

Bachelor of Arts – Program Outcomes – General

Bachelor of Arts (BA) at this college, affiliated to KSKV Kachchh University is the oldest program in the college and the district. The program offers specialization in English, Hindi, Gujarati, Sanskrit, Economics, History and Psychology. General outcomes expected at the completion of this program include the following:

- A working understanding of the field of humanities and social sciences
- Understanding of salient traits of the discipline in general and the subject of specialization in particular
- Realization of human values
- Sense of social service
- A tendency to be a responsible and dutiful citizen
- Critical temper
- Creative ability
- Functional communication skills
- Basic employability skills
- Development of intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning.
- Familiarity with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.
- Ability to understand basic critical and theoretical approaches to the subject of their specialization.
- Ability to identify, analyze, interpret and describe the critical ideas, values, and themes around them

- Understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.
- Functional writing skills for professional and employment purposes.
- Ability to understand, evaluate and synthesize information from a variety of written and electronic sources.
- Digital literacy
- Awareness on environment, disaster management, gender equity, etc., overarching issues.
- Readiness for pursuing higher studies such as post graduation or vocation specific courses.
- Developing entre-/intra -preneurial qualities

Bachelor of Science – Program Outcomes – General

Bachelor of Sciences (B.Sc) at this college is a three year degree programme, affiliated to KSKV Kachchh University. It offers diversified courses /specialized program in the college and the few of them are unique in entire district. The program offers specialization in Chemistry, Physics, Mathematics, Geology, Botany and Zoology. General outcomes expected at the completion of this program include the following:

Students graduating with the B.Sc basic Science degree should be able to acquire;

- An ability to get engaged in lifelong learning to cultivate their growth as a successful researcher and established as an entrepreneur in the field of respective subject.
- Capacity to demonstrate inclusive knowledge of B.Sc programme as whole.
- Ability of critical thinking to understand basic concepts of science (or respective degree subject)
- Basic employability skills
- Better understanding ability of present environmental and global issues.
- Develop basic understanding of research and analysis of subject related issues.
- Ability to think, acquire knowledge and skills through logical reasoning and to inculcate the habit of self-learning
- After completion of B.Sc program students will be able to get exposed to strong theoretical and practical background in fundamental concepts.
- Have an exposure to basic technical areas and on hand experience related to their subject.
- To make them able to express ideas persuasively in written and oral form to develop their leadership qualities.
- To demonstrate professional and ethical attitude with enormous responsibility to serve the society.

DEPARTMENT OF PSYCHOLOGY
PROGRAMME AND COURSE OUTCOMES

- By this course a student will come to understand Psychology as science and will understand human behavior by different approaches.
- The students will know theories of main basis for understanding and explaining the specific human's behavior.
- The student will come to understand different phases of consciousness and its nature and also its relation to human behavior.
- The student will come to understand the nature and types of perception which are related to human behavior and its cognitive development.
- To understand the effects of environmental stresses on human behavior & functioning.
- To understand the effects of environmental pollutants on human health.
- To explore the factors that affects our responses to both man-made & natural disasters
- To learn about how our own attitudes, beliefs and actions directly and indirectly create pollution or damage the sustainability of the natural environment.
- To introduce to the complex blend of genetic and environmental influences that leads parents and children to be both alike and different.
- Learn to use Psychology and other information sources.
- Importance of Child Psychology
- To impart knowledge in skills needed for psychological assessment and different condition
- Use to filed of adolescent Psychology

- Student will define various types of aptitude and its efficacy.
- Will come to know his/her own interest and aptitudes
- After learning concept of languages, student will use proper languages to exhibit his/her ideas.
- The Course will familiarize students with the basic psychological process and studies relating to the factors which influence them. It will also focus on basic processes and areas of Psychology.
- Learn to use Psychology and other information sources.
- Enriched student with basic foundation of cognition.
- Analyse cognitive pattern for memory and able to draw a diagram of it.
- Distinguish between types of memory
- Able to understand cognition's derivation and steps of it.
- To create awareness for self understanding and observing other child's behavior by the view point of causes and can come to conclude dynamicity of causes.
- The student can evaluate the stages of language development and development of cognition through perception.
- This Course aims, at providing conceptual foundation of human development specially child development. It focuses on development in the life span in different domains with an emphasis on the cultural context and child problems.
- Learn to use Psychology and other information sources.
- To impart knowledge and skills needed for psychological assessment of different normal conditions.
- To impart various of personal adjustments.
- Students become familiar with concept of mental disorder.
- To provide an overview of Abnormal Psychology and major psychological problems and disorders across biological, psychological, and sociocultural processes.

- To give the information about DSM and Indian classification.
- To notified the basic difference between DSM IV & DSM V
- Realise how social Psychological knowledge can be used in solving social problems.
- To understand how a social psychological analysis differs from other forms of analysis
- To become familiar with the wide variety of questions and topics that social psychologists study.
- To learn the classic and contemporary theories that are relevant To become familiar with a sampling of research findings, both correlation and experimental
- To appreciate the variety of choices and limitations in the lives of women and men as they are shaped by personal and social factors
- To explore various topic areas through readings, class activities, and discussion and by thinking and writing critically and reflectively.
- Student get to know all sphere of psychological theories.
- Able to analyse single behaviour by different angles of thought.
- Able to categorise different thoughts of school.
- Establish expertise in focused aria of psychological theories and different types of system.
- Be able to solve behavioural problem scientifically by different theories.
- Realise how Social Psychological knowledge can be used in Solving Social Problems.
- To understand how a social psychological analysis differs from other forms of analysis.
- To become familiar with the wide variety of questions and topics that social psychologists study
- To become familiar with a sampling of research findings, both correlation and experimental.

- To appreciate the variety of choices and limitations in the lives of women and men as they are shaped by personal and social factors
- To explore various topic areas through readings, class activities, and discussion and by thinking and writing critically and reflectively
- To discuss biological, psychological, and social factors in the chronic diseases that are the leading causes of death in society today.
- To discuss the role of psychology in preventing illness, promoting wellness, and shaping health care policy and reform.
- To analyze different health behaviors, attitudes, outcomes, and illnesses from the perspectives of the major theories of health, and recognize those theories when used by others to analyze events.
- Be able to solve behavioral problem scientifically by different theories.

NOTE: NEP Subject Out Comes Given With Syllabus.

DEPARTMENT OF ZOOLOGY

B.Sc Zoology

PROGRAMME OUTCOMES

Knowledge updating:

Zoology is one of the oldest branches of basic natural sciences which deals with study of animals and issues related to them. After completing B.Sc Zoology, students will understand;

PO1: students will be more equipped to learn and know about different biological systems, their coordination and control as well as evolution, behavior and biological roles of the animals in the ecosystem.

PO2: Utilize their knowledge to solve the issues related to animal sciences.

PO3: Moreover, they will be able to qualitatively and quantitatively analyse evolutionary parameters using various bioinformatics and computational tools used in modern sciences.

PO4: Students can apply their knowledge to find the further research issues and work in the knowledge gaps. Awareness about the present issues at global and national scale related to environment and conservation will sensitize students and mould them to responsible citizens.

Skill outcomes:

PO5: The programme will cater the basic curiosity of students about the animal sciences and help them to find their career goals.

PO6: After understanding the subject they will be capable of finding ample opportunities to explore different career avenues.

PO7: Candidates may find jobs as Ethologists, Conservationist, Wildlife Biologist, Zoo Curator, Wildlife Educator, Zoology faculty, Forensic experts, Lab technicians, self dependent in terms of higher education and free lancing etc. Candidates find opportunities in government departments, environmental agencies, universities, colleges, biotechnological, pharmaceutical, environmental/ecological fields.

PO8: They will inculcate good laboratory practices in students and to train them about proper handling of lab instruments.

PO9: Acquired skills in diagnostic testing, haematology, histopathology, staining procedures etc. used in clinical and research laboratories will provide them opportunity to work in diagnostic or research laboratory

PO10: Students undertaking skill enhancement courses like aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self employment making them successful entrepreneurs.

PROGRAMME SPECIFIC OUTCOMES

PSO1: Understanding basic biology, ecosystem, and basic concepts of nature, ecology, cell biology, biology and zoology as whole.

PSO2: To analyze and bridge between various components of living (animals) and non living (abiotic factors).

PSO3: To understand basic laboratory methods for taxonomy, histology, physiology, cell biology, economic zoology, fisheries, field methods, abiotic analysis as well as research methodology.

PSO4: Understanding applied zoology and economic zoology for daily living.

PSO5: Develop insight to understand and address towards environmental issues of the nation and participating in nature drives.

