#### **BA (Hons) Philosophy**

The BA (Hons) Philosophy programme in Delhi University is an attempt to both introduce and , at the same time, provide an in depth look into one of the most challenging subjects that one can study.

It will introduce students to the great philosophers and their ideas and also how one thinks about contemporary problems through the lens of their theories. It will give a comprehensive sweep of Indian and Western philosophy.

It will also make the students aware of the main currents of thought in Ethics. Students can also explore Philosophy of Science, Logic, Feminism and Bio-ethics amongst many other core and optional papers. The core idea of the Honours course is to make the student aware of the foundational issues related to the world around us, whether it be in our life, or regarding mind and matter, or existence, or belief, or religion or science. Philosophy is vast in scope and intense in analysis and the Honours course tries to provide a taste of the extent of philosophy and the intensity of the argumentation and analysis at the same time.

#### 2. Learning Outcomes based approach to Curriculum Planning

The learning outcomes-based curriculum framework for B.A (Hons.) Philosophy is based on the graduate attributes that a graduate in philosophy is expected to attain along coupled with the expected learning outcomes of each course and the combined course. The curriculum for B.A (Hons) Philosophy is prepared keeping in mind the needs, expectations and aspirations of students in philosophy as well as the modernizing trends and methodological perspectives of philosophy as a subject. The course learning outcomes and the programme learning outcomes specify the knowledge, understanding, skills, attitudes, values that a student completing this degree is expected to inculcate and know.

#### **Course objective and learning outcome : 2018-2019**

Semester-I

Indian Philosophy

Core Course - (CC), Credits:6

Course Objectives

The objective of this course is to make students familiar with Indian Intellectual traditions. This course will be an Introduction to the major schools of Indian philosophy. Focus will be on interactive learning where students will engage themselves into rigorous and an analytical examination of key concepts in a manner that enables them for contemporary engagement and reflection .

Learning outcome:

The course will help the students in understanding the significance of Indian philosophical studies in their daily life, how to overcome the stress, how to manage their life and take challenges in life; hence there will be a focus on the dialectical and analytical method to understand Indian philosophy.

Logic

Core Course - (CC) ,credits:6

Course Objectives::

Logic is fundamental to the way human beings communicate. Though our public debate and private reasoning are shaped by logical principles, we are not able to spell them out without a basic training in logic.

Learning outcome:

Logic course helps the students to develop an understanding of the basic concepts of logic and language as well as familiarity with precise models of deductive reasoning. It will also facilitate an understanding to effectively distinguish between rhetoric, fallacious arguments and sound reasoning in real life. Identifying these distinctions is quite significant to preserve one's intellectual sanctity in an increasingly media saturated world with fake news.

Ethics in the Public Domain

(GE), Generic Elective, Credit:6

Course Objectives

The course aims to develop an ethical perspective on socio-political and even economic issues where the public discourses and debates are often bereft of ethical/moral considerations and are often plagued with objectivism and materialism.

Through theoretical understanding of ethics and its practical application in daily life, it generates ethical awareness/sensitivity necessary for overall wellbeing and inspires the students to contribute voluntarily to the society as a responsible member.

Course Learning Outcomes

To equip the students with tools and techniques for handling socio political issues that affect them on individual / collective basis. It also inculcates, among students, a larger awareness of public issues and empathy with marginalised issues in society.

Semester-2

#### Greek Philosophy

Core Course - (CC) Credit:6

**Course Objectives** 

This course traces the origins of philosophy in the Western tradition in the thinkers of Ancient Greece.

Course Learning Outcomes

This course facilitates a comprehension of early Greek tradition. A comprehensive understanding of it is like a foundation course in the Classics. The two great classical traditions, viz.,Greek and Indian have left a rich legacy of philosophic knowledge that can be pragmatically and scholastically contextualized in the present day times. Students of Delhi University read Indian Philosophy, this course in GreekPhilosophy complements it fairly well for understanding of the classics.

Ethics

Core Course - (CC) Credit:6

Course Objective

The objective is to introduce students to basic ethical theories which enhance their decision making capabilities. The course is designed to help them achieve clarity and creative approach in a given situation.

#### Course Learning Outcomes

The students after having run through basic ethical theories gain a better orientation from the ethical perspective. This course helps to understand and interpret socio-cultural aspects with a more rational basis.

Formal Logic

(GE (2))

Generic Elective - (GE) Credit:6

Course Objective:

This course is designed as an introductory course in logic which will bring out the standard forms of Formal and Informal reasoning. It introduces the basic logical concepts and provides a clear understanding of the structure of arguments and the nature of inferential reasoning.

Course Learning Outcomes:

Formal logic enhances the reasoning skills and develops ground for rejecting the wrong arguments on the basis of sound inferences. It creates ground for eliminating superstitious beliefs and creates ways for strong arguments.

Semester-3

Western Philosophy: Descartes to Kant

Core Course - (CC) Credit:6

Course Objective

The paper is designed to appreciate the profound ideas that sprung from the minds of the great philosophers of the modern western world. The syllabus comprises of six philosophers grouped under two traditions of thought: Rationalism and Empiricism and the seventh conciliating these two traditions with conflicting thoughts.

Course Learning Outcomes

This paper seeks to enable the students to witness how philosophers who were either predecessors or contemporaries evaluated the theories of others. It will also make students aware that there is no place for superficial approach to the complex questions in life.

Social and Political Philosophy

Core Course - (CC ,Credits:6

Course Objective

This course aims at studying different range of social and political thinkers, theories and concepts. It would provide a broad survey of fundamental, social and political questions in current context discussing philosophical issues central to political and social thoughts.

Course Learning Outcomes

This course may make students a better citizens by understanding the notions of governance and democracy. It enables them to know rights of Individuals and communities, and to learn to live in cohesive manner in a multicultural setup.

Applied Ethics

Core Course - (CC) Credit:6

Course Objective

The course objective is to apply the theoretical tools of Ethics in life situations as well as devise ethical resolutions in moral dilemmas as they come up. This will gradually generate an ethical acumen amongst the students of philosophy.

#### Course Learning Outcomes

This course is designed to make students philosophically competent about their own decisions, to achieve clarity, develop comprehension skills and reach precision in arguments with reasons. A spectrum of issues ranging from morality, environment, real life situations, moral dilemmas and ongoing philosophical examination of the crisis in the field of electronic media are a part of this course curriculum.

#### Critical Thinking and Decision Making

#### (SEC (1)),Credit:4

#### Course Objective:

This course is primarily focused to develop thinking skills. It aims at enabling a person to take decision in difficult situations. It is the ability to analyze the way one thinks and presents the evidence for one' own ideas rather than simply accepting it. It is creative, clear and to some extent reflective thinking.

