

**PROGRAMME  
OUTCOMES  
&  
COURSE  
OUTCOMES**

**CBCS & NEP**

## GOVERNMENT DEGREE COLLEGE UTTERSOO








### UTTERSOO—SHANGAS ANANTNAG

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#### **Programme outcomes**

##### **Bachelor of Science (B.Sc.)**

Students going for B.Sc. programme are expected to be equipped with the following outcomes

-  To develop scientific temper and use of scientific knowledge in solving the problems of mankind
-  To explain the natural phenomena by apply the basic principles of science
-  Assimilate knowledge and ideas based on wide reading through internet
-  Ability to communicate with others using modern methods of communication
-  Ability to handle the unexpected situation by critically analysing the problem.
-  Understanding the various issues related to science and environment and use of basic sciences in sustainable development
-  To apply the basic scientific knowledge in day-to-day life

##### **Bachelor of Arts (B.A)**

-  Students enrolled in this programme are equipped with a curriculum that exposes and trains them in a full range of essential skills and abilities. The course aims to accomplish following goals
-  Development of critical thinking
-  Promote active citizenship and community engagement
-  Inculcating ethical reasoning
-  Evaluate and conduct research
-  Engage in self-directed and lifelong learning
-  Proficiency in communication skills










# GOVERNMENT DEGREE COLLEGE UTTERSOO

## UTTERSOO—SHANGAS ANANTNAG

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### **BOTANY**

#### **Learning outcomes:**


-  Critical evaluation of ideas and arguments by collection relevant information about the plants, so as recognize the position of plant in the broad classification and phylogenetic level.
-  Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise in the field of Plant Identification.
-  Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy.
-  Students will be able to apply the scientific method to questions in botany by formulating testable hypotheses, collecting data that address these hypotheses, and analysing those data to assess the degree to which their scientific work supports their hypotheses.
-  Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists.
-  Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.
-  Students will be able to apply fundamental mathematical tools (statistics, calculus) and physical principles (physics, chemistry) to the analysis of relevant biological situations.
-  Students will be able to identify the major groups of organisms with an emphasis on plants and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of plants, algae, and fungi that differentiate them from each other and from other forms of life.
-  Students will be able to use the evidence of comparative biology to

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### UTTERSOU—SHANGAS ANANTNAG


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explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped plant morphology, physiology, and life history.

-  Students will be able to explain how Plants function at the level of the gene, genome, cell, tissue, Flower development. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and mode of life cycle followed by different forms of plants.

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### UTTERSOO—SHANGAS ANANTNAG

-  Students will be able to explain the ecological interconnectedness of life on earth by tracing energy and nutrient flow through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems.

#### **Course Outcomes:**

**Program: B.Sc. with Botany as a subject**

<b>Semester</b>	<b>Course Outcomes</b>
<b><u>Semester I: Biodiversity</u></b>	<ol style="list-style-type: none"><li>1. Understand the diversity among Algae.</li><li>2. Know the systematic, morphology and structure, of Algae.</li></ol> <p>Understand the life cycle pattern of Algae.</p> <ol style="list-style-type: none"><li>3. Understand the useful and harmful activities of Algae.</li><li>4. Understand the Biodiversity of Fungi</li><li>5. Know the Economic Importance of Fungi</li><li>6. Understand the morphological diversity of Bryophytes.</li><li>7. Understand the economic importance of the Bryophytes.</li><li>8. Understand the morphological diversity of Bryophytes and Pteridophytes and Gymnosperms.</li><li>9. Understand the economic importance of the Bryophytes and Pteridophytes and Gymnosperms.</li><li>10. Know the evolution of Bryophytes and Pteridophytes and Gymnosperms.</li></ol>
<b><u>Semester II : Plant Ecology and Taxonomy</u></b>	<ol style="list-style-type: none"><li>1. Know the vegetative characteristics of the plant.</li><li>2. Learn about the reproductive characteristics of the plant.</li><li>3. Understand the plant morphology and basic taxonomy.</li><li>4. Understand phytogeography</li><li>5. Understand the main principles of nomenclature and identification of plants</li></ol>

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

**Semester III: Plant Anatomy and Embryology**

1. Gain knowledge about different kinds of plant tissues
2. Understand the anatomy of plant organs

3. Have a clear understanding about the secondary growth in vascular plants
4. Learn about structural organisation of a flower, pollination and fertilisation
5. Learn about embryo and endosperm development, apomixes and emryogeny

**Semester IV : Plant physiology and metabolism**

1. Know importance and scope of plant physiology.
2. Understand the plants and plant cells in relation to water.
3. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways.
4. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.
5. Learn about the movement of sap and absorption of water in plant body
6. Understand the plant movements.

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

**Semester V: DSE: Cell and Molecular Biology**

On completion of the course, students are able to:

1. Gain knowledge about “Cell Science”.
2. Understand Cell wall Plasma membrane, Cell organelles and cell division.
3. Learn the scope and importance of molecular biology.
5. Understand the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove DNA as a genetic material
6. Know about the genomic organization or living organisms, study of genes genome, chromosome etc.
7. Gain knowledge about the mechanism and essential component required for prokaryotic DNA replication.
8. Understand the fundamentals of Recombinant DNA Technology.
9. Know about the Genetic Engineering.
10. Understand the principle and basic protocols for Plant Tissue Culture.
11. The concept of operon and its structure and regulation.

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**Semester VI: DSE: Genetics and plant breeding**

1. Understand the science of plant breeding.
2. To introduce the student with branch of plant breeding for the survival of human being from starvation.
3. To study the techniques of production of new superior crop varieties.
4. Understand the modern strategies applied in Genetics and Plant Breeding to sequence and analyze genomes
5. Get the detail knowledge about modern strategies applied in Plant Breeding for crop improvement i.e. Mass selection, Pureline Selection and Clonal selection.
6. Know about exploitation of Heterosis, hybrid and variety development and their release through artificial hybridization.
7. Understand the role plants in human welfare.
8. Gain knowledge about various plants of economic use.



## GOVERNMENT DEGREE COLLEGE UTTERSOO

### UTTERSOO—SHANGAS ANANTNAG

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#### **CHEMISTRY**

##### **Learning outcomes:**

- Chemical bonding & Atomic structure: Nature of bonding in different substances and shapes of atoms/molecules based on Quantum Mechanical data interpretation. Periodicity in chemical characteristics of elements. Coordination complexes
- Stereochemistry, bonding, structure and properties, Bio-inorganic chemistry and role of essential elements in life.
- Aromaticity and methods of determination of reaction mechanism: Requirements and significance of Huckel's Rule, isotope labelling and identification of products. Organic compounds: Stereochemistry, structure, synthesis, and properties of various homologues like alkenes dienes, alkynes, alkyl & aryl halides, nitrogen bearing cyclic and acyclic compounds, etc. Biomolecules: Carbohydrates, nucleic acids, amino acids, etc. Structure elucidation: UV-Visible, IR and NMR.
- Thermodynamics: Laws and their applications. Equilibrium and solution thermodynamics: Clapeyron and Clausius-Clapeyron equation – applications. Electrochemistry and electrochemical cells: Kohlrausch law, Arrhenius theory. Debye-Huckel- Onsager's equation. Electrochemical cells and measurement of EMF. Quantum chemistry and Spectroscopy: limitations of classical mechanics, introduction to operator, Schrodinger wave equation and its importance, rotational and vibrational spectroscopy. Chemical kinetics & Photochemistry: Theories of chemical kinetics, catalysis, laws of photochemistry and kinetics of photochemical reactions.
- To make students acquainted with different techniques of separation and identification of ions (micro scale inorganic analysis), elements(chromatography) organic compounds (functional group analysis), synthesis of some important inorganic and organic compounds and different physico-chemical techniques like determination of reaction rates through kinetic studies, conductometry, pH metry, refractometry, surface tension & viscosity measurements.

