Government Degree College Kathua
(J&K) India

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES:

Mechanism of Communication: The following mechanism is followed by the institution to communicate the learning outcomes to the teachers and students.

- Hard Copy of syllabi and Learning Outcomes are available in the departments for ready reference to the teachers and students.
- Learning Outcomes of the Programs and Courses are displayed on the walls outside each department.
- The importance of the learning outcomes has been communicated to the teachers in every IQAC Meeting and College Committee Meeting.
- The students are also made aware of the same through Tutorial Meetings.

Department of Chemistry

Program Outcomes:

B.Sc.

1. Science student is able to acquire knowledge of different innovations in scientific world.
2. He is able to develop scientific temper and thus can prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace.
3. He has the option of going for higher studies and then do some research for the welfare of mankind or he may opt to go for facing competitive examinations.
4. After higher studies he can join as a scientist, or he may go to serve in education sector as an Assistant Professor in a college or a University.
5. He can join Indian Army, Indian Navy, Indian Air Force as officers.
6. He has the option of joining IAS or Indian Forest Services.
7. He can go to serve in industries or may opt for establishing his own industrial unit.
8. He can join banking services.
9. He can join as a researcher in institutes of high name and fame.
10. He can compete in so many competitive examination after passing his Graduation or Post Graduation Course.

Program Specific outcomes:

B.Sc.Medical/Non-Medical

a) B.Sc. Medical

1. B.Sc. Medical student is able to acquire knowledge regarding Botany, Zoology, Chemistry, Biotechnology, Fish and Fisheries.

2. Medical Students will be able to define and explain major concepts in the biological sciences.
3. They are able to correctly use biological instrumentation and proper laboratory techniques.
4.Students will be able to communicate biological knowledge in oral and written form.
5. Students will be able to recognize the relationship between structure and function at all levels: molecular, cellular, and organismal.
6. They can go for Indian Forest Service and other competitive examinations.
7. They can opt for higher studies in Botany, Zoology, Chemistry, Biotechnology and Fisheries.
8. Biotechnology is another fast growing field which is more applicable in Industries and Hospitals.

b) B.Sc. Non-Medical

1. B.Sc. Non-Medical student is able to concentrate on Chemistry, Physics, Geography and Mathematics.
2. A non-medical student will demonstrate a scientific knowledge of the core physics principles in Mechanics, Electromagnetism, Modern Physics, and Optics.
3. He is able to demonstrate basic manipulative skills in algebra, geometry, trigonometry, and beginning calculus.
4. The student will determine the appropriate level of technology for use in: a) experimental design and implementation, b) analysis of experimental data, and c) numerical and mathematical methods in problem solutions.
5. He will be able toapply the underlying unifying structures of mathematics (i.e. sets, relations and functions, logical structure) and the relationships among them.
6. He caninvestigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods.
7. The student will acquire knowledge of Chemical Thermodynamics, Kinetics, Electrochemistry, Atomic Structure, Organic Chemistry, Spectroscopy and Skill in Industrial Chemistry.
8. He will gain knowledge of Geography in Indian Context and also World Geography. He will know about forests, mountains, lakes, rivers.
9. A non-medical student can join Indian Air Force, Indian Navy and can also go for other competitive exams. He can go for higher studies in Mathematics, Chemistry, Physics or Geography.
10. He can join as a scientist in research institutes of immense knowledge having a great scope for growth and development. He can prove to be an asset for the society by producing something more innovative.
11. Banking sector is another good option for non-medical students.

Course Outcomes

Chemistry:

1. The student will be able to study the basic concepts in chemistry.
2. The student will acquire knowledge of Chemical Thermodynamics, Kinetics, Electrochemistry, Atomic Structure, Organic Chemistry, Spectroscopy and Skill in Industrial Chemistry.
3. The experimental work makes the student to get trained in chemical analysis. The student also is able to find out pH value, viscosity, surface tension of various liquids. He learns the use of equipment like pH meter, polarimeter and refractometer.
4. The student will effectively communicate their knowledge of Chemistry from basic concepts to specific detailed presentations.
5. The student will demonstrate a purposeful knowledge of scientific literature and ethical issues related to Chemistry.
6. The student after studying chemistry course at undergraduate level is able to join University for PG Course and then after that can go for research in specific fields in chemistry.
7. After completion of higher qualification they have the option of joining as Assistant Professor in colleges and Universities.
8. They can join as scientist in ISRO and BARC.
9. The students can join industry as the skill enhancement courses in chemistry can enable them to go for industrial preparations.
10. They can go for establishing their own industrial unit by taking loan from bank.
11. They can go for competitive exams like IAS and KAS.
12. They have the option of joining Banking sector.
13. Another option is of joining armed forces as an officer.