#### Course Learning Outcomes

This course will help in generating intellectual and productive/creative ideas for further use in difficult situation. It will also provide a clarity in thinking as well as proper understanding of an issue to make it precise for further analysis. The learner can become self-directed, self-monitored and self-corrective through this process of reflective thinking, and can proceed for right choice.

Feminism

Generic Elective - (GE) Credit:6

#### Course Objectives:

A course in Feminism is needed to sensitise students to a perspective of thought that acts as a filter—a lens through which all subjects must be studied. It seeks to create gender sensitization and develops a holistic approach towards education. This course addresses the concerns of women in terms of debates on consciousness and soul, analyses their connect with nature and culture; and explains the development of feminist ideologies.

Course Learning Outcomes:

Study of Feminism arms the student with analytical skills to develop valid arguments to counter gender discrimination, sexism and patriarchal dominance. Feminist theory has a social agenda i.e. to initiate transformation in social structures, customs and practices. Thus the study of Feminism is not only an empowering tool against gender oppression but also against other systems of oppression such as race, class and colour.

Semester -4

Text of Indian Philosophy

Core Course - (CC) Credit:6

Course Objective

The objective of this course is to engage the student in a participative framework to critically and creatively look at the dialogical and pluralistic epistemological traditions within the mosaic of what is called the Indian Philosophical Textual Depository. The primary focus will be on the three sources of knowledge and cognitive activity: perception, inference and verbal testimony.

Course Learning Outcomes

After having done this course, the student is expected to have mastered the art of philosophically reading the given textual excerpts and to understand the issues hermeneutically afresh, keeping in mind the dialogical and pluralistic nuances employed in the epistemic enterprise.

Text of Western Philosophy

Core Course - (CC) Credit:6

Course Objective:

The Western philosophical tradition forms a key component of the discipline since the domain area borrows plenty of fodder from Western philosophical thinkers. Having been introduced to history of Western Philosophy, the students would now be expected to read and critically examine the basic text of some prominent contemporary philosophical thinkers in West. This would enable the students to get a first- hand exposure to core philosophical issues that bothered these Western philosophers.

Course Learning Outcomes

The idea is to encourage the students towards a comparative trajectory where they probe the similarities and differences between the Western and non-Western stands of thought. Hence, one of the key learning outcomes would be and should be to develop comparative skills. By focusing on individual philosophical thought from original texts, the students would be capable of differentiating between positive and normative worldview.

#### Truth Functional Logic

Core Course - (CC) Credit: 6

Course Objective

This paper aims to equip the students with an understanding of the basic logical concepts which helps to enhance their reasoning capacity, proving validity and invalidity of argument forms. They learn various logical tools and methods with the application of rule, axioms and theorems.

Course Learning Outcomes

It enhances the logical reasoning and problem-solving skills. The significance of this paper is that it prepares students to reason out in day to day life situations as well as to develop the skill to clear various competitive examination.

Art & Film Appreciation

Skill-Enhancement Elective Course - (SEC) Credit:4

Course Objective

The objective of the course is to enable a student to become an active and engaging viewer of art and cinema . The course also aims to enable students to discern the aesthetic experience as different from art experience, and thereby to discern various art forms.

#### **Course Learning Outcomes**

It is a skill to develop and enhance philosophical analysis and contextualizing in terms of rasa empathy and disinterestedness in relation to works of art, especially in relation to cinema. This will help students pursue a career as art critic, historian or art analysts.

**Bio-Ethics** 

Generic Elective - (GE) Credit:6

**Course Objective** 

The course aims at ethical analysis of the topics within the realm of bio-medical sciences and legal studies.

Learning Outcome:

It is a career-oriented curriculum which enables students to develop competence in policy making and participation in ethics committee of various medical and care institutes. It sensitizes the minds towards the ongoing ethical dilemmas in the fields of medicine and bio-technology.

#### Semester-5

#### Analytic Philosophy

Core Course - (CC) Credit:6

#### Course Objective

The objective of the course in Analytic Philosophy for Honours students is to make them conversant with an important school of Western Philosophy in the 20th century that led to a revolutionary re-conceptualization of the subject matter and methodology of philosophy in terms of linguistic analysis, logic and mathematics. Analytic philosophy is generally seen as the dominant philosophical tradition in the English-speaking world even today.

Course Learning Outcomes

The course in Analytic Philosophy will Introduce the students to the primary thinkers of one of the most important and influential school of thought in Western Philosophy. It will enable students in acquainting them with the complex set of interconnected sub-traditions that Analytic Philosophy ramified into and which became equally influential in the twentieth century.

Continental Philosophy

Core Course - (CC) ,credits -6

Course Objectives:

The main objective of this course is to make students familiar with the leading figures of 19th and 20th century Continental philosophy. Continental Philosophy refers to a set of traditions of 19th and 20th Century philosophy in mainland Europe. The objective is to gain an overview of Continental European Philosophy since Hegel, with special emphasis on Existentialism and Phenomenology.

#### Course Learning Outcomes

Make students gain familiarity with, and clear understanding of, the major thinkers of Continental tradition and their philosophy. Improved critical reading of the texts, their rational and logical understanding, and writing abilities. This will also enable students to be able to philosophise various texts of Continental Philosophy.

#### Philosophy of Law

Discipline Specific Elective - (DSE), credits-6

Course Objective:

The course in Philosophy of Law, seeks to Familiarise students with the nature and purpose of law by examining questions such as "What is (the nature of) law?", "How, if at all, is law connected with morality?" and "What is justice?", and to instruct students about possible answers and arguments provided in legal philosophy and theory.

Course Learning Outcomes

The ideal outcome of this course is to make students understand the concept of law, its place in our lives, its formal structure, rules and modalities. Students should be able to discuss and argue on crucial legal questions that impact the life of common citizens with sensitivity, acumen, precision and insight.

Bio Ethics

Discipline Specific Elective - (DSE) ,credits-6

Course Objective

The course aims at ethical analysis of the topics within the realm of bio-medical sciences and legal studies.

Learning Outcome:

It is a career-oriented curriculum which enables students to develop competence in policy making and participation in ethics committee of various medical and care institutes. It sensitizes the minds towards the ongoing ethical dilemmas in relation to medicine , health and well-being.

#### Philosophy of Religion: Indian and Western

Core Course - (CC) ,credits-6

Course Objective:

To familiarize the students with basic concepts of religion and its philosophical significance. To develop a wider vision for contemporary issues in religion.

Course Learning Outcomes

The students will acquire a general understanding of religious issues .They will learn to think critically about religious issues.

