

SUSHIL KAR COLLEGE

**PROGRAMME SPECIFIC OUTCOMES
(PSO)**

AND

COURSE OUTCOMES (CO)

OF

**ALL THE PROGRAMMES AND
COURSES OFFERED BY THE
INSTITUTION**

DEPARTMENT OF BENGALI

PROGRAMME SPECIFIC OUTCOMES (PSO) FOR BENGALI HONOURS

PSO1 - Students will acquire an understanding about the literature-language- history and culture of Bengal and gain perspective on the diachronic evolution of the same.

PSO2 - Through the study of Bengali literature, the aesthetic and intellectual sensibilities of the students will be nurtured.

PSO3 - On the one hand, such pedagogy will accentuate the respect for one's own heritage. On the other, it will foster senses of nationalism and fraternity and instil in the students an international perspective on issues.

PSO4 - The students will be acquainted with a historic-materialistic-psychological and philosophical analysis of social issues that stand the test of time and space.

PSO5 - They will gain professional skills required in arenas ranging from journalism and publication to elocution and research.

PSO6 - Most significantly, the student through a multi-dimensional intellectual development will be able to perform in the capacity of an able citizen working tirelessly towards the upliftment and betterment of the larger society.

COURSE OUTCOMES (CO) FOR BENGALI HONOURS

SEMESTER	COURSE	MODULES	COURSE OUTCOMES
I	BNG-A-CC1 Bangla Sahityer Itihas (upto 1800 AD)	Module I: Prachin yug Module II: Madhya yug Module III: Madhya yug	Students will acquire knowledge of the many stages of the development of Bengali Literature up till 1800 AD.
	BNG-A-CC2 Barnanamulak Bhasa Bigyan O Bangla Bhasha	Module I: Dhvani, Barna etc. Module II: Sabdo bibartan etc Module III: Morphology	Students will acquire knowledge about the historic evolution of the Bengali language, its morphology and phonology.
	AECC-1	Module I: Prabandho Module II: Chhoto Galpo Module III: Kabyo Module IV: Paribhasha	All under-graduate students across departments will acquire fundamentals of Bengali literature and language.

SEMESTER	COURSE	MODULES	COURSE OUTCOMES
II	BNG-A-CC3 Bangla Sahityer Itihas (19th century)	Module I: Kabyo and Natok Module II: Samoyik patra and Katha-Sahitya Module III:Gaddyo-Prabandhyo	The students will be acquainted with the many changes in the various facets of Bengali literature that was impacted by the Renaissance.
	BNG-A-CC4 Bangla Sahitya: Probeshok Path	Module I: Kabyo Module II: Katha Sahitya Module III: Gadyo-Prabandhyo, Natok	Through selected literary topics, students will be able to enjoy the true essence that lies in literature.
III	BNG-A-CC5 Bangla Sahityer Itihas: Bingsho Satak	Module I: Kabya-Kabita o Natok Module II:KathaSahitya Module III: Natok o godyoprobondho o samoyik potro	The students will be acquainted with the different aspects of the 20th Century literature.
	BNG-A-CC6 Oitihashik Bhasha Bigyan	Module I: Module II: Module III:	The students will be acquainted with the evolution of the Bengali language through specific literature
	BNG-A-CC7 Katha Sahitya	Module I: Upanyash: ‘Jogajog’ Module II: Upanyash: ‘‘Aranyer Adhikar’’ Module III: Chhotogoplpo	The students will be acquainted with the socio-economic scenario and also get to experience literature as practiced by eminent authors of repute.
	BNG-A-SECA 2 Byaboharik Bangla	Module I: Module II: Module III:	The students will gain the opportunity to develop professional skills useful in the fields of cinema, Elocution and drama.

IV	<p>BNG-A-CC8 Pragadhunik Sahitya</p> <p>BNG-A-CC9 Chhando, Alankar, Kabyo Tattyo</p> <p>BNG-A-CC10 Prabandha and Bibidha Rachana</p> <p>BNG-A-SEC B 2 Byaboharik Bangla</p>	<p>Module I: Baishnob Podaboli Module II: Chandi Mangal Module III: Shakto Padaboli</p> <p>Module I: Chhando Module II: Alonkar Module III: Kabyotottyo</p> <p>Module I: Kamalakanter Daptar- Prabondho Sanchayan Module II: Sahityo, Sahityo Somalochona Module III: Chhinno Patra</p> <p>Module I: Srijansil Rachona Module II: Banan Module III: IPA, Roman Alphabets</p>	<p>The students gain critical insights into the literature of pre-modern era through the study of three vital aspects of Bengali literature</p> <p>The students will get acquainted with the theoretical aspects that is vital in properly analysing and reviewing literature.</p> <p>These selected essays of eminent writers provide students with an understanding of the micro as well as macro aspects of time and space of 19th and 20th century Bengal and Bengali literature.</p> <p>This paper provides students with a hands on knowledge in acing creative writing.</p>
V	<p>BNG-A-CC11 Sahityer Rup o riti</p> <p>BNG-A-CC12 Natok o Natyomancha</p>	<p>Module I: Kabya, Kabita o Natak Module II: Upanyash o chhotogolpo Module III: Prabandha, Samalochana o onnyano Sangrup</p> <p>Module I:Drama: 1. Ekei ki bole sobhyota 2. Buro shaliker ghare ro 3. Muktohdhara Module II:Drama: 1. Tiner talawar 2. Karagar Module III: History of Bengali Theatre</p>	<p>This paper acquaints students with the structural aspects of different types of literature.</p> <p>This paper acquaints students with some of the best written Bengali dramas over time and also get to know the history of Bengali theatre and it's evolution.</p>

	<p>BNG- A DSE A 1 Banglar Samaj o Sanskritir Itihas</p> <p>BNG- A DSE B 1 Bangla Sishu Kishor Sahitya</p>	<p>Module I: Module II: Module III:</p> <p>Module I: Khirer Putul, Thakumar Jhuli. Module II: Abol Tabol, Annada Shankarer Chhara Module III: Badshahi Angti, Sabuj Dwiper Raja</p>	<p>This paper makes students aware of the socio-economic political history and the evolution of Bengalee as a race.</p> <p>This paper acquaints students with great traditions of children literature through a structured curriculum.</p>
VI	<p>BNG-A-CC13 Adhunik Bangla Kabyo Kabita</p> <p>BNG-A-CC14 Sanskrit, English o Hindi Sahityer Itihash</p> <p>BNG- A DSE A 3 Bangla Goyenda Sahitya, Kalpo Bigyan, Aloukik Kahini Asroyi Rachana</p> <p>BNG- A DSE B 4 Folk Literature and Folk Culture</p>	<p>Module I: Birangana Module II: Sonar Tori, Sanchita Module III: Akaler Kabita Sanchayan</p> <p>Module I: Brief History of Sanskrit Literature Module II: Brief History of English Literature Module III: Brief History of Hindi Literature</p> <p>Module I: Sajarur Kata Module II: Sanku Samagra Module III: Sab Bhutur</p> <p>Module I: Broto, riddles, Basic concept of Folk culture and literature. Module II: Chhara, nrityo, loknatak Module III: Prabad, Sangeet, Lok Katha</p>	<p>The students will get a taste of the essence of modern Bengali poetry while simultaneously getting to understand the evolutions that the period witnessed in Bengali poetry</p> <p>Students get to know the broader aspects of national and international literature by getting acquainted with the history of it.</p> <p>Through selected texts of detective novel, scientific fiction and horror stories, students get a different essence of literature in a specialized manner.</p> <p>Students get exposed to the relatively unknown yet the quite significant field of Folk Literature and culture.</p>

PROGRAMME SPECIFIC OUTCOMES (PSO) FOR BENGALI GENERAL

PSO1 - Students will acquire an understanding about the literature-language- history and culture of Bengal and gain perspective on the diachronic evolution of the same.

PSO2 - Through the study of Bengali literature, the aesthetic and intellectual sensibilities of the students will be nurtured.

PSO3 - On the one hand, such pedagogy will accentuate the respect for one's own heritage. On the other, it will foster senses of nationalism and fraternity and instil in the students an international perspective on issues.

PSO4 - The students will be acquainted with a historic-materialistic-psychological and philosophical analysis of social issues that stand the test of time and space.

PSO5 - They will gain professional skills required in arenas ranging from journalism and publication to elocution and research.

PSO6 - Most significantly, the student through a multi-dimensional intellectual development will be able to perform in the capacity of an able citizen working tirelessly towards the upliftment and betterment of the larger society.

COURSE OUTCOMES (CO) FOR BENGALI HONOURS

SEMESTER	COURSE	MODULES	COURSE OUTCOMES
I	BNG-G-CC1/ GE1 Bangla Sahityer Itihas (Adhunik yug)	Module I: Goddyo Probandho Module II: Kabyo Kabita o Natok Module III: Uponyash o Chhotogolpo	Students get acquainted with the basic history of Bengali literature of modern times.
	AECC 1	Module I: Prabandho Module II: Chhoto Galpo Module III: Kabyo Module IV: Paribhasha	All under-graduate students across departments will acquire fundamentals of Bengali literature and language.
II	BNG-G-CC2/ GE2 Oitihasiik Bhasha Bigyan, Chhando o Alonkar	Module I: Oitihasiik Bhasha Bigyan Module II: Chhando Module III: Alonkar	This paper constitutes the basic knowledge of Bengali language and its development.

III	<p>BNG-G-CC3/ GE3 Bangla Kabita o Natok</p> <p>BNGG SECA 2 Byaboharik Bangla</p>	<p>Module I: Pragadhunik Kabita Module II: Adhunik Kabita Module III: Bangla Natok</p> <p>Module I: Module II: Module III:</p>	<p>Students through selected pieces understand the essence of both ancient as well as modern poetry and drama.</p> <p>The students will gain the opportunity to develop professional skills useful in the fields of cinema, elocution and drama.</p>
IV	<p>BNG-G-CC4/ GE4 Bangla, Kotha Sahitya o Probondho</p> <p>BNGG SECB 2 Byaboharik Bangla</p> <p>BNGG LCC 2 Bangla Bhasha bigyan Sahityer Rupbhed o Kabyo</p>	<p>Module I:Uponyash Module II:Chhoto golpo Module III:Prabondho</p> <p>Module I: Module II: Module III:</p> <p>Module I: Bangla Bhasha Bigyan Module II: Sahityer Rupbhed Module III: Kabya</p>	<p>Students will be acquainted with novel, short story and essay through some selected works of eminent writers.</p> <p>This paper provides students with hands on knowledge in acing creative writing.</p> <p>The students are acquainted with the basics of Bengali language, types of literature through select texts.</p>
V	<p>BNGG DSE A 1 Banglar Samaj o Sanskritir Itihas</p>	<p>Module I: Module II: Module III: Module IV:</p>	<p>This paper makes students aware of the socio-economic political history and the evolution of Bengalee as a race.</p>
VI	<p>BNGG DSE B 2 Folk Literature and Folk Culture</p> <p>BNGG LCC 2 Samoyik Potro o Katha Sahityo</p>	<p>Module I: Broto, Basic concept of Folk culture and literature. Module II: Chhara, nrityo, loknatak Module III: Prabad, Sangeet, Lok Katha</p> <p>Module I: Samoyik Potro Module II: Uponyash Module III: Chhotogolpo</p>	<p>Students get exposed to the relatively unknown yet the quite significant field of Folk Literature and culture.</p> <p>The undergraduate students get a glimpse of Bengali literature through select works.</p>

DEPARTMENT OF ENGLISH

PROGRAMME SPECIFIC OUTCOMES (PSO) FOR ENGLISH HONOURS (ENGA) AND GENERAL (ENGG)

PSO1 - The programme seeks to familiarize students with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.