Department of Biotechnology

Programme Outcomes of biotechnology:

Biotechnology teaches about biological sciences with engineering technologies that manipulate living organisms and biological systems to produce products that advance healthcare, medicine, agriculture, food, pharmaceuticals and environment control. On Successful Completion of this subject the students should have a sound knowledge about - combining living matter, in the form of organisms or enzymes, with nutrients under specific optimal conditions to make a desired product.

Programme Specific Outcome of Biotechnology: (Four hours lecture and Four hours lab per week.)

A general course emphasizing distribution, morphology and physiology of microorganisms in addition to skills in aseptic procedures, isolation and identification. This course also includes sophomore level material covering immunology, virology, epidemiology and DNA technology. Recommended for all allied Science students.

1. Graduates will gain and apply knowledge of Biotechnology, Science and Engineering concepts to solve problems related to field of Biotechnology.

2. Graduates will be able to identify, analyze and understand problems related to biotechnology Engineering and finding valid conclusions with basic knowledge in biotechnology Engineering.

3. Graduates will be able design, perform experiments, analyze and interpret data for investigating complex problems in biotechnology Engineering and related fields.

4. Graduates will be able to decide and apply appropriate tools and techniques in biotechnological manipulation.

5. Graduates will be able to justify societal, health, safety and legal issues and understand his responsibilities in biotechnological engineering practices

6. Graduates will be able to understand the need and impact of biotechnological solutions on environment and societal context keeping in view need for sustainable solution.

7. Graduates will have knowledge and understanding of related norms and ethics in Biotechnology Engineering product/technique development.

8. Graduates will be able to undertake any responsibility as an individual and as a team in a multidisciplinary environment.

9. Graduates will develop oral and written communication skills.

10. Graduates will have thorough knowledge in Biotechnology Engineering and will also be ready to engage themselves in lifelong learning.

Course Outcomes:

	Course	**Outcomes**
1	Cell biology	This course presents the types and structural details of the basic unit by which all the living things are made of (the cell). Goals: To make the student to understood the concept of cell and their activities. This course presents the types and structural details of the basic unit by which all the living things are made of (the cell). Goals: To make the student to understood the concept of cell and their activities.
2	Microbiology	This course presents the study of Micro organisms. Goals: To make the student to understood Micro organisms and their participation in day to day activities. Objectives: On successful completion of the subject the student should have understood the Role of microorganisms in the diversity

3	Biochemistry	This course presents the chemical reactions or metabolic functions in the living system and their regulations. Goals: To make the student to understood the concept of biochemical regulations Objectives: On successful completion of the subject the student should have understood: Basic Structure and metabolism of Biomolecules.
4	Genetics	This course presents the way characters get transferred through generations and methods to analyze and modify them Goals: To make the student to understood the concept of genes and their behaviour Objectives: On successful completion of the subject the student should have understood: Basic genetics and their role.
5	Plant & Animal Biotechnology	This course presents the application of Plants in Biotechnology Goals: To make the student to understood usage of Plant and Animal products and exploitation of them in Biotechnology. Objectives: On successful completion of the subject, the student should have understood: Crop development, Callus culture, Biotechnological applications of plants, Animal tissue culture, Animal products, production & improvement of them.
6	Immunology	This course presents the basic defense mechanism of animals Goals: To make the student to understood the concept immunology Objectives: On successful completion of the subject the student should have understood: Immunity, Antigen, Antibody, Cells of immune system and their function and regulations
7	Recombinant DNA Technology	This course presents the mechanism of gene manipulation Goals: To make the student to understood the concept of gene manipulation and gene transfer technologies Objectives: On successful completion of the subject, the student should have understood: Manipulation of genes, Transfer techniques, Expression systems and methods of selection
8	Microbial Biotechnology	This course presents the utility of Microbes Goals: To make the student to understood the applications of Microbes Objectives: On successful completion of the subject the student should have understood: Fermentation, Microbial products, Vaccine and antibiotics.
9	Bioinformatics	Bioinformatics courses may include molecular biology, probability, statistics, computing and informatics.
10	Bioprocess Technology	This paper presents the basics of fermentation technology, media components as applied to lab scale, pilot scale and industrial scale upstream and down stream processing. Goals: This paper is introduced to acquire requisite skills for the design and

		development of bioreactors, production optimization, and preparation of sterile base materials for downstream processing. Objectives: On successful completion of the course the students should have understood the basics of fermentation technology and learnt the concept of screening, optimization and maintenance of cultures.
11	Medical Microbiology	To inculcate knowledge in relationship between human disease and micro organisms, pathogenicity, laboratory diagnosis and treatment methods.