Philosophy of Language: Indian and Western

Core Course - (CC) ,credits-6

Course Objective

This course enables students to develop the ability to read and interpret philosophical texts. In the section of Western text, the classical debate between Frege/ Russell/ Strawson, makes students have a meaningful intellectual encounter with the articles by these philosophers of language. The Indian text section exposes students to the problems of understanding language, meaning, reference and other related concepts in Indian philosophy. Getting a comparative understanding of Indian and Western perspectives of these philosophical issues is one of the main objectives of this course.

Course Learning Outcomes

Students are able to know, towards the end of the course, what they learnt and communicate to others their understanding of the fundamental issues in philosophy of language.

Feminism

Discipline Specific Elective - (DSE) Credit: 6

Course Objectives:

A course in Feminism is needed to sensitise students to a perspective of thought that acts as a filter—a lens through which all subjects must be studied. It seeks to create gender sensitization and develops a wholistic approach towards education. This course addresses the concerns of women in terms of debates on consciousness and soul, analyses their connect with nature and culture; and explains the development of feminist ideologies.

#### Course Learning Outcomes:

Study of Feminism arms the student with analytical skills to develop valid arguments to counter gender discrimination, sexism and patriarchal dominance. The study of Feminism is not only an empowering tool against gender oppression but also against other systems of oppression such as race, class and colour.

Aesthetics

Discipline Specific Elective - (DSE), credits:6

Course Objective:

The course is aimed to make students understand various philosophical traditions and approaches to contextualise the nature, meaning anddefinition of art, craft, beauty, creativity and aesthetic experience. The course also includes an eclectic collection of textual references.

#### Course Learning Outcomes

The course prepares the students to pursue and qualify for a career in art, culture and media studies.



# Program Outcome, Program Specific Outcome and Course Outcome for B.Sc. (Hons) Mathematics

The Bachelor's Degree in B.Sc. (Hons) Mathematics is awarded to the students on the basis of knowledge, understanding, skills, attitudes, values and academic achievements sought to be acquired by learners at the end of this program. Hence, the learning outcomes of mathematics for this course are aimed at facilitating the learners to acquire these attributes, keeping in view of their preferences and aspirations for knowledge of mathematics. Mathematics is the study of quantity, structure, space and change. It has very broad scope in science, engineering and social sciences. The key areas of study in mathematics are Calculus, Algebra, Geometry, Analysis, Differential Equations and Mechanics. Programme Specific Outcome of B.Sc. (Hons) Mathematics

- Think in a critical manner.
- Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.
- Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of mathematics and statistics.
- Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics.
- Encourage the students to develop a range of generic skills helpful in employment, internships and social activities.

Bachelor's degree in mathematics is the culmination of in-depth knowledge of algebra, calculus, geometry, differential equations and several other branches of mathematics. This also leads to study of related areas like computer science, Financial Mathematics, statistics and many more. Thus, this programme helps learners in building a solid foundation for higher studies in mathematics. The skills and knowledge gained has intrinsic beauty, which also leads to proficiency in analytical reasoning. This can be utilised in modelling and solving real life problems. Students undergoing this programme learn to logically question assertions, to recognise patterns and to distinguish between essential and irrelevant aspects of problems. They also

share ideas and insights while seeking and benefitting from knowledge and insight of others. This helps them to learn behave responsibly in a rapidly changing interdependent society. Students completing this programme will be able to present mathematics clearly and precisely, make vague ideas precise by formulating them in the language of mathematics, describe mathematical ideas from multiple perspectives and explain fundamental concepts of mathematics to non-mathematicians. Completion of this programme will also enable the learners to join teaching profession in primary and secondary schools. This programme will also help students to enhance their employability for government jobs, jobs in banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises.

# **Course Learning Outcomes:**

# **Calculus:**

This course will enable the students to:

i) Assimilate the notions of limit of a sequence and convergence of a series of real numbers.

ii) Calculate the limit and examine the continuity of a function at a point.

iii) Understand the consequences of various mean value theorems for differentiable functions.

iv) Sketch curves in Cartesian and polar coordinate systems.

v) Apply derivative tests in optimization problems appearing in social sciences, physical sciences, life sciences and a host of other disciplines.

# **Ordinary Differential Equations**

This course will enable the students to:

i) Understand the genesis of ordinary differential equations.

ii) Learn various techniques of getting exact solutions of solvable first order differential equations and linear differential equations of higher order.

iii) Know Picard's method of obtaining successive approximations of solutions of first order differential equations, passing through a given point in the plane and Power series method for higher order linear equations, especially in cases when there is no method available to solve such equations.

iv) Grasp the concept of a general solution of a linear differential equation of an arbitrary order and also learn a few methods to obtain the general solution of such equations.

v) Formulate mathematical models in the form of ordinary differential equations to suggest possible solutions of the day to day problems arising in physical, chemical and biological disciplines.

# **Real Analysis**

This course will enable the students to:

i) Understand many properties of the real line  $\mathbb{R}$  and learn to define sequence in terms of functions from  $\mathbb{R}$  to a subset of  $\mathbb{R}$ .

ii) Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence.

iii) Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers.

iv) Learn some of the properties of Riemann integrable functions, and the applications of the fundamental theorems of integration.

# **Group Theory**

The course will enable the students to:

i) Recognize the mathematical objects called groups.

ii) Link the fundamental concepts of groups and symmetries of geometrical objects.

iii) Explain the significance of the notions of cosets, normal subgroups, and factor groups.

iv) Analyze consequences of Lagrange's theorem.

v) Learn about structure preserving maps between groups and their consequences.

# Linear Algebra

This course will enable the students to:

i) Understand the concepts of vector spaces, subspaces, bases, dimension and their properties.

ii) Relate matrices and linear transformations, compute eigen values and eigen vectors of linear transformations.

iii) Learn properties of inner product spaces and determine orthogonality in inner product spaces.

iv) Realise importance of adjoint of a linear transformation and its canonical form.

# **Partial Differential Equations**

This course will enable the students to:

i) Apply a range of techniques to solve first & second order partial differential equations.

ii) Model physical phenomena using partial differential equations such as the heat and wave equations.

# Multivariable Calculus

This course will enable the students to:

i) Learn conceptual variations while advancing from one variable to several variables in calculus.

ii) Apply multivariable calculus in optimization problems.

iii) Inter-relationship amongst the line integral, double and triple integral formulations.

iv) Applications of multivariable calculus tools in physics, economics, optimization, and understanding the architecture of curves and surfaces in plane and space etc.

v) Realize importance of Green, Gauss and Stokes' theorems in other branches of mathematics.