PSO2 - It enables them to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres. Students are then able to identify, analyse, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.

PSO3 - Students are encouraged to develop their writing & analytics skills in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.

PSO4 - Students are taught to ethically gather, understand, evaluate and synthesize information from a variety of written and electronic sources.

PSO5 - Finally the programme helps students to understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies.

COURSE OUTCOMES (CO) FOR ENGLISH HONOURS (ENGA) AND GENERAL (ENGG)

Semester -1

A. Core Course:

ENGA CC 1: History of Literature and Philology (6 credits per week)

□ CO 1: This paper acquaints students with the historical, political, cultural and social contexts that inform and influence literary texts belonging to a particular era. On completion of this course, students are able to identify major writers and their works in chronological order and point out literary trends of each historical period. This helps them situate the texts they read, later in the programme, in their proper contexts.

□ CO 2: The section on History of English language aims to equip students with the skill and insight necessary to analyse and describe changes in the structure of the English language from the earliest written records to the present day. At the end of the course, students are expected to demonstrate a thorough understanding of diachronic changes in English from Old English to Present day English, and the ability to situate those in their socio-political contexts. An understanding of the Scandinavian, French and Classical influence on present day English helps students to identify the etymological origins of words used on a daily basis.

ENGA CC2: European Classical Literature (6 credits per week)

□ CO 1: European literature dates back to ancient Greek and Roman times. Thereafter, much of the literature in different nations of Europe has continued to be influenced by these ancient classical texts. Homer is the source and origin of all great myth and legend, and The Iliad is the best introduction to the heroic world for students. Horace's Epistles are still considered unparalleled for refined and subtle logical thought.

□ CO 2: Ovid's 'Metamorphosis' is the source book for successive generations of writers, including Shakespeare in the sixteenth century and Kafka in the twentieth century. Plautus's 'Pot of Gold' offers students an interesting insight into Roman society, following the tradition of Greek New Comedy with its intrigues and complex plot, and is the model for comedies in English literature till modern times.

B. Generic Elective:

ENGG CC/GE 1: Poetry and Short Story (6 credits per week)

□ CO 1: This course, offered to students from Departments other than English, consists of poetry written by Shakespeare, Shelley, Keats and Spenser and three modern short stories. In all, this course offers diverse texts belonging to different genres and contexts to give the student an overall idea about English literature. Apart from the appreciation of literature, at the end of the course, a student is expected to analyse literary texts critically.

C: Ability Enhancement Compulsory Course:

AECC 1: Communicative English (2 credits per week)

□ CO 1: This course is offered to all students across all disciplines. At the end of the course, a student is expected to identify and correct sentence errors, read excerpts of fiction, creative non-fiction and essays, while analysing the structural and sentence level arrangement of the writing and write in an effective manner that demonstrates an understanding of the basic concepts of grammar.

Semester - 2

A. Core Course:

ENGA CC 3: Indian Writing in English (6 credits per week)

□ CO 1: Students are introduced to the rich heritage of Indian writing since Derozio, Toru Dutt and Sarojini Naidu, as well as to the increasingly modernist trends ushered in by Nissim Ezekiel, Ramanujan, Kamala Das and others. Bankim Chandra's 'Rajmohan's Wife', the first novel written in English by an Indian, offers insight into the late 19th century ethos of Bengal and holds great historical value. Mahesh Dattani's play introduces students to the complexities of modern urban Indian society.

□ CO 2: Thus, students acquire a comprehensive idea of the evolution of Indian writing in English and its great variety, as well as its increasing importance in modern world literature.

ENGA CC 4: British Poetry and Drama (14th-17th century) (6 credits per week)

□ CO 1: Modern English poetry dates from the Renaissance, with the greatest masters being Shakespeare, Sidney, Spenser. Next we have the Metaphysical poets who revolutionised the writing of poetry with their scholarly assimilation of diverse experiences expressed through complex images and conceits.

□ CO 2: Shakespeare's tragedy and comedy constitute the best possible initiation into the world of deep emotions and intellectual perceptions, blended with profound philosophy and aesthetic sublimation.

B: Generic Elective:

ENGG CC/GE2: Essay, Drama and Novel (6 credits per week)

□ CO 1: Students from other departments who opt for English find a refreshing introduction to a creative, imaginative and artistic world through Lamb's essay, 'Dream Children', while they get an insight into the complex, ambiguous conditions of life in the postcolonial world in Orwell's essay.

□ CO 2: Shakespeare's romantic comedy offers a charming experience of a journey to a pastoral world, in contrast to city life, depicting a variety of characters and their relationships. Bernard Shaw's play presents to students an interesting and innovative approach to the theme of love and war, being set against the backdrop of the Serbo-Russian war. Thomas Hardy's novel set in late 19th century England, and written in highly evocative prose, offers students a deep insight into the accidents and coincidences of life which lead to great emotional upheavals.

Semester - 3

A. Core Course:

ENGA CC 5: American Literature (6 credits per week)

□ CO 1: This course exposes the students to American literary, cultural and political history through a wide-ranging selection of texts from drama, novel, and poetry by the great masters like Whitman, Miller, Faulkner, Fitzgerald, Poe, Hemingway, to iconic authors like Plath.

□ CO 2: The students' takeaway from this course is a sense of race, class and gender in the American social and cultural milieu. This course is an exposition of the American thinking mind and their ways of life.

ENGA CC 6: Popular Literature (6 credits per week)

□ CO 1: A course with text-selection based on popular literature of post-independence voices in South Asian writings as well as American and European popular Culture including comic

books, this course is an exercise in delight and instruction. With Herge's *Tintin*, Sukumar Ray's nonsense verse in *Abol Tabol* and Lewis Carroll's text the students learn the basics of theory and practice in children's literature that gives them a renewed insight on popular literature as opposed to classical canonical literature

ENGA CC 7: British Poetry and Drama (17th-18th Century) (6 credits per week)

□ CO 1: With a selection of iconic texts like John Milton's *Paradise Lost*, Alexander Pope's *The Rape of the Lock*, as well as texts like John Webster's *The Duchess of Malfi* & Aphra Behn's *The Rover*, this course introduces the student to an area of British Literature that is very significant with respect to the development of English literature in the later phases of Renaissance, the period of decadence afterwards as well as the trend of Satire in the Eighteenth century.

□ CO 2: The students get a vast sense of history and how political and social conditions during particular periods in English literature have given rise to certain genres of literature.

B. Skill Enhancement Course:

ENGA/ENGGSEC A2: Business Communication (2 Credits per week)

□ CO 1: Called a skill enhancement course, this course in business communication is aimed at teaching students the basics of language skill as in writing reports, letters, e-mails, curriculum vitae, minutes of meetings etc. It teaches them to express themselves succinctly and well in practical fields outside of the language of literature.

C. Generic Elective:

ENGG CC/GE 3: Women's Writing and Women's Empowerment (6 credits per week)

□ CO 1: With authors as diverse as British poet Elizabeth Barrett Browning, Christina Rossetti, American poet Emily Dickinson, Indian poets and prose writers Sarojini Naidu, Rassundari Devi and Rokeya Sakhawat Hussain this gender based course introduces the students of other disciplines to a slice of English prose and poetry by women of various origins. It empowers them with the history of women's struggles in societies of different times and teaches them resilience as well as the need to rise up for their own sake in the face of discriminations in society.

D. Language Core Course:

ENGG LCC-1-3-1: LANGUAGE, VARIETY AND STYLISTICS (6 credits per week)

□ CO 1: Students will learn to differentiate between formal/informal, official/personal styles of communication.

□ CO 2: Students will learn grammatically correct usage of the language.

□ CO 3: Students will learn the difference between British and American usages of the same language.

Semester - 4

A. Core Course:

ENGA CC 8: 18th century British Literature (6 credits per week)

□ CO 1: With the advancement in print culture, literature of the 18th century developed greatly. The course familiarizes students with the history and literature of the period. From Samuel Johnson and Joseph Addison to Daniel Defoe, this course introduces students to various forms of writing during the eighteenth century, especially the novel that gained mass popularity and attention.

ENGA CC 9: Romantic Literature (6 credits per week)

□ CO 1: Romanticism had a profound influence on European culture and enabled a modern understanding of the self, nature, reason, freedom, and the role of the artist. Emphasis is placed on the philosophical and theoretical concepts that inform Romantic poetry, as well as on the broad scope of literary forms through which the Romantic poetic imagination expressed itself.

□ CO 2: The course would help students situate authors like Blake and Wordsworth in their historical and social contexts to better understand their texts. Romantic fiction by Mary Shelley and non-fiction by Charles Lamb provide a comprehensive understanding of the age across diverse genres.

ENGA CC 10: 19th century British Literature (6 credits per week)

□ CO 1: The nineteenth century witnessed extraordinary social and cultural change in Britain, from the rise of industrial capitalism to the emancipation of women, from the decline of Christian belief to the growth of the Empire, from urbanisation to the emergence of mass literacy. This course will introduce students to some significant texts and literary movements of the period, in the wider context of social transformation and emerging literary practices.

□ CO 2: Students shall be introduced to the establishment of the novel as the dominant literary genre, the ways in which social values are encoded and contested in literary texts, and the relationship of traditional and experimental practices in poetic forms. The course aims to develop students' analytic and critical skills through a close reading of poets like Tennyson & Browning and novelists like Jane Austen and Charles Dickens.

B. Skill Enhancement Course:

ENGASECB2: Academic Writing and Composition (2 credits per week)

□ CO 1: This course helps students develop their reading, analysis, and writing skills to develop complex written arguments based on careful evaluation and synthesis of information from research.

□ CO 2: Integration of ideas and applying proper citation is also a significant outcome of this course.

ENGG SECB2: Creative Writing (2 credits per week)

□ CO 1: This course is particularly significant as it helps students to develop their imaginative skills, and individual creativity, outside of the prescribed syllabus and academic writing.

C. Generic Elective:

ENGG CC/GE 4: Academic Writing (6 credits per week)

□ CO 1: This course helps students develop their reading, analysis, and writing skills to develop complex written arguments based on careful evaluation and synthesis of information from research. Integration of ideas and applying proper citation is also a significant outcome of this course.

Semester - 5

A. Core Course:

ENGA CC 11: Women's Writing (6 credits per week)

□ CO 1: This course offers an eclectic selection of women's writings ranging from the foundational feminist text Wollstonecraft's *A Vindication of the Rights of Woman* to poems, novels, short stories and memoirs. The articulation of women's voices in different times and spaces is amply represented by the poems of Emily Dickinson, Elizabeth Barrett Browning and Eunice de Souza, Mahasweta Devi's short story "Draupadi", Katherine Mansfield's "Bliss" and Rassundari Devi's *Amar Jiban*. Apart from highlighting the many facets and discourses around women's problems and rights, the course also aims at gender sensitization and fostering social awareness among the students.

ENGA CC 12: Modern British Literature (6 credits per week)

□ CO 1: The students are introduced to glimpses of the incredibly complex cultural phenomenon called modernism in British literature. The poems of T. S. Eliot, W. B. Yeats and Wilfred Owen have been included in this course to represent the major trends in this paradigm shift. The unfathomable recesses of the human mind can be probed in the novels of Joseph Conrad and D. H. Lawrence. In keeping with the changing times, new experiments in theatre became necessary to imagine the world from a new perspective, as indicated by George Bernard Shaw's drama.