## GOVERNMENT DEGREE COLLEGE UTTERSOO

### UTTERSOO—SHANGAS ANANTNAG

**Course outcomes:**

Program: B.Sc. with Chemistry as a subject

Course Name: Chemistry

Course Code: CH120C

Semester	Unit	Course outcome
I	Chemical Bonding and Molecular Structure	1. To Understand the nature and strength of forces between chemical constituents 2. Understanding the applications of different theories of chemical bonding

	s Block Elements	1. To learn the chemical reactivity of S-Block elements 2. To understand the trends in physical properties of S-Block elements.
	General organic chemistry:	1. To learn different types of Isomerism in Organic Compounds. 2. To learn concept of aromaticity and different types of reaction intermediates
	States of Matter	1. To understand the structural and behavioural aspects of matter in solid, liquid and gaseous states.

Course Name: Chemistry

Course Code: CH220C

Semester	Unit	Course outcome
	P Block elements	To understand the structure, bonding, synthesis, properties and uses of various compounds of p block elements.
II	Chemistry of saturated and unsaturated hydrocarbons	To acquire knowledge about the chemical properties of aliphatic hydrocarbons.

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

	Organic reaction mechanism	To gather knowledge of aliphatic substitution, aromatic substitution and elimination reaction mechanisms.
	Chemical kinetics	Understanding the rates of second, third order reactions, the dependence of reaction rates on temperature and comparative account of photochemical and thermal reactions

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**UTTERSOU—SHANGAS ANANTNAG**

Course Name: Chemistry

Course Code: CH316C

Semester	Unit	Course outcome
III	P-Block Elements	1.To understand the structure, bonding, synthesis, properties and use of the various compounds of P Block elements
	Transition and Inner Transition Elements	1.To decode the trends in the chemical and physical properties of transition and inner transition elements along with their compounds.
	Equilibrium and solution thermodynamics	1.To study the different aspects of chemical and phase equilibrium. 2.To study the thermodynamics of various solution properties.
	Chemical Kinetics and Photochemistry	1.To understand the rates of second and third order reactions and the dependence of reaction rate on temperature. 2.To comprehend the different theories regarding rates of chemical reactions.
		3.To understand the interaction of radiation with matter, laws governing such interaction and the various physicochemical changes associated with it.

Course Name: Chemistry

Course Code: CH416C

Semester	Unit	Course outcome
IV	Coordination and Bio Inorganic Chemistry	1.To comprehend the structure, bonding and isomerism in square planar octahedral and tetrahedral coordination complexes. 2.To study the metal coordination behaviour and role of different essential elements in life.
	Amines and Nitrogen bearing heterocyclic compounds	1.To understand the classification, properties and various methods of synthesis of amines along with the mechanism of reactions involved. 2. To comparatively study the structural and chemical aspects of nitrogen bearing heterocyclic compounds.
	States of Matter	1.To understand the structural and behavioural aspects of matter in solid, liquid and gaseous states.

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

	Spectroscopy	<ol style="list-style-type: none"><li>1. To understand the interaction of radiation with matter and the basic principles of various spectroscopic techniques.</li><li>2. To learn about the use of various spectroscopic techniques in structural elucidation.</li></ol>
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**UTTERSOU—SHANGAS ANANTNAG**

Course Name: Chemistry

Course Code: CH516DA

Semester	Unit	Course outcome
V (Green Chemistry)	Green Chemistry Theory	1. To understand the basic need of green chemistry. 2. To know about the tools and principals of Green chemistry
	Designing a Chemical Synthesis	1.To understand how to design a green synthesis using the principals of green chemistry. 2.To understand the concept of green solvents.
	Green Chemistry Practice	1.To understand various reactions assisted by microwave in water. 2. To understand the reactions assisted by microwave in organic solvents.
	Trends in Green Chemistry	1.To understand the role of Green chemistry in sustainable development. 2. Understanding of various reactions assisted by ultrasound.

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

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Course Name: Chemistry

Course Code: CH616D

Semester	Unit	Course outcome
VI	Elementary Lattice Dynamics	1.To understand lattice vibration and optical phonons. 2.To understand specific heat of solids in light of various theories.
	Magnetic Properties of matter	1.To understand the magnetic properties of different materials. 2. Understanding of temperature dependence of magnetism
	Nanomaterials	1.Understanding of nanomaterials, their preparation and special properties. 2.To understand the self-assemblies of surfactants and polymers and their applications.
	Superconducting materials	1.Understanding of superconductivity and characteristics of superconductors. 2. To understand the effect of temperature on superconductivity and applications of superconductors.

**GOVERNMENT DEGREE COLLEGE UTTERSOO**  
**UTTERSOO—SHANGAS ANANTNAG**

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**Political science**

**Learning outcomes:**

In the BA Programme of Political Science, the Department has developed following learning goals. The primary intention is to let the teachers and students have a deep understanding on Political issues confronting society in day-to-day life and also the mechanism to provide the solution to the problems.

Politics is the study of how people make choices under conditions of scarcity and the results of those choices for overall political system. It is also the study of conflict resolution in the society.

Keeping the above summary in view, undergraduates of our program should have the following knowledge and skills:

**Quantitative Reasoning Skills**

- Understand how to use empirical evidence to evaluate the political argument.
- Interpret statistical results.
- Conduct appropriate statistical analysis of data, and explain the statistical problems involved.
- Obtain and/or collect relevant data using specific qualitative and/or quantitative research methods.

**Specialized Knowledge and Application of Skills**

- In specific content areas (fields) of political science, develop deeper critical and quantitative thinking skills and apply problem-solving skills to complex problems.

**Communication Skills**

- Communicate effectively in written and oral form about specific political issues.
- Formulate a well-organized written argument that states assumptions and hypotheses, which are supported by evidence.
- Present a political argument orally.

**Lifelong Learning Skills**

- Possess a working knowledge of information data bases.
- Know how to locate and use primary data sources
- Understand and evaluate current national and international political events and new political ideas.



## GOVERNMENT DEGREE COLLEGE UTTERSOU

### UTTERSOU—SHANGAS ANANTNAG

#### **Problem-solving skills**

- Propose solutions for problems that do not have clear answers, and indicate under what conditions they may be viable solutions.

#### **Critical Thinking Skills**

- Apply political analysis to evaluate everyday problems
- Apply political analysis to evaluate specific policy proposals
- Compare two or more arguments that have different conclusions to different political issues/problem

#### **Course outcomes:**

<b>Semester</b>	<b>Course outcomes</b>
I Semester (political theory)	<ol style="list-style-type: none"><li>1. Understand what political theory is</li><li>2. Understand the different approaches to political science like traditional and modern.</li><li>3. Understand the overall evolution and development of political theory.</li><li>4. Understand the contribution of some of the main thinkers in political theory.</li><li>5. Understand some of the important concepts like liberty, equality, rights, power, justice, etc.</li><li>6. Understand the debates on Affirmative Action and Absolute equality mentioned in the course.</li><li>7. Clear the air existing in the concepts like power, authority and legitimacy.</li></ol>
II Semester (Indian govt. and	<ol style="list-style-type: none"><li>1. Approaches like liberal, Marxist and Gandhian to study Indian politics.</li></ol>

Politics)	<ol style="list-style-type: none"><li>2. Learn about the basic features and history of Indian constitution.</li><li>3. Understanding of the identity issues in Indian politics.</li><li>4. Relationship between fundamental rights and directive principles of Indian politics.</li><li>5. Different structures of Indian politics and their powers.</li></ol>
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GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