# Metric Spaces

This course will enable the students to:

i) Learn basic facts about the cardinality of a set.

ii) Understand several standard concepts of metric spaces and their properties like openness, closedness, completeness, Bolzano-Weierstrass property, compactness, and connectedness.

iii) Identify the continuity of a function defined on metric spaces

# **Ring Theory**

This course will enable the students to:

i) Understand the basic concepts of group actions and their applications.

ii) Recognize and use the Sylow theorems to characterize certain finite groups.

iii) Know the fundamental concepts in ring theory such as the concepts of ideals, quotient rings, integral domains, and fields.

iv) Learn in detail about polynomial rings, fundamental properties of finite field extensions, and classification of finite fields.

# **Linear Programming**

This course will enable the students to:

i) Analyze and solve linear programming models of real life situations.

ii) Provide graphical solutions of linear programming problems with two variables, and illustrate the concept of convex set and extreme points.

iii) Understand the theory of the simplex method.

iv) Know about the relationships between the primal and dual problems, and to understand sensitivity analysis.

v) Learn about the applications to transportation, assignment and two-person zero-sum game problems.

# **Complex Analysis**

This course will enable the students to:

i) Visualize complex numbers as points of  $\mathbb{R}\mathbb{Z}$  and stereographic projection of complex plane on the Riemann sphere.

ii) Understand the significance of differentiability and analyticity of complex functions leading to the Cauchy Riemann equations.

iii) Learn the role of Cauchy Goursat theorem and Cauchy integral formula in evaluation of contour integrals.

iv) Apply Liouville's theorem in fundamental theorem of algebra.

v) Understand the convergence, term by term integration and differentiation of a power series.

vi) Learn Taylor and Laurent series expansions of analytic functions, classify the nature of singularity, poles and residues and application of Cauchy Residue theorem.

# Numerical Analysis

This course will enable the students to:

i) Obtain numerical solutions of algebraic and transcendental equations.

ii) Find numerical solutions of system of linear equations and check the accuracy of the solutions.

iii) Learn about various interpolating and extrapolating methods.

iv) Solve initial and boundary value problems in differential equations using numerical methods.

v) Apply various numerical methods in real life problems.

# **Discrete Mathematics**

This course will enable the students to:

i) Learn about partially ordered sets, lattices and their types.

ii) Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications.

iii) Solve real-life problems using finite-state and Turing machines.

iv) Assimilate various graph theoretic concepts and familiarize with their applications.

# **Mathematical Finance**

This course will enable the students to:

i) Understand financial markets and derivatives including options and futures.

ii) Appreciate pricing of options, interest rate swaps and no-arbitrage pricing concepts.

iii) Study and use Hedging parameters, trading strategies and currency swaps.

# **C++Programming for Mathematics**

This course will enable the students to:

i) Understand and apply the programming concepts of C++ which is important for mathematical investigation and problem solving.

ii) Use mathematical libraries for computational objectives.

iii) Represent the outputs of programs visually in terms of well formatted text and plots.

# Cryptography

This course will enable the students to:

i) Understand the difference between classical and modern cryptography.

ii) Learn the fundamentals of cryptography, including Data and Advanced Encryption Standards (DES & AES) and RSA.

iii) Encrypt and decrypt messages using block ciphers, sign and verify messages using well-known signature generation and verification algorithms.

iv) Know about the aspects of number theory which are relevant to cryptography.

### Number Theory

This course will enable the students to:

i) Learn about some important results in the theory of numbers including the prime number theorem, Chinese remainder theorem, Wilson's theorem and their consequences.

ii) Learn about number theoretic functions, modular arithmetic and their applications.

iii) Familiarise with modular arithmetic and find primitive roots of prime and composite numbers.

iv) Know about open problems in number theory, namely, the Goldbach conjecture and twin-prime conjecture.

v) Apply public crypto systems, in particular, RSA.



#### Teaching-Learning Outcome of BA(H) English

The Department of English at Gargi College strives to hone the interpretive, analytical and expressive skills of its students in a rigorous, interdisciplinary environment. The BA (Hons.) programme in English is, above all, geared towards the development of learners' critical thinking abilities, enabling them to simultaneously grapple with, and draw reflexive connections between, the text and the socio-political context. Through a sustained exploration of a gamut of literatures both written in and translated into English (papers range from Indian and Western classical traditions to contemporary writers and cover all major literary genres, including poetry, plays, novels, short-stories and essays), learners get an opportunity to engage with issues as varied as race, class, caste, gender, sexuality, the politics of language and so on. Pedagogically, the faculty, with their breadth of expertise and experience, aim to make the classroom a dialogic and interactive space where students from diverse backgrounds can express and assert their views and perceptions, ask probing questions and participate in mutually respectful arguments and discussions. The teaching-learning outcomes of BA (H) English are listed below:

• The course focuses on developing fundamental skills and critical practices required in pursuing a course on English literatures at an Indian university in the 21st century.

- It helps students understand the emergence of literary studies, textuality, and the canon.
- It fosters among learners the ability to read texts closely and scrutinize them critically.
- It enables learners to negotiate concepts, ideas and critical approaches to literature.
- It encourages learners to read texts from multiple standpoints.
- It helps inculcate an analytical practice that associates form with content.
- It facilitates analyses of methodologies of interpretative practices.
- It enables learners to interrogate their received ideas of literature.

• It allows learners to utilize the skills acquired through the programme to augment their professional job opportunities.

# Teaching-Learning Outcomes for Non-Honours Teaching undertaken by the English Department (AECC, English A, B & C, GE)

The Department of English engages in teaching a variety of courses for programmes other than BA (Hons.) English. These courses include the Ability Enhancement Compulsory Course (AECC), English A, B & C, and Generic Electives (GE) and cover an array of topics and fields that are often studied in conjunction with Literature, such as Language and Communication, Academic Writing, Media Studies, Gender Studies, Performance and Film Studies and so on. Although the teaching-learning outcomes of these courses are at times too

heterogeneous to be neatly bound together, they can be said to broadly develop among learners the ability and confidence to process, understand and examine different kinds of texts, oral and written, that they encounter in everyday life. Courses focused on communication train students in the four key areas of language proficiency – listening, speaking, reading and writing – besides encouraging suitable research skills: identifying key arguments and ideas, writing a thesis statement, producing topic sentences, summarising, paraphrasing and note-making, developing organised paragraphs, recognising sources, distinguishing facts from opinions and producing work in expository, narrative, argumentative and descriptive modes. GE courses like 'Contemporary India: Women and Empowerment' and 'Texts and Performance' provide valuable interdisciplinary exposure and training in literary and cultural studies to learners across subject boundaries.