Department of Botany

Programme outcomes:

1. To gain in depth knowledge about different groups of plant kingdom in respect of diversity, structure (external and internal), organization and life-cycle patterns.
2. To enable the students to understand plant physiology and metabolism; plant taxonomy; utilization and ecological importance of plants and their inter and intra-relationships.
3. To impart knowledge in cell biology, genetics and molecular biology and biotechnology.
4. To equip the students with knowledge on plant embryology.
5. To teach skill enhancement courses related to plants for self employment generation.

Course outcomes:

1. **Plant diversity:** detailed study of structure, reproduction and life-cycle of viruses, bacteria, thallophytes, bryophytes, pteridophytes and gymnosperms.
2. Detailed study of taxonomy, embryology, anatomy and economic importance of angiosperms.
3. Study of plant physiology, cell biology, genetics, biotechnology and biochemistry.
4. Study of ecology and environmental issues viz. global warming, climate change, water and soil conservation, and sustainable use of natural resources.
5. Teaching skill courses based on plants like Nursery and gardening, ethnobotany, mushroom cultivation and biofertilizers for enhancing the entrepreneurship scope of the students.

Department of Industrial Fish and Fisheries

Programme outcomes:

1. To gain in depth knowledge about different groups of aquatic organisms (fish and shellfish) in respect of diversity, morphology, physiology and social behaviours.
2. To enable the students to understand the patterns of capture fisheries in different aquatic habitats.
3. To impart knowledge about aquaculture systems, food and feeding, breeding and seed production technology.
4. To equip the students with knowledge of construction, setting and maintenance of aquarium.
5. To teach skill enhancement courses related to fisheries for entrepreneur development and employment generation.

Course outcomes:

1. Detailed study of taxonomy, morphological features and comparative study among fishes.
2. Study of inland and marine capture fisheries resources of India, different types of gears used and conservation and management of fisheries resources.
3. Detailed study of aquaculture practices viz. management of different culture systems, feeding, breeding and fish health management.
4. Study of construction, setting and management of different types of aquarium.
5. Teaching of skill based courses of fisheries like Carp culture, Ornamental fish farming, Aquatic ecology and Fishing technology for the development of the entrepreneurship abilities among the students.

Department of Geology

PROGRAMME OUTCOME AND JOB OPPORTUNITIES IN THE FIELD OF GEOLOGY

There are good job opportunities in the subject in the fields like teaching, research and organizational work. The entry-level post in the teaching is the post of Assistant Professor/Lecturer, which requires master degree in geology with 55% marks, and NET/SLET/PhD.

National level organizations like National Geophysical Research Institute (NGRI), Hyderabad; National Antarctica Research Centre, Goa; National Remote Sensing Centre (NRSC),

Hyderabad; Space Applications Centre (SAC), Ahmedabad; Indian Institute of Remote Sensing (IIRS), Dehradun; Central Ground Water Board; Geological Survey of India; National Mineral Development Corporation; Indian Bureau of Mines; Atomic Mineral Development Corporation; Oil and Natural Gas Corporation Ltd; Uranium Corporation of India, Ltd. requires the geologist for research and exploration work.

Union Public Service Commission (UPSC) conducts the examination for the post of Geologist in Geological Survey of India, Ministry of Mines, and Government of India. For this examination, a candidate with master's degree in geology can apply.

ONGC conducts competitive test for the executive trainee (Geology) which after completion of training absorbs in the company. For this examination, a candidate must have 65% marks in M.Sc./M.Tech. In geology/applied geology. Now ONGC recruits through GATE examination.

Atomic Mineral Development Corporation (AMDC) also recruits scientific officer (geology) on all India competitive examination and prefers candidate with first class bachelor and master's degree.

The research organization like National Geophysical Research Institute, Space Applications Centre, National Remote Sensing Centre, National Institute of Oceanography recruits scientist-B/scientist-C.

Besides, above, state government have departments like groundwater department, department of mining and geology, and disaster management centres that requires geologist for geological/hydrogeological works.

In private sector, there are good scope of geologist especially in mineral investigation, oil exploration, mining and hydrogeological surveys. There are number of private organizations working in geological, geotechnical and hydrogeological surveys, which requires trained geologist. The salary depends on the qualification and experience and can earn good amount.

Department of Geography

PROGRAM/COURSE OUTCOMES IN GEOGRAPHY

Geography is the science of earth’s surface as a home of man and its inter-relationships with its surrounding environment. There are various components of Geography such as Lithosphere, Hydrosphere, Biosphere and Atmosphere and their systematic studies.

As a student of Geography, the pupils get scientific knowledge about the weather phenomena, change in landform features, oceanic circulation , and development of human race with spatial and temporal imprints.