B. Discipline Specific Electives:

ENGA DSE A-1: Indian Literature in Translation (6 credits per week)

□ CO 1: This course adds a new dimension to the English Honours programme in being a study of contemporary Indian literature in English translation. As a selection from texts

written in various Indian languages like Hindi, Bengali, Odia, Panjabi and Urdu, this course offers a mixed bag of diverse cultural experiences, while at the same time making the students aware of the practice of translation as mediation and interpretation. The students will get the chance to read authors such as Rabindranath Tagore, Ismat Chughtai, Fakir Mohan Senapati, Prem Chand, Vijay Tendulkar, G. M. Muktibodh and Amrita Pritam.

ENGA DSE B-1: Literary Types (6 credits per week)

□ CO 1: This course is a study in theories of literature and literary devices of language. Students are expected to develop an in-depth knowledge regarding the three literary types, i.e. tragedy, comedy and short story. Apart from this, they will also learn the rhetorical devices used in English language, along with the prosodic patterns used in poetry. A major outcome of this course is the development of skills of scansion.

ENGG DSE A1: British Literature (6 credits per week)

□ CO 1: The students are introduced to glimpses of the incredibly complex cultural phenomenon called modernism in British literature. This course will introduce students to some significant texts and literary movements of the period, in the wider context of social transformation and emerging literary practices.

C. Skill Enhancement Course:

ENGG SEC A2: Business Communication (2 credits per week)

□ CO 1: Called a skill enhancement course, this course in business communication is aimed at teaching students the basics of language skill as in writing reports, letters, e-mails, curriculum vitae, minutes of meetings etc. It teaches them to express themselves succinctly and well in practical fields outside of the language of literature.

D. Language Core Course:

ENGG LCC 1-5-2: LANGUAGE, IMAGINATION AND CREATIVITY (6 credits per week)

□ CO 1: Students will learn to differentiate between prosaic language usage of everyday conversations and the figurative (poetic) usage of language.

□ CO 2: Students will learn to think creatively and imaginatively, outside the bounds of prescribed texts and questions.

Semester – 6

A. Core Course:

ENGA CC 13: Modern European Drama (6 credits per week)

□ CO 1: The plays selected for this course informs the students of the dramatic changes that took place in twentieth century European drama. The course looks at the ways in which

traditional norms and conventional modes of thought were resisted and subverted by playwrights who wanted their plays to reflect the chaotic climate of the modern era.

□ CO 2: We will also endeavour to read the plays as being representative products of their milieu by juxtaposing these against their political and socio-cultural contexts. Henrik Ibsen, Bertolt Brecht and Samuel Beckett engage with three very different themes and stylistic innovations in their plays. The course is thus quite engaging and thought provoking, introducing students to concepts like absurdism and the alienation effect.

ENGA CC 14: Postcolonial Literature (6 credits per week)

□ CO 1: In this course, students will read texts from previously colonized spaces like India, Australia and Latin America. Possess a coherent knowledge and a critical understanding of postcolonial literature and its key historical, cultural and theoretical developments.

□ CO 2: Post completion of the course, students should be able to compare, discuss and explain interconnections and functions of postcolonial literature and its contexts, including comparative and interdisciplinary issues. They will be able to critically evaluate arguments and assumptions about postcolonial literature, texts, and modes of interpretation.

B. Discipline Specific Electives:

ENGA DSE A-3: Partition Literature (6 credits per week)

□ CO 1: Post-Independence, Partition literature occupies an important place in Indian literature. Translations of the works of writers who experienced the trauma of partition in Bengal, include 'The Marooned' by Protiva Basu, 'The Final Solution' by Manik Bandyopadhyay, 'After Death: Twenty Years' by Birendra Chattopadhyay, 'Rehabilitation' by Sankho Ghosh. Amitava Ghosh's novel in English, 'The Shadow Lines' is another poignant account of the reality of partition and its wide ranging effects. The pain of partition experienced in Punjab and northern India is best brought out in Sadat Hasan Manto's story, 'Toba Tek Singh', which is relevant even today. Sahir Ludhianvi's, 'Twenty-sixth January' still evokes poignant emotions associated with partition.

□ CO 2: This course is particularly significant as it helps students to understand and locate Indian literature in a very painful chapter of their national history and the struggles of an earlier generation towards rebuilding their lives.

ENGA DSE B-3: Autobiography (6 credits per week)

□ CO 1: This elective course introduces students to a lesser known genre of literary studies. With texts as diverse as Tagore's *Reminiscences* and Binodini Dasi's *My Life and My Life as an Actress*, students will be able to recognize the structure of autobiography as a distinct form of literature. They should be able to identify how an author's own ideology shapes reality in an autobiography, including how it raises questions about truth, factuality, objectivity, and subjectivity.

□ CO 2: Students will be encouraged to connect these autobiographical texts to their historical and cultural contexts and critically comment on the role of memory in the scripting of an autobiography.

ENGG DSE B-1: Partition Literature (6 credits per week)

□ CO 1: Post-Independence, Partition literature occupies an important place in Indian literature. Translations of the works of writers who experienced the trauma of partition in Bengal, include ‘The Marooned’ by Protiva Basu, ‘The Final Solution’ by Manik Bandyopadhyay, ‘After Death: Twenty Years’ by Birendra Chattopadhyay, ‘Rehabilitation’ by Sankho Ghosh. Amitava Ghosh’s novel in English, ‘The Shadow Lines’ is another poignant account of the reality of partition and its wide ranging effects. The pain of partition experienced in Punjab and northern India is best brought out in Sadat Hasan Manto’s story, ‘Toba Tek Singh’, which is relevant even today. Sahir Ludhianvi’s, ‘Twenty-sixth January’ still evokes poignant emotions associated with partition.

□ CO 2: This course is particularly significant as it helps students to understand and locate Indian literature in a very painful chapter of their national history and the struggles of an earlier generation towards rebuilding their lives.

C. Skill Enhancement Course:

ENGG SEC B2: Creative Writing (2 credits per week)

□ CO 1: This course is particularly significant as it helps students to develop their imaginative skills, and individual creativity, outside of the prescribed syllabus and academic writing.

DEPARTMENT OF HISTORY

PROGRAMME SPECIFIC OUTCOMES (PSO) FOR HISTORY HONOURS AND GENERAL

PSO1 – Students shall be able to demonstrate critical thinking skills through a detailed study of various historical events and happenings

PSO2 – Students will become aware about world history and India's standpoints in ancient times.

PSO3 – The programme will help students acquire knowledge about age-old traditions, culture, ethics and ethnic character.

PSO4 – Students will become aware about how different social races have come forward for the quest of power, their struggles, their victories and loss over throne and their effects on the changing economy.

PSO5 – Students will be able to acquire strong values, virtues and principles by learning and realizing the lessons from history.

PSO6 – Students will be able to put forward their strong views and arguments by virtue of acquiring a strong understanding of Indian and World history.

COURSE OUTCOMES (CO) FOR HISTORY HONOURS

SEMESTER - I

CC-1: History of India (From the earliest times to C 300 BCE)

This course would enable the students to get an idea about the source materials of ancient Indian history along with the major developments in political, economic, social and religious spheres till 300 BCE. Students will learn about -

- a. The periodization of history
- b. The salient features of – Pre-historic and Proto-historic periods of ancient India, Indus Valley Civilisation and post- Harappan civilisation, Non-iron using and Iron using phases of Vedic culture
- c. The sources used to reconstruct history of the early and later Vedic period.

CC-2: Social Formations and Cultural Patterns of the ancient world other than India

It focuses on building conceptual knowledge about the socio-cultural patterns of the ancient world other than India. Students will learn about –

- a. Stone age culture, identification of Palaeolithic, Mesolithic and Neolithic settlements
- b. Nature of pre-historic societies
- c. Steps from Hunter gatherer to Food producer
- d. Settled agriculture, use of metal in Neolithic and Chalcolithic culture

- e. Bronze age and the Egyptian culture headed by Pharaoh
- f. The conflict between the Nomads and the settled people in and around Central Asia
- g. Use of Iron and its impact and socio-political changes

SEMESTER – II

CC-3: History of India C 300 BCE to C 750 CE

This course would enable the students to know about the major developments in the polity, economy, society and culture between 300 BCE to 750 CE. Students will learn about –

- a. The Maurya Period, especially political unification over a vast part of India and proliferation of many new tribes, changes in the settlement pattern and social stratification
- b. Rise of 'empire' in ancient India
- c. Increasing Foreign invasions from the west including Greeks, Sakas and Kushans
- d. Conflict between the Sakas (western India) and Satavahanas of Deccan to control trade route
- e. Elements of change and land transfer over time and space
- f. Regional variations of language, literature, art and architecture, cave paintings, rock-cut sculptures and architectures built under royal patronage
- g. Golden Age Debate

CC-4: Social Formations and Cultural patterns of the Medieval World other than India

It focuses on building conceptual knowledge about the Socio-cultural patterns of the medieval world other than India. Students will learn about –

- a. Sources/writings of eminent Roman scholars
- b. Barbarian invasion and causes of decline of Roman empire
- c. Feudalism in medieval Europe
- d. Three major religions – Judaism, Christianity and Islam and their impact over medieval world
- e. How the economic, social and religious development happened during the medieval times in Europe

SEMESTER – III

CC-5: History of India (CE 750 – 1206)

This course would enable the students to know about the major developments in the polity, economy, society and culture from 750 CE to till early medieval period. Students will learn about –

- a. Sources of early mediaeval India comprising mostly literary and archaeological works
- b. Controversy over land ownership and feudalism
- c. How India was ruled by regional powers - Rashtrakutas, Palas, Pratiharas, Rajputs and Cholas

- d. Advent of Islam and series of Turkish attacks from western part of India
- e. Village administration
- f. Social stratification and status of lower castes
- g. Contribution of Pallavas and Cholas to Art and Architecture
- h. Spread of Indian culture in South-East Asia

CC-6: Rise of the Modern West - I

This course would provide a comprehensive idea about Europe between the fourteenth and sixteenth century. Students will learn about –

- a. Disintegration of feudal system in Europe ushering in a new social and economic order and marking the beginning of a new era
- b. Rise of Capitalism
- c. Renaissance – its meaning, causes and growth
- d. Impact of Art, Literature, Science, Humanism, Rationalism and spirit of inquiry
- e. Meaning of Reformation, the causes and effects of Reformation and counter-reformation movement
- f. Change in economic field with increasing trade and commerce and emergence of rich merchant class

CC-7: History of India (c.1206-1526)

This course would build concept on the socio-political-economic and cultural pattern and regional variations of the Sultanate period. Students will learn about –

- a. Importance of Persian and Vernacular literature along with monuments, inscriptions and coins
- b. How attraction to Indian wealth and absence of indigenous monarchical power paved the way for Turkish invasion
- c. Phases of Sultan rule in India: the Slave dynasty, the Khaljis, the Tughluqs, the Syed dynasty, and the Lodi dynasty; the Battle of Panipath
- d. New land grant system as a part of administration, agrarian economy and changed revenue pattern
- e. How increasing trade and commerce helped to grow new urban centres; monetisation and market control policy
- f. Doctrines and impact of Sufi and Bhakti; Nathpanthis
- g. Cultural synthesis through Indo-Islamic styles of architecture

SEC –A (1): Archives and museums

This course introduces students to the institutions that house and maintain documentary, visual and material remains of the past. Museums and archives are among the most important such repositories and this course explains their significance and how they work. Students will be able to –

- a. Identify archives and museums as one of the central sources of information
- b. Identify the techniques / methods of preserving different artefacts