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# **Program Outcomes B.Com(Hons)**

- The curriculum planning of B.Com. (Hons.) course provides the students thorough and inclusive knowledge of the areas related to finance, human resource management, marketing, international business, corporate and business laws, accounting and taxation etc
- The graduates of this programme will be trained to develop skills and attitudes needed for critical thinking and adopting a comprehensive problem-solving approach. They shall be exposed to the pedagogy that helps them understand real life situations through case-studies.
- The teaching learning pedagogies used in the programme make the students capable enough to deliver and communicate information effectively with a mark.
- The courses aim at instituting entrepreneurial skills in the students by instilling in them competencies needed to become an entrepreneur. These would lead to develop an attitude of life-long learning.
- The courses also involve training the students to check unethical behaviour, falsification and manipulation of information in order to avoid debacles which can be seen rising persistently over the period of time. It would also help in making responsible citizens and facilitate character building.
- This programme enables the students to be technologically updated as it has courses like computerised accounting system, computer applications etc. which not only make them work using software but also makes them independent enough in this world of digitization.
- The courses of this programme give a global perspective to the students such that they will be able to integrate national values and beliefs with international culture and competence.
- This programme enables the students to think of a given problem or situation from different perspectives like economic, financial, social, national, global etc. and broadens the horizon of their thought processes. It not only helps the students add dimensions to its decision making but also in reaching to inclusive conclusions.

# **Program Outcomes B.Com**

- The three years course aims to provide thorough understanding in areas such as accountancy, business law, corporate law, finance, marketing which will instil in students the knowledge and capability of understanding the business world and economy
- The curriculum helps in sensitizing students to various facets of managing people and to focus on the development of knowledge and skills that all managers and leaders need.
- The students through the curriculum are exposed to the use of relevant and contemporary software packages thereby making them job ready
- The course will help in developing analytical, leadership and decision-making skills among the students thereby making them better managers.
- Case studies, seminars, project work will enable students to get practical exposure and bridge gap between industry and academia
- Through the curriculum, the students will acquire practical skills to work as tax consultant, audit assistant and other financial supporting services. The course will also prepare them for competitive exams like CA, CS, ICWA.

- The course aims to cultivate entrepreneurial skills and mindset among the students. Subjects like entrepreneurship, marketing, finance, advertising help the students start and maintain a successful business
- The students pursuing graduation in commerce will not just master the art of doing business. The subject brings students abreast with the corporate culture and prepares them for their professional life.
- The students are exposed to multiple functional areas of business. They learn to integrate tools and concept from these areas in solving business problems.
- The students are empowered to demonstrate the ability to innovate, the ability to execute the most daunting of challenges in the most trying of circumstances.

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# **B.Sc. (Honours) Chemistry**

### Program Learning Outcomes in B.Sc. (Honours) Chemistry

The student graduating with the Degree B.Sc. (Honours) Chemistry, should acquire

# 1. Knowledge and Understanding:

- The course provides the students with comprehensive understanding of the fundamental concepts of chemistry.
- In depth knowledge of the core subjects-concept, theories, principles and its applications.
- Knowledge about the emerging topics and current developments in Chemistry and its related field.

# 2. Laboratory Skills and Techniques:

- The students gain good practical knowledge and laboratory skills by systematically training them.
- Through methodical instructions the students experience hands-on training of using basic chemical laboratory instruments.
- Basic knowledge about preparation of laboratory reagents, solutions and also protocols for their safe disposal.
- Ability to conduct experiments, analyses of data and interpretation of the results.

# 3. Communication Skills:

- Students develop good communication skills in writing and speaking through vigorous training of recording experiments, viva-voce and presentations.
- Ability to listen and convey effectively the knowledge and information acquired to scientific community and society at large.

# 4. Competency:

- Student develop the ability to think and work independently as well as adaptability to work efficiently in diverse groups.
- A leadership qualities in student develop through its effective contributions in teamwork based projects by designing and execution of the experiments.
- The opportunities for critical thinking, reflective thinking and analytical reasoning also add up the overall development of students.

# **Portable Skills:**

- Students developed problem-solving skills to solve different types of chemistry-related problems.
- Attitude to be a life-long learner by consistently updating oneself with current knowledge, skills and technologies.
- Basic IT skills and ability to use relevant software's for making structures, equations and data analysis.

# Course outcome in B.Sc. (Honours) Chemistry

# SEMESTER I

# CHEMISTRY - C I: INORGANIC CHEMISTRY - I Atomic Structure & Chemical Bonding

#### Learning Outcomes:

#### By the end of the course, the students will be able to:

- Understand the quantum mechanical model of an atom using Schrodinger equation, the significance of wave function, quantum numbers, electronic configuration, radial and angular distribution curves, shapes of s, p, and d orbitals, and periodicity in atomic radii, ionic radii, ionization enthalpy and electronegativity of elements.
- Suggest the plausible structures and geometries of molecules using Radius Ratio Rules, VSEPR theory and MO diagrams for homo- & hetero-nuclear diatomic molecules.
- Calculate the lattice energy using Born-Landé and Kapustinskii expression.
- Differentiate between metals, semiconductors and insulators based on the Band theory.
- Gain the theoretical understanding of inter-molecular and intra-molecular weak chemical forces and their effect on melting points, boiling points, solubility and energetics of dissolution.

### CHEMISTRY - C II: PHYSICAL CHEMISTRY - I

### **States of Matter & Ionic Equilibrium**

#### Learning Outcomes:

#### By the end of the course, students will be able to:

- Gain insight into the physical significance of various properties of gas, liquid and solids and also derive their mathematical expressions.
- Demonstrate understanding of the crystal structure of cubic systems using diffraction pattern.
- Explain the concept of ionization of electrolytes of weak acid and base and hydrolysis of salt.
- Understand various fundamental concepts of pH, buffer solutions, solubility of sparingly soluble salts, acid-base indicators.

# SEMESTER II

# CHEMISTRY - C III: ORGANIC CHEMISTRY - I

#### **Basics and Hydrocarbons**

#### Learning Objectives:

#### On completion of the course, the student will be able to:

- Develop a sound understanding of the fundamental concepts of stereochemistry.
- Learning various physical and chemical properties of alkanes, alkenes, alkynes and aromatic hydrocarbons and their general methods of preparation.

• Learn and formulate mechanisms of different organic reaction including Free Radical Substitution, Electrophilic Addition and Electrophilic Aromatic Substitution.

