-type: none">1. Explain concepts of industrial economics.

		<ol style="list-style-type: none"> 2. Describe relationship between industrial and economic development. 3. Classify factors influencing industrial location. 4. Explain major factors affecting industrial efficiency. 5. Compare private and public industrial profile and their problems. 6. Describe structure of Indian industries. 7. Explain role of Micro, Small and Medium Enterprises. 8. Summarize concept of industrial imbalance.
203	Specialized areas in Accounting (SP- III)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Explain contract accounting for government constructions of business. 2. Interpret preparation of contract accounts. 3. Describe accounting for corporate restructuring. 4. Illustrate Special Features of Accounting for Educational. 5. Demonstrate service sector accounting in different areas of business. 6. Illustrate issues arrives with financial statements of companies. 7. Explain corporate financial reporting in different streams. 8. Evaluate accounting for corporate taxation.
204	Business Tax Assessment and Planning (SP – IV)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. State the concepts of tax assessment according to profitable, non- profitable and co-operative business. 2. Explain the tax problems on assessment of profitable, non- profitable and co- operative business. 3. Describe Income Tax authorities and its structure in India. 4. Solve problems on Tax Deducted at Source. 5. Explain concept of tax planning and management. 6. Describe the theory and problems on wealth tax. 7. Describe concept of GST.

		8. Describes registration of GST of tax payer.
213	Business Ethics and Professional Values (SP – III)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Identify concept of business ethics, profession and values. 2. Define factors affecting on social ethics. 3. Describe Indian Ethical Practices in marketing, advertising and Employment. 4. Illustrate unethical practices in Gender discrimination and accounting disclosures. 5. Describe concept of corporate governance in business. 6. Summarize concept of Corporate Social Responsibility in business ethics. 7. Illustrate Indian approaches to business ethics. 8. Examine new values in Indian industries after economic reform 1991.
214	Knowledge Management (SP – IV)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Demonstrate concepts of knowledge management. 2. Describe evolution of knowledge management. 3. Summarize drives of organizational learning. 4. Illustrate organizational learning frame work. 5. Illustrate knowledge management tools. 6. Describe cultural change management. 7. Examine organizational culture for organization development. 8. Criticize measuring organizational cultural and climate Norms.

M.Com Part – II

Semester III

Subject Code	Subject Name	Outcome
301	Business Finance	After successfully completing this course, student will be able to - <ol style="list-style-type: none">1. Define concepts of business finance in Indian Financial System.2. Identify categories of business finance.3. Illustrate role of strategic financial planning in business finance.4. Distinguish comparison between over Capitalization & under capitalization.5. Discuss companies Act 2013.6. Classify sources of long term finance.7. Define concept of short term finance.8. Illustrate role of working capital in the business organization.

<p>302</p>	<p>Research Methodology for Business</p>	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Define concepts of Research in business. 2. Interpret different steps in business research process. 3. Rewrite formulation of research problem in writing of research report. 4. Illustrate various sample and sampling methods in business research. 5. Distinguish primary and secondary methods of data collection for research. 6. Describe various techniques of data processing in research. 7. Explain writing skill for research project report in business. 8. Describe various ways of citation & bibliography for writing of report in business.
<p>303</p>	<p>Advanced Auditing (SP – V)</p>	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe concepts of auditing in a business. 2. Differentiate valuation and verification of assets and liabilities of company. 3. Explain the overview of accounting Standard setting process. 4. Describe concept of internal control system in an organization. 5. Express audit of private limited companies. 6. Describe concept of corporate governance of business. 7. Discriminate role of audit committee in an organization. 8. Estimate Computerized Information System environment of business.
<p>304</p>	<p>Specialized Areas in Auditing (SP – VI)</p>	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe concepts of audit under tax laws. 2. Describe classification of Audit as internal audit. 3. Explain audit of different banks. 4. Illustrate audit report of banks. 5. Describe internal control of auditing.

		<ol style="list-style-type: none"> 6. Describe audit report of cooperative societies. 7. Describe government system of audit. 8. Explain role of Controller and Auditor General of India.
313	Human Resource Management (SP –V)	<p>After successfully completing this course, student will be able to -</p> <ol style="list-style-type: none"> 1. Describe concept, approaches, and functions of HRM in Indian business context. 2. Identify concept of HR environment in organization. 3. Illustrate different methods of recruitment of organization. 4. Interpret training process in business organization. 5. Classify methods of performance appraisal. 6. Explain concept of merit rating in Human Resource Management. 7. Classify different kinds of retirement. 8. Differentiate new trends in customer service management.
314	Organizational Behavior (SP – VI)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Define concepts of organizational behaviour. 2. Illustrate role of information technology in an organization. 3. Identify concept of Horizontal network and virtual design of organization. 4. Describe Attributes of personality & dimensions of attitude. 5. Classify theories of motivation. 6. Define concept of emotional intelligence in the workplace. 7. Differentiate various types concept of stress, conflict and groups. 8. Classify different types of teams & team building.

M.Com Part – II

Semester IV

Subject Code	Subject Name	Outcome
401	Capital market and Financial Services	After successfully completing this course, student will be able to –

		<ol style="list-style-type: none"> 1. Elaborate and define capital market instruments. 2. Differentiate forward, future and option contracts. 3. Explain stock market in detail. 4. Illustrate functions of primary and secondary market in financial market. 5. Classify different types of mutual funds. 6. Describe concept of portfolio management and credit rating. 7. Illustrate role of SEBI in financial intermediaries. 8. Demonstrate recent trends in Securities and Exchange Board of India.
402	Industrial Economic Environment	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Define concept of industrial finance. 2. Explain new industrial policy 1991. 3. Demonstrate effects of new industrial policy on industry. 4. Illustrate industrial development & environmental problems. 5. Explain different issues in information technology. 6. Describe present position of IT industries in India. 7. Interpret concept of industrial relations. 8. Assess causes of industrial disputes.
403	Recent Advances in Accounting, Taxation and Auditing (SP – VII)	<p>After successfully completing this course, student will be able to -</p> <ol style="list-style-type: none"> 1. Describe International Financial Reporting Standards. 2. Enumerate corporate governance. 3. Describe forensic accounting. 4. Illustrate Employee Stock Options accounting. 5. Explain Accounting for Intellectual Property Rights. 6. Describe environmental accounting. 7. Record provisions for direct tax. 8. Describe non-financial reporting requirements.