<p>III Semester (Comparative politics)</p>	<ol style="list-style-type: none"><li>1. Comparative politics- meaning, nature and scope besides approaches to study Comparative politics.</li><li>2. Differences between authoritarian and democratic regimes</li><li>3. Presidential and Parliamentary form of govt. with special reference to USA and Britain.</li><li>4. Federal and unitary form of govt. with special reference to Canada and China.</li><li>5. Different Party systems and different electoral systems.</li><li>6. Debates on state ns individual security.</li><li>7. Debate on the Nation state in the context of globalization.</li></ol>
<p>IV Semester (Introduction to int. relations)</p>	<ol style="list-style-type: none"><li>1. Understanding theories like realism, liberalism and world systems.</li><li>2. Insight into Wars like 1st world war, 2<sup>nd</sup> World war, and cold war,</li><li>3. Understanding decline of USSR and its cause and effect on world politics.</li><li>4. Power structure of China and Japan</li><li>5. Power structure of European Union in the world politics.</li></ol>

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

<p>V Semester (Western thought)</p>	<ol style="list-style-type: none"><li>1. Western thought its evolution and development.</li><li>2. Ideas of Aristotle on Citizenship in the ancient times</li><li>3. Rousseau’s Ideas on inequality and how it originated.</li><li>4. Ideas on state by Thomas Hobbes, Karl Marx and Mikhail Bakunin.</li><li>5. Ideas of John Locke on rights.</li><li>6. The ideas of John Stuart Mill on liberty and democracy</li></ol>
<p>VI Semester (Public administration)</p>	<ol style="list-style-type: none"><li>1. Meaning and nature of public administration.</li><li>2. Evolution and present status of the discipline of public administration</li><li>3. Theories on public administration like scientific management, classical, human relations and decision making.</li><li>4. Control on administration like legislative, executive and judicial.</li><li>5. Theories on motivation.</li><li>6. Ecological approach to study Public Administration.</li></ol>

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### **HISTORY**

#### **Learning outcomes:**

- Understand background of our religion, customs, institutions, administration etc
- Understand the present existing social, political, religious and economic conditions of the people
- To apply historical methods to critically evaluate past and how historians and others have predicted it.
- Students will be able to demonstrate broad knowledge of historical events and their significance.
- Students will be able to recognise how different individuals, groups, organisations, cultures, countries and nations have affected history. History gave the students wisdom and foresight for the future
- Students will offer multi-casual explanations of major historical developments based on contextualized analysis of interrelated political, social, economic, cultural and intellectual processes
- The study of history will give them the ability to compare and contrast different processes, modes of thought and modes of expression from different historical time periods in different geographical areas
- Students will be able to produce their own historical analysis of documents and develop the ability to think critically and historically while discussing the past'
- To differentiate between the primary and secondary sources and identify and evaluate evidence.
- To play active roles in the activities of historical organisations and associations.
- Students will be able to demonstrate broad knowledge of historical events and their significance

#### **Course outcomes:**

<b>Semester</b>	<b>Course outcomes</b>
I semester	1. To know about Pre-history and Proto-history.

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

<p>Ancient India/ Ancient Kashmir (HS116)</p>	<ol style="list-style-type: none"><li>2. To understand the concept of civilization.</li><li>3. To acquainted students with the different sources of ancient India.</li><li>4. To know about the different phases of human civilization/life.</li><li>5. To acquaint students with different civilizations of India: Harappan, and Vedic.</li><li>6. To know about the early rulers of ancient India: Ashoka, Samudra Gupta and Harsha.</li><li>7. To know about the social economic and political setup of ancient India.</li><li>8. To study about the rich past of Kashmir.</li><li>9. To understand Kashmir's relations with neighbouring territories.</li><li>10. To study empire building and culture of ancient Kashmir.</li></ol>
<p>II semester Medieval India/ medieval Kashmir (HS216)</p>	<ol style="list-style-type: none"><li>1. To acquainted students with various sources which help us to know the Sultanate period and Mughal Empire.</li><li>2. To comprehend the foundation of Delhi Sultanate and Mughal empire.</li><li>3. Be familiar with the administration and theory of kingship of Iltutmish and Balaban and Akbar.</li><li>4. To learn different project of Mohammed bin-Tughlaq and Aurangzeb.</li><li>5. To study about the religious policy of Mughals.</li><li>6. To know about the indo-Islamic architecture.</li><li>7. To know about the architectural features of Mughals.</li><li>8. To understand the causes for the foundation of Muslim rule in Kashmir.</li><li>9. To analyse economic prosperity under Zain-ul-Abidin.</li><li>10. To study of stone and wooden architecture of Kashmir.</li><li>11. To describe the position of Kashmir under foreign domination: Mughals, Afghans, Sikhs.</li></ol>

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

III semester Modern India/ Modern Kashmir (HS316)	<ol style="list-style-type: none"><li>1. To understand emergence and consolidation of British rule in India.</li><li>2. To know about the socio-religious and political consciousness of in India.</li><li>3. To learn about the different policies of Britishers like Subsidiary Alliance and Doctrine of Lapse.</li><li>4. To know about the rise of Indian Nationalism.</li><li>5. To study the Indian National Movement: Birth of Indian National Congress, Moderates, Extremists and Gandhian phase.</li><li>6. To analyse the nature of different uprisings during the modern period.</li><li>7. To know about the partition and independence of India.</li><li>8. To study about the causes leading to the foundation of the Modern Jammu and Kashmir.</li><li>9. To know about the political awakening in Kashmir.</li><li>10. To learn about the Muslim conference and its conversion to National conference.</li></ol>

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

<p>IV semester Themes in Indian economic and social History (HS416)</p>	<ol style="list-style-type: none"><li>1. To know about the economic setup of ancient medieval and modern India.</li><li>2. To understand the aspects of Harappan economy.</li><li>3. To learn about the Vedic and Gupta Economy.</li><li>4. To know about the economic consequences of Turkish conquest.</li><li>5. To learn about the agrarian structure under Delhi Sultanate and Mughals.</li><li>6. To study about the agrarian and economic policies of Britishers.</li><li>7. To know about the different religious faiths of India.</li><li>8. To study reforms movement of 19th century like Brahma Samaj and Arya Samaj and Aligarh movement.</li><li>9. To understand the different issues in the development of modern education.</li><li>10. To know about dalit movements</li></ol>
<p>V semester History of India Since 1947 (HS516)</p>	<ol style="list-style-type: none"><li>1. To know about the colonialism, democracy, nationalism and secularism.</li><li>2. To learn about the constitution and its salient features.</li><li>3. To study about the linguistic Re-organization of Indian states.</li><li>4. To learn about the emergence and development of different Political parties of India.</li><li>5. To know about the radical land reforms in India and Kashmir.</li><li>6. To know about the major political developments in Kashmir since 1947.</li><li>7. To study about the formation of Nationalist Government in Kashmir.</li><li>8. To understand the role of Sheikh Mohamad Abdullah and its dismissal</li></ol>
<p>VI semester Themes in world Civilization (HS616)</p>	<p>After going through this the students will be able to know about</p> <ol style="list-style-type: none"><li>1. Emergence and significance of Renaissance.</li></ol>

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

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|  | <ol style="list-style-type: none"><li>2. Reformation and counter reformation and the role of Martin Luther</li><li>3. About the different revolutions like American Russian, French, and Industrial revolution.</li><li>4. Causes and consequences of Fascism and Nazism</li><li>5. UNO and its role.</li><li>6. First World War, Second World War and Cold War.</li></ol> |
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**GOVERNMENT DEGREE COLLEGE UTTERSOO**  
**UTTERSOO—SHANGAS ANANTNAG**

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**ISLAMIC STUDIES**

**Learning outcomes:**

Islamic Studies as a Social Science subject strives to achieve the following objectives:

- To provide students a comprehensive and accurate perspective about Islam and Muslims
- to provide students a sound knowledge of Islam (as a religion, civilization, culture, and ideology) and Islamic literature
- To acquaint students with the social, political, intellectual, scientific, and cultural dimensions of Islam in a bid to revive its relevance in present times
- To prepare students religiously, spiritually, and morally
- To inculcate a spirit of universal brotherhood, religious tolerance, and amiable relations with major world religions, among students
- To acquaint the students with the discourses related to Ethics, Human Right, Rationalism and Philosophy, Sufism and Spirituality
- To instill the spirit of tolerance and patience among its students in order to promote communal harmony and mutual understanding in a pluralistic society.