COURSE OUTCOMES

Course component	Outcome
Taxonomy: Chordate and non chordate	Student from first to last year study chordate and non chordate taxonomy in practical as well theory at various academic levels. Students will be able to understand the basic principles of taxonomy and systematic. They will also learn to identify the invertebrates and vertebrate animals to their species level and will cater their curiosity on field.
Ecology and Ecosystems	Here again students learn the basic concepts of ecology and environment from basic level to detailed understanding at their third year. Moreover, they will learn about various ecosystems like Grassland and forest ecosystem, marine ecosystem, Aquatic ecosystem, Arid areas and their uniqueness of biota. By the end students will be able to understand biological and ecological interactions and functioning.
Cell biology and genetics.	Students will understand the structures, positions and functions of various cell and all cellular organelles in details. They will acquire knowledge about chromosomes and cell divisions, both mitosis and meiosis. They will also know about cell signalling and cancers. They will know about vital processes of life like programme cell death. Students will learn genetics at all the three years to different level. They will learn about basic concepts of genetics, mendelian principal, crossing over mechanisms, chromosome mutations and various genetics studies with experiment examples.
Biochemistry & Molecular biology	Students will understand the basic and fundamental biochemistry of carbohydrates, proteins, lipids and nucleic acids with theory and methods of detection in laboratory. They will also understand the nature, mechanism, and kinetics of enzyme action. Some instrumentation such as microscopy, centrifugation, spectrophotometry etc will also be learnt. The student will

	learn about modern biotechnology basics, Structure of DNA, RNA and chromosomes and their abbreviations.
Comparative Anatomy Of Vertebrates and invertebrates	Students will understand the structures of different systems such as, integumentary, skeletal, digestive, respiratory, circulatory, urinogenital, nervous and sensory organs in comparative way among the vertebrate groups using different animal type specimen. They will understand evolutionary phenomena of development of comparative anatomy of heart, kidney and brain.
Physiology	Students will know the physiology of digestion, respiration, circulation, excretion and adaptation
Evolution and developmental biology	The students will learn about evolutionary process and evolution of tetrapods. They will learn about Darwin theories and various evolutionary theories. Students will learn the different aspects of early, late and post embryonic developments., fertilization, mutation, twins, placenta etc.
Animal behavior	Students will know in details about types of behaviours, survival strategies, reproduction, learning, mimicry. They will learn important behavioural events like migration, adaptations in different ecosystems and their concepts.
Biodiversity, And Wild Life Conservation	Student will be learning the various issues related to Biodiversity. They will also study important fauna of State and nation, zoogeography, IUCN and Indian Wildlife Act. They will also able to use various tools used in field biology. Course part will also include research methodology and knowhow to write a research proposal and dissertation report. It will also address various issues like air, water, soil pollution as well as global challenges like climate change, sea level rise, ozone depletion etc.

KSKV Kachchh University, Bhuj - Kachchh
B.Sc. (Botany) Syllabus as CBCS System
Semester I to VI (w .e. f. June 2016)

Botany Course outcomes

Core competency: Students will acquire core competency in the subject Botany. The Bachelor program in Botany and Botany honours may be mono-disciplinary or multidisciplinary.

- To provide thorough knowledge about various plant groups from primitive to highly evolved.
- To make the students aware of applications of different plants in various industries.
- To highlight the potential of these studies to become an entrepreneur.
- To equip the students with skills related to laboratory as well as field based studies.
- To make the students aware about conservation and sustainable use of plants.
- To create foundation for further studies in Botany.
- To address the socio-economical challenges related to plant sciences.
- To facilitate students for taking up and shaping a successful career in Botany.
- Discipline specific competitive exams conducted by service commission.

Paper no.	Paper Name (Theory & Practical)	Programme Outcomes (POs)
USCEBO-101	Plant Diversity and Cytogenetics	Unit-1 Plant Diversity :
		<ul style="list-style-type: none"> • After reading this unit students will be able: To explain main characters , differences and comparative characters of algae to angiosperm,
		<ul style="list-style-type: none"> • Approach to explain the evolution of organism and understand the genetic diversity on the earth.
		<ul style="list-style-type: none"> • To understand different branches of botany and scope in botany.
		<ul style="list-style-type: none"> • To understand the useful and harmful effects of Bacteria and Viruses.
		Unit-2 Thallophyta and Bryophytes:
		<ul style="list-style-type: none"> • This unit describes- general features, classification given by G. M. Smith and life- cycle of Thallophyta and Bryophytes.
		<ul style="list-style-type: none"> • After reading this unit students will be able to: describe habit , habitat ,characteristics and classification of Thallophyta and Bryophytes.
		<ul style="list-style-type: none"> • Analyze the distribution and economic importance of Thallophyta and Bryophytes .
		Unit-3 Morphology and Taxonomy:
		<ul style="list-style-type: none"> • After reading this unit students will be able: To explain main characters, differences and comparative characters of angiosperm plants .
		<ul style="list-style-type: none"> • To know the vegetative characteristics of the plant.
		<ul style="list-style-type: none"> • To learn about the reproductive characteristics of the plant.
		<ul style="list-style-type: none"> • To understand the plant morphology.

		<ul style="list-style-type: none"> • Able to draw floral formula and floral diagram of angiosperms. • After reading this unit students will be able to: describe habit and habitat of some angiosperm families. <p>Unit-4 Cell biology and Genetics</p> <ul style="list-style-type: none"> • Students will be able to understand the structures and basic components of prokaryotic and eukaryotic cells. • To understand the cellular components involved in cell division. • To understand basic structure of Nucleic acids, types of DNA & RNA and DNA replication. • To understand the process of protein synthesis and role of genetic code in polypeptide formation.
USCEBO - 202	Pteridophytes, Gymnosperm, Anatomy, Ecology, Physiology, Biochemistry and Applied botany	<p>Unit – 1 Pteridophytes and Gymnosperms</p> <ul style="list-style-type: none"> • After reading this unit students will be able: to explain habit and habitat of pteridophyte & Gymnosperm, their characteristics and classification given by G.M.Smith. • Understand the phenomenon of heterospory in pteridophytes and its significance. • Explain life-cycle in pteridophyte and gymnosperm plant. <p>Unit – 2 Anatomy & Ecology</p> <ul style="list-style-type: none"> • After reading this unit students will be able: to explain Characteristics & Classification of plant tissue. • Know various tissue systems. Understand the normal and anomalous. • Difference between Normal & Anomalous secondary plant growth • Also understand what is Ecosystem and Structure and Ecological adaptations in Hydrophytes, Xerophytes and Halophytes. <p>Unit – 3 Physiology and Biochemistry</p> <ul style="list-style-type: none"> • Students will be able: to understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways. • To understand the plants and plant cells in relation to water. • To understand Laws of thermodynamics and their application in plant science. <p>Unit – 4 Plant resources & Applied Botany</p> <ul style="list-style-type: none"> • Students will be able to understand the importance and scope of botanical science in the industries. • To understand the role of microbial plants in fermentation process and process of cultivation of cash crops. • To understand some plants which are used as Medicinal plants, Food Plants and source of Natural Rubber.

USCEBO – 303	Cryptogamic Botany	Unit – 1 Algae
		<ul style="list-style-type: none"> Students will be able to understand about habit, habitat, life cycle of some algae.
		Unit – 2 Fungi
		<ul style="list-style-type: none"> Students will be able to understand about habit, habitat, life cycle of some fungi.
		<ul style="list-style-type: none"> Understand the features of Lichens.
		. Unit – 3 Bryophytes
		<ul style="list-style-type: none"> Students will be able to understand about habit, habitat, life cycle of some bryophytes
		Unit – 4 Pteridophytes
<ul style="list-style-type: none"> This unit describes general features, classification, given by G.M.Smith (Algae, Bryophytes, Pteridophytes) and Aniswarth (Fungi) 		
USCEBO – 304	Gymnosperms, Systemic Botany & Cytogenetics	Unit – 1 Gymnosperms
		<ul style="list-style-type: none"> After reading the unit students will be able: to explain habit and habitat of pteridophyte & Gymnosperm, their characteristics and classification given by G. M. Smith.
		<ul style="list-style-type: none"> To understand the life cycles of Pinus.
		Unit – 2 Systematic Botany
		<ul style="list-style-type: none"> After reading the unit students will be able: to understand Bentham and Hooker’s classification system.
		<ul style="list-style-type: none"> To understand Aestivation in flower ,Buds (Types & modifications) , Adhesion & Cohesion in flower.
		<ul style="list-style-type: none"> General characters, floral structure, floral diagram, floral formula, common examples of economic and ethno botanical important plants of some families.
		Unit-3 Cell biology
		<ul style="list-style-type: none"> Students will be able to gain knowledge about “Cell Science”.
		<ul style="list-style-type: none"> To understand the structure and purposes of basic components of prokaryotic and eukaryotic cells,
		<ul style="list-style-type: none"> To understand the cellular components.
		<ul style="list-style-type: none"> To understand basic structure and function of cell organelles.
		<ul style="list-style-type: none"> To understand Cell wall, Plasma membrane and Cell organelles.
		<ul style="list-style-type: none"> To learn the scope and importance of molecular biology.
		Unit – 4 Genetics