404	Project Work (Advanced Accounting and Taxation)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe concepts of Research in business. 2. Prepare synopsis for project report. 3. Construct formulation of research problem. 4. Modify sample and sampling methods. 5. Classify primary and secondary methods of data collection. 6. Describe analysis and interpretation of data. 7. Rewrite report in different areas. 8. Summarize modes of citation & bibliography
413	Recent Advances in Business Administration (SP – VII)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Define concepts of change management. 2. Describe dimensions and approaches of change management. 3. Demonstrate concept of Total quality management. 4. Define six sigma techniques in quality management. 5. Describe Global management system and its significance. 6. Illustrate role of merger and acquisition in corporate organization. 7. Interpret techniques of turnaround management strategies. 8. Analyse key steps in innovation management.
414	Project Work (Business Administration)	<p>After successfully completing this course, student will be able to –</p> <ol style="list-style-type: none"> 1. Describe concepts of Research in business. 2. Prepare synopsis for project report. 3. Construct formulation of research problem. 4. Modify sample and sampling methods. 5. Classify primary and secondary methods of data collection. 6. Describe analysis and interpretation of data. 7. Rewrite report in different areas. 8. Summarize modes of citation & bibliography.

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RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE, NASHIK-ROAD

Department of Economics

Programme Outcomes: B.A. Economics

Programme Outcomes	<p>Indian Economic Development Sem 5</p> <p>Course Learning Outcomes At the end of the course the learner will have ability –</p> <ol style="list-style-type: none">1)To relate and recognize the concept and indicators of Economic Development.2)To describe and analyze the concept and indicators of Human Development.3)To explain the characteristics of Developing and Developed Countries.4)To describe the constraints to the process of Economic Development. <p>Indian Economic Development Sem 6</p> <p>Course Learning Outcomes At the end of the course the learner will have ability-</p> <ol style="list-style-type: none">1)To describe and explain the process of Economic Planning.2)To describe and examine the changing structure of planning process in India.3) To describe and explain the relation between Economic Development and Environment <p>International Economics Sem 5</p> <p>Course Learning Outcomes At the end of the course the learner will have Ability</p> <ol style="list-style-type: none">1)To relate and recall the concepts of International Economics and International Trade.2)To describe and apply the theories of international trade.3)To explain and comprehend the issues relating to Terms of trade and Balance of Payment. <p>International Economics Sem 6</p> <p>Course Learning Outcomes: At the end of the course, the learner will have-</p> <ol style="list-style-type: none">1)Ability to relate and explain the concept of Exchange Rate and Foreign Exchange Market.2)Ability to describe the trends in Growth, Composition and Direction of
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	<p>India's Foreign Trade.</p> <p>3)Ability to comprehend the issues relating to Foreign Capital and Regional and International Co-Operation.</p> <p>Public Finance Sem 5</p> <p>Course Learning Outcomes At the end of the course the learner will have ability-</p> <p>1)To relate and recognize the Nature and Scope of Public Finance.</p> <p>2)To describe and analyze the concept of Public Revenue and its components.</p> <p>3)To explain types of Public Expenditure and reasons for rising Public Expenditure.</p> <p>4)To explain the types of Public Debt and its effects.</p> <p>Public Finance Sem 6</p> <p>Course Learning Outcomes At the end of the course the learner will have ability</p> <p>1)To explain and assess the components and instruments of Fiscal Policy.</p> <p>2)To relate to the concepts of Budget and its components.</p> <p>3)To describe and analyze the concept of Deficit Financing and its effects.</p> <p>3)To describe and explain the Centre and State Financial Relationship.</p>
<p>Programme Specific Outcomes</p>	<p>Indian Economic Development</p> <p>PSO-1: Students will understand the meaning of Economic Development.</p> <p>PSO-2: Economic Development help students to learn to How to achieve Development in all sectors of the Economy.</p> <p>PSO-3: Students will learn how to compare Development in all sectors of the Economy.</p> <p>PSO-4: Learn about different aspects of Development.</p> <p>PSO-5 Students can explain the indicators of Economic Development.</p> <p>PSO-6 Students can explain the characteristics of Developing and Developed Countries.</p> <p>PSO-7 Students can understand and explain the constraints to the process of Economic Development.</p> <p>PSO-8 Students can explain the process of Economic development and Planning.</p> <p>PSO-9 Students can describe and explain the relation between Economic</p>

Development and Economic Environment.

International Economics

PSO-1: Students will understand the meaning of International Economics.

PSO-2: International Economics help students to learn to How to develop International Business.

PSO-3: Students will learn how to compare Local Nd International Trade.

PSO-4: Learn about different aspects of International Economics.

Public Finance

PSO-1: Students will understand the meaning of Public Finance.

PSO-2: Public Finance help students to learn to How to earn more public earning for the Economy.

PSO-3: Students will learn how to compare Public finance and Individual finance.

PSO-4: Learn about different aspects of Public Finance.