- c. Identify methods of collecting data
- d. Arrange Exhibition on collected sources
- e. Feel proud of their own culture and be encouraged to take part in archaeological excavations

SEMESTER – IV

CC-8: Rise of the Modern West - II

This course would build students' concept about transformation of European world from the early commercial capitalism to the Industrial capitalism. Students will learn about –

- a. Printed books and how education helped to develop scientific attitude and power of reasoning
- b. Spread of education
- c. Impact of Industrial Revolution, urbanization, factory system, slums, trade
- d. Growth of Capitalism

CC-9: History of India (c 1526 – 1605)

This course would enable the students to know the major developments in the society, polity, economy and culture of the Mughal era during the time of Akbar. Students will learn about –

- a. Approaches of different historical schools to the source materials: coins, monuments Persian as well as Vernacular literature and accounts of foreigners
- b. Importance of series of wars starting from 1st battle of Panipath
- c. Competitor-Conflict between Humayun and Sher Shah Suri
- d. Administration of the Afghan ruler Sher Shah
- e. Some important steps taken by Emperor Akbar – mansabdari system, friendship with Rajputs, religious tolerance and propagation of Din-e-Ilahi

CC-10: History of India (c 1605 – 1750s)

This course would enable the students to know the major developments in the society, polity, economy and culture from the Mughal emperor Jahangir to Aurangzeb to till 1750 CE. Students will learn about –

- a. The importance of Archaeological and literary sources - Persian, Vernacular and Accounts of foreign travellers
- b. Activities of Jahangir and Shah Jahan including change in administration, use of white marble in Mughal architecture
- c. Conflict execution of Sikh Guru Arjun Deb by Jahangir and how it turned the Sikhs into a martial community
- d. War of succession
- e. Arrival of British East India Company, establishment of factories in Surat & Broach
- f. Emergence of independent states - Hyderabad, Carnatic, Bengal, Oudh, Mysore, Punjab

SEC –B (2): Art Appreciation: an Introduction to Indian Art

The purpose of this course is to introduce students to Indian art, from ancient to contemporary times, in order that they may understand and appreciate its diversity and aesthetic richness. The course will equip students with the abilities to understand art as a medium of cultural expression. It will give students direct exposure to Indian art through visuals, and visits to sites and museums. Students will be able to –

- a. Understand that the medium/material of art object varied according to the availability of it
- b. Realize how most of the sculptures and architectures are associated with the popular religion
- c. Know how till Mughal period, royal families were the patrons of art & architecture
- d. Recognise the change of forms, style, medium/material of art in Colonial India

SEMESTER – V

CC-11: History of Modern Europe (c.1780 – 1939)

This course would enable the students to get an idea about modern Europe between the eighteenth and nineteenth centuries and additionally the developments in world politics after the First World War. Students will learn about –

- a. The causes and effects of French revolution
- b. Phases of exploitation, and Reign of Terror
- c. Achievements of Napoleon Bonaparte
- d. Series of confrontations in Europe, Revolt of July and February
- e. Industrial Revolution and Mercantile economy
- f. Spread of colonialism
- g. Role of Cavour and Bismarck for the unification of Italy and Germany, respectively
- h. First World War – its causes and impact
- i. Impact of Nazism and Fascism in Germany and Italy, respectively
- j. Factors that led to the Civil War in Spain
- k. Causes of World War II
- l. The exhibition of devastating atomic power in World War II

CC-12: History of India (c 1750s – 1857)

This course would enable the students to know the major developments from the mid eighteenth century till the emergence of the East India Company state along with a focus on the Colonial state mechanism and the uprising of 1857. Students will learn about –

- a. Independent states of India: Hyderabad, Carnatic, Mysore, Kerala, Oudh, Bengal
- b. The great social evils of the 18th century
- c. New painting style in Kangra, Rajputana
- d. How the English defeated the French to become the main European nation
- e. Beginning of British political sway over India by the Battle of Plassey
- f. Stages of consolidation of power of Company under the leadership of Lord Cornwallis, Lord Warren Hastings, Lord Wellesley, Lord Dalhousie

- g. Restrictions over exporting finished products and how India was forced to export raw materials

DSE-A-1: History of Bengal (c.1757-1905)

This course would enable the students to know the major developments of Bengal from the Battle of Plassey till the partition of Bengal. Students will learn about –

- a. Emergence of independent Bengal
- b. Nawabs and their internal conflicts
- c. Historical importance of the Battles of Plassey and Buxar
- d. Dual System of administration
- e. The Commercial Policy of East India Co. guided by the needs of British industries and restricting exports of finished products
- f. Spread of Indigenous and English education, foundation of Calcutta University
- g. New intelligentsia and social reforms—abolition of Sati, Widow Remarriage and Charter Act of 1813
- h. Permanent Settlement—local protest movements against British Raj

DSE-B-1: History of Modern East Asia – China (c.1840 – 1949)

This course would provide a comprehensive idea about East Asia with specific focus on China. Students will learn about –

- a. Society, Monarchy, Economy and Religious beliefs in 19th century China
- b. Intrusion of Western World, unequal treaties and revolts
- c. Attempt to Westernisation and growth of capitalism
- d. End of Dynastic rule and Emergence of Nationalism in China
- e. Contribution of Sun Yat-sen and rule of Yuan Shih Kai in warlordism
- f. Rise of Communism, impact of Civil War in China

SEMESTER – VI

CC-13: History of India (c. 1857 – 1964)

This course would enable the students to know the major developments from the mid-nineteen century till the Nehruvian Era. Students will learn about –

- a. New Intelligentsia, Reform movements, causes of extension of Railways, Telegraph system
- b. Congress and beginning of nationalist movement
- c. Partition of Bengal – Swadeshi movement, boycott, militant nationalism
- d. Struggle for Independence
- e. Satyagraha—impact of three nationalist movements led by M.K. Gandhi
- f. Leftist movements
- g. 1947 – Independence and the birth of two separate states

CC-14: History of World Politics: 1945-1994

This course will give the students an idea about modern Europe from the Second World War and political developments till the collapse of the Soviet Union. Students will learn about –

- a. 20th century world - Post war conferences and war-time unity
- b. Emergence of Bi-polarism and Cold War
- c. Changed role of UNO and the need to restructure
- d. Decline of Soviet Union, crisis in Socialist regime
- e. Rise of Unipolar World system and Globalization
- f. Understanding Decolonization
- g. Worldwide protest movements on socio-economic, religious and human rights

DSE-A-3: History of Bengal (c.1905-1947)

This course would enable the students to know the major developments of Bengal from the partition of Bengal till the partition of India. Students will learn about –

- a. Partition of Bengal, Beginning of active politics, Swadeshi and Boycott Movement
- b. Beginning of communal politics – Birth of Muslim League
- c. Effect of Ahimsa and Satyagraha on national as well as regional politics
- d. Rise of Regional Parties
- e. Effect of Government of India Act of 1935
- f. Role of Netaji Subhash Chandra Bose in Indian politics and Left Party
- g. How Bengal Province was finally divided into two separate States - West Bengal (belonging to India) and East Pakistan (belonging to Pakistan)

DSE-B-3: History of Modern East Asia- Japan (c.1868 – 1945)

This course would provide a comprehensive idea about East Asia with specific focus on Japan. Students will learn about –

- a. Meiji Restoration and shift from Feudalism to Capitalism
- b. Reforms in education, Development of industries, democratic movements and Meiji Constitution
- c. Labour Movement and rise of Communist Party
- d. Rise of Imperialism
- e. Transition from militancy to Fascism
- f. World War II – Potsdam Conference

COURSE OUTCOMES (CO) FOR HISTORY GENERAL

SEMESTER – I

CC-1/GE-1: History of India from Earliest Times upto 300 CE

Students will be able to –

- CO 1. Understand the source materials
- CO 2. Get knowledge about our past glory
- CO 3. Get a broad idea of our heritage
- CO 4. Understand how the first empire in India established and developed
- CO 5. Get knowledge about the age of ‘Imperial Unity’
- CO 6. Know about South Indian History and culture

SEMESTER – II**CC-2/GE- 2: History of India from. C.300 to1206**

Students will be able to –

- CO 1. Debate on Golden Age theory
- CO 2. Get knowledge of South Indian Society, economy and culture
- CO 3. Understand how several regional powers emerged
- CO 4. Get to know about glory of Rajputs in the North-western India

SEMESTER – III**CC-3/GE-3: History of India from 1206 to1707**

Students will be able to –

- CO 1. Understand how the Muslims invaded India
- CO 2. Know about the Turko-Afghan rulers
- CO 3. Understand the impact of Bhakti movement on the Indian Society
- CO 4. Know how the Mughals established their rule in this country

SEMESTER – IV**CC-4/GE-4: History of India; 1707-1950**

Students will be able to –

- CO 1. Get knowledge about the 18th century India
- CO 2. Understand how colonial power gradually expanded their rule
- CO 3. Know about the Uprising of 1857 and its courses
- CO 4. Get a vivid knowledge of our glorious renaissance in the 19th century
- CO 5. Know about the growth of Nationalism in India
- CO 6. Get knowledge of the Gandhian movement

SEMESTER – V**DSE- A -2: Some Aspects of European History: C.1780-1945**

Students will be able to –

- CO 1. Get a general conception about the modern world
- CO 2. Obtain perception about a few revolutions in the world history
- CO 3. Understand extreme ideas among some world leaders
- CO 4. Understand how the First World War began

SEC-A- 1: Historical Tourism: Theory & Practice

Students will be able to –

- CO1.Acquire practical knowledge regarding historically significant places
- CO2. Learn how to preserve our heritage

SEMESTER – VI**DSE-B-2: Some Aspects of Society and Economy of Modern Europe**

Students will be able to –

- CO 1. Acquire knowledge regarding the early modern Europe
- CO 2. Get conception about some main courses of early modern Europe
- CO 3. Understand what the economic situation was in the said period

SEC-B -1: Museums & Archives in India

Students will be able to –

- CO1.Get introduced to the institution that house and maintain documentary, visual and material remains of past.
- CO2. Understand how museums and archives are among the most important of such repositories

DEPARTMENT OF PHILOSOPHY**PROGRAMME SPECIFIC OUTCOMES (PSO) OF PHILOSOPHY HONOURS**

PSO1. Students will gain argumentative skills while learning different theories and their criticisms within the field of metaphysics, epistemology, logic, Philosophy of religion, social and political philosophy.

PSO2. Students will acquire critical thinking ability and will be able to construct arguments as a result of learning logic.

PSO3. Students will attain skills to understand the nature of human mind; they will develop knowledge about learning skills and personality traits of mind as well as levels of consciousness.

PSO4. Students will also be enriched with different values of life and will be able to practice those values in real life.

PSO5. Students will be familiar with both Indian and Western philosophical theories and so will be able to make a comparative study of these two kinds of theory.

PSO6. Students will develop creative thinking abilities regarding the new possibilities beyond prevalent philosophical theories.

PSO7. Students will learn to distinguish between appearance and reality, will gain a holistic knowledge of man and world. They will also acquire knowledge of world beyond the arena of sense experience.

PSO8. Students will be acquainted with Psychology as the science of behaviour and mind by trying to explore behaviour and mental processes such as perception, cognition, attention, intelligence, personality and more such traits.

PSO9. Students will get acquainted with all of the major areas of philosophy as well as other relevant fields, including theology, sociology, psychology, history and the natural sciences.

COURSE OUTCOMES (CO) OF PHILOSOPHY HONOURS

Semester – I

PHIA CC1: Indian Philosophy - I

CO1. This course will help students to enrich their knowledge through a clear, comprehensive and critical study of various systems of Indian philosophy.