		<ul style="list-style-type: none"> • After reading these unit students will be able: to understand Mendelian genetics. • To understand about sex determination in plants and its importance. • To learn about the extra-chromosomal inheritance in plant cell.
USCEBO - 405,	Anatomy, Embryology, Physiology & Biochemistry	Unit – 1 Anatomy
		<ul style="list-style-type: none"> • Students will be able to understand the scope & importance of Anatomy in plants.
		<ul style="list-style-type: none"> • To know various tissue systems.
		<ul style="list-style-type: none"> • To study epidermal tissue system and mechanical tissue system.
		<ul style="list-style-type: none"> • To understand the normal and anomalous growth in plants.
		<ul style="list-style-type: none"> • Anomalous secondary growth in plants and their causes.
		<ul style="list-style-type: none"> • To perform the techniques in anatomy.
		Unit – 2 Embryology
		<ul style="list-style-type: none"> • Students will be able to understand the scope & importance of Embryology.
		<ul style="list-style-type: none"> • To understand structure and development of microsporangium and megasporangium.
		<ul style="list-style-type: none"> • To understand microsporogenesis and megasporogenesis.
		<ul style="list-style-type: none"> • To understand male and female gametophytes.
		<ul style="list-style-type: none"> • To know Pollination, fertilization, endosperm and embryogeny.
		Unit – 3 Physiology
		<ul style="list-style-type: none"> • Students will be able to know the importance and scope of plant physiology.
		<ul style="list-style-type: none"> • To understand the plants and plant cells in relation to water.
		<ul style="list-style-type: none"> • To understand transpiration, its types and mechanism of transpiration, factors affecting transpiration & its significance.
		<ul style="list-style-type: none"> • To understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.
		<ul style="list-style-type: none"> • To learn about the movement of sap and absorption of water in plant body.
		<ul style="list-style-type: none"> • To understand the plant movements.
		Unit – 4 Biochemistry
<ul style="list-style-type: none"> • Students will be able to understand the importance of Protoplasm as a colloidal system. 		

		<ul style="list-style-type: none"> • To understand the current status of Biochemistry. • To recognize the impact of Biochemistry on socioeconomic aspects of life. • To realize the industrial application of Biochemistry. • To understand the importance of Bio-molecules.
USCEBO - 406	Ecology, Plant Resources & Applied Botany	<p>Unit – 1 Plant Ecology</p> <ul style="list-style-type: none"> • Students will be able to know the scope and importance of the discipline. • To understand Characteristics & Ecological Hierarchy. • To understand atmosphere and environmental factors and its Inter specific interactions • To understand plant communities and ecological adaptation in plants • To understand Composition of soil, Soil profile, Formation of soil (Pedogenesis), Morphology(Classification), Physical & Chemical properties of soil. <p>Unit – 2 Ecosystem</p> <ul style="list-style-type: none"> • Students will be able to know the scope and importance of the discipline. • To understand the concept of Ecological pyramids. • To know the nature and its co-relation with human society. • To understand Flow of energy and Bio-Geochemical Cycle . • To understand Natural Ecosystem types and its components. <p>Unit – 3 Plant Resources</p> <ul style="list-style-type: none"> • Students will be able to gain thorough knowledge about various plant resources. • To become aware of applications of different plants in various industries. • To become aware of some important plants Botanical names, family, morphology, sources & economic importance. • To understand the importance and scope of botanical science in the industries. • To understand the role of microbial plants in fermentation process. • To know the process of cultivation of cash crops. • To understand some plants which are used as herbal cosmetics, dyes , Insecticides, fibers.etc... <p>Unit – 4 Applied botany (Advance techniques in Botany)</p>

		<ul style="list-style-type: none"> • Students will be able to understand some Advance techniques in Botany. • To highlight the potential of these studies to become an entrepreneur. • To equip the students with skills related to laboratory as well as industries based studies. • To understand technique of plant tissue culture and its application. • To understand the process of cultivation of cash crops used in horticulture and floriculture. • To understand scope, importance & disciplines of horticulture, floriculture, bonsai and Hydroponics. • Application of remote sensing in daily life.
USCEBO-507,	Plant Diversity	<p>Unit-1 Algae: Life History; Structure & Reproduction</p> <ul style="list-style-type: none"> • Students will be able to understand the habit, habitat, structure, reproduction and life cycle of some algae. <p>Unit-2 Fungi: Life History; Structure & Reproduction</p> <ul style="list-style-type: none"> • Students will be able to understand the habit, habitat, structure, reproduction and life cycle of some fungi. <p>Unit-3 Bryophytes: Life History; Structure & Reproduction</p> <ul style="list-style-type: none"> • Students will be able to understand the habit, habitat, structure, reproduction and life cycle of bryophytes. <p>Unit-4 Pteridophytes : Life History; Structure & Reproduction</p> <ul style="list-style-type: none"> • Students will be able to understand Habitat, Habit and life cycle of pteridophytes. • To understand types of Stele and evolution of stele in pterdophytes. • To understand types and Formation of fossils.
USCEBO-508,	Systematic Botany, Angiosperms, Embryology and Anatomy	<p>Unit-1 Systematic Botany</p> <ul style="list-style-type: none"> • After reading these unit students will be able: to compare Merits & Demerits of System of classification of Bentham & Hooker, Engler & Prantle. • To know about ICBN. • To understand various rules, principles and recommendations of plant nomenclature. • To know modern trends in taxonomy. • To understand Herbarium Techniques and Role of Herbaria and Botanical gardens in study. <p>Unit-2 Angiosperms</p> <ul style="list-style-type: none"> • After reading this unit students will be able: To understand the diversity of angiosperms.

		<ul style="list-style-type: none"> To explain main characters, draw floral formula and floral diagram of some families. To understand the comparative account among the families of angiosperms. To know the economic importance of the angiosperm plants. To know the distinguishing features of angiosperm families.
		Unit-3 Embryology
		<ul style="list-style-type: none"> Students will be able to understand the scope, Application of Palynology in Taxonomy, coal, oil Exploration and forensic science. To understand Endosperms Types and its functions. To understand Embryo development in Dicotyledons and monocotyledons. To gain knowledge about Polyembryony and importance of polyembryony. To understand importance and application of Apomixis, Apospory, parthenogenesis in plant science.
		Unit-4 Anatomy
		<ul style="list-style-type: none"> After reading this unit students will be able: To understand Microtomy & Methods of Slide preparation. To gain knowledge about abnormal behavior of cambium in some plants. To understand about Lateral root, root hairs and Root-Stem transition.
USCEBO-509	Ecology, Plant Resources & Applied Botany	Unit-1 Plant Physiology
		After reading this unit students will be able
		<ul style="list-style-type: none"> To understand about seed Dormancy, Methods of breaking dormancy. To understand Different phases and Factors affecting on seed germination. To understand Role of PGRs (Auxin , Gibberellins, Cytokinin, Abscisic acids and Ethylene) in plant life. To understand about Pentose Phosphate Pathway, R.Q and Factors affecting RQ.
		Unit-2 Biochemistry
		<ul style="list-style-type: none"> After reading this unit students will be able To understand secondary Metabolites in plants like Alkaloids, Terpenoids and Phenolics. To understand Lipid metabolism in plants, Alpha & Beta-oxidation.