# CHEMISTRY - C IV: PHYSICAL CHEMISTRY - II

# Chemical Thermodynamics and its Applications

# Learning Outcomes:

# By the end of the course, students will be able to:

- Understand some important concepts like intensive and extensive properties, state and path functions, reversible and irreversible processes.
- Gain deeper understanding of the three laws of thermodynamics.
- Derive the expressions of w, q,  $\Delta U$ ,  $\Delta H$ ,  $\Delta S$ ,  $\Delta G$ ,  $\Delta A$  for ideal gases under different conditions.
- Apply the thermodynamic concepts to evaluate enthalpy of various reactions and understand its dependence on temperature and pressure.
- Explain the concept of chemical potential and partial molar quantities.
- Derive the thermodynamic relations between the colligative properties and understand their applications in everyday life.

# SEMESTER III

# CHEMISTRY - C V: INORGANIC CHEMISTRY - II

# s- and p-Block Elements

# Learning Outcomes:

# By the end of the course, the students will be able to:

- Learn the fundamental principles of metallurgy and methods of extraction and purification of metals.
- Gain knowledge of the basic and practical applications of metals and alloys in various fields and their manufacturing processes. Apply the thermodynamic concepts like that of Gibbs energy and entropy to the principles of extraction of metals.
- Understand the periodicity in melting point, atomic and ionic radii, electron gain enthalpy, and ionization enthalpy, electronegativity of s and p block elements.
- Understand oxidation states with reference to elements in unusual and rare oxidation states like carbides and nitrides.
- Understand vital role of sodium, potassium, calcium and magnesium ions in biological systems.

# CHEMISTRY – C VI: ORGANIC CHEMISTRY - II

# Halogenated Hydrocarbons and Oxygen Containing Functional Groups

# Learning Outcomes:

# On completion of the course, the student will be able to:

• Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.

- Use the synthetic chemistry learnt in this course to do functional group transformations.
- Propose plausible mechanisms for any relevant reaction.

# CHEMISTRY - C VII: PHYSICAL CHEMISTRY - III

#### Phase Equilibria and Electrochemical Cells

#### Learning Outcomes:

#### By the end of the course, students will be able to:

- Have knowledge of concepts like phase, components and degree of freedom in phase equilibrium.
- Derive Phase rule, Clausius-Clapeyron equation, Gibbs-Duhem-Margules equation, Nernst Distribution law and understand their applications.
- Draw the phase diagram for one- component system (water and sulphur ) and twocomponent system involving eutectic, congruent and incongruent melting points.
- Have better understanding of terms, azeotropes, lever rule, partial miscibility of liquids, CST.
- Differentiate between the working of electrolytic cells and galvanic cells and understand the applications of electrolysis in metallurgy and industry.
- Measure the EMF of an electrochemical cell using Nernst equation and its applications.
- Understand concentration cells with and without transference.
- Differentiate between physical adsorption and chemisorption and explain various adsorption isotherms.

#### SEMESTER IV

# CHEMISTRY - C VIII: INORGANIC CHEMISTRY - III

#### **Coordination Chemistry**

#### Learning Outcomes:

#### By the end of the course, the students will be able to:

- Understand the terms, ligand, denticity of ligands, chelate, coordination number and use standard rules to name coordination compounds.
- Discuss the various types of isomerism possible in such compounds and understand the types of isomerism possible in a metal complex.
- Use Valence Bond Theory to predict the structure and magnetic behaviour of metal complexes and understand the terms inner and outer orbital complexes.
- Explain the meaning of the terms  $\Delta o$ ,  $\Delta t$ , pairing energy, CFSE, high spin and low spin and how CFSE affects thermodynamic properties like lattice enthalpy and hydration enthalpy.
- Explain magnetic properties and colour of complexes on basis of Crystal Field Theory.
- Understand the important properties of transition metals like variable oxidation states, colour, magnetic and catalytic properties and use Latimer diagrams to predict and identify species which are reducing, oxidizing and tend to disproportionate and calculate skip step potentials.

• Understand reaction mechanisms of coordination compounds and differentiate between kinetic and thermodynamic stability.

# CHEMISTRY - C IX: ORGANIC CHEMISTRY - III

# Nitrogen containing functional groups, Polynuclear Hydrocarbons, Heterocyclic Chemistry, Alkaloids and Terpenes.

### Learning Outcomes:

#### On completion of this course, the students will be able to:

- Understand thouroughly the chemistry of compounds having nitrogen containing functional groups, heterocyclic, polynuclear hydrocarbons, alkaloids and terpenes which includes various methods for synthesis through application of the synthetic organic chemistry concepts learnt so far.
- Acquainted with important properties, chemical reactions, aromaticity of polynuclear hydrocarbons and heterocyclic compounds, basicity of amines and heterocyclic compounds and their behavior at different pH
- Elucidate structure of organic compounds with specific examples of terpenes and alkaloids by practical approach.
- Predict the carbon skeleton of amines and heterocyclic compounds via use of Hoffmann's exhaustive methylation and Emde's modification methods.
- Understand the applications of these compounds including their medicinal applications through their reaction chemistry.

# CHEMISTRY - C X: PHYSICAL CHEMISTRY - IV

# **Conductance & Chemical Kinetics**

#### Learning Outcomes:

# By the end of this course, students will be able to:

- Explain the variation of conductance with dilution for weak and strong electrolytes using Arrhenius theory and Debye Huckel Onsager theory.
- Learn the applications of conductance measurements.
- Determine transference number using Hittorf and Moving Boundary methods.
- Explain order, molecularity, rate law and rate of reaction, theories of reaction rates and catalysts; both chemical and enzymatic.
- Derive differential and integrated form of rate expressions up to second order reactions.
- Have deep understanding of the laws of photochemistry and terms, quantum yield, quenching, photostationary states, chemiluminescence.

# SEMESTER V

# CHEMISTRY – C XI: ORGANIC CHEMISTRY - IV

# Biomolecules

# Learning Outcomes:

# On completion of this course, the students will be able to:

• Learn the synthesis, properties and reactions of nucleic acids, amino acids and peptides.

- Demonstrate how structure of biomolecules determines their reactivity and biological functions.
- Gain insight into concepts of heredity through the study of genetic code, replication, transcription and translation.
- Understand the primary, secondary and tertiary structures of proteins and denaturation.
- Demonstrate understanding of metabolic pathways, their inter-relationship, regulation and energy production from biochemical processes.
- Develop a sound understanding of the structure of Pharmaceutical Compounds and understand the importance of different classes of drugs and their applications for treatment of various diseases.