CO2. Students will be able to exercise greater concentration by practising control of the mind following the principles of Buddhist Philosophy.

CO3. It will help in increasing the interest of students about the epistemological and metaphysical views of the schools of Indian Philosophy.

PHIA CC2: History of Western Philosophy-I

CO1. This course will help students to get acquainted with the theories of various famous Western Philosophers like Descartes, Spinoza, Plato, Aristotle, etc.

CO2. Students will be able to compare the theories of Indian Philosophers with that of Western Philosophers.

CO3. It will help enrich students' interest in metaphysical entities like substance, self, god etc. and help them compare the philosophical notions with the scientific notions.

Semester – II

PHIA CC3: Indian Philosophy– II

CO1. Students will acquire an understanding of the oldest systems of Indian Philosophy.

CO2. Students will be able to explain the evolution system of the Universe by Prakṛti and Purusatattva.

CO3. By studying Sankara's Advaita Vedanta and Ramanuja's Visistadvaita, students will be able to understand the concepts of Ultimate Reality, Atman or Brahman.

PHIA CC4: History of Western Philosophy-II

CO1. Students will develop detailed knowledge about the modern Empiricist schools through the philosophies of Locke, Berkeley, Hume & Kant, their beliefs and doctrines regarding Knowledge, God and World as well as their ethical views.

CO2. Students will know about the origin of knowledge, Nature and limits of knowledge from the stand point of western philosophers.

Semester - III

PHIA CC5: Philosophy Of Mind

CO1. Students will develop elaborate knowledge regarding philosophy of mind as well as different psychological concepts and doctrines of the eminent psychological thinkers like Freud, Thorndike, and Skinner etc.

CO2. Students will be acquainted with various psychological concepts in detail, learning theories and philosophical theories of mind.

PHIA CC6: Social and Political Philosophy

CO1. Students will be able to get an idea about society, social class and caste as well as political ideals like democracy, socialism, anarchism, etc.

CO2. They will develop an understanding of the roles of different forms of family, community, institutions, etc.

CO3. Students understand what is social change according to the views of M.K. Gandhi and Marx Engels

PHIA CC7: Philosophy of Religion

CO1. This course will develop interest in the students' minds regarding religious theories like the Rebirth and liberation of Hinduism, Buddhism and Jainism.

CO2. Students will be able to critically analyse the religious views of Hinduism, Buddhism and Jainism, the Holy Quran, Christianity and understand the arguments in favour of existence of God as well as the grounds for disbelief in God.

CO3. The course will help students build an unprejudiced mind about religion.

CO4. Students will know about the possibility of Universal Religion, religious pluralism, doctrines of karma and rebirth as well as about the peculiarity of religious language.

PHIA SEC A(b): Man and Environment

CO1. The course will help students understand the role and importance of environment and nature in human life.

CO2. It helps the students realize the various aspects of respect for nature and the different notions regarding the intrinsic value of nature.

CO3. Students will gain an in-depth knowledge about ecofeminism,

CO4. Students will gain an in-depth knowledge about deep ecology.

Semester – IV**PHIA CC8: Western Logic-I**

CO1. Students will be able to understand the nature of argument and the relation between truth and validity of an argument.

CO2. Students will become acquainted with logical reasoning and its methods, which is an important component of competitive examinations.

CO3. Students will learn about the differences between Deductive and Inductive Logic and as well as the various methods of mediate and immediate inferences.

CO4. Students will acquire detailed knowledge of the nature, forms, rules and applications of Categorical Syllogism.

CO5. Students will be acquainted with the concepts of probability, hypotheses and causal connections in detail.

PHIA CC9: Western Logic-II

CO1. Students gain insight into the various aspects of Symbolic Logic, along with the values of special symbols like that of conjunction, disjunction, etc.

CO2. This course will help students train and develop their advanced logical aptitude.

CO3. Students will be able to identify different forms and methods of testing the validity of arguments.

CO4. Students will develop a deep understanding of Quantification Theory and rules.

PHIA CC10: Epistemology and Metaphysics (Western)

CO1. Students will derive a basic knowledge of western epistemological views and the nature of ultimate reality from the perspective of western philosophy.

CO2. Students will gain insight into the aspects of propositional knowledge, causal principles, realism, idealism, phenomenalism and logical possibility.

PHIA SEC B(b): Philosophy of Human Rights

CO1. Students will acquire in-depth knowledge about the nature, origin and historical developments of human rights.

CO2. Students will be able to differentiate between natural rights, fundamental rights and human rights.

CO3. Students will be able to understand the idea of natural law and natural rights from the perspectives of John Locke and Thomas Hobbes.

CO4. Students will be able to identify the fundamental rights and duties as enshrined in the Constitution of India.

CO5. Students will be able to relate to the contemporary perspective of basic rights as proposed by Joel Feinberg,

Semester –V

PHIA CC11: Nyaya Logic and Epistemology–I

CO1. Students will be engaged in a deep and critical study of Indian logic and epistemology from the perspective of Nyaya Darshana.

CO2. Students will be able to define and classify typical Indian philosophical terms & concepts like Buddhi, Smriti, Prama, Aprama, Karana (general causal condition), Karana (special causal condition), Karya, and Anyathasiddhi etc .

CO3. Students will develop a detailed knowledge about Pratyaksha pramana , Sannikarsa, classification of Pratyaksha , Anupalabdhi etc. from Nyaya Vaishesika standpoint.

PHIA CC12: Ethics (Indian)

CO1.This course will provide students with a deep understanding of the ethical studies of dharma,purusharthas, bidhi, nishedha, anubrata and mahabrata, panchashilaetc. from the stand pointof Indian philosophy.

CO2.Studentswill also be able to develop critical thinking ability with relation to Indian ethics.

PHIA DSE A1(c): Philosophy of Language

CO1.This course will help students developsound language skillswhich is very useful foracademic purposes.

CO2.Students will acquire basic knowledge oflanguage namelydefinition of pada,concept of āsatti,yogyatā, tātparya,ākāmṣā and definition oflakshana which help them to be moreanalytical and thoughtful

PHIA DSE B1(d): Srimadbhagabatgita

CO1.Students will be acquainted with the concepts of Karmayoga and Gunatrayabibhāga.

CO2. Students will be better equipped to demonstrate selfless actions and exercise meditation.

CO2.This course will provide help and guidance to students to remain focused and on the right track.

Semester – VI**PHIA CC13: Nyaya Logic and Epistemology–II**

CO1.This course will provide a deep and critical study of Indian Logic and Epistemologyfrom the perspective of Nyaya Darshana.

CO2.Students will be acquainted with the concepts of Anumana (inference),Hetvābhāsashabda(testimony), Upamana(comparison), Arthapatti, Paksata with Sa-paksa & Vipaksa, Sakti-vrtti, Saktigraha, Laksana-vrtti , varieties of laksana, Vyanjana – vrtti, varieties of vyanjana , Akanksa, Yogyata, Sannidhi, Tatparya, concept of Yoga-rudhi, two kinds of statements distinguished –Vaidika & Laukika etc.

PHIA CC14: Ethics (Western)

CO1.Students will be well acquainted with ethical studies of moraland non-moral actions, object of moraljudgement, theories of punishment, etc. from the standpoint of Western philosophy.

CO2. Students will acquire an understanding of the nature and scope of ethics as well the different forms of ethics like prescriptive, meta-ethics and applied ethics.

CO3. Students will be able to critically compare and contrast the various perspectives on the standards of morality, for instance, hedonism, utilitarianism, etc.

CO4. Students will gain insight into the concept of environmental ethics and important concepts related to it.

PHIA DSE A2(c): Philosophy of Language (Western)

CO1. This course will help students acquire a basic knowledge of different aspects of language, viz., Syntax, Semantics, Pragmatics, Word-meaning, Vagueness, Sentence meaning etc.

PHIA DSE B2(a): Contemporary Indian Philosophy (Swami Vivekananda)

CO1. This particular course will help students to get a clear idea of the philosophical ideals and thoughts of Swami Vivekananda.

CO2. Students will develop an understanding of Practical Vedanta of Swami Vivekananda, which they will be able to demonstrate in their practical lives.

PROGRAMME SPECIFIC OUTCOMES (PSO) OF PHILOSOPHY GENERAL

PSO1. Students will be able to apply their philosophical knowledge to important public issues.

PSO2. Students will develop their own philosophical areas of interest and analyse them from various perspectives.

PSO3. Students will be able to describe the ways in which the formal techniques of logic work.

PSO4. Students will acquire reading skills necessary to understand and critically engage with historical and contemporary philosophical texts.

PSO5. Students will be aware of the existence of multiple philosophical traditions, and will be able to reflect on the cultural specificity of some of their own concepts and values.

PSO6. Students will be able to explain epistemological concepts such as the nature of knowledge, justification, evidence and scepticism, and to summarize and evaluate major philosophical positions in relation to each.

COURSE OUTCOMES (CO) OF PHILOSOPHY GENERAL

Semester – I

PHIG CC1/GE1: Indian Epistemology and Metaphysics

CO1.This course will help students to acquire the basic knowledge of several systems of Indian philosophy

CO2.It will create an interest about the concepts of Indian philosophy in the students mind.

Semester - II**PHIG CC2/GE2: Western Epistemology and Metaphysics**

CO1.This course helps the students to acquire the basic knowledge of western philosophy namely conditions of propositional knowledge, Rationalism, Empiricism, Kantian theory, theory of causality etc.

CO2.It creates an interest about the concepts of western philosophy in the students' mind.

Semester - III**PHIG CC3/GE3: Western Logic**

CO1.This course helps the students to be enriched with the power of logical reasoning.

CO2.It enriches the students by providing basic knowledge of Aristotelian logic, Modern logic and inductive logic

PHIG SEC A(a): Logical Reasoning and Application

CO1.This course helps the students to know the main objective of logical reasoning to distinguish between good and bad arguments, functional applications of ordinary operative relations between sense organs and objects, application of laws in inductive and deductive reasoning

Semester – IV**PHIG CC4/GE4: Philosophy of Mind**

CO1.This course helps the students to acquire the basic concepts of psychology namely sensation, perception, consciousness, memory, learning, intelligence etc.

PHIG SEC B(a): Man and Environment

CO1.The course helps students understand the role and importance of environment in human life.

CO2.By studying this course, students will acquire conception about the Indian classical attitude towards environment, respect for nature, Ecofeminism, Deep ecology and its third world critique.

Semester – V**PHIG DSE A(a): Ethics: Indian and Western**

CO1.The ethical studies i.e. Purusharthas, Buddhistethics, moral and non-moral actions, teleological ethics and theories of punishment provide a sound understanding of morality in the students' mind from the standpoint of both Indian and Western Philosophy

Semester – VI

PHIG DSE B(a): Applied Ethics and Philosophy of Religion

CO1. This course enriches the students about some concepts of practical ethics namely killing, suicide, euthanasia.

CO2. This course provides the arguments in favour of the existence of God and also the arguments for disbelief in God

CO3. It helps the students to build unprejudiced life in religion

DEPARTMENT OF POLITICAL SCIENCE

PROGRAMME SPECIFIC OUTCOMES (PSO) OF POLITICAL SCIENCE **HONOURS**

PSO1. Students will understand political processes, institutions, actors, behaviour, ideologies and ideas.

PSO2. Students will develop the ability to think systematically about political interactions in national, global and international contexts.

PSO3. Students will be able to debate on, analyse and critically evaluate the major arguments, problems and theories in the discipline.