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

**Programme: B.A with Islamic studies as a subject**

Semester	Chapter	Course outcome
<b>I</b> <b>Introduction To</b> <b>Islamic</b> <b>Civilization</b> <b>(DSC-IS-IA)</b>	Jahiliyah Arabia	To Understand the socio-religious and politico- economic conditions of Pre-Prophetic period of Arabia To know the overall scenario of the 7 <sup>th</sup> century Arabian peninsula.
	Islam in focus	To learn the basics of Islam as a Faith/ Religion To understand the revelation, compilation, structure and major teachings of the Qur'an—the basis of

		Islam
	The prophet (PBUH) and his times	To learn about different phases of Prophet's Blessed Life To learn about the major events of his life (PBUH) and their impact on, and relevance in, the present times To understand the different methodologies and strategies adopted by the Prophet (PBUH) for creating a welfare society
	The Pious Caliphate and Banu Umayyay (632-750 CE)	To understand how the 'Islamic Civilization', established by the Prophet (PBUH), was carried on successfully by later generations of Muslims To study the intellectual, scientific, administrative, cultural and artistic developments during the period.
<b>II</b> <b>Islamic Religious</b> <b>Sciences</b>	Ulūm al- Qur'an	To Understand the different subjects of Qur'anic sciences To comprehend science of

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

<b>(DSC-IS-IB)</b>		interpretation and explanation of the Qur'an; its origin and development; and some important exegetes and their exegesis
	Hadith	To understand the science of Ḥadīth (Saying and Doings of the Prophet [PBUH]), and its place and importance; To know about the different stages of hadith compilation and classification of hadith and to learn about the salient features of some authentic works on Ḥadīth
	Fiqh	To learn about the meaning and importance as well as sources of Jurisprudence To know about the basic concepts related to Jurisprudence, like <i>Ijma, Ijtihad, etc.</i>
	Important Schools of Fiqh: An Introduction	To know the emergence and development of different schools of thought, and their impact on different Muslim societies, past and present
<b>III Muslim Philosophy and y</b>	Ilm al-Kalam	To Understand the concept of Rationality in Islam To know about the

<b>Tasawwuf (DSC-IS-IC)</b>		genesis of different rational schools of thought in Islam, and their basic beliefs/teachings
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**UTTERSOO—SHANGAS ANANTNAG**

	Muslim philosophy	To learn about the contribution of various prominent Muslim philosophers of Medieval era and their impact on later Philosophical thought
	Tasawwuf: Origin and Development	To learn about genesis of Sufism and different phases of its development To learn about the life, legacy and teachings of various prominent Sufis of classical era
	Sufis of Later Period and Sufi Silsilas	To learn about the life, legacy, and teachings of various prominent Sufis of medieval and modern eras, both in Arab world and South Asia To understand the emergence of some major/ influential Sufi orders and their principles
<b>IV semester Islam in the Modern World (West &amp; South Asia) (DSC-IS-ID)</b>	Arabia & Turkey	To study Islam vis-à-vis Modernity/ Westernization To aware students with the intellectual awakening of the Muslim world by discussing Thought & Reform Movements (of Arab World) from 18 <sup>th</sup> Century onwards: Wahabiya; Sanusiyyah; Ikhwan al-Muslimun To learn about the spread of Colonialism in Muslim world and the Muslim Response to it, in Turkey, Iran, etc.
	Iran	To aware students with the intellectual awakening of the Iranians by discussing the

GOVERNMENT DEGREE COLLEGE UTTERSOU

UTTERSOU—SHANGAS ANANTNAG

		developments that took place in Iran from 16 <sup>th</sup> century to 20 <sup>th</sup> century— including cultural, intellectual, and political
	India	To acquaint students with the happening of 18 <sup>th</sup> to 20 <sup>th</sup> century Sub-Continent To know about the various educational institutions that

		emerged as a response to modernity: Darul 'Ulum Deoband; Nadwat-ul 'Ulama; Aligarh Muslim University; and Jamia Milia Islamia
	Modern reformis t thinkers and their role	To acquaint students with life, works, thought, legacy/  contribution & impact of prominent thinkers: Jamal al-Din  Afghani; Mawlana Ilyas; Abul Kalam Azad; Allama Iqbal; Mawlana Mawdudi. To get aware about the reformist legacy of Muslim thinkers of colonial and post-colonial era of Sub- Continent

# GOVERNMENT DEGREE COLLEGE UTTERSOO

## UTTERSOO—SHANGAS ANANTNAG

### ENVIRONMENTAL SCIENCES

#### Learning outcomes:

- Understand the natural environment as a system and how human enterprise affects that system.
- Demonstrate extensive and systematic acquaintance of the disciplinary foundation in the various areas of Environmental Science.
- Insightfully address the contemporary research and development at both national and international arena
- Understand and engage in the field of Environmental Sciences and its allied areas.
- Show ability to apply scientific knowledge & experimental skills in critical and organized Manner for evaluation and elucidation of complex environmental problems
- To give basic and preliminary knowledge of environment to every graduate of the country.
- To make students aware about different environmental phenomena viz climate change, acid rain, ozone layer depletion etc.
- To make students aware about ecology and ecological phenomenon.
- Know the key environmental challenges facing the planet, know relevant interdisciplinary information about these challenges, and be able to develop/identify feasible solutions.

#### Course outcomes:

Semester	unit	Course outcomes
I Sem	Understanding environment	<ol style="list-style-type: none"><li>1. Gain Knowledge of the environment and the role of human beings in shaping the environment.</li><li>2. Understand various components of the environment and interfaces.</li><li>3. Develop a critical understanding of the physical environment and social environment.</li><li>4. Understand the human surrounding and the role of human being in shaping the surrounding.</li><li>5. Critically appreciate the environmental concerns of today.</li><li>6. Gain Knowledge on ecology, and ecological dynamics.</li><li>7. Get the Ability to interpret ecosystem services.</li><li>8. Learn to Set up experiments to appreciate concepts of Ecology.</li><li>9. Critically examine the forces impacting ecosystems.</li></ol>

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

Natural resources	<ol style="list-style-type: none"><li>1. Appreciate attributes of natural resource use and management.</li><li>2. Understand the complexity of natural resource and issues, and sustainability.</li><li>3. Apply theories and methods with interdisciplinary approach towards natural resource management.</li></ol>
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	<ol style="list-style-type: none"><li>4. Critically examine the gap in the resource availability, use, and conservation.</li><li>5. Appreciate ideas of sustainable development.</li><li>6. Critically examine the interlink between development and the environment.</li><li>7. Gain Knowledge of water sources and processes involved.</li><li>8. Critically examine water resource management systems interaction and significance with respect to the environment.</li><li>9. Apply knowledge on water resource technology.</li><li>10. Understand the principles of energy conversion in case of each of the energy sources.</li><li>11. State how the consumption of fossil fuels and biomass leads to adverse impact on health and climate.</li><li>12. Understand the implications of large-scale production of power from sources such as hydro, solar, wind etc.</li><li>13. Understand principles of water and land management.</li></ol>
Biodiversity and its conservation	<ol style="list-style-type: none"><li>1. Systematically understand biodiversity and its vital role in ecosystem function</li><li>2. Appreciate the need of biodiversity conservation in the context of various developmental pathways and policy framework that the mankind has been undergoing</li><li>3. Identify the importance of biodiversity in natural environments</li><li>4. Critically examine biodiversity and human linkages, and help policy formulating for conservation</li><li>5. Application of knowledge in general communication for public extension</li><li>6. Appreciate current threats to biodiversity in relation to protected areas and non-protected areas</li><li>7. Be capable of assessing status of wildlife and biodiversity</li></ol>