# CHEMISTRY - C XII: PHYSICAL CHEMISTRY - V

# Quantum Chemistry & Spectroscopy

# Learning Outcomes:

### By the end of this course, students will be able to:

- Learn about limitations of classical mechanics and solution in terms of quantum mechanics for atomic/molecular systems.
- Develop an understanding of postulates of quantum mechanics, quantum mechanical operators, quantization, probability distribution, uncertainty principle.
- Solve quantum mechanically the various systems like a particle in a box, harmonic oscillator, rigid rotator and hydrogen atom.
- Learn approximate method (Variation Method) and its applications.
- Understand the valence bond and molecular orbital theory to solve H<sub>2</sub> molecule.
- Have knowledge of the applications of quantization to spectroscopy.
- Gain insight into the basic principles of rotational, vibrational, electronic, Raman, NMR, ESR spectroscopy to interpret the spectra for structure elucidation.

# SEMESTER VI

# CHEMISTRY - C XIII: INORGANIC CHEMISTRY - IV

# **Organometallic Chemistry & Bio-inorganic Chemistry**

# Learning Outcomes:

# By the end of the course, the students will be able to:

- Gain insights into the basic principles of qualitative inorganic analysis.
- Apply 18-electron rule to account for the stability of metal carbonyls and related species.
- Understand the nature of Zeise's salt and compare its synergic effect with that of carbonyls.
- Identify important structural features of the metal alkyls tetrameric methyl lithium and dimerictrialkyl aluminium and explain the concept of multicenter bonding in these compounds.
- Diagrammatically explain the working of the sodium-potassium pump in organisms and the factors affecting it and describe the active sites and action cycles of the metalloenzymes carbonic anhydrase and carboxypeptidase.

- Understand the sources and consequences of excess and deficiency of trace metals.
- Explain the use of chelating agents in medicine and, specifically, the role of cisplatin in cancer therapy.
- Understand the applications of iron in biological systems with particular reference to haemoglobin, myoglobin, ferritin and transferrin.
- Explain catalysis and describe in detail the mechanism of Wilkinson's catalyst, Zeigler-Natta catalyst and synthetic gasoline manufacture by Fischer-Tropsch process.

#### CHEMISTRY - C XIV: ORGANIC CHEMISTRY - V

# Spectroscopy and Applied Organic Chemistry

#### Learning Outcomes:

# On completion of this course, the students will be able to:

- Learn about basic principles of UV, IR and NMR spectroscopic techniques to interpret the spectra to determine structure and stereochemistry of known and unknown compounds.
- Have better knowledge of the chemistry of natural and synthetic polymers including fabrics and rubbers.
- Learn about the chemistry of biodegradable and conducting polymers and assess the need of biodegradable polymers with emphasis on basic principles.
- Understand the theory of colour and constitution as well as the chemistry of dyeing.
- Know applications of various types of dyes including those in foods and textiles.



# **B.A.(Hons.) Applied Psychology**

The Applied Psychology programme at the undergraduate level visualizes that training needs to attend to the following considerations:

Developing an understanding of various theoretical concepts underlying applied psychology Inculcating the knowledge provided to them via classroom lectures, workshops or seminars and applying the same in real life settings.

Practicing effective listening skills in order to understand narratives of pain and social suffering enabling them to become more aware about themselves and others.

Developing and understanding of research skills so that students are able to design and conduct systematic and ethical applied and basic psychological research studies.

Development of skills related for competence in clinical work with a focus on empathetic understanding

Enhancement of knowledge related to self through the utilisation of Indian Psychological concepts for personal growth.

Learning skills related to research and analysis of data in a scientific manner using SPSS and other social science software.

3. GRADUATE ATTRIBUTES IN APPLIED PSYCHOLOGY

DISCIPLINARY KNOWLEDGE

To understand the fundamental concepts of Psychology along with various fields and to enable students to apply this knowledge Comprehension of major concepts, theories, principles, perspectives, historical roots and research findings. Students become theoretically more informed and insightful about various aspects of behaviours and different mental processes.

#### COMMUNICATION SKILLS

Acquiring the skill for effectively presenting oneself to others, effectively communicating one's intentions with the help of relevant verbal and non-verbal cues. Communication built on empathy as is a core part of Applied Psychology . Learning to explore the world of marginalised people with empathy, compassion and concern. Displaying non-judgemental attitude and actively listening with any of the special groups they choose to study.

#### ANALYTICAL SKILLS

The ability to inculcate inductive and deductive reasoning ;to comprehend the basic structure and interrelationship; to deduct inferences of various concept of applied psychology.

#### RESEARCH RELATED SKILLS

To develop an attitude of scientific enquiry and critical thinking, ability to plan, design and carry out research, data analysis and drawing inferences. Maintain ethical research practices.

#### **REFLECTIVE THINKING**

Becoming aware of one's and others' strength and weaknesses in the context of social system. This will further enhance students well-being and their ability to do so for the society at large.

#### LIFELONG LEARNING

The Applied Psychology graduate has an ethical responsibility to maintain competence in all their work as researchers, trainers, educators and/or practitioners etc. through lifelong learning.

#### SELF-DIRECTED LEARNING

Develop listening ability and working on one's strength and weaknesses by acquiring feedback from significant others so that one can evolve towards the higher stage of learning.

#### LEADERSHIP READINESS/ QUALITIES

Applied Psychology graduate demonstrates an ability to incorporate socio-cultural factors in scientific inquiry, so as to conduct contextually sensitive research that may bridge the research and practice divide. This applied perspective builds on their leadership attributes. These can further be enhanced and guided towards more meaningful roles in the community.

#### MULTICULTURAL COMPETENCE

To develop sensitivity among students through the discipline of Applied Psychology so that they can perceive and sensitize themselves to the enrichment present among various cultures and ethnic groups in the place of work, home, neighbourhood and the world at large.

#### MORAL AND ETHICAL AWARENESS

Graduation journey is an inter-junction between formal school setup and the place of work, hence it is important to foster moral and ethical outlook in their academic as well as real life endeavours.

#### INFORMATIONAL AND DIGITAL LITERACY

An attitude of scientific inquiry and critical thinking, ability to plan, design and conduct research, analyse data and interpret them and behaviour is must for an Applied Psychology graduates. This is fostered by developing an ability to use data analytic procedures like SPSS and other open- source computational software. Applied Psychology graduates acquire mastery of the use of computers and internet in conducting experiments and surveys. The social media is also used as a medium for data and understanding social trends thereby focussing on digital literacy.

#### CRITICAL THINKING

The Applied Psychology graduate has the ability to relate and connect concepts with personal experiences and using critical thinking. He/she has curiosity and ability to formulate psychology related problems and using appropriate concepts and methods to solve them. There is articulation of ideas, scientific writing and authentic reporting, effective presentation skills. Further they are able to dealing with conflicting theories and approaches, learning to withstand ambiguities and understanding the limitations of the discipline.