		<ul style="list-style-type: none"> To understand Amino acid & Protein metabolism.
		Unit-3 Genetics & Molecular biology
		<ul style="list-style-type: none"> After reading this unit students will be able
		<ul style="list-style-type: none"> To understand the molecular biology in relation to genetic material, its inheritance, modification, replication and repair.
		<ul style="list-style-type: none"> To understand transcription, translation, Chromosomal mutation.
		<ul style="list-style-type: none"> To know gene regulation in prokaryotes and eukaryotes.
		<ul style="list-style-type: none"> To know DNA finger printing & its importance.
		<ul style="list-style-type: none"> To know DNA damage & repair.
		Unit-4 Biotechnology & Industrial Botany
		<ul style="list-style-type: none"> After reading this unit students will be able
		<ul style="list-style-type: none"> To understand the fundamentals of totipotency and plant tissue culture techniques.
		<ul style="list-style-type: none"> To know the transgenic technology for the improvement of quality and quantity of plant and their product.
		<ul style="list-style-type: none"> To understand the advantages of in vitro propagation in various areas
		<ul style="list-style-type: none"> To realize the application and importance of plant tissue culture and transgenic plants.
		<ul style="list-style-type: none"> To gain thorough knowledge about various plant groups from primitive to highly evolved plants.
		<ul style="list-style-type: none"> To become aware of applications of different plants in various industries.
		<ul style="list-style-type: none"> To highlight the potential of these studies to become an entrepreneur.
		<ul style="list-style-type: none"> To equip the students with skills related to laboratory as well as industries based studies.
		<ul style="list-style-type: none"> To make the students aware about conservation and sustainable use of plants.
		<ul style="list-style-type: none"> To address the socio-economic challenges related to plant sciences.
USCEBO-610,	Ecology, Environment & Human Welfare	Unit-1 Ecology
		<ul style="list-style-type: none"> After reading this unit students will be able to understand the Community Ecology and Population Ecology (Types & Characteristics)
		<ul style="list-style-type: none"> To understand about Classification, Structure of biotic community.
		<ul style="list-style-type: none"> To understand the Character used in Community and Methods to study community.
		Unit-2 Ecological Succession

		<ul style="list-style-type: none"> • After reading this unit students will be able to understand concept of Climax theory. • To understand the Basic types of succession. • To understand the General process of Ecological Succession (Hydrosere, Xerosere) <p>Unit-3 Environmental Biology& Waste Management</p> <ul style="list-style-type: none"> • After reading this unit students will be able to understand the environmental botany. • To know the nature and its co-relation with human society. • To realize the impact of human activities on environment. • To understand global issues concerned with environment. • To know the sustainable development and care of environment. • To understand the connection between material, wealth & resources exploitation. • Worth the relationship between economic growth and environmental degradation. <p>Unit-4 Human Welfare</p> <ul style="list-style-type: none"> • After reading this unit students will be able to understand our Natural Resources. • To understand about Afforestation, Deforestation. • To know the Concept of Threatened Species. • To know about the Agencies working for Protection\ Conservation. • To Know about Biosphere Reserve, National Park, Sanctuary in India and Gujarat.
USCEBO-611	Gymnosperms, Phytogeography & Applied Botany	<p>Unit-1 Gymnosperms</p> <ul style="list-style-type: none"> • Understand Gymnosperms with respect to PALEOBOTANY distinguishing characters • Understand the life cycles of Ginkgo and Ephedra • Know the scope of Paleobotany, Techniques for studying fossil • Understand the various fossil genera, representing different fossil groups of Pteridophytes and Gymnosperms <p>Unit-2 Phytogeography</p> <ul style="list-style-type: none"> • Students will be able to know Geographic & Bathymetric Distribution. • To know Major Plant Communities of World, India & Gujarat.

		<ul style="list-style-type: none"> To discover botanical regions of India and vegetation types of Gujarat and India.
		<ul style="list-style-type: none"> To Know about Endemism , types of Endemism and some endemic plant of kachchh and Gujarat.
		Unit-3 Plant Breeding
		<ul style="list-style-type: none"> Students will be able to know the concept of plant Breeding.
		<ul style="list-style-type: none"> To know the Selection methods of plants.
		<ul style="list-style-type: none"> To know types & methods of Hybridisation.
		<ul style="list-style-type: none"> To know Apomixis, Development, Potential for crop improvement.
		<ul style="list-style-type: none"> To introduce the student with branch of plant breeding for the survival of human being from starvation.
		<ul style="list-style-type: none"> To study the techniques for production of new superior crop varieties.
		Unit-4 Applied Botany
		<ul style="list-style-type: none"> Students will be able to gain thorough knowledge about various plant groups from primitive to highly evolved Ethnobotanical plants.
		<ul style="list-style-type: none"> To highlight the potential of these studies to become an entrepreneur.
		<ul style="list-style-type: none"> To make the students aware about conservation and sustainable use of plants.
		<ul style="list-style-type: none"> To address the socio-economic challenges related to plant sciences.
		<ul style="list-style-type: none"> To know Plants used by Tribes of Gujarat.
		<ul style="list-style-type: none"> To know the concept of garden.
		<ul style="list-style-type: none"> To study the special types of gardens
		<ul style="list-style-type: none"> To study different features of garden.
		<ul style="list-style-type: none"> To study the different ornamental garden plants
		<ul style="list-style-type: none"> To Know about Nursery Management.
USCEBO-612	Analytical Techniques & Research Methodology	Unit-1 Tools & Techniques
		<ul style="list-style-type: none"> Students will be able to understand the important tools used in botanical science.
		<ul style="list-style-type: none"> To know Principle, Structure and Uses of some basic tools used in botanical science.
		<ul style="list-style-type: none"> To understand the advantages of tools and techniques in botany.
		Unit-2 Imaging Related Techniques

- Students will be able to Know some imaging related microscopes.

- To Know types of Microscopy, its principles and application.

Unit-3 Chromatography

- **After reading the unit students will be able** to understand the concept of chromatography.

- To know about types of chromatography.

- To know about application of chromatography.

Unit-4 Biostatistics & Bioinformatics

- **After reading this unit student will be able** to understand Biostatistics.

- To know about Statistical Methods(collection of data, and analysis of data)

- To know about Diagrammatic & Graphic presentation of Data.

- To know aim and scopes of Bioinformatics.

SHREE R.R.LALAN COLLEGE BHUJ KUTCH

DEPARTMENT OF ECONOMICS

PROGRAMME OUTCOMES & OBJECTIVES

(AS PER KSKVKU SYLLABUS)

OF B.A. ECONOMICS

SEMESTER 1 TO 6 A.Y. 2023-2024

B.A. SEMESTER 1

Paper code: Major101/Minor101: Micro Economics 1

This paper provides students with the foundation theories of basic microeconomics including an introduction into the study of economics and analyses of economic agents' behaviours, particularly that of the individual and the firm. The course begins with a description of the subject area, traditional and modern Definitions of economics, cardinal utility approach, concept and theory of demand and supply and continues to introduce the basic concepts and theories that are used as the foundation of microeconomic theory and analysis. This includes discussions and applications of the theory of the consumer.

Paper code: Major 102: INDIAN ECONOMY 1

The objective of the paper is to help students understand the basic issues of Indian economy. This paper emphasis worlds countries economical classification like under developed, developing and developed countries. It deals with key problems of India's poverty, its causes, nature and elevation of poverty in India. This course will help students to understand the key issues of unemployment and inflationary pressures of the Indian economy.

Paper code: MD 101: CONCEPT OF TOURISM MANAGEMENT

This course provides the concept of tourism management. The course begins with a description of the subject area and its introduction. This course gives understanding of development of tourism, significance of tourism and international tourism.

Paper code: SEC 101: CENSUS UNDERSTANDINGS

This paper provides a comprehensive and the scientific study of population and to provide analytical skills on Demography. The course begins by focusing on understanding the core social demographic variables (e.g., birth rate, death rate, IMR, sex ratio, fertility, mortality, morbidity, migration), and how these variables influence population growth, composition, and structure. Population will be examined in relation to its sociological determinants and consequences. In the latter part of the course we will shift our attention to the critical evaluation of theory of population, population's impact on economic growth and development, environment and history of census and its process.

Paper code: VAC 101: ECONOMICS OF ENVIRONMENT

Students learn the relationship between Environment and Economics and the Current Environmental Problems around the globe. Also get awareness in the Conservation of Economic Resources. Students also learn the Ways and Means to enhance the Environmental Quality and also learn the linkages between environment and economics. An analytical knowledge is imparted through the study of implications of welfare economics in the concepts of environment, awareness in the conservation of economic resources, ways and means to protect the environmental quality, environmental policies of India.

B.A. SEM 2

PAPER CODE: Major 201/Minor 201: Micro Economics 2

This course provides a comprehensive knowledge of factors of production and its characteristics. The Outcome of the paper is to analyse the economic behaviour of individuals, firms and markets. It is mainly to equip the students in a rigorous and comprehensive understanding with the various aspects of, Firms behaviour and the theory of perfect and imperfect markets and equilibrium in different conditions.

PAPER CODE: Major 202: INDIAN ECONOMY 2

The objective of the paper is to help the students to understand the Indian economic scenario and Contemporary Issues of Indian Economy. The syllabus provides understanding of economic planning, population, poverty and unemployment in India.

Paper code: MD 201: APPLIED TOURISM MANAGEMENT

This course provides the concept applied tourism management. The course begins with a description of the subject area and its introduction. This course gives understanding of development of tourism, tourism infrastructure & travel management, tourism and environment.