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

II Sem	Environmental issues, policies and practices	<ol style="list-style-type: none"><li>1. Understand the need to address current environmental issues.</li><li>2. Gain Knowledge on the types and the science of environmental pollution.</li><li>3. Appreciate the effect of pollution on human health</li><li>4. Develop Analytical ability to link cause and effect of pollution</li><li>5. Understand Critical issues of handling pollution vis a vis human being</li><li>6. Develop pollution mitigation/abatement strategies</li><li>7. Address solid waste management practices through a cradle-to- grave approach</li><li>8. Apply understanding to generate recourses from wastes</li><li>9. Understand the Indian constitutional provisions with respect to the environmental protection</li><li>10 Develop comprehensive understanding of pollution control laws.</li><li>11. Recognise major chemical/ photochemical pathways of organic and inorganic gases and their implications including acid rain, ozone depletion,</li><li>12. Understand the different types of natural hazard, their major driving forces/ factor, and the causes.</li><li>13. Ability to draw conclusions form environmental movements, environmental legislations</li></ol>
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## GOVERNMENT DEGREE COLLEGE UTTERSOO

### UTTERSOO—SHANGAS ANANTNAG

#### COMPUTER APPLICATIONS:

##### Learning Outcomes:

- At the end of the three-year B. A/B.sc programme with computer applications as one of the subjects, the students will be able to:
- Understand, analyse and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer-based system.
- Work in the IT sector as system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.
- Apply standard software engineering practices and strategies in software project development using open-source programming environment to deliver a quality of product for business success
- Equip themselves to potentially rich & employable field of computer applications.
- Pursue higher studies in the area of Computer Science/Applications.

##### Course outcomes:

Semester	Course name & course code	Course outcomes
1 <sup>st</sup>	Programming fundamentals using C++ (BCA121C)	Understand the basic terminology used in computer programming Use different data types in a computer program. Design programs involving decision structures, loops and functions. Explain the difference between call by value and call by reference. Understand the dynamics of memory by the use of pointers. CO6: Use different data structures and create/update basic data files
2 <sup>nd</sup>	Computing	Demonstrate competency in

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

	mathematics (BCA221C)	the areas that comprise the core of the mathematics Demonstrate the ability to understand and write mathematical proofs Be able to use appropriate technologies to solve mathematical problems Be able to construct appropriate mathematical models to solve a variety of practical problems Obtain a full-time position in a related field or placement
3 <sup>rd</sup>	Computer networks (BCA321C)	: Explain the importance of data communications and the Internet in supporting business Communications and daily activities. Explain how communication works in data networks and the Internet. Recognize the different internetworking devices and their functions. Explain the role of protocols in networking. Analyze the services and features of the various layers of data networks.

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

4 <sup>th</sup>	Data base management (BCA421C)	Understand, appreciate and effectively explain the underlying concepts of database Technologies. Design and implement a database schema for a given problem-domain Normalize a database and Populate and query a database using SQL DML/DDDL commands. Declare and enforce integrity
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		constraints on a database
5 <sup>th</sup>	Programming in java(BCA521C)	Develop Swing-based GUI. Develop client/server applications and TCP/IP socket programming  Update and retrieve the data from the databases using SQL Develop component-based Java software using JavaBeans. Develop server side programs in the form of servlets.

6 <sup>th</sup>	Object oriented programming using C (BCA621C)	Understand object-oriented programming features in C++. Apply these features to program design and implementation.  Understand object-oriented concepts and how they are supported by C++. Gain some practical experience of C++. Apply the facilities offered by C++ for Object-Oriented Programming
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## GOVERNMENT DEGREE COLLEGE UTTERSOU

### UTTERSOU—SHANGAS ANANTNAG

#### **EDUCATION:**

##### **Learning outcomes:**

- Understand the basic concepts and ideas of educational theory.
  
- Build understanding and perspective on the nature of the learner, diversity and learning.
- Comprehend the role of the systems of governance and structural – functional provisions that support school education.
- 4Develop understanding about teaching, pedagogy, school management and community involvement.
- Build skills and abilities of communication, reflection, art, aesthetics, theatre, self expression and ICT.

##### **Program specific outcome:**

Semester	Course outcomes
I semester <b>Educational Sociology</b> (EDU 116)	<ul style="list-style-type: none"><li>• The purpose of the topic is to develop knowledge about educational sociology</li><li>• To explore the concept of culture and its relationship with education</li><li>• To learn the concept of social change</li><li>• To understand the different factors of social change</li><li>• To acquaint students about the concept of social process.</li><li>• To understand the various social problems</li><li>• To learn how education overcomes social problems</li></ul>
II Semester <b>Educational Psychology</b> (EDU 216)	<ul style="list-style-type: none"><li>• The purpose of the topic is to develop knowledge about educational psychology</li><li>• To explore the concept of learning and its various theories</li><li>• To learn the concept of intelligence</li><li>• To understand how to nourish creativity among students</li><li>• To acquaint students about the concept of personality.</li><li>• To learn about various theories of personality</li><li>• To understand the various problems of adolescence period</li><li>• To learn about the concept of mental health</li></ul>

GOVERNMENT DEGREE COLLEGE UTTERSOU

UTTERSOU—SHANGAS ANANTNAG

<p>III semester <b>Educational philosophy</b> (EDU 316)</p>	<ul style="list-style-type: none"><li>• To explore the concept of philosophy</li><li>• To understand the relationship between education and philosophy</li><li>• To explore the concept of philosophy</li><li>• To understand the relationship between education and philosophy</li><li>• To define pragmatic philosophy</li><li>• To describe its educational implications</li><li>• To prod the students to imbibe the educational thoughts of Tagore, Gandhi and Vivekananda</li></ul>
<p><b>Early childhood care and education</b> (Skill enhancement course)</p>	<ul style="list-style-type: none"><li>• To learn the concept of ECCE.</li><li>• To understand various methods of studying child behaviour.</li><li>• To discuss the concept of development.</li><li>• To explore various features of development</li><li>• To acquaint the students about recommendations of NPE-1986.</li><li>• To make students aware about features of NCF- 2005</li><li>• To explain the concept of ECCE given Froebel, Montessori and Dewey</li></ul>
<p>IV Semester <b>History of education in India</b> (EDU 416)</p>	<ul style="list-style-type: none"><li>• The purpose of the topic is to develop knowledge about Vedic and Buddhist systems of Education</li><li>• To explore the system of education during Muslim period in India</li><li>• To learn about different education commissions in British India</li><li>• To understand the salient features of different education commissions</li><li>• To acquaint students about Radhakrishnan commission and Secondary education Comm.</li><li>• To study salient features of Kothari commission</li></ul>
	<p>and NPE-1986</p> <ul style="list-style-type: none"><li>• To understand the history of education system in J&amp;K</li></ul>