**G.E. Society's
RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE, NASHIK-ROAD**

DEPARTMENT OF ELECTRONIC SCIENCE

Programme Outcomes of B.Sc (ELECTRONIC SCIENCE)	<p>PO-1: The goal of the three-year course is to instill in students a Confidence that they can get a grip of the subject and apply it for designing, testing and analyzing systems.</p> <p>PO-2: The course will also make use of problem-solving approach wherein the students will be trained to apply the acquired knowledge to design and analyze circuits for specific applications.</p> <p>PO-3: The students will be familiarized with programming Languages, various development tools, modeling and simulation tools through lab sessions.</p>
Course Outcomes (Electronic Science)-Semester-III (2020-21)	
Course Outcomes	
EL-231: Paper – I: Communication Electronics	<p>This course provides basic knowledge of analog (continuous wave) and digital communication systems . After study through lectures and assignment, student will be able to</p> <p>CO1 Understand different blocks in communication systems, types of noise in communication systems and its different parameters</p> <p>CO2 Understand need of modulation, modulation process and amplitude modulation and demodulation methods</p> <p>CO3 Analyse generation of FM Modulation and demodulation methods and comparison between amplitude and frequency modulation</p> <p>CO4 Identify different radio receivers and their performance parameters.</p> <p>CO5 Solve problems based on AM and FM performance parameters</p> <p>CO6 Compare pulse modulation techniques such as PAM, PPM, PWM and compare TDM and FDM techniques used in communication</p> <p>CO7 Understand need of sampling and sampling theorem as well as know about performance parameters of digital communication</p> <p>CO8 Analyze difference between ASK, FSK , PSK as well as PCM and its applications</p>

EL-232: Paper- II: Digital Circuit Design	<p>This course provides basic knowledge about systematic methodology of designing digital systems. After study through lectures and assignment, student will be able to</p> <ul style="list-style-type: none"> CO1 Distinguish between different logic families based on their performance parameters CO2 Analyze basic combinational logic circuits for simple applications CO3 Design combinational logic circuits using K maps for identified applications CO4 Design Sequential logic circuits using state diagram, excitation table for identified applications CO5 Understand and compare different types of ADC and their performance parameters using data sheets/manuals CO6 Understand and compare different types of DAC and their performance parameters using data sheets/manuals
Course Outcomes (Electronic Science)-Semester-IV (2020-21)	
Course Outcomes	
EL-241: Paper - I: Analog Circuit Design	<p>This course provides basic knowledge about systematic methodology of designing analog systems. After study through lectures and assignment, student will be able to</p> <ul style="list-style-type: none"> CO1 Design single/multistage amplifier using transistor and analyze their frequency response base on gain-bandwidth product due to coupling /bypass capacitors CO2 Classify and compare different power amplifiers CO3 Understand and design push pull amplifier and need of heat sinks CO4 Distinguish between Opamp Feedback circuits based on their configurations CO5 Analyze the effect of negative and positive feedback on characteristics of Opamp CO6 Understand and analyze the need of positive feedback in oscillator circuits CO7 Design , develop and build circuits for identified applications
EL-242: Paper II: Microcontroller and Python Programming	<p>This course introduces students with microcontroller using Arduino as well as develops programming ability using python language . After study through lectures and assignment, student will be able to</p> <ul style="list-style-type: none"> CO1 Identify the features and architectural details of microcontroller(arduino) CO2 Write code/program using open source programming

	language(arduino) for basic identified applications
CO3	Understand programming basics of python programming language
CO4	Understand special features of python programming language such as importing modules, directory, tupules
CO5	Design , build and implement applications using arduino and python

RNC Arts, JDB Commerce & NSC Science College, Nashik-Road,
Nashik

Department of English

Programme Outcome: B. A. English

After completing the course, the UG students will be able to-

- i. Write grammatically and stylistically correct English
- ii. Speak intelligible English with correct accent and tone
- iii. Interpret literary texts using standard critical tools
- iv. Analyse literary and cultural texts to explain their ideological underpinnings
- v. Explore the subtle relationship between history, culture and literary production

Programme Outcome: M. A. English

After completing the course, the PG students will be able to-

- i. Prepare various types of documents in internationally acceptable English
- ii. Speak internationally acceptable English with accuracy and proficiency to meet various professional requirements
- iii. Develop catholicity of taste so as to understand and appreciate literary productions of different cultures both in terms of their unique singularity and implied universal appeal
- iv. Choose and apply suitable literary/cultural theories to selected literary texts to release their intrinsic value in the context of changing cultural and economic paradigms

UG Course Outcome

Class: F. Y. B. A.

Subject: Compulsory English

(w. e. f- 2019- 2020)

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

1. To understand the pieces of prose and poetry in English so that they realize the beauty and communicative power of English
2. To understand the varied cultural experiences and situations and analyze the same independently to gain the better understanding of human values and its dire need in present times
3. To develop their linguistic competence and communicative skills

Class: F. Y. B. A
Subject: Optional English
(w. e. f- 2019- 2020)

1. To understand the basics of literature and language
2. To learn the minor forms of literature in English
3. To appreciate the creative use of language in literature
4. To learn the basics of phonology of English and pronounce better and speak English correctly
5. To improve their language skills
6. To develop oral and written communicative skills

Class: S. Y. B. A.
Subject: Compulsory English
(w. e. f- 2020- 2021)

1. To experience the native cultural experiences and situations in order to develop human values and social awareness
2. To improve their competence in using the English language effectively
3. To learn the soft skills and its effective use in their practical life.
4. To polish their communication skills and use the same effectively
5. To gain the varied cultural experiences through literature and develop the independent thinking within

Class: S. Y. B. A.
Subject: Appreciating Drama (S-1)
(w. e. f- 2020- 2021)

1. To learn the elements and the types of drama.
2. To learn the literary and the performing dimensions of drama
3. To study the masterpieces of English Drama from different parts of the world
4. To evaluate drama independently

Class: S.Y.B.A.
Subject: Appreciating Poetry (S-2)
(w. e. f- 2020- 2021)

1. To learn the usage of terminology in poetry criticism
2. To appreciate the pieces of prose and poetry in English
3. To understand the native cultural experiences and situations in order to develop human values and social awareness

4. To learn the aesthetics of poetry and appreciate and critically evaluate poetry independently

Class: S.Y.B.A.