Paper code: SEC 201: TYPES OF CENSUS DATA AND ITS UTILISATION

This paper provides a comprehensive and the scientific study of Census data and provides its utilisation in different policy making.

B.A. SEM 3

PAPER CODE CEEC 305/OEEC 305: MACRO ECONOMICS

Students gain knowledge on the subject matter of macro economics, various concepts of national income and consumption concepts. Students also gain theoretical knowledge of classical theories of employment. Students are aware of theories related to income propagation and have insights on economic problems like inflation, trade cycles and macroeconomic policies.

PAPER CODE CEEC 306/OEEC 306: ECONOMICS OF MONEY & BANKING

The study of macroeconomics is incomplete without a discussion of money and banking. The Money and Banking course will look at some key issues in the theory and practice of financial markets, monetary policy and banking and how their interactions affect the actual world. This course has two main objectives: One is to study the various types of money that has changed its form with time keeping in tune with the different stages of development of the society, to learn and go through the several functions of money and its important, the quantity theory of money (Classical and Cambridge approach). The second objective is to study how the banking sector has played a multi-dimensional and multi-directional role in overall development of the Indian economy.

PAPER CODE-CEEC307 CO-OPERATION

This course aims to teach students with basic knowledge of economic system of CO-OPERATION its principles and condition of its success, history of co-operative movement across the world. To analyze and understand the different economic system like capitalism,

socialism mixed economy in comparison with CO-OPERATION. It also covers the co-operative banking structure in India and legislative provisions for co-operative societies.

PAPER CODE-ACEC303 ECONOMY OF GUJARAT

The objective of the paper is to help students understand the regional economic scenario of Gujarat state. Paper covers three sectors of Gujarat's economic profile of primary, secondary and tertiary sectors. The syllabus provides understanding the role of (data analysis) these three sectors in Gujarat's national income and employment. The paper emphasises on providing more clarity on concepts like agriculture sector's production and productivity, cropping pattern, facilities of irrigation, agriculture market and demographic profile of Gujarat state.

The paper also helps to understand the economic picture of industrial and service sectors role in comparison to Indian economy. It covers the key foundations like industrial policy, health, education, transport, infrastructure, insurance banking and its issues.

B.A. SEM 4

PAPER CODE-CEEC 408/OEEC 407: KEYNESIAN ECONOMICS

The paper helps to understand the economic thought of J.M. Keynes whose economic thought were drastically change the world economy after great depression of 1929. This paper emphasis' on characteristics of Keynesian economics and it's critical thinking on classical economist and also covers concept like employment and interest theory, relationship between APC and MPC, consumption function, concept of multiplier.

PAPER CODE-CEEC 409/OEEC 408: ECONOMIC THOUGHTS

This course aims at introducing students to the understanding of how economic thought has developed over time, and the contribution of major economists in the past to building modern economic analysis. We will start with the rise (and the demise) of classical political economy (Smith-Ricardo-Malthus-Marx), and then will engage with the formation and homogenization of the mainstream neoclassical approach (Jevons-Marshall-Pigou). The final topic to be discussed will be the Indian economic thoughts (Kautilya-Gandhian economic thoughts-Dr A.K. Sen-Jagdish Bhagwati).

PAPER CODE-CEEC410: DEMOGRAPHY

This paper provides a comprehensive and the scientific study of population and to provide analytical skills on Demography. The course begins by focusing on understanding the core social demographic variables (e.g., birth rate, death rate, IMR, sex ratio, fertility, mortality, morbidity, migration), and how these variables influence population growth, composition, and structure. Population will be examined in relation to its sociological determinants and consequences. In the latter part of the course we will shift our attention to the critical evaluation of theory of population, population's impact on economic growth and development, environment and history of census and its process.

PAPER CODE- ACEC404: INDUSTRIAL ECONOMICS OF INDIA

Industrial economics is a distinctive branch of economics which deals with economic problems of firms and industries. It is concerned with the study of descriptive element and business policy and decision making elements of the subject. The subject defines the nature and scope of industrial economics, role of public and private sector, large and small scale industries, industrial policy and economic reforms of India since 1991.

B.A. SEM 5

PAPER CODE-CEEC511: INDIAN ECONOMY

The objective of this course is to help a student to understand Indian economic problems in the light of relevant economic theories and in a comparative perspective. Enable the students to appreciate the evolution of Indian economy, its institutional framework, different policies. The course acquaints the students with the policy regimes, structure and sectoral trends of Indian economy. It will enhance student's understanding of the Indian economy at the time of economic reforms. Students will have capability to understand government policies and will enable informed participation in economic decision making.

PAPER CODE-CEEC512: MICRO ECONOMICS-1

This course has been designed with the objective to help a student to understand the basic principles of microeconomics, the cardinal and ordinal utility approach to describe consumer behaviour in relevance to their day to day life. Students can exhibit the conceptual framework of the price elasticity of demand which helps us to understand how much a change in price will affect market behaviours.

PAPER CODE- CEEC 513: INTERNATIONAL ECONOMICS

This course provides a critical overview of theoretical, empirical and policy issues relating to international economics. This course provides an introduction to the main theories of international trade, including classical approaches and modern theories. It also covers topics in international macroeconomics and finance, including the balance of payments, exchange rate policy, and foreign trade of India.

PAPER CODE- CEEC 514: WELFARE ECONOMICS

The aim of the subject is to acknowledge students with the theories and issues of welfare, principles and methods of the analysis of welfare economics. The course consists of the fundamentals of welfare theory and its application to policy, welfare concepts and social choices theories, optimality, public goods, social improvement criteria, quality of life in nation and its measurement, theories of implementation.

PAPER CODE-CEEC515: ECONOMIC SYSTEM

In this paper students can learn the factors which are responsible for the emergence of different economic systems & learn about the framework, working mechanism, and distinctive features of different economic systems. It's Also help the students to understand the relevance of different economic systems in relation to the present economic environment.

PAPER CODE-CEEC 516A: RESEARCH METHODOLOGY

This course is designed to enable students to: 1) Identify and discuss the role and importance of research in the social sciences. 2) Understand some basic concepts of research and survey. 3) Have adequate knowledge of data collection, data analysis, hypothesis testing procedures and research design. 4) Discuss the concepts and procedures of census and sampling and develop understanding on various types of research.

PAPER CODE-CEEC516B: COMPUTER & ITS APPLICATIONS

Students will able to acquire the knowledge of working with MS Office and apply the different software in Economic analysis. It makes them familiar in skills such as data processing, analysis and interpretation relating to Economics.

B.A. SEM 6

PAPER CODE - CEEC 617: ECONOMICS OF DEVELOPMENT

The course deals with the principal issues of economic development in poor countries with the objective of preparing students for policy-oriented research in this subject area. This course covers the following topics: the meaning of economic development and economic growth, different theories that explain economic development and growth (Classical theory-Schumpeter-Rostow-Joan Robinson-Solow), the meaning and importance human development index, sustainable development.

PAPER CODE – CEEC 618: MICRO ECONOMICS 2

This paper provides a study about firms and their decisions about iso-quant, iso-cost and optimal production. Students will demonstrate their knowledge of the fundamental and technical concepts of production function. Students will be able to make decisions wisely using cost-benefit analysis. Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of a good produced. Understand the links between production costs and the economic models of supply. Understand how different degrees of competition in a market affect pricing and output. Students will learn and apply the basic theories of investment analysis in different model and able to solves problem of return of investment for entrepreneur.

PAPER CODE - CEEC 619: PUBLIC FINANCE

This paper provides a basic introduction of public finance. Students can learn and understand the meaning of public finance or government finance; its nature, subject matter, explain the differences between public finance and private finance and differentiate between the public and private goods. Students will able to acquire the knowledge of by Classifying the public revenue and its various sources; revenue receipts and non- revenue receipts, understand the tax and no-tax revenues.

Students can learn and understand how and in which manner government spends, the causes of increasing public expenditure in the modern economies, explain the varying effects of public expenditure on the economy and role of public expenditure in a developing economy

Students can gain knowledge and Understand about the various sources of government borrowing and the reasons behind the growing public debt, describe how the debt is repaid, the role of public debt in developing countries, explain the concept of debt trap.

CEEC 620: ENVIRONMENT ECONOMICS

Students learn the relationship between Environment and Economics and the Current Environmental Problems around the globe. Also get awareness in the Conservation of Economic Resources. Students also learn the Ways and Means to enhance the Environmental Quality and also learn the linkages between environment and economics. An analytical knowledge is imparted through the study of implications of welfare economics in the concepts of environment, awareness in the conservation of economic resources, ways and means to protect the environmental quality, environmental policies of India.