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

<p><b>Educational technology</b> (Skill enhancement course)</p>	<ul style="list-style-type: none"><li>• To learn the concept of educational technology</li><li>• To understand the role of ICT in education</li><li>• To explain the significance of teaching learning aids</li><li>• To learn the concept of computer assisted instruction</li><li>• To discuss the phases and maxims of teaching</li><li>• To learn about micro-teaching and simulated teaching techniques</li><li>• To learn the concept of communication</li><li>• To understand various types of communication</li></ul>
<p>V Semester <b>Statistics in education</b> (EDU 516)</p>	<ul style="list-style-type: none"><li>• To describe different types of central tendency</li><li>• To compute mean, median and mode</li><li>• To understand different measures of variability</li><li>• To compute S.D, Q.D and Range</li><li>• To compute percentile and percentile rank methods</li><li>• To learn various correlation techniques</li><li>• To understand the meaning of parametric and non-parametric statistical techniques</li><li>• To learn the use of parametric and non-parametric statistical techniques</li></ul>
<p><b>Guidance and counselling</b> (Skill enhancement course)</p>	<ul style="list-style-type: none"><li>• To learn the concept of guidance</li><li>• To understand the history of guidance movement in India</li><li>• To aware students about philosophical and psychological foundations of guidance</li><li>• To aware students about socio-cultural foundations of guidance</li><li>• To learn the educational, occupational and personal guidance services</li><li>• To learn the appraisal services of guidance</li><li>• To understand the concept of counseling</li><li>• To learn the different types of counseling techniques.</li></ul>
<p>VI Semester Issues &amp; trends in contemporary Indian education (EDU616)</p>	<ul style="list-style-type: none"><li>• To explore the concept of adult education</li><li>• To acquaint the students with distance mode of learning</li><li>• To provide knowledge about differently</li></ul>

GOVERNMENT DEGREE COLLEGE UTTERSOU

UTTERSOU—SHANGAS ANANTNAG

	<p>abledchildren.</p> <ul style="list-style-type: none"><li>• To know about different categories of exceptionalchildren</li><li>• To familiarize the students about various concepts of guidance and counselling, its objectives, need, techniques and emerging concepts in the presentage</li><li>• To make students learn various statistical techniques</li></ul>
<p><b>Inclusive education</b> (Skill enhancement course)</p>	<ul style="list-style-type: none"><li>• To learn the concept of inclusiveeducation</li><li>• To aware students about the characteristics of inclusiveeducation</li><li>• To provide knowledge about differently abledchildren.</li><li>• To know about different categories of exceptionalchildren</li><li>• To learn about working towards gender equality</li><li>• To understand marginalized sections of the society</li><li>• To know the IEDC-1974 and RCI-1992</li><li>• To acquaint the students about SSA-2000 andNCF-2005</li></ul>

**GOVERNMENT DEGREE COLLEGE UTTERSOO**  
**UTTERSOO—SHANGAS ANANTNAG**

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**ECONOMICS**

**Learning outcomes:**

- Students will be able to understand economic vocabulary, methodologies, tools and analysis procedures.
- Students will be familiar with the knowledge and application of micro economics for the formulation of policies and planning.
- Students will learn to apply economic theories and concepts to contemporary social issues, as well as analysis of policies.
- Students will be able to understand the impact of government policies and will be able to assess the consequences of the policies on the parties involved.
- As the programme contains the fields like statistics, mathematics and economic principles, it enhances them to compute and assess the real situation of the economy including the size and changes of population, income pattern, and rate of development with pattern of savings and investments and social security measures adopted in the country.
- Student develops an awareness of career choices and the option for higher studies.



**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

**Course outcomes:**

<b>Semester</b>	<b>Course outcomes</b>
<b>I Sem Principles of microeconomics (ECO-120C)</b>	<ol style="list-style-type: none"><li>1. To give an insight to the students about the basic concepts used in Micro economics.</li><li>2. To get a basic understanding about micro economics.</li><li>3. To provide basic understanding on micro economic concepts, relating to Consumer behaviour, Producer behaviour markets, factor pricing, and distribution .</li></ol>
<b>II Sem Principles of microeconomics-II (ECO-220C)</b>	<ol style="list-style-type: none"><li>1. To give an insight to the students about the basic concepts used in Micro economics.</li><li>2. To get a basic understanding about micro economics.</li><li>3. To provide basic understanding on micro economic concepts, relating to Consumer behaviour, Producer behaviour markets, factor pricing, and distribution.</li></ol>
<b>III Sem Principles of macroeconomics (ECO-320C)</b>	<ol style="list-style-type: none"><li>1. To give an insight to the students about the basic concepts used in Macro economics.</li><li>2. To enable the students to understand the theoretical framework and the working of an economy as a whole.</li><li>3. To suggest the policy alternatives used in controlling the economy.</li><li>4. To explain the process of calculating national income, identify its components, demonstrate green accounting and social accounting.</li></ol>
<b>IV Sem Principles of macroeconomics-II (ECO-420C)</b>	<ol style="list-style-type: none"><li>1. This paper gives an insight to the students about the basic concepts used in macro economics and policy alternatives.</li><li>2. To enable the students to understand the theoretical framework and the working of an economy as a whole.</li><li>3. To illustrate the meaning of inflation, deflation and stagflation, identify different kind of inflation, causes and effects of inflation on the different sectors of the economy.</li><li>4. To illustrate the meaning of unemployment, business cycles, AD and AS and their components.</li></ol>
<b>IV semester Skill Enhancement course-1 Statistics for Economics (SE-</b>	<ol style="list-style-type: none"><li>1. To familiarize the students with statistical tools</li></ol>

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

<b>420S)</b>	and techniques. 2. It helps students to the basic statistical methods used for analyzing and drawing statistical inferences which include Measures of central tendency, Dispersion, Skewness, Correlation, Regression, Index numbers and time series. 3. To enable the students to understand basic and advanced concepts of statistics and their application in Economics.
<b>V Sem (Discipline specific elective-1) Development Economics (ECO- 520DA)</b>	1. To enable the students to understand the basic concepts of Development and Growth. 2. It also intends to provide the theoretical framework for growth and development discourses under different schools of economic thought and a better insights and knowledge on issues and challenges on economic development. 3. It aims to familiarize students with alternative approaches to economic development and the associated issues in economic growth and development.
<b>V Sem (Discipline specific elective-2) Money and Banking (ECO- 520DB)</b>	1. To enable the students to know the evolution and role of money in the economy. 2. To familiarize the students about the role of money in facilitating the economic transactions, various determinants of demand and supply of money and the overall structure and functioning of commercial and central banks. 3. It also provides an insight into the innovative role of banks in the changing economic set up.
<b>V semester Skill Enhancement course-2 Mathematical Economics (ME- 520S)</b>	1. To get an insight in to the mathematical techniques. 2. Applying methods of Differentiation in understanding principles of Economics 3. Getting proficiency in Matrices and Determinants. 4. Familiarize some immediate applications of Matrices and Determinants in economics. 4. Introduction to Matrix Algebra. 5. Getting awareness on the increased use of mathematical methods in Economics. 6. Apply mathematical tools and methods for understanding the theory of Economics and develop the capability of applying the same in solving problems in Economics.
<b>V semester Generic elective-1</b>	1. To give an insight to the students about the basic concepts used in Micro economics.

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

<b>Microeconomics (MIC-520G)</b>	<ol style="list-style-type: none"><li>2. To get a basic understanding about micro economics.</li><li>3. To provide basic understanding on micro economic concepts, relating to Consumer behaviour, Producer behaviour markets, factor pricing, and distribution.</li></ol>
<b>VI semester Discipline Specific Elective-3 Public Finance &amp; International Trade (ECO-620DA)</b>	<ol style="list-style-type: none"><li>.1. To provide basic information to students on the scope, significance and functions of government.</li><li>2. A general understanding about fiscal policy and its various instruments.</li><li>3. To give an awareness about budgeting with special reference to India.</li><li>4. To understand the basic concepts of international trade.</li><li>5. To enable the students to have a basic understanding of the emerging trend, issues and policies in the field of international economic system.</li></ol>
<b>VI semester Discipline specific elective-4 Economic Development and policy in India (ECO-620DB)</b>	<ol style="list-style-type: none"><li>1. To enable the students to have an understanding of the various issues of the Indian Economy, like unemployment, poverty, agriculture, industry and human capital issues.</li><li>2. To enable the students to comprehend and critically appraise current issues and problems of Indian economy.</li><li>3. The focus of this course is on the development of Indian Economy since Independence.</li><li>4. To understand the importance of planning undertaken by the government of India.</li><li>5. To sharpen the analytical faculty of students by highlighting an integrated approach to the functioning of the Indian Economy and the scope for alternative policies imperative for sustainable growth. trajectory.</li></ol>
<b>VI semester Skill Enhancement course-3 Entrepreneurship for self Employment (ENT-620S)</b>	<ol style="list-style-type: none"><li>1. To help students to attain the basic understanding and knowledge of various employment generation schemes and avenues available in J&amp;K.</li><li>2. It develops into a through practical guide to self employment and entrepreneurship processes of J&amp;K.</li></ol>
<b>VI semester Generic Elective-2 Macroeconomics (MA620G)</b>	<ol style="list-style-type: none"><li>1. To give an insight to the students about the basic concepts used in Macro economics.</li><li>2. To enable the students to understand the theoretical framework and the working of an economy as a whole.</li><li>3. To suggest the policy alternatives used in controlling the economy.</li></ol>