PSO4. Students will be able to comprehend the structures and processes of government systems and theoretical underpinnings.

PSO5. Students will be sensitized about what the elected representatives' roles are regarding parliamentary procedures and constitutional positions of the country.

PSO6. Students will be trained to accumulate and interpret data applicable to the discipline of political science.

PSO6. Students will be able to cater service to the people by opting for civil services.

COURSE OUTCOMES (CO) OF POLITICAL SCIENCE HONOURS

Semester –I

PLSA-CC-1-1: Political Theory: Concepts

CO 1. Understanding the meaning of political and the concept of politics

CO 2. Understanding the definition, evolution and theories of the State

CO 3. Understanding the concept of Nation and elements of nationhood

CO 4. Explaining the concept of State Sovereignty and its evolution

CO 5. Understanding the basic political concepts

CO 6. Analysing theory of Justice

CO 7. Analysing the concept and evolution of Citizenship

PLSA-CC-1-2: Political Theory: Approaches and Debates

CO 1. Explaining various approaches to the study of Political Science

CO 2. Explaining the conceptions of approaches to Political Theory

CO 3. Describing the Marxist approach and comprehensive theory to Politics

CO 4. Explaining Marxian theory of Revolution - Contribution of Lenin and Mao

CO 5. Explaining Gramsci's theory of Hegemony and Civil Society

CO 6. Explaining the concept of Democratic Centralism

Semester – II

PLSA-CC-2-3: Constitutional Government in India

- CO 1. Understand the evolution and making of the constitution
- CO 2. Examining the concept of Indian Citizenship
- CO 3. Assessing the nature of Indian Federalism
- CO 4. Acquiring an overview of the working of the Governmental structures

PLSA-CC-2-4: Politics in India: Structures and Processes

- CO 1. Understanding the Indian Party System
- CO 2. Evaluating the Electoral Process and Electoral Reforms in India
- CO 3. Evaluating the role of various forces on Indian Politics: religion, language, caste, tribe, business, working class and peasants
- CO 4. Analysing the role of Social Movements in Indian Politics

Semester – III**PLSA-CC-3-5: Indian Political Thought – I**

- CO 1. Analysing the political ideas in Ancient India
- CO 2. Examining the principle of Syncretism in India
- CO 3. Analysing the liberal ideas of Raja Rammohan Roy and the nationalist thought of Bankim Chandra, Vivekananda and Rabindranath Tagore
- CO 4. Assessing the views of Gandhi on State, Swaraj, Satyagraha along with an insight into the Indian National Movement

PLSA-CC-3-6: Comparative Government and Politics

- CO 1. Tracing the evolution of Comparative Politics as a discipline and drawing a distinction between Comparative Politics and Comparative Government along with an understanding of both its nature and scope.
- CO 2. Analysing the approaches and models of Comparative Politics.
- CO 3. Analysing the totality of liberal and socialist political systems with focus on UK, USA and the People's Republic of China
- CO 4. Describing the political system of Switzerland
- CO 5. Analysing the Unitary system of UK and Bangladesh
- CO 6. Explaining the Federal system of USA and Russia
- CO 7. Analysing the committee system in UK and USA

PLSA-CC-3-7: Perspective on International Relations

CO 1. Explaining the scope and subject matter of International Relations as an autonomous academic discipline

CO 2. Examining the approaches and methods to study the International Relations through the outstanding theories in the discipline.

CO 3. Examine the outstanding non-traditional security issues of International Relations

CO 4. Studying the Making of Foreign Policy

CO 5. Examining the Indian Foreign policy: 1947- till date

PLSA-SEC-3-A (1): Democratic Awareness through Legal Literacy

CO 1. Understand the IPC and Laws relating to Criminal jurisdiction.

CO 2. Gain Knowledge of Laws relating to consumer rights, right to Information, laws relating to Cybercrimes and Antiterrorist laws

Semester – IV**PLSA-CC-4-8: Indian Political Thought – II**

CO 01. Understanding the political views of

- a. Radical Humanism
- b. Socialist Ideas
- c. Colonialism and Nationalism
- d. Socialism and democracy
- e. Socialism and fascisms
- f. Notion of Nation
- g. Social Justice

PLSA-CC-4-9: Global Politics since 1945

CO 1. Gaining a clear idea of the Cold War Politics

CO 2. Gaining idea about the Post Cold World War Politics and Globalisation

CO 3. Understand major international institutions - IMF, WB, WTO, ASEAN, OPEC, SAFTA, SAARC, and BRICS

CO 4. Understanding the Middle East

CO 5. Understanding Indian's relation with her neighbours

CO 6. Knowing about the UNO- its institutions and its actions.

PLSA-CC-4-10: Western Political Thought & Theory – I

CO 1. Understanding the Ancient Western Political Thought: Ancient Greek political thought with focus on Aristotle and Plato

CO 2. Examining the features of Medieval Political Thought

CO 3. Evaluating the Renaissance with focus on political thoughts of Machiavelli.

CO 4. Critically examining Bodin's Sovereignty.

CO 5. Understanding ideas of Hobbes, Locke and Rousseau

PLSA-SEC-4-B (2): Elementary Aspects of Social Research

CO 1. Gaining knowledge about research design, its definition, purpose of research, unit of analysis, fallacy (ecological fallacy and fallacy of reductionism), factors affecting research design

CO 2. Understanding the fundamental issues in Research Methodology: concepts, variables, proposition and hypotheses; hypothesis construction and verification; scales of measurement and ethics in social research

Semester – V

PLSA-CC-5-11: Western Political Thought & Theory – II

CO 1. Understanding the main ideas of political philosophers such as Bentham, Mill, Hegel and Green.

CO 2. Gaining knowledge of Utopian and Scientific Socialism, Fabianism, Syndicalism, Guild Socialism, Anarchism, Cultural Marxism and Post-Marxism

PLSA-CC-5-12: Political Sociology

CO 1. Understanding the social bases of politics

CO 2. Comprehending the concepts of political culture, political socialization and political participation

CO 3. Acquiring knowledge of gender, religion and military in politics as well as the conditions and types of military intervention

CO 4. Assessing the Electorate and Electoral behaviour with special reference to the context of India

CO5. Understanding Gender Politics

PLSA-DSE-5-A (2): Understanding South Asia

CO 1. Understanding the importance of South Asia as a region.

CO 2. Acquiring knowledge of issues specific to South Asia, such as terrorism, refugee crisis etc.

PLSA-DSE-5-B (1): Indian Foreign Policy in a Globalizing World

CO 1. Understanding the evolution of India's foreign policy.

CO 2. Acquiring knowledge of India's relations with Global and Regional powers such as USA, Russia and China

Semester – VI

PLSA-CC-6-13: Public Administration: Concepts and Perspectives

CO 01. Understanding the various theories of Public Administration.

CO 02. Analysing the Administrative Processes: decision making; communication and control; leadership; co-ordination.

CO 03. Understanding Public Policy and its implementation

PLSA-CC-6-14: Administration and Public Policy in India

CO 1. Acquiring knowledge of Public Administration in India with reference to Organization of Union Government, State Government and District Administration

CO 2. Understanding the concepts and nature of planning and financial administration in India

CO3. Understanding the features of various citizen and social welfare policies like MNGREGA, Sarva Shiksha Abhiyan, National Health Mission, etc.

CO4. Analysing the structure and functions of local self-government bodies like corporations, municipalities and panchayats in West Bengal

CO5. Knowing about the concept and significance of budget

CO6. Understanding the Right to Information

PLSA-DSE-6-A (4): Understanding Global Politics

CO 01. Gaining knowledge of:

- (a) Sovereign state system
- (b) Global economy
- (c) Global environment
- (d) Global civil society

PLSA-DSE-6-B (3): Citizenship in a Globalizing World

CO 01. Acquiring knowledge of the theories of Citizenship, historical development of the concept and its practice in a globalizing world.

**PROGRAMME SPECIFIC OUTCOMES (PSO) OF POLITICAL SCIENCE
GENERAL**

PSO1. Students will acquire a general understanding of political processes, institutions, actors, behaviour, and ideologies and ideas.

PSO2. Students will develop the ability to think systematically about political interactions in national, global and international contexts.

PSO3. Students will develop awareness about the major arguments, problems and theories in the discipline.

PSO4. Students will get a basic understanding of the structures and processes of government systems and theoretical underpinnings.

PSO5. Students will understand their rights better and know what the elected representatives roles are regarding parliamentary procedures and constitutional positions of the country.

PSO6. Students will be able to cater service to people by opting for civil services.

COURSE OUTCOMES (CO) OF POLITICAL SCIENCE GENERAL

Semester – I

PLSG-CC-1-1: Introduction to Political Theory

CO 1. Understanding the scope and content of politics

CO 2. Understanding the origin, evolution, features and objectives of state.

CO 3. Evaluating Marxian Approach to politics

Semester - II

PLSG-CC-2-2: Comparative Government and Politics

CO 1. Gaining knowledge about Comparative Politics.

CO 2. Gaining knowledge of different world constitutions- UK, China, USA, Bangladesh, France, and Switzerland.

Semester – III

PLSG-CC-3-3: Government and Politics in India

CO 1. Acquiring knowledge regarding Indian Constitution.

CO 2. Understanding the Indian Party system

CO 3. Comprehending the working of the Indian federal System.

CO 4. Gaining knowledge of various social and political movements.

PLSG-SEC-3-A (1): Legal Literacy

CO 1. Understanding the legal Issues of Criminal Jurisdiction

CO 2. Gaining knowledge of Laws relating to consumer rights and Anti-terrorist laws.

Semester – IV

PLSG-CC-4-4: International Relations

CO 01. Understanding the discipline of International Relations and its approaches.

CO 02. Gaining knowledge of the evolution and decline of Cold war along with the collapse of USSR.

CO 03. Understanding the Post-Cold war era and emerging Centres of Powers.

CO 04. Understanding the different aspects of making and objectives of Indian Foreign policy

PLSG-SEC-4-B (1): Elementary Dimensions of Research

CO 01. Acquiring a basic knowledge of Research Designing.

CO 02. Understanding the essence of ethics in research

CO 03. Understanding the application of Statistical methods in Social science Research

Semester – V

PLSG-DSE-A-5-1B: Indian Foreign Policy

CO 1. Understanding the evolution of Indian foreign policy.

CO 2. Gaining knowledge of India and her neighbours: Bangladesh; Pakistan; Nepal; Sri Lanka.

PLSG-SEC-5-A (2): Understanding the legal system

CO 1. Understanding the historical background and Legal institutional hierarchy in India.

CO 2. Acquiring knowledge of Public Interest Litigations, Election Laws, Cooperative societies and Mahila courts

Semester – VI

PLSG-DSE-B-6-2B: Human Rights: Theory and Indian Context

CO 01. Understanding the history and evolution of Human Rights.

CO 02. Gaining knowledge of the provisions and significance of Universal Declaration of Human Rights and other charters of Human Rights under United Nations.

CO 03. Comprehending Human Rights under Indian Constitution.

CO 04. Acquiring knowledge about Institutional framework, problems and remedies of Human Rights in India.

PLSG-SEC-6-B (2): Basic Research Method

CO 1. Developing skills of basic research through methods like

(i) Case study

(ii) Survey Approach

(iii) Focus group.