Subject: Advanced Study of English Language (G-2)
(w. e. f- 2020- 2021)

1. To understand the various components of language
2. To develop overall linguistic competence in the usage of language
3. To learn the advanced areas of language study
4. To enhance communicative skills of students by developing insights into the working of language

Class: T. Y. B. A.

Subject: Compulsory English
(w. e. f- 2021- 2022)

1. To build their competence in using the English language effectively
2. To use the soft skills effectively in their day-today life and become the competent users of English in real life situations
3. To gain the varied cultural experiences through literature and develop the capacity to co-exist in diversity.

Class: T. Y. B. A.

Subject: Appreciating Novel (S-3)
(w. e. f- 2021- 2022)

1. To understand the basics of novel as a literary form
2. To learn the historical development and nature of novel
3. To understand and appreciate the different types and aspects of novel
4. To develop literary sensibility and sense of cultural diversity

Class: T. Y. B. A.

Subject: Introduction to Literary Criticism (S-4)
(w. e. f- 2021- 2022)

1. To understand the basics of Literary Criticism
2. To learn the nature and historical development of criticism
3. To explain the significant critical approaches and terms
4. To interpret literary works in the light of the critical approaches
5. To develop aptitude for critical analysis

Class: T. Y. B. A.
Subject: Enhancing Employability Skills (G-3)
(w. e. f- 2021- 2022)

1. To get the awareness of career opportunities available to them.
2. To identify the career opportunities suitable to them.
3. To understand the use of English in different careers.
4. To develop competence in using English for the career of their choice.
5. To enhance skills required for their placement.
6. To use English effectively in the career of their choice.
7. To exercise verbal as well as nonverbal communication effectively for their career

PG Course Outcome

Class: M.A. English I (w. e. f- June 2019-20)

Subject: Paper – 1.1 English Literature from 1550-1798

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

- 1) Learn the major movements and figures of English Literature.
- 2) Enhance literary sensibility and emotional response to the literary texts and sense of appreciation of literary texts.
- 3) Develop the artistic and innovative use of language employed by the writers.
- 4) Enhance literary and linguistic competence

Class: M.A. English I (w. e. f- 2019-20)

Subject: Paper - 1.2 English Literature from 1798 to the Present

- 1) Learn the major movements and figures of English Literature.
- 2) Enhance literary sensibility for appreciating artistic and innovative use of language.
- 3) Instill values and human concern through exposure to literary texts.
- 4) Enhance literary and linguistic competence.

Class: M.A. English I (w. e. f- 2019-20)

Subject: Paper – 1.3 Contemporary Studies in English Language

- 1) Learn the basic tools essential for systematic study of language.

- 2) Gain the knowledge of the basic concepts and issues in linguistics.
- 3) Learn various sub-disciplines of linguistics.
- 4) Learn the use of English with confidence and with a better understanding of its appropriate social applications.

Class: M.A. English I (w. e. f- 2019-20)

Subject: Paper - 1.4 Literary Criticism and Theory

- 1) Learn the major movements and figures of Indian Literature in English through the study of literary texts.
- 2) Enhance literary sensibility and emotional response to the literary texts.
- 3) Learn the artistic and innovative use of language employed by the writers.
- 4) Develop their capacity and intelligence to understand values and human concerns through exposure to literary texts.
- 5) Enhance literary and linguistic competence.

Class: M.A. English II (w. e. f- 2020-21)

Subject: Paper – 3.1 Indian Writing in English (Core Paper)

1. Learn the various phases of the evolution in Indian Writing in English (i.e. the major movements and figures of IWE).
2. Learn the writings of different Indian writers and appreciate the variety and diversity of Indian Writing in English.
3. Analyse, evaluate and critically appreciate the corpus of Indian Writing in English and the socio-political and cultural contexts in which the works were written and received.
4. To understand the human values and develop literary sensibility through exposure to IWE texts.

Class: M.A. English II (w. e. f- 2020-21)

Subject: Paper – 3.2 Applied Linguistics

- 1) Learn about the field of Applied Linguistics.
- 2) Understand the relationship between language learning theories, teaching methods, production of course materials and language testing.
- 3) Learn how linguistic concepts can be applied to the study of literature.
- 4) Learn to use the literary tools of language that may be used in translation, textual analysis, etc.

Class: M.A. English II (w. e. f- 2020-21)

Subject: Paper – 3.6 American Literature

- 1) Learn about the major texts that led to the evolution of American literature as an independent branch of literature in English.
- 2) Understand with the issues and problems America has gone through and how they find expression in her literature.
- 3) Learn about some of the major conflicts, struggles and movements that are closely connected with the experiences of a group of people struggling to establish their space within the nation.
- 4) Analyse the rich diversity of American writing independently

Class: M.A. English II (w. e. f- 2020-21)

Subject: Paper – 3.8 World Literature in English

- 1) Learn some of the important literary texts of the world.
- 2) Grasp the knowledge of the socio-cultural aspects of the regions from where the texts are chosen.
- 3) Able to compare the authors of the world with Indian Writing in English or the writers in their own languages.
- 4) Learn various techniques employed by the authors and how the techniques are adopted by Indian authors.
- 5) Learn to undertake research in comparative literature.