# GOVERNMENT DEGREE COLLEGE UTTERSOO

## UTTERSOO—SHANGAS ANANTNAG

### ZOOLOGY

#### Learning outcomes:

After completing the three-year course with zoology as one of the subjects, the students will be able to

- Understand how animals are being classified and identified.
- Demonstrate the knowledge of basic zoological principles.
- Use appropriate information with a critical understanding.
- Learn basic laboratory and analytical skills
- Use effective methods for modifying animal behaviour.
- participate in animal management programmes in an effective manner
- work safely and effectively in the field, in laboratories and in animal facilities
- Demonstrate competence in handling and statistical analysis of data gained from practical.

#### Course outcomes:

Semester	Course outcomes
I Sem Animal diversity (ZO116)	<ul style="list-style-type: none"><li>• Develop an understanding of Animal diversity with regard to Protozoa, non-chordates and chordates.</li><li>• Group animals on the basis of their morphological, structural and phylogenetic characteristics in order to achieve homogeneity and to make their study easy and convenient.</li><li>• Develop a critical understanding how animals changed from a primitive cell to a collection of simple cells to form a complex body plan.</li><li>• Examine the diversity and evolutionary history of a taxon through the construction of a basic phylogenetic tree or a cladistics tree.</li><li>• understand how morphological change due to change in the environment helps drive evolution over a long period of time.</li><li>• The project assignment on the course will give the students a flavour of research to find the process involved in studying biodiversity and taxonomy besides improving their writing skills.</li></ul>
II Sem Comparative anatomy & developmental biology of vertebrates (ZO216)	<ul style="list-style-type: none"><li>• Develop a critical understanding of gross internal structure of higher chordates or vertebrates from simple cyclostomes to highly complex and intelligent mammals.</li><li>• Develop a critical understanding of whole developmental process to assist students in getting how a structureless blob of</li></ul>

GOVERNMENT DEGREE COLLEGE UTTERSOO

UTTERSOO—SHANGAS ANANTNAG

	<p>jelly i.e, fertilized or unfertilized egg/zygote becomes an early embryo and then a fully formed baby or larva through the three fundamental processes of cell division, cell differentiation and morphogenesis.</p> <ul style="list-style-type: none"><li>• Provide an understanding how the three primary germ layers are being established at gastrulation and how various types of embryonic cell movements carve out a fullfledged baby or a larva out of these primary cell layers.</li><li>• Providing a basic understanding of embryonic induction and competence, wherein a student is able to understand how one embryonic tissue called as primary organizer can induce the development of nerve cord and other tissues by the release of a chemical signal called as evacator.</li><li>• It makes the students to realize that early developmental patterns are similar in almost all organisms thereby providing a strong embryological evidence in favour of evolution. It enables the students to understand the fundamental law of embryology that , "Ontogeny repeats Phylogeny".</li><li>• It enables the students to understand a relevance of developmental biology in medicine or in role in development of diseases.</li></ul>
III Sem Animal physiology and Bio-Chemistry (ZO316)	<ul style="list-style-type: none"><li>• To give an understanding of basic physiological processes like digestion and absorption of food, respiratory gaseous exchange and respiratory volumes, functioning of heart and circulatory patterns, physiology of vision and hearing.</li><li>• To give a basic understanding of various physiological disorders pertaining to human body</li><li>• To give an understanding of basic bio-chemical reactions and metabolic pathways that sustain the life of Animals.</li></ul>
IV Sem Genetics and Evolution (ZO416)	<ul style="list-style-type: none"><li>• Develop an understanding of basic principles that govern transmission of genes and characters from one generation to sub-sequent generations</li><li>• Develop an understanding of Mendellian and Non-Mendellian patterns of inheritance</li><li>• Develop an understanding among students how a desirable genetic change can result in a useful mutation that can drive an evolution process which may prove highly beneficial in</li></ul>

GOVERNMENT DEGREE COLLEGE UTTERSOU

UTTERSOU—SHANGAS ANANTNAG

	<p>agriculture or animal husbandry.</p> <ul style="list-style-type: none"><li>• Develop an understanding among students how immensely the science of Genetics and animal breeding has contributed to human-welfare.</li></ul>
V Sem Applied zoology	<ul style="list-style-type: none"><li>• Understand the management and importance of poultry and diary farming</li><li>• understand beekeeping and its management along with requisite beekeeping tools.</li><li>• learn about Lac culture, pearl culture, pisciculture and their scientific management for more commercial benefit.</li><li>• Create an awareness among students about various career options and activities available in human medicine, biomedical research and allied fields.</li></ul>
VI Sem Immunology	<ul style="list-style-type: none"><li>• Develop an understanding of human pathogens and parasites along with remedial measures against them</li><li>• identify basic components of body's defence system.</li><li>• identify the major cellular and tissue components that comprise innate and adaptive immune system.</li><li>• Develop an understanding how immune system of human body can mount strong immunological responses against pathogens, parasites, transplanted organs and sometimes against body's own antigens like muscles, glands and joints.</li><li>• Develop an understanding of vaccines and immunization.</li></ul>

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

**ENGLISH**

**SUBJECT OUTCOME**

- To develop the students' linguistic link in global scenario.
- To help the students develop all the four basic skills of language learning viz. listening, speaking, reading, and writing.
- To develop students' interest in linguistic skills like pronunciation, intonation, stress etc. to connect with the globe in global language
- To develop/ inculcate interest of students in varied aspects of world literature: introducing them to various cultures, milieus and histories of both the English nations and Non-English nations

**Program: BA/ BSC with English as a Subject**

<b>Semester</b>	<b>Unit</b>	<b>Course outcome</b>
<b>III</b>  <b>English I</b> <b>Eng-01</b>	Grammar in use	Language development activities have been included to enable students to acquire accuracy in the language A creative exercise has been added to facilitate learners to understand the functional value of grammar in real life situations.
	Writing / English sound system	Familiarize the students the concept and use of punctuation. To introduce students to the sound system of English language
	poetry	To develop among the students aesthetic sense. To introduce the great poets like William Shakespeare John Milton William Blake, and their works.
	Essay/Short Stories	To develop among them the craft of essay writing. To flourish their craft of short story writing.
<b>V</b> <b>General English</b> <b>GE-016</b>	Poetry	To familiarize students with Indian Poetry by introducing A K Ramanujan and Agha Shahid Ali. Describe how modern poetries famed as is evident from Agha Shahid Ali's Poetry
	Grammar	To recognize and incorporate basic grammar mechanics and sentence variety in writing including Modals and

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

		subject-verb agreement. To teach grammar not only through consciously tradition ways but also on the basis of deep and sub-conscious learning
<b>VI General English GE-016</b>	Prose	To make students aware about prose and how it is constructed with introducing of Amritya Sen and Martin Luther King Jr. To create interest among students in prose reading and urge to become as a prose writer
	Composition	To help the students to develop powerful and professional skills and email writing, précis advertisement and essay writing

**Skill enhancement course**

<b>Semester</b>	<b>Unit</b>	<b>Course outcome</b>
<b>IV English Language</b>	History of ELT in India	To help students to have a comprehensive knowledge of the history of ELT in India.