CEEC 621 STATISTICS FOR ECONOMICS

The present course has been specially designed for the students studying in the subject of economics at undergraduate level. The course will cover the essential aspects of statistics useful in economics central tendency, correlation and regression. The focus is on to give introductory exposure of statistics. By the end of this course, students should understand and know how to use statistics.

CEEC 622A: SURVEY

This paper provides direct opportunity to understand and examine nature, magnitude and impacts of the economical issues observed at local level; and make students more self expressive and to inculcate the skill of observation and analysis of micro level survey of Kutch region.

CEEC 622B: DISTRICT LEVEL ECONOMIC ANALYSIS

This paper provides comprehensive knowledge of economy of Kutch region; which includes geographic, socio-economic profile of Kutch district. Student can understand and identify the local level economic development pre and post earthquake in broad manner.

Department of English
Shri R.R. Lalan College, Bhuj.
(Estd. 1953, NAAC Reaccredited at B++)

PROGRAMME OBJECTIVES AND OUTCOMES - (BA – English)

- **Objectives**

- Educate students in both the artistry and utility of the English language through the study of literature and other contemporary forms of culture.
- Provide students with the critical faculties necessary in an academic environment, on the job, and in an increasingly complex, interdependent world.
- Graduate students who are capable of performing research, analysis, and criticism of literary and cultural texts from different historical periods and genres.
- Assist students in the development of intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning.

- **Outcomes**

- Students should be familiar with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.
- Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.
- Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.
- Students should be able to write analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.
- Students should be able to ethically gather, understand, evaluate and synthesize information from a variety of written and electronic sources.
- Students should be able to understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies.

B.A. GUJARATI COURSE OUTCOMES

Programme Outcome

The Department of Gujarati Graduate program intends to preserve further and disseminate the various aspects and forms of ancient Gujarati Literature in modern perspectives and aspirations. The program aims at equipping and enabling future respective of different knowledge domains, like Middle Age Poetry and Modern Literature etc. To empower the students with modern and scientific tools and Inter-disciplinary approach and to design such modules to help them in becoming good citizen, are other important aims of this course. This is the curriculum that can be developed in today's students by literary words.

Programme Specific Outcome

- The Student is able to demonstrate :
- Is able to interpret literary terms.
- Becomes good orator.
- Develops creativity in writing skill.
- Is able to give words to their imagination and create literature.
- Develops an increased knowledge and understanding of Gujarati Grammar.
- Develops a basic familiarity of the history of Gujarati literature.
- Student will be equipped for competitive exams.
- Becomes creative and artistic.
- Increases graduals of mother tongue

CE -101 & OE -203	(Arvachin padyarachnana abhyas kruti : Kalapina shreshth kavyo : Sam. Ramesh Shukla) It introduces the students to the recent Gujarati literature. It broadens their vision of society and life. (Arvachin Gujarati padhyno abhyas : 'Gangotri' : Umashanker Joshi) It helps the students to get information about modern Gujarati poetry forms. It enables them to evaluate poetry from aesthetic point of view.
CE- 102 & OE -204	The second paper of the syllabus is Gadya Krutino Abhyas : 'Shiyalani Savarno Tadko' – Vadilal Dagli. We teach the students the essay style. The students would know about Gujarati prose essay. The greatness of history of Gujarati literature. 'Melo' is current age's novel by young author Mavji Maheshwari. It tells story of rural area and love bonding between two different cast's lovers.
AC -101 & AC -202	'Vidisha' – Bholabhai Patel. It motivates them to be traveller. It also helps them to know our country's best monuments and places in special way. In other semester the book is 'Vananchal' by post Gandhian age author Jayant Pathak. This book is about

	childhood memoir story of Jayant Pathak. It also help to get ideas about rural panchmahal's rural area and author's attachment with their family members and people near to him and also love for their village's nature.
CE,OE -305 & CE-408,OE-407	(Arvachin padhy krutino abhyas : 'AAGMAN'-Mariz) It helps them to get ideas about structure of 'Gazal'- the unique literary form in basic percian language.It comes in gujarati literature. (Sahityswroop –Khand kavyo : Khandkavyo- Chinu Modi) It helps student to know the form of Khandkavy, which is based on mostly mythological tales, historical tales. It mostly shows life's pityedness and reality.
CE,OE -306 & CE -409, OE -408	'Study of Granthkar' is next paper in syllabus. The granthkar is Joseph Mekwan. One book is about Sketches of special persons, book named 'Vyathana Vitak'. They show the reality of our social adsorbed life. Next one is special novel awarded by Sahitya akademi Delhi 'Aangaliyat'. Which shows the pain of dalit people and step child.It helps sthudents to feel social vibes.
CE -307 & 410	(Madhyakalin Gujarati Sahityno Abhyas) It helps the students to be spiritual. It also gives them depiction of medieval Gujarai literature. Some point are described in next semester with same paper title.
AC -303 & 404	In allied corset there is a different kind of book about spiritual letters. It is edited by Himanshi Shelat. 'Swami and Sai's also shows the character of Swami Aanand & 'Sai' Makarand Dave. (Eva Re Ame Eva) is an autobiography of well-known humorist Vinod Bhatt. It helps students to know struggle in author's life and special narrative life style.
CE 511 & 617	(Gujarati Sahityno Abhyas :Arvachin) It gives them depiction of various author and literary genres of gujarati literature which helps them to develop literary point of view.
CE -512 & 618	The twelfth and eighteenth paper is Gujarati Grammar and Language. The students teach gujarati grammer that, in the future, can work as a language expert and know the basic rules of grammer.
CE -513 & 619	(Sahitya Vivechanna Sidhdhanto) It introduces them to the principles of literature which enables them to be creative. It also moulds them towards creative writing.
CE -514 & 620	Swatantroyatar Sahitya- Adhunik ane Anuaadhunik Yug. It introduces them to the modern and postmodern poetry, short story, novels of Guajarati literature. It evokes love for nature in them. It also teaches them family as well as cultural values. It also introduce them to feminism and Dalit -ism and its literature.
CE -515 & 621	(Gadhya Krutino Abhyas – 'Megli Rate' –Author 'Suhasi') It introduces them to Hali's system of leaving and their story of exploitation. In another book is 'Billo Tillo Tuch' an autobiography of well-known author of gujarati literature Gunvant Shah.
CE -516 & 622	The sixteenth paper is Sahitya, Samuh Madhyam ane Lekhan Kaushl. It gives them areidea about Multi mediais role in human life and also mass communication's form types and all that. In another semester there are literary essay, which give them ideas of literary event, forms, types and their evolution in society.

B.A HINDI COURSE OUTCOMES

PROGRAMME OUTCOME ;-

The BA program of Hindi department makes students aware of the latest trends of Hindi literature from primitive Hindi literature to modern Hindi literature. The main purpose of this program is to provide students with the knowledge of various poetic streams related to Hindi language literature, such as early poetry, devotional poetry, ritual poetry and modern era poetry and the works of poets of this era. Scientific approach, logical intelligence should be developed in the students, so that they can become enlightened citizens of the country. Through this course, students will be able to strengthen their heart, mind and intellect by becoming self-sufficient and help in the development of the country. This course has been constituted for the purpose of becoming an ideal citizen of this country.

PROGRAMME SPECIFIC OUTCOME ;-

this B. A HINDI program will make it possible to develop the following qualities and skills in the students.

- 1) Students will become sensitive, valuable by understanding the expressions of poetry.
- 2) Will be familiar with the rich history of Hindi literature.
- 3) Students will be able to acquire literary words.
- 4) Will be able to become a good speaker.
- 5) The writing power of the students will increase.
- 6) Through the power of your imagination, you will be able to become a literary producer in the direction of becoming a good poet or writer.
- 7) By acquiring the knowledge of the national language, efforts will be made to promote the national language from a scientific point of view in the quality of the national language, official language.
- 8) Students will be prepared for competitive examinations.
- 9) The creative power will develop in the students and they will become proficient in arts like singing, playing, acting, music.
- 10) The special purpose of this program is to awaken the dormant powers of the students by increasing their self-confidence.