G.E. Society's
RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE, NASHIK-ROAD
Department of Geography
Programme Outcomes: B.A. Geography

Programme Outcomes	<p>PO-1 Demonstrate in-depth knowledge and understanding about the fundamental concepts, principles and theories in various fields of Geography</p> <p>PO-2 Recognize and understand the various processes in branches of Physical and Human Geography.</p> <p>PO-3 Develops various skills related to Practical Geography like map making & reading, diagrams etc.</p> <p>PO-4 Demonstrates true values of leadership, co-operation, hard work, teamwork, etc. during the field works, surveys and field visits</p> <p>PO-5 Solve local human and physical problems with application of their geographical knowledge and understanding.</p>
Programme Specific Outcomes	<p>PSO-1 Students completing this course will have understanding of Physical and Human Geography.</p> <p>PSO-2 Students will acquire introductory knowledge of theoretical courses like Geomorphology, Climatology, Oceanography, Economic Geography, Regional Geography, Agricultural Geography, etc.</p> <p>PSO-3 Students will acquire practical skills of Geographical Analysis and techniques in Spatial Analysis.</p> <p>PSO-4 Students will have exposure in the field</p> <p>PSO-5 Students will be able to solve environmental problems through thorough understanding of the subject.</p>
<p>Course Outcomes BA Geography</p> <p>Semester III (2020-21)</p>	
Course Outcomes	After completion of these courses students should be able to;
Gg: 310(A) Geography of Disaster Management-I	<p>CO-1 To introduce students the concept of disaster & its relation with Geography</p> <p>CO-2 To acquaint the students with the utility & application of hazards in</p>

	<p>different areas & its management</p> <p>CO-3 To make the students aware of the need of protection & disaster management</p>
Gg: 320 (A) Geography of India -I	<p>CO-1 To acquaint the students with geography of our Nation.</p> <p>CO-2 Student can know about their own countries land formation, climate and natural vegetation.</p> <p>CO-3 Student can know about their own countries drainage pattern</p> <p>CO-4 To make the student aware of the magnitude of problems and Prospects at National level.</p>
Gg: 301(A) Practical Geography – I (Techniques of Spatial Analysis)	<p>CO-1 To introduce the basic concepts and techniques of Geographical Analysis.</p> <p>CO-2 To introduce the students with SOI Toposheets and acquire the Knowledge of Toposheet interpretation.</p> <p>CO-3 To introduce the students with Weather Maps and acquire the Knowledge of its interpretation.</p> <p>CO-4 To introduce the students with Aerial Photographs and Satellite Images and acquire knowledge to interpret it .</p> <p>CO-5 To acquaint students with the spatial and structural characteristics of Practical Geography.</p> <p>CO-5 To explain the elementary and essential principles on field of practical work.</p>
(Value/skill based course) Research Methodology – I	<p>CO - 1 Develop the understanding of the basic concept of research</p> <p>CO - 2 Develop the understanding of the basic framework of sampling and data collection</p> <p>CO -3 Develop the understanding of various sampling methods and techniques</p>
<p>Course Outcomes BA Geography</p> <p>Semester IV(2020-21)</p>	
Course Outcomes	After completion of these courses students should be able to;
Gg: 310(B)	.

Geography of Disaster Management-II	<p>CO-1 Understand the definition, classification of hazards and disasters</p> <p>CO-2 Gain knowledge about approaches to hazard study</p> <p>CO-3 Develop an idea about factors, consequences and management of earthquake, landslide, and flood and riverbank erosion.</p> <p>CO-4 Acquire knowledge about human induced disaster.</p> <p>CO-5 To acquaint the students with the utility & application of hazards in different areas & its management.</p> <p>CO-6 To make the students aware of the need of protection & disaster management</p>
Gg: 320(B) Geography of India -II	<p>CO-1 To acquaint the students with cultural setting of our Nation.</p> <p>CO-2 To make the student aware of the Transportation& Communication system, resources and agriculture of the nation.</p> <p>CO-3 To help the students to understand the inter relationship between the subject and the society.</p> <p>CO-4 To help the students to understand the recent trends in regional studied</p>
Gg: 301(B) Practical Geography – II (Techniques of Spatial Analysis, Surveying and Excursion / Village Project Report	<p>CO-1 Inculcate the ability to evaluate geographical problems effectively</p> <p>CO-2 Understand the basics of data collection and, processing for the meaningful outcomes</p> <p>CO-3 Understand the selection of proper sampling techniques for the collection of data</p> <p>CO-4 Explain the elementary and essential principles on field of practical work.</p> <p>CO-4 Apply their knowledge about primary and secondary data collection to prepare their survey report.</p>
(Value/skill based course) Research Methodology – II	<p>CO- 1 Identify various sources of information for data collection.</p> <p>CO -2 Understanding of the conducting survey on various issues and develop the Report writing skill of students</p>

G.E. Society's
RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE, NASHIK-ROAD

Department of History

Programme Outcomes: B.A. & M.A. History

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Syllabus carried out by the department as per the S.P.P. University guideline is helpful to understand student about our glorious history Ancient to Modern period which creates awareness amongst the students to conserve various sources of the history like Forts, Original documents etc.

Our Department provides basic knowledge of syllabus as well as Local History, the various branches of Social Sciences and its relationship with History to understand the students in the contemporary scenario.

The Departmental programmes are useful to obtain recent knowledge of history to understand man and his relationship with the society.

मराठी भाषा घेऊन रोजगाराच्या संधी

मराठी बी.ए.:

१. शिक्षण क्षेत्र : अध्ययन व अध्यापन.
२. भाषिक कौशल्य विकास व व्यक्तिमत्व विकास.
३. स्पर्धा परीक्षांसाठी अत्यंत उपयुक्त.
४. वाङ्मयीन लेखन.
५. अनुवादक
६. अन्य भाषिकांना मराठी अध्यापनासाठी उपयुक्त.