(iv) Content Analysis

CO 2. Acquiring skills of (i) Experimental research and (ii) Participant Observation

DEPARTMENT OF ECONOMICS

PROGRAMME SPECIFIC OUTCOMES (PSO) OF ECONOMICS GENERAL

A 'General Graduate' of Economics should possess the capability to:

PSO1. Be familiar with major theories of demand, supply and equilibrium, methods of analysis and empirical concepts in the subject

PSO2. Precisely explain and understand the past, present economic conditions of the country. They will also be able to forecast the future course of changes and development through their knowledge of policies and programmes set by the governments and other development agencies

PSO3. They are equipped with the techniques to find solution of the problems like demand, supply, production, cost, national income, mobilization of manpower, banking and financial system and resources available in the country, need of credit/finance for initiating and accelerating projects

PSO4. Analyse the problems of Economics using statistical quantitative analysis. The knowledge of different methods of data interpretation and statistical methods is imparted

PSO5. Develop their observational power through real world experience and in future they will be able to identify the socio-economic problems of a region and may even offer solutions

PSO6. Break an economic issue down into the various economic principles and concepts and identify the competing sides on the issue, compute and assess the real situation of the economy including the size and changes of demand, population, income pattern, nature of an extend of employment, rate of development with pattern of income, investments and savings, policies in relation to other countries, and social security measures adopted in the country

PSO7. Acquire knowledge of the Indian economy with its sectoral composition for the sake of sustainable development. Emphasis is given to entrepreneurship development so as to nurture the spirit of self-employment among the students

PSO8. Understand the basics of financial economics, monetary policy and theoretical basis of imposition of taxes and workings of the finance commission. The objective is to provide a complete knowledge of workings of an economic system.

PSO9. Introduction of international economics, functions of international financial organisations and export import policy of the government of India

PSO10. Visualize the real world situations and enhance them to initiate the programmes for pursuing studies and be alert with the importance of economics to improve the general attitude and living conditions of the common people

COURSE OUTCOMES (CO) OF ECONOMICS GENERAL

Semester – I

ECO-G-CC-1 - Introductory Microeconomics

Students will be able to:

- CO1. Develop ideas of the basic features of an economy and the potential use of its natural resources
- CO2. Describe and differentiate between major economic systems
- CO3. Identify the basic problems of economics and their solutions under different economic systems
- CO4. Understand the concept of opportunity cost
- CO5. Make readings with the help of a graph
- CO6. Understand the concepts of utility maximization in cardinal and ordinal approach
- CO7. Comprehend the production function as well as the relation between AP and MP
- CO8. Understand the concepts of Isoquants, equilibrium, costs (TC,TFC,TVC,AC,MC and relation)
- CO9. Define and explain long-run costs, economies of scale, and diseconomies of scale
- CO10. Gain insight into the features of perfectly competitive market-functions
- CO11. Understand the difference between the firm and the industry; explain and illustrate the differences between the demand curve for a perfectly competitive firm and that for a perfectly competitive industry
- CO12. Explain the difference between short-run and long- run equilibrium for firm and industry; explain the concepts of zero economic profit, abnormal profit and loss
- CO13. Define Monopoly, understand the causes of its emergence and explain the process of short-run and long-run in a Monopoly market
- CO14. Define various forms of price discrimination and their workings
- CO15. Understand the concepts of labour market, derived demand and land market
- CO16. Demonstrate marginal productivity theory of distribution, theory of wages, identify different types of rent

Semester – II

ECO-G-CC-2 - Introductory Macroeconomics

Students will be able to:

- CO1. Define Macroeconomics as a subject and learn its various aspects
- CO2. Define and explain the process of calculating national income, identify its components, demonstrate circular flow of income, analyse the various income identities with government and international trade
- CO3. Explain the meaning of consumption function, establish relationship between APC and MPC, consumption and income, understand the concept of multiplier and analyse the theory of absolute hypotheses
- CO4. Understand the relationship between investment and savings
- CO5. Understand the principle of effective demand
- CO6. Understand the process of equilibrium income determination; demonstrate investment multiplier and government expenditure multiplier

Semester – III

ECO-G-CC-3 - Issues in Economic Development and India

Students will be able to:

- CO1. Learn how economic development is different from economic growth

- CO2. Differentiate between measures of human development in the context of Indian economy
- CO3. Understand the basic causes of poverty and how poverty can be measured
- CO4. Explain how inequality arises in the economy
- CO5. Analyse the policies regarding poverty and income inequality reduction
- CO6. Explain how surplus labour of an economy can be used for economic development
- CO7. Understand how dual sector works for economic development

ECO-G-SEC-1A - Introductory Methods of Field Survey (IMFS)

Students will learn about:

- CO1. Cross section, time series and pooled data concepts
- CO2. Advantages and disadvantages of field survey data
- CO3. Sampling techniques – stratified random sampling, circular sampling, sampling proportional to size
- CO4. Pre-requisites of blank tables
- CO5. Tabular representation of data
- CO6. Cross checking of data after tabular representation

Semester – IV

ECO-G-CC-4 - Indian Economic Policies

Students will learn:

- CO1. How the different macroeconomic policies work for India
- CO2. How the technologies and macroeconomic policies perform for agricultural development
- CO3. The different policies for growth and productivity of industrial sector
- CO4. The foreign trade policy changes in the post liberalization period
- CO5. The different kinds of export import policies for India's development study about the different types of topographical map

ECO-G-SEC-B1 - Economic Data and Report Writing (EDRAW)

Students will learn:

- CO1. Cross section, time series and pooled data concepts
- CO2. Advantages and disadvantages of field survey data
- CO3. Sampling techniques – stratified random sampling, circular sampling, sampling proportional to size
- CO4. Pre-requisites of blank tables
- CO5. Tabular representation of data
- CO6. Cross checking of data after tabular representation

Semester – V

ECO-G-DSE-5-1A - Money and Banking

Students will learn:

- CO1. Different concepts of money supply in the context of Indian Economy
- CO2. How to measure money multiplier
- CO3. How the banking Sector changes its role and its structure after banking sector reforms
- CO4. How interest rate is determined in India
- CO5. How the interest rate structure is formed
- CO6. How the different kinds of monetary instrument works in India for monetary control
- CO7. How demonetization affects Indian economy

ECO-G-SEC-2A – Elementary Rural Development (ERD)

Students will learn:

- CO1. The basic issues of rural development
- CO2. The role of rural credit & self-help group
- CO3. Critical analysis of some selected government programs (MGNREGA, Mid-day Meal, and PMGSY)

Semester – VI

ECO-G-DSE–6-1B - Public Finance

Students will learn:

- CO1. How we reach Pareto efficiency, equity and social welfare in the context of normative economics analysis
- CO2. The causes of market failure
- CO3. Different elementary theories of taxation
- CO4. The current issues of India's tax system
- CO5. How the monetary and fiscal policies work for India's public finance

ECO-G-SEC-2B- Entrepreneurship and Development (ED)

Students will learn:

- CO1. Basic features of Entrepreneurship
- CO2. Entrepreneurship and its linkage with economic development
- CO3. Growth of Entrepreneurship in India
- CO4. Sources of Finance
- CO5. Government support to Entrepreneurship

DEPARTMENT OF EDUCATION

PROGRAMME SPECIFIC OUTCOMES (PSO) OF EDUCATION HONOURS

PSO1. Students will acquire an in-depth understanding of the basics of an educational system.

PSO2. Students will get acquainted with a detailed history of the Indian educational system and with the post-independence development of the Indian educational system.

PSO3. Students will obtain a detailed perspective of the psychological, philosophical and sociological foundations of education.

PSO4. Students will be able to understand the details of educational organization, planning and management.

PSO5. Students will understand how the process of guidance and counselling works.

PSO6. Students will be acquainted with the challenges, needs and possibilities of adopting an inclusive educational system.

PSO7. Students will acquire the knowledge and practices of technology based education.

PSO8. Students will obtain a detailed understanding of curriculum design and implementation.

PSO9. Students will understand the process of educational measurement, testing and evaluation.

PSO10. Students will learn the theoretical aspects of statistical usage in education and also develop statistical computational skills.

PSO11. Students will acquire an in-depth knowledge of various mental disorders, different therapies and coping strategies.

PSO12. Students will acquire a basic working knowledge of educational research methodology.

PSO13. Students will get hands-on experience of collecting, analysing and interpreting data using statistical techniques.

PSO14. Students will acquire direct experience of administering some psychological inventories and interpreting the obtained results.

PSO15. Students will gain practical knowledge of how to assess the effect of learning material on the capacity of memorization of an individual.

PSO16. Students will learn how to write a research proposal.

COURSE OUTCOMES (CO) OF EDUCATION HONOURS

SEMESTER - I

EDCA CC-1 (INTRODUCTION TO EDUCATION):

CO1 – Students will obtain adequate knowledge about the meaning, nature, scope and aims of education, especially with reference to the recommendations of Delors Commission, 1992.

CO2 – Students will know about the different factors of education and their interrelationship.

CO3 – They will understand the roles played by various agencies of education like home, school, state and mass media.

CO4 – They will get acquainted with the concepts, characteristics and significance of child-centricism and play-way in education.

CO5. They will be able to differentiate between play and work.

CO6. They will develop an understanding about some popular child-centric methods of education such as Kindergarten system, Montessori Method and Project method.

EDCA CC-2 (HISTORY OF INDIAN EDUCATION):

CO1. Students will get acquainted with the salient features of education in India during ancient and medieval times.

CO2. Students will get acquainted with the development of education in British-ruled India from 1800 to 1946

CO3. Students will get acquainted with the significant recommendations of selected education commissions in independent India, the National Policy of Education of 1986 and the POA, 1992.

SEMESTER – II**EDCA CC-3 (PSYCHOLOGICAL FOUNDATION OF EDUCATION):**

CO1. Students will understand the meaning of and relation between Psychology and Education as well as the nature of Educational Psychology as a separate discipline.

CO2. They will get acquainted with different theories of human development such as Piaget's cognitive development theory, Erikson's psycho-social development theory, Kohlberg's moral development theory, Vygotsky's social development theory and Bandura's Social Learning Theory and also understand the educational significance of each theory.

CO3. They will obtain in-depth knowledge about the cognitive processes of learning, memory and intelligence.

EDCA CC-4 (PHILOSOPHICAL FOUNDATION OF EDUCATION):

CO1. Students will understand the meanings of and relation between Philosophy and Education.

CO2. They will understand the importance of philosophy in education.

CO3.They will get acquainted with the Indian schools of philosophy and their influence on education.

CO4.They will get acquainted with the Western schools of philosophy and their influence on education.

CO5.Students will develop an understanding of the philosophy for the development of humanity through an education which helps in fostering values, the ideals of national integration and international understanding and which aids in the promotion of peace and harmony.

SEMESTER – III

EDCA CC-5 (SOCIOLOGICAL FOUNDATION OF EDUCATION):

CO1. Students will get introduced to the concept, nature and scope of Sociology of Education.

CO2. They will understand the relationship between Sociology and Education.

CO3. They will understand the concept of social groups and identify the types of social groups.

CO4. Students will gain insight into the process of socialization and will be able to explain the roles played by family and school in this process.

CO5.They will understand the concept of social change and its relationship with education.

CO6. They will develop an understanding of the concepts of social stratification, social mobility and social interaction.

CO7.They will be acquainted with the informal agencies of social communication.

CO8. They will understand the interrelationship between Religion, Culture and Education as well as that between Technology, Economy and Education.

EDCA CC-6 (EDUCATIONAL ORGANIZATION, MANAGEMENT AND PLANNING):

CO1 – Students will get an introductory concept of organization, management, educational organization and school organization.

CO2. They will be able to understand the meaning, elements and essential features of an ideal school plant.

CO3.They will come to know about the meaning, objectives, types and significance of educational management.