Students can prepare themselves for various Govt.jobs like SSB, SSC, CIVIL SERVICES,DEFENCE and other competitive exams by getting basic knowledge of land and people(features,demographic characteristics,regional studies)

Geography provides vivid details of maps which covers the main course of competitive exams.The students after studying Practical Geography is able to do the instrumental surveys physically,Remote sensing , GIS and Digital cartography.

He can be a better Town planner[example in this context is newly developed cities in the world as well as in India-Singapore,Naya-Raipur,Amravati (under-construction) capital of Andhra pradesh].

As Tourist guide(he will know the locations of various historical places, archeological sites,various national parks,industrial centres,cultural traits , food and cuisines, monuments, malls, that will give tourist more enjoyable and memorable trip)

Environmentalists,(how to conserve environment is the key issue of environmental studies in the 21^{st} century) .

Soil analysts(analyzing various soils so that it helps the farmers to grow crops that give more yield without disturbing the Mother nature. Scheme of Govt.Of India –SOIL HEALTH CARD)

Meteorologists (e.g is IMD-INDIAN METEROLOGICAL DEPARTMENT which successfully predicts when will Monsoon come to India, their downpour, their predictability about droughts, cyclones will affect coasts with minimum or maximum damage)

Political analyst(Geopolitics is the trending subject now and with the help of this a country can make out what will be her Foreign Policy towards other nations) .Besides this the students can become Cartographer,Economists,Traveller,Earth-scientists etc.

Department of Environmental Science

Department of Environmental Science was established in the year 2003. Environmental Sciences has been introduced as a compulsory subject at Undergraduate level by the order of Supreme Court of India in 2003. The objectives of the subject are to acquaint the students about the processes in the natural world and their modification by human activities and to understand the current environmental problems that the world is facing today. Also field trips are organised on regular basis by the department to provide an opportunity to study the state of degrading environment. The skill based courses were also introduced in the year 2017 to for enhancing the skills of students in such a way so that they get employment and also improve entrepreneurship. The students can get placement in various Consulting Firms, NGO’s, Industries and Various agencies involved in combating Environmental problems.

Department of Computer Applications

Programme outcomes:

- BCA degree programme help the students to gain the knowledge and skills necessary for success in the rapidly evolving and dynamic field of computing.
- It equips the students to meet the requirement of corporate world and Industry standard.
- It engages the students in professional development and to pursue post graduate education in the fields of Information Technology and Computer Applications.
- To understand the concepts of key areas in computer science.
- Analyze and apply latest technologies to solve problems in the areas of computer applications
- Apply technical and professional skills to excel in business.
- Communicate effectively in both verbal and written form.
- Develop practical skills to provide solutions to industry, society and business.

Course outcomes:

- Proficiency in the basic mathematics employed in computer science.
- Differentiate among essential data structures used in computer programming, and explain how they work.
- Gain knowledge of algorithms and their role in computer science.
- Identify, explain and apply fundamental structured programming techniques.
- Utilize important data structures and associated algorithms in the development of computer programs.
- Develop computer programs using functional programming and object-oriented programming paradigms.
- Apply techniques of software validation and reliability analysis to the development of computer programs.
- Teach the appropriate computer application methods such as functional programming and object-oriented programming paradigms to enable participants to analyze, design, implement and evaluate computerized solutions (such as developing computer programmes) to real-life problems.
- Enable participants to be part of live projects to implement and test their computer application skills and provide feedback and a roadmap for progress.

Department of Physics

Physics (Outcomes):

1. The student will demonstrate a scientific knowledge of the core physics principles in Mechanics, Electromagnetism, Modern Physics, and Optics.

2. The student will determine the appropriate level of technology for use in: a) experimental design and implementation, b) analysis of experimental data, and c) numerical and mathematical methods in problem solutions.

3. The student will effectively communicate their knowledge of physics from basic concepts to specific detailed presentations through a variety of oral, written, and computational modalities.

4. The student will demonstrate a purposeful knowledge of scientific literature and ethical issues related to physics.

Department of Commerce

Every country in the world has an educational policy to cater to the needs of education in order to realize the benefits thereof for the progress and development of its people. Our country having been ruled by British for centuries together and as such the policy of education devised by them for this country continued to be applied by nationalist government for almost more than 20 years after its independence without any change therein. In 1964 the need was felt to change the Educational policy to meet the new challenges faced by nation after independence. It was felt that in order to sustain the newly achieved independence and to develop as a country it was necessary to formulate an educational policy whereby education based on the development of personal qualities of human beings and development of human abilities and skill among the population was need of the hour. As such it will be proper to understand briefly the term **"commerce"** to under stand its meaning and scope thereof. Commerce is a broad and inclusive term which includes not only sales and purchases of goods but also other allied activities like transportation, communication, insurance, financial insinuation etc. It analyzing and matching the role and the person, developing equitableness and developing self reviewing capacity it is helpful in every job. It is flexible, realistic and makes person sensitive to tackle crucial assignment and decisions. The process of privatization and liberalization has resulted in accelerating the industrialization which process in turn has influenced the field of commerce in general and commerce education in particular. Commerce education has become multi dimensional over the years and several new areas have emerged as identifiable discipline under its umbrella. The commerce education which is supposed to create time, place and person utilities for individual and social ends must prove its relevance by developing efficient persons which in turn calls for drastic improvement in the quality of commerce education in India. Commerce education is that area of education, which teaches, trains and empowers a learner about the conceptualization and practical application of business for establishing, assessing monitoring and developing trade, commerce and industries by diversified their courses to suit the market trends. The emergence of Commerce education was on the premise that the students are taught to be more socially responsible personnel to improve the quality of life, run business more