SYLLBUS OUTCOMES ;-

CEHN-101 & OEHN-101	<p>(Aadhunik hindi kvita –kvita ke sopan-kavysangrah-sampa- hindi adhayayan smiti-kachchh university –bhuj.</p> <p>-This text is related to the poems of the popular poets of the modern period of Hindi, -in which the poems of nationalism, nature and personal have been included.</p>
OEHN-203 & CEHN-203	<p>Modern poetry, poetry, poetry collection, Hindi study committee, Kutch University, Bhuj.</p> <p>-Students will be familiar with modern Hindi poetry.</p> <p>-By understanding the expressions of the poets, you will be able to taste the poetry.</p>
CEHN-102& OEHN-102	<p>Modern Hindi Story - Bouquet of Prose -Sampa. Hindi Studies Committee Kutch University Bhuj </p> <p>-This text work is related to prose literature.</p> <p>-Students will get information about the literary form of Hindi story.</p> <p>-Students will be able to know the history of Hindi story.</p> <p>- Will be aware of the characters and ideologies depicted in the stories.</p>
CEHN-204& OEHN-204	<p>Hindi novel -Nirmala -writer Premchand</p> <p>-It is a novel work, which is a document of Indian rural social life.</p> <p>-With this, the students will get an introduction to the broken life of the suffering, exploited and agricultural life living in the rural environment.</p>
ACHN-101	<p>Indian Prose Literature - Prose Miscellaneous. Editor - Hindi Studies Committee Kutch University Bhuj </p> <p>-This text composition includes popular stories from Hindi, Bengali, Marathi language.</p> <p>-The feelings expressed in the stories will be benefited by the idea.</p>
ACHN-202	<p>Indian Prose Literature -Prose Miscellaneous -Sampa -Hindi Studies Committee Kutch University Bhuj </p> <p>-Students will acquire knowledge from prose literary forms like monologue, essay, satire, memoir.</p> <p>- Will be able to learn the use of letter writing, abbreviation, elaboration, translation etc. in practical life</p>
CEHN-305 OEHN-305	<p>Navya Modern Hindi Poetry - Hindi Studies Committee Kutch University Bhuj</p> <p>-Students will understand the beauty of Hindi poetry and creative expression of poetry writing will develop in them.</p> <p>-Will be able to know the Indian identity.</p>
CEHN-306 OEHN-306	<p>Hindi Drama -Andhernagri -Bhartendu</p> <p>-Students will understand the history of Hindi theatrical literature and drama.</p> <p>-Students will get information about the past, devoid of wisdom, corrupt society.</p> <p>-You will get to know about the personality and work of Bharatendu.</p>
CEHN-307	<p>History of Hindi Literature - Primitive Literature</p> <p>-Students will know the development of the history of Hindi literature.</p> <p>- Will be aware of the ancient Raso literature.</p>

	<ul style="list-style-type: none"> -Will be familiar with the evolutionary point of view of Bhaktikal. -The expressions of poets like Surdas, Kabir Das will imbibe the beauty. -Know the philosophical background of Nath, Siddha, Jain sects
CEHN-410	<p>Medieval Hindi Poetry - Saguna Bhakti and Ritikavya</p> <ul style="list-style-type: none"> -Humanistic and syncretic vision of Tulsidas will be found. - Will be familiar with the creative talent of the ancient poets. -Mirabai will understand the meaning of the phrase.
CEHN-408 OEHN-407	<p>Khandkavya - Pravard Parv - Naresh Mehta</p> <ul style="list-style-type: none"> -Understanding the nature of Khandkavya, students will understand the importance and characteristic of Khandkavya. - Will be aware of the personality and creativity of Naresh Mehta. -Students will be able to identify mythological little-known characters.
Cehn-409 Oehn-409	<p>Essay and other prose genres</p> <ul style="list-style-type: none"> -Students will be able to know the nature and development of Hindi essay. -Students will get knowledge of essay creation process of Hindi essay writers. -Extensive curriculum will develop essay writing skills in the students referred to the study
ACHN-303	<p>Essay-Selected Humor-Satire-Sampa-Hindi Studies Committee Kutch University</p> <ul style="list-style-type: none"> -Students will be able to understand the thoughts, feelings and feelings of the authors through textual essays. - Will be able to know the writing style of satirical literature.
ACHN-404	<p>Khandkavya-Panchvati-Maithilicharan Gupta</p> <ul style="list-style-type: none"> -Students will be aware of the nature of Khandkavya and their characteristics. -Maithilicharan will be able to know Gupta's personality and creativity - Will assimilate the culture, civilizational values and ideals contained in the work. -Adarsh will learn the concept of Ram Rajya.
CEHN-511	<p>History of Modern Hindi Prose</p> <ul style="list-style-type: none"> -By understanding literary forms like Hindi story, novel, drama, one-one, essay, criticism etc., -you will be aware of his development journey. -Will learn about Guleriji's story art. -Will get introduced to Bhubaneshwar as a soloist. Critical vision will be developed in the students. -Balchanma will be able to savor the role of Hindi literature.
CEHN-512	<p>Indian Poetry</p> <ul style="list-style-type: none"> - Will be familiar with the major poetic principles of Indian Poetry By acquiring knowledge of the characteristics of verses and ornaments, they will be able to identify them. - Poetry forms will refine literary melodious consciousness.
CEHN-513	<p>Distinguished litterateur - Poetry mode - A vocal poison - Dushyantkumar</p> <ul style="list-style-type: none"> -This text is related to Khandkavya, from this the students will be aware of the form of Khandkavya. - One will find the knowledge of the conceptuality represented in the throat poison.

	<ul style="list-style-type: none"> -Will understand the glory of mythological characters like Veerani, Daksha, Sarvahat, etc.
CEHN-514	<p>Distinguished litterateur - Prose genre - Divya - Yashpal</p> <ul style="list-style-type: none"> -Students will be able to review the novel by understanding the nature of the novel. -You will be able to know the personality and creativity of Yashpal. -Based on the story of this novel built on the historical background, we will understand the character of Marish and Divya. -Originality and writing power will be built in the students.
CEHN-515	<p>Hindi language and grammar</p> <ul style="list-style-type: none"> - You will get an introduction to the beautiful journey of Hindi language. -Will be aware of the classification of the languages of the world. -Know the different dialects of the national language Hindi. -We will learn about the national script of our country, Devanagari.
CEHN-516A	<p>objective hindi</p> <ul style="list-style-type: none"> - Will understand the concept of purposeful Hindi. - Official language Hindi will be able to know the constitutional status. -By understanding the format of letter writing, you will be able to make practical use of various forms of administrative letters. -Students will be able to understand linguistic policies.
CEHN-617	<p>History of Modern Hindi Poetry (up to 1950)</p> <ul style="list-style-type: none"> -Unity, fraternity and national spirit will be built among the students through the study of national poetry. -Dwivedi will be able to grasp the sentiment of the reformist poetry of the era. -The usefulness of the poems of Chhayavad, Experimentalism, Progressive Poetry will be known.
CEHN-618	<p>Western Poetry and Hindi Criticism</p> <ul style="list-style-type: none"> -Students will know the history of Western poetry. -Will get knowledge of poetic principles of Plato, Aristotle, Longineus, Wordsworth, Matthew Arnold etc. -Bymb.myth in poetry, understanding the importance of symbols, you will be able to use them in poetry.
CEHN-619	<p>Distinguished litterateur (verse) saye men dhup - Dushyantkumar</p> <ul style="list-style-type: none"> -Students will be able to understand the nature of Ghazal literature. - Will know the craft structure of Dushyantkumar's Ghazals. -You will be able to taste the ghazals of Dushyantkumar.
CEHN-620	<p>Distinguished litterateur - Prose - My favorite stories - Bhishma Sahni</p> <ul style="list-style-type: none"> -The creative talent of Hindi story writing will be developed in the students. -Students will be aware of the story-craft of Bhishma Sahni's stories.
CEHN-621	<p>English grammar</p> <ul style="list-style-type: none"> -Students will be able to remove their linguistic inaccuracies, inconsistencies and damages from the grammar related to the curriculum. -Students will be able to gain knowledge of the need for grammar and systematicity in the language.

	<p>-Students will learn the use of noun, golden, verb, adjective, sentence etc. in practical life.</p>
CEHN-622A	<p>creative writing and translation</p> <p>-Students will learn creative writing of forms like poetry, fiction, drama.</p> <p>-By understanding the nature of translation, you will be familiar with the art of translation.</p> <p>-Writing power will develop.</p>

Department of Mathematics
Shree R. R. Lalan College, Bhuj

Outcomes

The Department of Mathematics at Shree R. R. Lalan College is committed to fostering academic excellence and providing students with a solid foundation in mathematical principles and practices. Our Bachelor of Science (B.Sc.) program in Mathematics, affiliated with KSKV Kachchh University, Bhuj aims to equip students with the knowledge, skills, and analytical thinking necessary for success in various professional and academic pursuits.