मराठी एम.ए.:

१. सर्व प्रसारमाध्यमांसाठी लेखन.
२. शैक्षणिक साहित्य आणि संसाधन निर्मिती.
३. विविध प्रसारमाध्यमांमध्ये रोजगाराच्या संधी.
४. संशोधन क्षेत्रामध्ये संधी.
५. जाहिरात, जनसंपर्क आणि लेखन क्षेत्रामध्ये उपयुक्त.
६. मनोरंजन क्षेत्रामध्ये संहिता लेखन.

Gokhale Education Society's
R.N.C. Arts J.D.B. Commerce & N.S.C. Science College Nashik Road-422101

Department of Physics

Department of Physics is one of the pioneering departments of the college having the undergraduate course in physics of the SavitriBai Phule Pune University (formerly known as University of Pune). In the three years course of B.Sc. physics one has to undergo 20 theory papers, 4 practical papers and 1 project. At F.Y. B.Sc., student has to study 4 theory papers and practical having semester pattern. S.Y. B.Sc. has 4 theory papers with 2 papers in each semester and semester practical. If student opts for physics as a principal subject he has to undergo 12 theory papers (six papers per semester), 2 practicals and 1 project. Following are the details of the theory papers and the corresponding outcome of the papers, practicals and project.

1	Third Year	Mathematical Methods in Physics-II	Semester-III	In this course students studies curvilinear coordinates, spatial theory of relativity, differential equation and special functions.
2		Solid State Physics		In this course students undergoes the study of the crystalline state, X-ray diffraction and characterization techniques, free electrons and band theory of matte and magnetism
3		Classical Mechanics		In this course student's studies mechanics of system of particles, motion in central force field, scattering of particles and Lagrangian and Hamiltonian formulation with canonical transformation Poisson's bracket.
4		Atomic and Molecular Physics		Atomic structure, electron system, Zeeman effect, X-ray spectroscopy, molecular spectroscopy and Raman Spectroscopy.
5		Computational Physics		Concepts of programming, C-programming, Arrays Pointers in C, graphics in C and computational physics
6		Renewable Energy Sources (Elective-I)		Conventional and non- conventional Energy sources, photo thermal application, photovoltaic systems, energy from biomass and wind energy.
7		Classical Electrodynamics	Semester-IV	In this course students understand Electrostatics, Magneto statics and Electrodynamics
8		Quantum Mechanics		In this course students can studies origin of quantum mechanics, Schrodinger's Equation's and their application, spherically symmetric potential and operators in quantum mechanics.
9		Thermodynamics and Statistical Physics		In this course students studies kinetic theory of gases, Maxwell's relation and application, elementary concept of statistics, statistical distribution of particles, statistical ensembles and quantum statistics.
10		Nuclear Physics		In this course students understand basic properties of nucleus, radioactivity, nuclear forces, particle accelerator and detectors, nuclear reaction and energy.
11		Electronics OR Advanced Electronics		In this course students can understand diodes, transistor, amplifier, FET, OPAMP, timer, regulated power supply, combinational circuits and sequential circuit OR Sensors, signal conditioning using OPAMP, digital signal conditioning.

12	LASERs		In this course students can understand concept of LASER, LASER action and oscillator, output and characteristics of LASER, Different types of LASERs and their applications.
13	Practical-I	Annual	Perform the experiments for better understanding of aforesaid physics laws and principles. To understand certain concept of physics in depth and implement it practically student undergoes this particular course.
14	Practical-II		
15	Project		

**G.E. Society's
RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE,
NASHIK-ROAD**

Department of Psychology

Programme Outcomes: B.A. Psychology

Programme Outcomes	<p>PO-1: B.A. Psychology programme is meant to give students a thorough understanding of the fundamentals of psychology, including all principles and perspectives.</p> <p>PO-2: Various branches of Psychology such as Abnormal Psychology, Industrial and Organisational Psychology, and Developmental Psychology, Psychological testing and Experimental Psychology expose the various aspects of psychology where the Students gain a broader understanding of the subject.</p> <p>PO-3: It helps them to analyse, conceptualize, and apply and understanding of major concepts in all disciplines of psychology.</p> <p>PO-4: The three year B.A. Psychology course curricula are separately classified to provide incremental progression.</p> <p>PO-5: The psychological testing and experiments performed in the laboratories teach students about diagnosis, scoring, research and applied knowledge of psychological testing and scientific experiments.</p> <p>PO-6: They are also taught about the dangers of unethical practices of psychological testing and its malpractice.</p> <p>PO-5. It helps to find out the application of fundamentals for the enhancement of the community health and education sector.</p> <p>PO-6. To inculcate the scientific temperament in the students and outside the scientific community.</p> <p>PO-7. Use modern, upgraded, reliable, valid and recognised psychological tests and psychometric tools in various settings such as clinical, counselling, industrial, and educational.</p>