professionally and be a good businessman. Career options for commerce students include Chartered Accountants, Financial Analyst, Company Secretary, Human Resource Manager, Loans Executives, Economist, Auditor, Banking Executives, CWA etc and this is just the tip of the iceberg. Further, on line commerce education will lead not only to larger market places with larger demand but also will ensure the survival of product and system of the highest quality and reliability.

Department of BBA

Programme/Course outcomes

The Department of Management studies, was formed in 2008 with a clearly defined approach for creating quality managers and entrepreneurs to face the challenges of the business world. The Department offers an undergraduate programme in Business Administration (BBA) which is specifically designed to enhance career opportunities and to develop well rounded managers and business leaders to effectively tackle a dynamic environment.The curriculum designed is such that provides students the best of opportunities and a launching pad for careers. Every student goes through a wide spectrum of experiences which includes summer internships, current Affairs and weekly presentations and Industrial Visit.

Department of Zoology

Programme outcomes:

Zoology is a branch of biology that focuses on animals and animal life. There are many sub-fields in Zoology like Taxonomy, Cell biology, Biochemistry, Physiology, Ecology, Embryology, Evolutionary biology, Genetics etc that deals with the various aspects of the animal world. Zoology is important for many reasons. For a student, the study of animals and communities provides insight into how “life” works, and, consequently, how we work. The higher mammals provide especially useful insight into the human world. Many Zoologists are directly involved with the conservation of threatened or endangered species; the maintenance of biodiversity is considered by many to be crucial to our survival. Animals also have a great impact on our lives; they provide us with food, with companionship, and with a sense of wonder(and sometimes annoyance!). These are just a few of the reasons why understanding animal life is important to humans and it also shows the importance of studying Zoology as a programme to the students.

Zoology provides great job opportunities in the field of research. There will be lots of work done in the lab and in the field, preparing the student for typical employment in zoology professions. Students have the opportunities to work in labs, Zoos, farms and veterinarian offices. Graduate and Ph.D students will do more intensive lab and field work in a specific area of zoology. The original research could lead to entire career’s pursuit.

Course Outcomes:

1. Animal diversity: Detailed study of classification, structure, reproduction and life cycle of Non Chordates, Proto chordates and chordates.

2. Detailed study of the developmental biology, physiology and biochemistry is imparted to students.

3. Detailed study of Parasitology and economic zoology,. In parasitology various diseases causing organisms are studied so that knowledge related to various common diseases affecting human population can be provided to students. Economic Zoology deals with the economically important organisms that are important for the survival of human population.

4. Study of ecology and environment is imparted to students. Environment is a major area of concern in present times. So various aspects like what is environment, what is biodiversity, global warming and sustainable use of natural resources is taught in detail to the students.

5. Study of cell biology, genetics and evolutionary biology is carried out in detail so that students can understand the microscopic structures of the living beings and also they can learn about their ancestors.

Department of Mathematics

Programme Outcome of Mathematics

1. A graduate in Mathematics can skillfully manipulate the problems related to algebra, calculus, trigonometry etc.
2. The subject of Mathematics develops logical thinking and expertise required in techniques for proving or disproving the facts after mathematical formulation.
3. A graduate in Mathematics is fully equipped with reasoning skills, logical skills and analytical skills required to qualify various competitive exams.
4. Finally, a student after doing graduation with Mathematics as a subject can utilize his skills in various fields such as Astronomy, Astrology, Weather forecast, Education, Planning, Accounts, Finance, Economics, Statistics, Computing and in almost all sciences.

COURSE OUTCOME

Semester I

Differential Calculus

Developing the knowledge of how to trace curves in polar and Cartesian coordinate systems and how to calculate arc length, area and volume of revolution of a curve.

Semester II

Differential Equation

Developing problem solving skills for solving various types of differential equations.