#### PROBLEM SOLVING

Problem Solving is a mental process that involves discovering, analysing and solving problems. The ultimate goal is to overcome obstacles and find a solution that best resolves the issue. The Applied Psychology graduate is trained to be an effective and efficient problem solve.

#### RESEARCH RELATED SKILLS

Since the Applied Psychology graduate's training focuses on understanding the application of the basic Psychological processes their research-related skills are automatically enhanced. Through research in the field they understand how the basic processes are applied.

#### COOPERATION/TEAMWORK

The Applied Psychology graduate will be trained to have the ability to work both independently and in group and dealing effectively with clients and stakeholders, learning the art of negotiation. As a part of their training collaboration, cooperation and realising the power of groups and community is emphasized.

#### SCIENTIFIC REASONING

Applied Psychology graduates have the ability for articulation of ideas, scientific writing and authentic reporting with effective presentation skills. This is made possible by challenging stereotypes, thinking out-of-the-box, analyzing and trying alternatives, and questioning conclusions based on newer evidence.



#### Teaching-Learning Outcome of BA (H) Political Science

The Department of Political Science as a subject has been widely known and sought after course among Social Science of Gargi College. The courses offered by the department are BA Honours, BA Programme, Generic Elective (Interdisciplinary), Ability Enhancement (Skill Based) and MA in Political Science.

Through a sustained exploration of a gamut of literatures both written in and translated into English (papers range from Indian and Western classical traditions to contemporary writers and cover all major literary genres, including poetry, plays, novels, short-stories and essays), learners get an opportunity to engage with issues as varied as race, class, caste, gender, sexuality, the politics of language and so on.

The innovative pedagogy of the faculty attempts to deconstruct the conformist ideas and attempts to understand politics in an intersectional dimension. They are also involved in writing, publishing and presenting research papers in various national and international journals. The core papers offered at the Honours levels are as follows \_Political Theory, Indian Politics, Comparative Government and Politics, Indian Political Thought, India's Foreign Policy, Western Political Thought, Peace and Conflict Resolution, Feminism, Development Process and Social Movements; and Public Policy. Considering the contemporary debates in the world, the department offers Generic papers like – Politics of Globalization, Nationalism in India, Understanding Ambedkar, Human Rights, Gender and Environment, United Nations and many more. Under the CBCS skill enhancement papers like Legislative Support, Public Opinion and Survey Research are offered.

The teaching-learning outcomes of BA (H) English are listed below:

• The course focuses on to bring a thorough confidence among students and develop their analytical thinking about politics and society.

• It fosters among learners the ability to read texts closely and scrutinize them critically.

• It enables learners to understand concepts, ideas and critical approaches about content.

• It encourages several academic and extra co- curricular activities in which the students play a vital role.

• It allows learners to utilize the skills acquired through the programme to augment their professional job opportunities.

COLLEGE

#### **B.Sc** (Hons.) Physics

**Program outcomes:** At the end of the program, the students will develop a strong analyticalskill and will be able to study critically a physics problem, solve the problem using different tools and present the result/conclusion. They will develope a good communication skill such that they can explain complicated physics technical terminologies in simple manner. They will be aware of the information available nowadays and will be able to retrieve information from e-libraries and other e-sources available using inernet. They will be aware of their ethical and moral values and not practice fabricationn and plagiarism. They will know of their responsibility of preserving our environment and the world. Finally, they will be ready to work individually as well as in a team.

**Course outcomes:** The students of B. Sc. Physics Hons. will be covering Mechanics, Math Physics, Electricity and Magnetism, Waves and Optics, Thermal Physics, Digital Systems, Modern Physics, Analog Systems, Quantum Mechanics, Solid State Physics, Electro-Magnetic Theory and Statistical Mechanics. Over and above these they will study 4 discipline specific elective and 4 generic elective courses. In most of these courses they will have hands-on experiences on different experiments based on the theories they have learnt. Also, they will be learning softwares C++ in first year and Scilab in second and third years.

COLLEGE O COLLEGE

• Students pursuing B.Sc. (Hons) Microbiology will learn basic microbiology and its various applied aspects such as Industrial Microbiology, Food and Dairy Microbiology, Environmental Microbiology, Medical Microbiology etc.

• Students will become aware of the vast diversity of microbes, their growth and other physiological aspects.

• Students will get knowledge of various biotechnological applications of microorganisms and industrially important substances produced by them. They will gain familiarity with the unique role of microbes in genetic modification technologies.

• Students will become familiar with scientific methodology, hypothesis generation and testing, design and execution of experiments which in turn will help in developing their ability to think critically and to read and analyze scientific literature. It will also improve their oral and written communication skills through the effective presentation of experimental results as well as through seminars.

· Students will acquire proficiency in good laboratory practices in a microbiological laboratory.

• Students will develop proficiency in the quantitative skills necessary to analyze biological problems (e.g., arithmetic, algebra, and statistical methods as applied to biology)

With these outcomes, graduates of the B.Sc. (Honours) Microbiology programme will be able to pursue a wide range of careers, including biological and medical research in higher education institutions as well as careers in public and global health, scientific writing, environmental organizations, and food, pharmaceuticals and biotechnology industries.

G COLLEGE

# Semester 3: SEC for BA PROG .: Understanding the Budget and the Economic Survey

Medium of Instruction & Course: English Paper Code: 62273326

Instructor: Mr. Siddharth Rathore

#### Learning Outcomes:

- 1. Union Budget: What is a Union Budget, a peek into budget making process in India, technical jargons of Budget.
- 2. Finance Commission: How is money allocated between Central government & State Governments, what issues &
- 3. GST: Why GST was needed, how is it different from VAT & the erstwhile systems of indirect taxation, what are the
- 4. India's External sector: what constitutes in India's BoP account, why is important for outside world, what does it to
- 5. Social Infrastructure: State of Heath, Education in India, issues in Indian Labour market.
- 6. Manufacturing: Why are we an importing economy, reasons for India's Manufacturing woes, are Vietnam & B strategy.
- 7. Topical issues discussed & reviewed in the current economic survey.

Course Video Highlights: https://www.youtube.com/watch?v=37s7s2O6k8l&t=662s (Lecture on Budget 2017-18 del

#### Who should opt for this Course:

- 1. Students who which to study current affairs: what are the burning topics and debates in Indian Economics.
- 2. Those who are serious about competitive exams: UPSC (Civil services), State Services, SSC; Banking examinati
- 3. Students who have not studied economics at all but are inquisitive about the subject without going into any techni
- 4. All in all, this is a course on general economic awareness to which each student should be exposed.

ST COLLEGE