<p>Programme Specific Outcomes</p>	<p>PSO-1: Students will understand the different theories of motivation and emergence of industrial psychology, organisational psychology.</p> <p>PSO-2: Students will be exposed to the training skills, appraisal methods, and different models of leadership.</p> <p>PSO-3 Scientific research classes, help students to develop the insight into the ways in which fundamentals in psychology are put forward in the field of research. Ethics and limitations in research are also imparted.</p> <p>PSO-4: Students will learn how to perform various psychological experiments and calculate various aspects of psychophysics.</p> <p>PSO-5: Learn about various cognitive abilities such as types of learning, problem solving, process of thinking and decision making.</p> <p>PSO-6. Study about fundamentals of psychometrics and psychological testing such as various types of reliability, validity and norms.</p> <p>PSO-7: Use contemporary methods in the field of research and experimental psychology</p> <p>PSO-8. Recognize ethical practices in psychological testing, psychometrics and psychological experiments.</p> <p>PSO-9. Improve research skills and awareness of using psychological tests in various settings.</p>
<p>Course Outcomes B. A. Psychology</p> <p>B.A. Annual Pattern (2020-21)</p>	
<p>Course Outcomes</p>	<p>After completion of these courses students should be able to;</p>
<p>G3: Industrial And Organizational Psychology</p>	<p>CO-1.The emergence of Industrial and Organizational Psychology</p> <p>CO-2. The work done in Industrial and Organizational Psychology</p> <p>CO-3.The significance of training, performance appraisal, leadership models</p> <p>CO-4. The importance of Engineering Psychology</p>
<p>S3: Scientific Research And Experimental Psychology</p>	<p>CO-1.To acquaint the students with the basic concepts of experimental psychology and research methodology,</p>

	<p>CO-2.To develop the spirit of scientific inquiry in the students.</p> <p>CO-3. To help them generate ideas for research, as well as develop hypotheses and operational definitions for variables.</p> <p>CO-4.To help students understand the basic steps in scientific research</p> <p>CO-5. To equip the students with the basic information and knowledge about test-administration and scoring, and interpretation of the obtained results</p> <p>CO-6. To enable the students to undertake an independent small-scale research project.</p>
<p>S4: Psychology Practical: Tests And Experiments</p>	<p>CO-1. To familiarize the students with the use of elementary statistical techniques</p> <p>CO-2.To give practical experience to the students in administering and scoring psychological tests and interpreting the scores</p> <p>CO-3.To acquaint the students with the basic procedure and design of psychology experiments</p> <p>CO-4.To encourage and guide the students to undertake a small-scale research project.</p> <p>CO-5.To encourage students to learn practical application through study tour and visit</p>

G.E. Society's

RNC ARTS, JDB COMMERCE & NSC SCIENCE COLLEGE, NASHIK-ROAD

Department of Statistics

Programme Outcomes: B.Sc. Statistics

Programme Outcomes	<p>Department of Statistics runs Statistics course at subsidiary level up to second year B.Sc. By the end of the programme, learners should be able to:</p> <p>PO-1: Define statistical terms</p> <p>PO-2: Comprehend statistical concepts and relationships in the economic and social aspects among others.</p> <p>PO-3: Interpret, use and present information in written, graphical, diagrammatic and tabular terms.</p> <p>PO-4: Deduce and infer through manipulation of statistical expressions.</p> <p>PO-5: Appreciate the beauty and crucial role of statistics in national development.</p> <p>PO-6: Enable efficient use of electronic devices to solve statistical problems.</p> <p>PO-7: Develop the ability to use statistical knowledge and skills in other disciplines.</p> <p>PO-8: Use of statistical software packages for computations of data.</p> <p>PO-9: Apply laws of probability to concrete problems.</p>
Programme Specific Outcomes	<p>PSO-1: Students will understand the basic concepts of data and scale of measurement of data.</p> <p>PSO-2: Students will be enable comparison data by using measures of central tendency and dispersion.</p> <p>PSO-3: Students will be establish relationship between two or more variables and predict the value by regression analysis.</p>

	<p>PSO-4: Students will learn to calculate probability and measures of probability for discrete and continuous distributions.</p> <p>PSO-5: Students will learn to make inferences about population from sample data.</p> <p>PSO-6: Students will be enable use of statistical techniques in time series.</p> <p>PSO-7: Students will understand and develop the necessary computer skill in practical by using MS-Excel, R- software</p>
<p>Course Outcomes B.Sc. Statistics</p> <p>Semester I (2020-21)</p>	
Course Outcomes	After completion of these courses students should be able to;
ST-111 Descriptive Statistics-I	<p>CO-1: Recall the concepts of statistical population and sample.</p> <p>CO-2: Organize, manage and present data.</p> <p>CO-3: Analyze statistical data graphically using frequency distributions and cumulative frequency distributions.</p> <p>CO-4: Analyze statistical data using measures of central tendency, dispersion and location, skewness and kurtosis.</p> <p>CO-5: Know the association between the attributes.</p>
ST-112 Discrete probability	<p>CO-1: Describe random and non-random experiments.</p> <p>CO-2: Articulate sample space for a certain random experiment and identify events and their types.</p> <p>CO-3: Illustrate different real life situations to find probability of different types of events, the theorems of probability.</p> <p>CO-4. Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.</p> <p>CO-5: Translate real-world problems into probability models.</p> <p>CO-6 Derive the probability density function of transformation of random variables.</p>

	<p>CO-7: Explain definition of independence of events to determine whether an assumption of independence is justifiable</p> <p>CO-8: Explain definition of conditional probability of events.</p> <p>CO-9: Justify random variable(s) of interest in a given scenario and find the probability distribution.</p> <p>CO-10: Formulate different discrete probability distributions based on finite sample space.</p> <p>CO-11: Build the interrelations between the probability distributions.</p> <p>CO-12: Apply discrete distribution to real life situations.</p>
ST-113 Practical-I	<p>CO-1: Recall various graphical and diagrammatic techniques and interpret.</p> <p>CO-2: Data interpretation from various graphs and diagrams.</p> <p>CO-3: Tabulation.</p> <p>CO-4: Compute various measures of central tendency, dispersion, skewness and kurtosis to real life data.</p> <p>CO-5: Use of random number table to draw samples.</p> <p>CO-6: Develop summary statistics of output generated by Ms-Excel.</p>
Semester II (2020-21)	
ST-121 Descriptive Statistics-II	<p>CO-1: Recall concept of bivariate data, correlation, Karl Pearson's correlation coefficient and its interpretation.</p> <p>CO-2: Determine correlation coefficient of bivariate data.</p> <p>CO-3: Explain simple regression models, fitting of second degree and exponential curves.</p> <p>CO-4: Formulate the real-life situations in terms of regression analysis.</p> <p>CO-4: Computation of price indices and study of qualitative data.</p>
ST-122 Discrete Probability Distributions	<p>CO-1: Recall the concept of discrete random variables.</p> <p>CO-2: Formulate different discrete probability distributions based on countable infinite sample space.</p> <p>CO-3: Apply discrete distribution to real life situations. (Poisson</p>