Semester III

(1) Real Analysis (2) Logic and sets (3) Analytic Geometry (4) Integral calculus

(a) To introduce the real number system and complete ordered field axioms of this system.
(b) To introduce the rigorous meaning of convergence and its relevance to one-variable calculus.
(c) To acquire a conceptual understanding of concepts such as infinite series, limits, continuity, and integration.
(d) A student taking this course would appreciate the reasons underlying the relationship between integration and differentiation, and thereby be able to apply this insight to mathematical models in the natural sciences that rely on calculus.
(e) To develop the knowledge of real valued functions such as sequences convergence and continuity.
(f) To develop the knowledge of classical propositional calculus, properties of sets and relations.
(g) To develop the knowledge of geometry of lines and conics in plane.
(h) To develop the knowledge of application of integration in evaluating arc length, area and volume of revolution of a curve etc.

Semester IV

(1) Algebra (2) Vector calculus (3) Theory of equations (4) Number theory

(a) To develop the mathematical logic which is very useful for solving mathematical reasoning problems.
(b) To develop the knowledge of Euclid's Algorithm and solving congruence.
(c) To understand the concepts of curl, gradient and divergence of a vector function.

Semester V

(1) Linear Algebra (2) Matrices (3) Mechanics (4) Probability and Statistics (5) Portfolio optimization (6) Mathematical Modeling.

(a) To introduce the concept of vector spaces and linear transformations in their abstract generality.
(b) To develop the knowledge of solving linear equations, working with matrices, in particular eigen values and eigen vectors
(c) To develop a good understanding of elementary probability theory and its applications.
(d) To understand the basic concepts of mathematical modeling and their applications to Traffic flow,

vibrating string, vibrating membrane, conduction of heat in solids, gravitational potential, conservation laws.

(e) To introduce students to some basic concepts of statics and theoretical mechanics.

Semester VI

(1) Numerical Methods (2) Complex Analysis (3) Linear Programming (4) Boolean Algebra

(5) Transportation and Game Theory (6) Graph Theory

(a) Study of methods that are used in numerical approximation.
(b) To inculcate the knowledge of Topological properties of complex numbers.
(c) To formulate real life problems mathematically and solve them using different techniques.
(d) To introduce students to ordered sets, switching circuits and Karnaugh diagrams.
(e) To formulate and solve the zero sum game between two individuals.
(f) To understand and apply the fundamental concepts of Graph Theory.

Department of English

Course outcomes in English

1. Students are able to learn different skills in English language.
2. They are able to develop knowledge and wisdom through various courses which have been introduced in curricula.
3. Sense of Genre: Students will develop an appreciation of how the formal elements of language and genre shape meaning. They will recognize how writers can transgress or subvert generic expectations, as well as fulfill them. And they will develop a facility at writing in appropriate genres for a variety of purposes and audiences.

4. Culture and History: Students will gain a knowledge of the major traditions of literatures written in English, and an appreciation for the diversity of literary and social voices within–and sometimes marginalized by–those traditions. They will develop an ability to read texts in relation to their historical and cultural contexts, in order to gain a richer understanding of both text and context, and to become more aware of themselves as situated historically and culturally.

5. Critical Approaches: Students will develop the ability to read works of literary, rhetorical, and cultural criticism, and deploy ideas from these texts in their own reading and writing. They will express their own ideas as informed opinions that are in dialogue with a larger community of interpreters, and understand how their own approach compares to the variety of critical and theoretical approaches.

6. Research Skills: Students will be able to identify topics and formulate questions for productive inquiry; they will identify appropriate methods and sources for research and evaluate critically

the sources they find; and they will use their chosen sources effectively in their own writing, citing all sources appropriately.

7. Oral communication skills: Students will demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively: listening carefully and respectfully to others' viewpoints; articulating their own ideas and questions clearly; and situating their own ideas in relation to other voices and ideas. Students will be able to prepare, organize, and deliver an engaging oral presentation.

8. Valuing literature, language, and imagination: Students will develop a passion for literature and language. They will appreciate literature's ability to elicit feeling, cultivate the imagination, and call us to account as humans. They will cultivate their capacity to judge the aesthetic and ethical value of literary texts–and be able to articulate the standards behind their judgments. They will appreciate the expressive use of language as a fundamental and sustaining human activity, preparing for a life of learning as readers and writers.

Department of Geography

Department of Geography Introduced various B. A. /B. SC. Courses with other subjects such as in science streams physics, math, geology, botany, chemistry, zoology which helps the students have the opportunities to know about flow of rainwater, volcanic eruption, Biodiversity, vegetation growth, meteorology of atmosphere, chemical composition of Earth, flora and fauna of the region, man and Environment Interrelation.

In arts streams these combination are Avialble with Geography i. e. Sociology, Economics, History, political science, Education, students get opportunities to population growth, development and problems and their remedies, food Shortage and sustainable development, urban and rural characteristics, Tourism ans its impact on environment, Resources development and land use patterns, impact of anthropogenic activities on biodiversity and environment understanding of regional disparities and education development.