Upon successful completion of the B.Sc. in Mathematics program, students can expect to achieve the following outcomes:

1. **Proficiency in Mathematical Concepts:** Graduates will demonstrate a strong understanding of fundamental mathematical concepts across various branches of mathematics including calculus, algebra, geometry, statistics, and discrete mathematics.
2. **Problem-solving Skills:** Students will develop analytical and problem-solving skills essential for tackling complex mathematical problems. Through coursework and practical applications, they will learn to approach problems logically and systematically, fostering critical thinking abilities.
3. **Quantitative Analysis:** Graduates will be proficient in conducting quantitative analysis and interpreting mathematical data. They will be capable of utilizing mathematical tools to analyze real-world problems, make informed decisions, and draw meaningful conclusions.
4. **Mathematical Modelling:** Students will gain experience in mathematical modeling techniques, enabling them to formulate mathematical models to represent and solve practical problems arising in various fields such as engineering, economics, finance, and the sciences.
5. **Effective Communication:** Through written reports, presentations, and mathematical discourse, students will enhance their ability to communicate mathematical ideas effectively to both technical and non-technical audiences. They will develop clarity and precision in mathematical exposition.
6. **Research Skills:** The program fosters research skills by engaging students in independent study projects, collaborative research endeavours, and exposure to advanced mathematical topics. Graduates will be prepared for further academic pursuits or careers in research-oriented fields.
7. **Technological Proficiency:** Students will be proficient in utilizing mathematical software tools and computational techniques to solve problems, visualize mathematical concepts, and explore mathematical ideas beyond traditional pen-and-paper methods.
8. **Preparation for Advanced Study:** The program provides a solid foundation for students intending to pursue further education at the graduate level in mathematics or related fields. Graduates will be well-prepared to undertake advanced coursework and research in their chosen area of specialization.

9. **Career Opportunities:** With a strong mathematical background, graduates will be prepared for a wide range of career opportunities in fields such as finance, data analysis, education, engineering, computer science, actuarial science, operations research, and more.
10. **Professional Ethics:** Students will develop an understanding of the ethical considerations inherent in the practice and application of mathematics, including issues related to academic integrity, professional conduct, and societal implications of mathematical research and applications.

The Department of Mathematics is dedicated to nurturing a supportive learning environment that encourages intellectual curiosity, creativity, and a passion for mathematics. Our faculty members are committed to providing personalized attention, mentorship, and guidance to help students achieve their academic and professional goals. We are proud to prepare students for success in their future endeavours and to contribute to the advancement of mathematical knowledge and applications in society.

DEPARTMENT OF PHYSICS

PROGRAMME SPECIFIC OUTCOMES & COURSE OUTCOMES

PROGRAMME: B.Sc. PHYSICS (Hons) OR B.Sc. PHYSICS (Hons With Research)

PROGRAMME OUTCOMES

PO-1 Students are intended to develop a conceptual understanding of physics principles. They will be able to demonstrate concepts in Classical Mechanics, Electromagnetism, Thermodynamics, Spectroscopy, Solid State Physics, Nuclear Physics and Quantum mechanics.

PO-2 Graduates should be able to transfer and apply the acquired concept and principles to study different branches of physics.

PO-3 Demonstrate the ability to translate a physical description to a mathematical equation and conversely explain the physical meaning of the mathematics, represent key aspects of physics through graphs, circuits, diagrams and use geometric arguments in problem-solving.

PO-4 Demonstrate the ability to justify and explain their thinking or approach both written and oral.

PO-5 Make measurements on physical systems understanding the limitation of the measurements and the limitations of models. Complete an experimental work, and report to the faculty by tabulating the readings and present the outcome of the experimental work.

PO-6 Development of the ability to appear for the competitive exams.

PROGRAMME SPECIFIC OUTCOMES

PSO-1 Students are expected to acquire core knowledge in physics, including the major areas of classical mechanics, quantum mechanics, electromagnetism, optics, electronics, modern physics and Electronics including digital electronics.

PSO-2 Students will develop the proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.

PSO-3 Students will show that they have learned laboratory skills enabling them to take measurements in a physics laboratory and analyze the measurements to draw valid conclusion.

PSO-4 Students will be capable of oral and written scientific communication and will prove that they can think critically and work independently.

PSO-5 Students will realize and develop an understanding of the impact of physics and science on society and their day to day life.

PSO-6 Discover of physics concepts in other disciplines such as mathematics, computer science, chemistry, geology and etc.

COURSE OUTCOMES:

➤ Mathematical Physics

Students will have understanding of various techniques to solve differential equations. How to use vector calculus in various physics problems. Students will be able to use advanced mathematical methods and theories on various mathematical and physical problems. Understand matrix and partial differential equations.

➤ Classical Mechanics

Students will be able to articulate and describe relative motion. Inertial and non-inertial reference frames. Parameters defining the motion of mechanical systems Study of the interaction of forces between solids in mechanical systems. Centre of mass of mechanical systems. Laws of motion and conservation principles. Lagrangian and Hamiltonian formulation.

➤ Electricity and Magnetism

Students will be able to understand the relationship between electrical charge, electrical field, electrical potential, and magnetism. Solve numerical problems involving topics covered. Define the magnetic field and magnetic flux, solve technical problems. Calculate the magnitude and direction of the magnetic field for symmetric current distributions using the Law of Biot-Savart and Ampere's Law. Principles of Electric Fields, Gauss's Law, Electric Potential, Capacitance and Dielectrics, Current and Resistance, Direct Current Circuits, Magnetic Fields, Sources of Magnetic Fields, Faraday's Law, Inductance, Alternating Current Circuits, and Electromagnetic Waves. Solve mathematical problems involving electric and magnetic forces, fields, and various electro-magnetic devices and electric circuits.

➤ Waves and Optics

Students will be able to understand the role of the wave equation and appreciate the universal nature of wave motion. Understand superposition of harmonic waves. Understand interference and diffraction (Fraunhofer and Fresnel diffraction). Understand optical phenomena such as polarization. Through the lab course, understand the principles of measurement and error analysis and develop skills in experimental design.

➤ Statistical and Thermal Physics

Completion of this course will enable the students to know the basics of thermal physics. Make use of different problem solving techniques in the field. Understand the kinetic theory of gases: Maxwell –Boltzmann distribution law, Brownian motion etc. Understand the behavior of real gases. Understand how statistics of the microscopic world can be used to explain the thermal features of the macroscopic world. Use thermal and statistical principles in a wide range of applications. Learn a variety of mathematical techniques. Understand Bose-Einstein and Fermi Dirac statistics.

➤ Digital Electronics and Applications

Completion of this course will enable the students to understand the logical behavior of digital circuits. Understand the advantages and disadvantages of programmable logic devices Know how to describe digital hardware using a software-style language Understand how a basic digital circuit can be built from standard building blocks.

➤ **Electromagnetic Theory**

Completion of this course will enable the students to apply vector calculus to understand the behavior of static electric and magnetic fields in standard configurations. Describe and analyze electromagnetic wave propagation in free-space. Describe and analyze transmission lines, and understand the basic of fiber optics.

➤ **Solid State Physics**

Students will have understanding of structures in solids and their determination using XRD. Behavior of electrons in solids including the concept of energy bands and effect of the same on material properties. Magnetic and dielectric properties of solids. Practice problem solving by using selected problems in solid state physics.

➤ **Quantum Mechanics**

Completion of this course will enable the students to understanding of importance of quantum mechanics compared to classical mechanics at microscopic level. Understand various tools to calculate Eigen values and total angular momentum of particles. Understand Schrodinger's equation for spherical symmetric potential, complete solution of hydrogen atom. Understand atoms in external electric and magnetic field. Learn the mathematical tools needed to solve quantum mechanics problems. This will include complex functions and Hilbert spaces, and the theory of operator algebra. Solutions of ordinary and partial differential equations that arise in quantum mechanics will also be studied.

➤ **Nuclear and Particle Physics**

Upon completion of the course Students will have understanding of basic properties of nucleus and nuclear models to study the nuclear structure properties. Various aspects of nuclear reactions will give idea how nuclear power can be generated. Nuclear fission and fusion. Basic of elementary particles.

➤ **Spectroscopy**

Completion of this course will enable the students to understanding of importance of atoms and molecular structure and their behavior of rotation, vibration and their interatomic distances through spectroscopy.

➤ **Electronics**

Completion of this course will enable the students to understanding of importance of electronic circuits and their working phenomenon. How to get DC from AC. Behaviour of rectification circuits from diodes. Behaviour of Transistors and amplifiers and their working modes. Importance of Feedback circuits. To obtain oscillators to generate desired frequency.

➤ **Modern Physics**

Completion of this course will enable the students to understanding of importance of modern physics concepts. Einsteins relativity phenomena different from Newtonian Mechanics. Know about the behavior of Plasma, a fourth state of matter and their behavior in electric and magnetic fields. Medical instruments working on the concepts of physics laws. About the sun and its atmosphere.