<b>Teaching-II (ENG417S)</b>		To understand the importance and relevance of English Language Teaching in the age of globalization.
	Receptive Skills and Productive Skills	To introduce the students to the (LSRW) language skills and help them to improve in these skills. To involve students in the practical exercises of Listening, Speaking, Reading and Writing
	Suprasegmental Phonology	To acquaint the students to the concept of stress, rhythm and intonation in English language. To understand the importance of vocabulary development. To help students pronounce English sounds correctly.
	English in Everyday Communication	To help students to acquire practical knowledge/command of English language. To develop communicative competence in English language.
<b>V SKILL ENHANCEMENT COURSE (SEC III)</b>	I	To acquire fundamentals of writing skills in English To acquire practical knowledge in business correspondence To introduce the students to the role/features and use of English for business purposes



**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

	II	To acquire fundamentals of writing skills in English Acquire practical knowledge in business correspondence To introduce the students to the role features and use of English for business purposes
	III & IV	To acquire fundamentals of writing skills in English To acquire practical knowledge in business correspondence To introduce the students to the role features and use of English for business purposes

**ENGLISH COMMUNICATION SKILL**

<b>Semester</b>	<b>Unit</b>	<b>Course outcome</b>
<b>I Communications Skills I (AECC I)</b>	Communication: Overview	An To make students aware about different types of communication. To raise the knowledge of students about Different components of non-verbal communication.
	Listening Skills	To make students aware about different types of listening. To make students to know about barriers to effective listening.
	Presentation	To prepare students for an effective presentation. To prepare students for the demos
	Language in practice	To take mock interviews of students To put the students in group discussion.

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

<b>II Communication Skills –II (AECCIIB)</b>	Reading Skills	To make the learning of reading skill in English easy and accessible. To clarify the concept of reading through ample examples, adequate exercises and activities.
	Paragraph Writing	To familiarize the students to the concept of different forms of writing especially paragraph Writing. To help the students to master the creative skill of writing through exercises from select texts

**MATHAMATICS**

**Learning outcomes:**

Demonstrate an understanding of the foundations and history of mathematics.

- Perform computations in higher mathematics. Read and understand middle level proofs, write and understand basic proofs.
- Develop and maintain problem solving skills. Use Mathematical ideas to model real world problems.

Semester	Unit	Course outcome
<b>I Differential Calculus (BMM-CR-16101)</b>	Limit & Continuity	To know methods of finding limits To know how to find a function is continuous
	Tangents & Normals	To learn about tangents & Normals. To learn how to find equation of normal
	Series Expansion	To learn how to find expansion of functions. To know about Taylor’s series and Maclaurin’s series.
	Integration	To learn different methods of integration
<b>III Real Analysis ( BMM-CR16301)</b>	Real Sets	To know about infimum & supremum. To know about countable & uncountable sets
	Sequences	To know about Cauchy sequence. to know about convergent sequences
	Series	To know about tests for convergence of a series
	Series of functions	To learn about Power series and Radius of Convergence.
<b>IV Algebra(BMM-CR-16401)</b>	Groups	To know about groups and their examples
	Sub-Groups	To learn order of an element. To know about Cyclic groups.
	Non sub-Groups	To learn about Normal sub groups and their characterization.
	Rings	To learn about Rings. To know about ideals of a ring.

**GOVERNMENT DEGREE COLLEGE UTTERSOU**

**UTTERSOU—SHANGAS ANANTNAG**

<b>IV sem skill Theory of Equations &amp; Vector Calculus</b>	Roots of Equations	To know the techniques of finding roots of an equation. To know how to diminish the roots.
	Symmetric function of roots	To know symmetry of roots. Carden's and Descart's method.
	Vectors	To know different kinds of vectors. To know Green's Theorem and its applications
	Gradient and curl of vectors	To know gradient and curl of vectors
<b>III sem skill Logic Sets and Complex Trigonometry (BMM-SEC-16301)</b>	Logic sets	To know about Logic Sets and their truth tables.
	Relations	1. To learn what we mean by a relation. To know about equivalence relation
	Complex variables-I	1. To learn the techniques of finding nth roots of an number. To know De'Mories Theorem
	Complex variables-II	1 To find techniques of finding expansion of functions. C + iS method.

## GOVERNMENT DEGREE COLLEGE UTTERSOO

### UTTERSOO—SHANGAS ANANTNAG

#### **Sociology**

**Learning Outcomes:** After completing the three year course with sociology as one of the subjects, the students shall be able to understand

- Basic concepts and theoretical perspectives in Sociology and how they are used in sociological explanation of social behaviour.
- How to collect, analyze and interpret empirical evidence in sociological research
- Gain familiarity with and develop an understanding of core substantive areas of sociological inquiry.
- Express sociological ideas clearly and coherently both in writing and in oral presentations.
- Examine the roles and responsibilities of individuals, groups, and institutions in larger society, displaying understanding of the complex relationships between human behaviour and the social context.
- Propose a plan of research for a sociological problem or issue, including conceptualization of the problem, review of pertinent literature, design of a research study, and identification of methods appropriate for exploring the problem or issue.
- Apply various theoretical perspectives to issues in society, showing how a perspective frames each issue, that is, how we understand the issue, the kinds of questions we can ask about it, and the kinds of research methods we can apply to answering the questions.
- Think critically about the causes and consequences of social inequality.
- Design and evaluate empirical sociological research.
- Explain and apply the major theoretical perspectives in sociology.
- Communicate orally and in writing about sociological concepts.
- Use their sociological education outside of the undergraduate classroom, particularly in their careers or further education.

#### **Course outcomes:**

<b>Class/Course Code</b>	<b>Course Name</b>	<b>COURSE OUTCOME</b>
<b>SEMESTER I DSC-SOC-1A</b>	<b>Introduction To Sociology</b>	1. The students are expected to be well versed with the emergence and domain of the Sociology. 2. The students are expected to carry a very good understanding of the fundamental concepts and schools of thought in Sociology

**GOVERNMENT DEGREE COLLEGE UTTERSOO**

**UTTERSOO—SHANGAS ANANTNAG**

<b>SEMESTER II DSC-SOC-1B</b>	<b>Sociological Thought</b>	<p>1.The students shall possess a sound theoretical base</p> <p>2. The learners are also expected to identify the contributions of the major classical thinkers of sociology</p>
<b>SEMESTER III DSC-SOC-1C</b>	<b>Indian Society: Structure And Change</b>	<p>1.The students shall be able to carry a fundamental understanding of the structure of Indian society</p> <p>2. The students are particularly expected to understand the dynamics of the basic social institutions in India.</p>
<b>SEMESTER IV DSC-SOC-1D</b>	<b>Methodology Of Social Research</b>	<p>1.The students are expected to have good command upon the fundamentals of research</p> <p>2. Be familiar to make use t Of basic statistical tools in analysis of the research data</p>
<b>SEMESTER V</b>	<b>Marriage, Family And Kinship</b>	<p>1. The students are projected to possess a fundamental knowledge about the structure and functioning of the basic institutions of the Marriage, Family and Kinship.</p> <p>2. The students are expected to be well acquainted with the all-round changes that have taken place in the structure and functioning of these institutions over a period of time.</p>
<b>SEMESTER VI</b>	<b>Social Stratification</b>	<p>1.The students are expected to be well familiar with the concept, types and impact of social stratification and social mobility</p> <p>2. The students are particularly expected to have a deep understanding of the factors leading to and also impeding the social mobility in India.</p>