Department of Economics

PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOME IN THE SUBJECT OF ECONOMICS

Economics is the study of how societies use scare resources to produce valuable commodities and distribute them among different people. The B.A in economics includes courses like behavioral economics, micro & macro theory, Indian economy, Monetary economics etc. These courses provide the foundational skills that require in terms of the theoretical and empirical aspects of the discipline. In the year 2017, Skill courses has been introduced in under-graduated courses i.e financial economics, data analysis, stock market, and rural development. These

courses will provide the importance of the financial flow and to critically analyze a growing market of the economy.

The program me to be able to demonstrate the following learning outcomes:

- To acquaint students with economic aspects of modern society, to familiarize them with techniques for the analysis of contemporary economic problems, and to develop in them an ability to exercise judgment in evaluating public policies.
- To develop strong numeracy and statistics skills.
- Students becomes able to analyze the complex data sets.
- It prepares the students to work in different fields like civil services, IES, planning and administrative deptt., banking, multinational corporation etc,.
- Students acquire various skills which they can use to deal with their real life situations i.e how to manage the unlimited wants with limited resources.

  In short, the subject economics is highly applicable to many fields and not limit to only one career.

Department of Dogri

Programme outcome of Dogri Subject

डोगरी जम्मू कश्मीर प्रदेश दे जम्मू खित्ते दी इक प्रमुख भाशा ऐ। इसी भारती संविधान दी अठमीं सूची च सन 2003 च शामिल कीत्ता गेआ जिसदे कन्नै डोगरी भाशा दा दायरा बधी गेआ। इस कोला पैहलें सन 1969 च साहित्य अकादमी नमीं दिल्ली ने इसी इक बक्खरी भाशा दे रूप च मान्यता दित्ती ही। जिसदे करी डोगरी च लिखने आहले लखारिएं गी साहित्य अकादमी पास्सेआ हर ब'रै पुरूस्कार देने दा सिलसिला चलेआ। डोगरी भाशा च एम ए जम्मू विश्वविद्यालय ने सन् 1981कोला करोआना शुरू कीत्ता ते इसदे कन्नै कन्नै गै डोगरी गी इक विशे दे तौर पर कालजें च बी पढ़ाने दी शुरुआत होई गेई। अज्ज जम्मू खित्ते दे लगभग सब्भै सरकारी कालेज च डोगरी गी भाशा दे तौर पर पढ़ाया जा करदा ऐ। जिस करी हर ब'रै बीए च डोगरी भाशा पढ़ने आहलें दी गिनतरी दिनो-दिन बधा करदी ऐ ते एह विद्यार्थी अग्गें डोगरी भाशा दे जरिये गै रोजगार दे साधन तुप्पदे न ते अपनी क्षमता दे अधार पर इंदा चुनांऽ इंदे च होंदा ऐ। डोगरी भाशा दी पढ़ाई बाद विद्यार्थी जिनें-जिनें खेत्तरें च अपना भविक्ख सुआरी सकदे न ओह इस चाल्ली न:-

1) अनुवादक (Translator)
2) व्याख्याकार(Interpretor)
3)पत्रकारिता (journalism)

4) प्रशासनिक सेवाएं(civil services)
5) शिक्षण(Teaching)
6) लेखक ते कवि (Writers or poets)
7) सांस्कृतिक दरोहर दे संरक्षक (Save Cultural Heritage)
8) व्लागर (Blogers)
9) कलाकार(Artist)
10) सिनेमा जगत(Movies and Songs)

Department of History

Program Outcomes

History is a great domain to pursue and gradually it is becoming quite a popular subject. A degree in graduation with History as one subject, backed by some specialization at master's level, will open up a lot of avenues. After completing graduation in history,one can look forward few career options.

1**). Government organization**. A number of people choose History as a subject at the graduation level in order to have an edge in the public service commission examinations. Graduation with honours in History paves their way to different government jobs such as SSC, UPSC, IBPs and BANk PO etc. after clearing their respective exams.

2).Museum Curator: Students interested in Art and have posses good organization skills can do specialization in Museology at master level after completing their graduation in History. They can apply for a job in a museum to make the public aware of their existence and their importance. For example, the National Museum Institute offers master's in Museology.

3).Archaeology: This branch deals with the discovery and analysis of ancient artifacts such as items used in everyday life of people in different civilizations; household utensils, jewelry, musical or medical equipment etc.

The institute of Archaeology New Delhi of the archaeological survey of India offers a two year post graduate diploma in Archaeology.

4). Historian: the main focus of a Historian's job is to research and study the history of past and be able to communicate the event s through published works. In order to become a historian, students must first earn their bachelor's degree in history, and then pursue master's in specific areas such as Political history, economic History, Social history, religious history, etc.