	<p>and Geometric distributions)</p> <p>CO-4: Illustrate the concept of two dimensional discrete random variables, bivariate probability distributions.</p> <p>CO-5: Calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.</p> <p>CO-6: Compute mathematical expectation of bivariate probability distributions.</p>
<p>ST-123 Practical-II</p>	<p>CO-1: Recall the concepts of bivariate data, correlation, Karl Pearson's correlation coefficient and its interpretation.</p> <p>CO-2: Explain simple regression models, fitting of linear regression model.</p> <p>CO-3: Fit of second degree and exponential curves.</p> <p>CO-4: Fit discrete distribution (Binomial, Poisson) to real life data.</p> <p>CO-5: Identify different discrete probability distributions.</p> <p>CO-6: Apply discrete distribution (Binomial, Poisson) to real life situations.</p> <p>CO-7: Model sampling from discrete distributions.</p> <p>CO-8: Analyze different types of indices.</p> <p>CO-9: Analyse correlation coefficient, line of regression and second degree curve through Ms-Excel.</p>
<p>Semester-III (2020-21)</p>	
<p>ST-231 Discrete probability distributions and time series</p>	<p>CO-1: Recognise the situations of Negative binomial distribution.</p> <p>CO-2: Apply negative binomial distribution.</p> <p>CO-3: Concept and illustration of multinomial distribution.</p> <p>CO-4: Concept of Truncated distribution.</p> <p>CO-5: To study various truncated distributions.</p> <p>CO-6: Concept and models of time series.</p> <p>CO-7: Analyze time series data.</p>

	CO-8: Compare fitted models based on residual analysis and coefficient of determination.
ST-232 Continuous probability distributions	<p>CO-1: Extend the concept of discrete probability distributions to continuous probability distributions.</p> <p>CO-2: Define continuous random variable, probability density function and its characteristics.</p> <p>CO-3: Apply different methods to obtain probability distribution of transformation of random variables.</p> <p>CO-4: Concept and characteristics of continuous bivariate distributions.</p> <p>CO-5: Calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.</p> <p>CO-6: Explain the theory and application of important continuous Distributions (Uniform, Normal, Exponential)</p> <p>CO-7: Analyze the real life situations of continuous probability distributions.</p>
ST-233 Practical	<p>CO-1: Fitting of discrete and continuous distributions.(Negative Binomial and Normal)</p> <p>CO-2: Make judgments or comparisons through Normal probability plots for testing Normality of data obtained in real life situations.</p> <p>CO-3: Apply various discrete and continuous distributions. (Negative Binomial, Multinomial and Normal)</p> <p>CO-4: Model sample by various methods from continuous distributions.(Exponential and Normal)</p> <p>CO-5: Analyze Time series data.</p> <p>CO-6: Find probabilities and fitting of distributions using Ms-Excel.</p> <p>CO-7: Fitting trend to time series data using Ms-excel.</p>
Semester-IV (2020-21)	
ST-241 Tests of significance and statistical methods	CO-1: Define various terms like statistic, parameter, hypothesis, type-I, type-II error, p-value and terms used in testing of hypotheses.

	<p>CO-2: Identify the distributions of various test statistics.</p> <p>CO-3: Evaluate and decide the appropriate hypotheses for testing the population parameters like mean, proportion..</p> <p>CO-4: Recall the linear regression for bivariate data.</p> <p>CO-5: Articulate the idea of regression for trivariate data. Discuss the concept of multiple and partial correlation.</p> <p>CO-6: Apply the regression models for forecasting and analysing given real life situations. Compute probabilities of type I and type II error.</p> <p>CO-7: Study Demography terms and concepts.</p> <p>CO-8: To calculate different fertility and mortality rates.</p> <p>CO-9: Concepts regarding queuing model and its application.</p>
<p>ST-242 Sampling Distributions and exact tests</p>	<p>CO-1: Define gamma distribution and its applications.</p> <p>CO-2: Define chi-square distribution and its applications.</p> <p>CO-3: Define t distribution and its applications.</p> <p>CO-4: Define Snedecor's F distribution and its applications.</p> <p>CO-5: Build the interrelations between the probability distributions.</p> <p>CO-6: Explain the theory of sampling distribution of statistics.</p> <p>CO-7: Analyze the real life situations using sampling distribution.</p> <p>CO-8: Construct the tests regarding goodness of fit, independence of attributes, population variance.</p> <p>CO-9: Construct the tests regarding population means, paired t-test.</p> <p>CO-10: Construct the tests regarding population variances.</p>
<p>ST-243 Practical</p>	<p>CO-1: Recall the commands of R software.</p> <p>CO-2: To find summary statistics using R software.</p> <p>CO-3: Discuss the procedures of fitting a plane of regression to given data using R software.</p> <p>CO-4: Compute partial , multiple correlation coefficients using R software.</p>

	<p>CO-5: Analyze practical situations using statistical tests for various population parameters and compute probabilities using command of R-software.</p> <p>CO-6: Apply chi-square tests, t-tests and F-taet to real life situations.</p> <p>CO-7: To compute GRR and NRR.</p>
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