5) Work in the Film Industry: there is a lot of demand in production houses for people who have a background in History who can do research for Costumes, jewelry, background set, etc. One can join production house as research analyst after completing graduation in History.

6).Teaching Profession: The interest to share knowledge with others one have to pursue a B.ed after completing their graduation to make themselves eligible to teach students in school level. Those who wish to teach at college and university level, they will have to complete their masters and then clear the NET/ SET examination.

Department of Education

PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOME IN THE SUBJECT OF EDUCATION

Education subject is as old as human civilization from the age's education is being provided to the humans to make them better human being. Education subject stresses upon physical, mental,social,moral,spiritual and aesthetic well-being of the individual. With the help of this subject desirable behaviour change can be brought in one's life and personality. Every year approximately 1000 to 2000 students get admission in this course. This is one of the important coursesof B.A. DEGREE COURSE. In 2017, skill oriented subjects were also introduced to the course of education, such as guidance and counselling, methodology of teaching learning process in education, special education and statistics in education. Variety of outcomes of this course is:

1. This course enables the students to go for various teachers training programme like B.Ed., ETT etc.
2. After completing these course students can join any private or government educational institution and can impart effective teaching there.
3. This course makes students familiar with various subject of education like sociological, philosophical and psychological etc.
4. Students also choose counselling as career after studying skill of guidance and counselling.

On the whole the course of education touches every aspect of human life.

Department of HINDI

हिन्दी भाषा के कार्य क्षेत्र

मनुष्य का व्यक्तिगत तथा सामाजिक जीवन भाषा की नींव पर टिका है। भाषा द्वारा ही व्यक्ति समाज से सभ्यता तथा संस्कृति की धरोहर ग्रहण करता है। अतः भाषा मानव के विकास का सर्वश्रेष्ठ माध्यम सिद्ध हुई है।

किसी भी राष्ट्र का संचालन करने के लिए भाषा उपयोग किया जाता है। राष्ट्रभाषा संपूर्ण राष्ट्र को एकता के भाव में समाहित रखने में समर्थ होती है। भाषा के माध्यम से ही एक राष्ट्र दूसरे राष्ट्र की सभ्यता, संस्कृति, जीवन-शैली और समस्याओं को समझने की योग्यता ग्रहण करता है।

आज विश्व में लोकतंत्र सर्वप्रिय शासन-प्रणाली है क्योंकि इसमें सहअस्तित्व, सद्भावना तथा सहयोग के मानवीय तत्त्व समाहित हैं। भाषा का समुचित ज्ञान लोकतंत्र लोकतंत्र की इस भूमिका को सफल बनाने में सहायक बनता है। राष्ट्रभाषा हिंदी भारतीय लोकतंत्र की स्थापना से लेकर इसके विकास तथा संरक्षण के लिए महत्त्वपूर्ण भूमिका निभाती आ रही है।

स्नातक स्तर पर हिन्दी का जो पाठ्यक्रम निर्धारित किया गया है उससे विद्यार्थी साहित्य के आस्वादन के साथ-साथ हिंदी भाषा के मानक रूप से भी परिचित हो रहे हैं। अनुवाद विज्ञान द्वारा विश्व स्तर पर विभिन्न सभ्यताओं एवं संस्कृतियों से जुड़ने तथा जानने का उन्हें अवसर ग्रहण हो रहा है। तकनीकी - क्षेत्र में विद्यार्थियों को पारंगत करने के गुण भी इस त्रिवर्षीय पाठ्यक्रम में निहित हैं। हिन्दी भाषा का समुचित ज्ञान युवावर्ग के लिए रोज़गार के विभिन्न साधन जुटाने में सक्षम है। पत्रकारिता के क्षेत्र में हिन्दी किस प्रकार हमें सामाजिक, आर्थिक, सांस्कृतिक एवं राजनीतिक सूझ-बूझ दे सकती है, इसी के अनुरूप पाठ्यक्रम तैयार किया गया है। मीडिया के विभिन्न अंगों — टेलीफोन, टेलीविजन तथा इंटरनेट आदि में हिन्दी भाषा की भूमिका का समुचित परिचय विद्यार्थियों को ग्रहण हो रहा है और उनकी रुचि में भी वृद्धि हो रही है। इस प्रकार स्नातक स्तर पर निर्धारित हिंदी का पाठ्यक्रम साहित्यिक रुचि में वृद्धि करने के साथ-साथ व्यापार, व्यवसाय तथा कार्यालयों के क्षेत्र में आजीविका ग्रहण करने में और विश्व स्तर पर विद्यार्थियों की सूझ-बूझ को विकसित करने में सक्षम है।