CO4.They will understand the different aspects of educational planning like its meaning, aims and objectives, types, steps and significance.

EDCA CC-7 (GUIDANCE AND COUNSELLING):

CO1.Students will know in detail about the meaning, functions and types of guidance.

CO2. They will be able to comprehend the need for guidance services in secondary schools and the requisites of such a programme.

CO3.They will know in detail about the meaning, importance, scope, techniques and types of counselling.

CO4.They will be acquainted with the tools of collecting basic data about a pupil which is required for providing guidance such as Intelligence tests, Personality tests and Aptitude tests.

CO5. They will understand the concepts of Cumulative Record Cards and Anecdotal Record Cards, as well as how they are used and maintained for the purpose of educational guidance.

EDCA SEC-A1 (COMMUNICATION SKILL):

CO1 – Students will develop an understanding of communication as a process, its nature, types as well as the principles of communication.

CO2. They will be able to identify the barriers of effective communication as well as suggest possible solutions for overcoming these barriers.

CO3. Students will be introduced to the concept and technicalities of listening skills and will be able to apply them in their real life situations.

CO4.Students will be introduced to the concept and technicalities of speaking skills and will be able to apply them in their real life situations.

CO4 - Students will be introduced to the concept and technicalities of reading and writing skills and will be able to apply them in their real life situations.

SEMESTER – IV

EDCA CC-8 (TECHNOLOGY IN EDUCATION):

CO1. Students will understand the concepts of Educational Technology and System Approach.

CO2. They will understand the role of computers in education and communication.

CO3. They will get acquainted with the characteristics and types of mass instructional techniques and personalised instructional techniques.

CO4. Students will be acquainted with the concept, components and significance of models of teaching.

CO5.Students will understand the concept, nature and characteristics of e-learning.

CO6. They will be acquainted with the concept of ICT and how it can be integrated into the teaching-learning process.

CO7. Students will understand the concept of MOOCs.

CO8. They will be acquainted with different approaches to education like project-based learning, collaborative learning and co-operative learning.

EDCA CC-9 (CURRICULUM STUDIES):

CO1. Students will understand the concept, nature, scope and functions of curriculum; they will gain insight into the major approaches to curriculum such as behavioural, managerial, system and humanistic, as well into the different types of curriculum –knowledge, experience and activity-based.

CO2. Students will understand which determinants play an important role in content selection of a curriculum.

CO3. They will be able to relate instructional objectives to curriculum and institution.

CO4. They will be acquainted with the revised version of Bloom’s Taxonomy.

CO5. They will be introduced to Bruner’s Theory of Instruction.

CO6. Students will understand the principles of curriculum construction.

CO7. They will develop a detailed understanding of learner-centred curriculum framework with special emphasis on the National Curriculum Framework, 2005.

CO8. They will not only understand the need for curriculum development but also learn how to plan curriculum development.

CO9. Students will be introduced to the concept, significance and the various approaches to curriculum evaluation.

CO10. They will be acquainted with the models of evaluation as given by Stufflebeam and Taylor.

CO11. They will be able to analyse the factors and obstacles related to curriculum reform.

EDCA CC-10 (INCLUSIVE EDUCATION):

CO1. Students will understand the concepts of inclusion and exclusion as well as the barriers encountered during inclusion.

CO2. They will understand the concept of an inclusive society and identify the elements necessary for creating an inclusive society.

CO3. Students will be able to distinguish between the concepts of impairment, disability and handicap.

CO4. They will be acquainted with the general causes of disability, the characteristics and specific problems encountered in different disabilities such as orthopaedic, visual, auditory, cerebral palsy, intellectual, autism and learning disability.

CO5. Students will be able to analyse the roles of school and society in creating a barrier-free environment.

CO6. Students will be introduced to the concept of the socially disabled, especially the SC, ST and OBC groups.

CO7. They will acquire an understanding of the concepts of gender and sexuality.

CO8. They will be able to analyse the causes of social exclusion.

CO9. Students will develop an understanding of social inclusion and how education plays an important role in it.

CO10. They will get an in-depth knowledge about the educational reforms needed for building inclusive and barrier-free schools and society.

CO11. Students will be acquainted with the concepts of Education for Multicultural Society and Education for Peaceful Co-existence.

CO12. They will be able to understand the role of informal agencies in building an inclusive society.

EDCA SEC-B1 (TEACHING SKILL):

CO1. Students will know about the concept, nature and factors affecting teaching.

CO2. Students will understand the concept and characteristics of micro-teaching, simulated teaching and integrated teaching.

CO3. They will understand the concept and nature of teaching skills.

CO4. They will acquire knowledge about the elements involved in developing some teaching skills like introducing a lesson, questioning, using teaching aids, illustrating and reinforcing learning.

CO5. They will understand the phases of teaching.

CO6. Students will gain an in-depth understanding of the concept and importance of Learning Design, the qualities of a good learning design and the steps involved in developing a learning design.

SEMESTER – V

EDCA CC-11 (EVALUATION AND MEASUREMENT IN EDUCATION):

CO1. Students will understand the concepts, need and scope of measurement and evaluation in education.

CO2. They will be able to differentiate between measurement, assessment and evaluation

CO3. They will be able to identify the characteristics of and compare and contrast between the different scales of measurement, viz. nominal, ordinal, ratio and interval scales.

CO4. They will get acquainted with the formative and summative processes of evaluation and the steps involved therein.

CO5. Students will develop a clear concept about the tools and techniques of evaluation.

CO6. They will gain an insight into different types of educational and psychological testing tools, non-testing tools and their uses.

CO7. Students will acquire an understanding of the various techniques of evaluation like interview, questionnaire and observation.

CO8. They will be able to identify the characteristics of a good tool.

CO9. They will get acquainted with the steps involved in the construction and standardization of an achievement test.

EDCA CC-12 (STATISTICS IN EDUCATION):

CO1. Students will understand the concept of statistics and its uses in education.

CO2. Students will acquire knowledge about the properties of measures of central tendency, variability, percentile and percentile rank, as well as their calculation and applications.

CO3. Students will learn about the organization and presentation of data, including its tabulation and graphical representations through frequency polygon, histogram, ogive and pie chart.

CO4. Students will be acquainted with the concept of Normal Probability Curve, its properties and its uses in education.

CO5. They will get acquainted with the concept of divergence from normality and learn how to calculate and interpret skewness and kurtosis of a distribution.

CO6. They will understand the concept and uses of derived scores like T-score, Z-score and Standard Score and learn how to calculate such derived scores.

CO7. Students will understand what a bivariate distribution means as well as the concept and types of linear correlation.

CO8. They will understand the concept of scatter diagram.

CO9. They will understand the uses of correlation in educational context.

CO10. They will learn how to compute Co-efficient of Correlation by Rank Difference method and Product Moment method as well as how to interpret the calculated Co-efficient of Correlation.

CO11. Students will develop the ability to organize collected bivariate educational data, representing the educational data through graphs and will develop skills in analysing, displaying and interpreting data.

EDCA DSE-A2 ((EDUCATIONAL THOUGHT OF GREAT EDUCATORS):

CO1. Students will be able to critically analyse the educational ideas and pedagogical concepts put forth by some Western educational thinkers like Plato, Rousseau, Montessori, Pestalozzi, Dewey and Ivan Illich.

CO2. Students will be able to critically analyse the educational ideas and pedagogical concepts put forth by some Indian educational thinkers like Swami Vivekananda, Rabindranath Tagore, Gandhiji, Radhakrishnan, Begum Rokeya and Sister Nivedita.

EDCA DSE-B1 (TEACHER EDUCATION):

CO1. Students will understand the basic concept and scope of teacher education.

CO2. They will be acquainted with the historical perspective of development of teacher education in India.

CO3. They will be acquainted with the recommendations of the Kothari Commission and the National Policy on Education regarding teacher education and will be able to analyse the present system of teacher education in India.

CO4. Students will understand the roles of different agencies in teacher education like university, NCTE, NCERT and NUEPA.

CO5. They will obtain an idea about some courses for preparation of teacher such as pre-service and in-service teacher education as well as orientation and refresher courses.

SEMESTER – VI

EDCA CC-13 (PSYCHOLOGY OF ADJUSTMENT):

CO1. Students will understand the concept of adjustment and the criteria of good adjustment.

CO2. They will be able to critically analyse the psychodynamic concept of adjustment.

CO3. They will understand the concept and causes of maladjustment and also learn about some commonly observed problem behaviours like aggressiveness, delinquency and substance abuse.

CO4. Students will be acquainted with the classification of mental disorders as per DSM-5 and gain in-depth knowledge about various mental disorders such as schizophrenia, anxiety disorder, depressive disorder and personality disorder.

CO5. They will learn about the treatment of mental disorders through different therapies like psychoanalysis, behavioural therapy, cognitive therapy and humanistic therapy.

CO6. Students will learn the concepts of stress and stressors, about personal and environmental stress as well as different stress coping strategies.

CO7. Students will gain hands-on experience of administering the Kundu Neurotic Personality Inventory (KNPI) and the Kundu Introversion Extroversion Inventory as well as scoring and interpreting the obtained results.

CO8. They will be able to find out the effect of learning material on the capacity of memorization of an individual and interpret the obtained results.

EDCA CC-14 (BASIC CONCEPT OF EDUCATIONAL RESEARCH):

CO1. Students will understand the concept of research with special emphasis on educational research, its characteristics and types as well as the problems, difficulties and ethics involved in educational research.

CO2. They will be acquainted with basic elements and steps involved in conducting educational research like review of related literature, selection of problem, stating research objectives/hypotheses and selecting different types of tools for data collection.

CO3. Students will obtain in-depth knowledge about data collection procedures i.e. sampling and its types, about data reporting techniques i.e. descriptive and inferential statistical procedures, as well as about referencing and bibliography.

CO4. They will learn how to review research papers and how to write a research proposal.

EDCA DSE-A4 (POPULATION EDUCATION):

CO1. Students will understand the concept and need of Population Education and various concepts related to it.

CO2. They will understand about population growth, its impact and responsibilities.

CO3. They will understand the scope of population education in schools and the roles of teachers, mass media and youth in it.

EDCA DSE-B4 (WOMEN EDUCATION):

CO1. Students will acquire a synoptic view of women education from the Vedic to the medieval period as well as the contribution of missionaries to and the role of the British Government in developing women education.

CO2. Students will be acquainted with the constitutional provisions regarding women education as also the recommendations of different commissions, committees and educational policies on Women Education.

CO3. They will be able to critically analyse the roles played by Rammohan Roy and Vidyasagar in promoting women education.

CO4. They will be able to identify the major social, psychological, political and economic constraints of Women Education.

CO5. Students will understand the role of women empowerment in modern society.

PROGRAMME SPECIFIC OUTCOMES (PSO) OF EDUCATION GENERAL

PSO1. Students will acquire an in-depth understanding about how an educational system functions.

PSO2. Students will obtain a detailed perspective of the psychological and sociological foundations of education.

PSO3. Students will develop an understanding of the need for inclusive educations as well as the possibilities and challenges of adopting an inclusive educational system and society.

PSO4. Students will acquire the essential skill of communication through effective listening, speaking, reading and writing.

PSO5. Students will be acquainted with the importance of developing teaching skills which they may well apply in their professional life.

PSO6. Students will be able to critically analyse the educational thoughts of some important Western and Indian educators and apply those principles in their daily lives.

PSO7. Students will understand the need for promoting women education and women empowerment.

COURSE OUTCOMES (CO) OF EDUCATION GENERAL

SEMESTER - I

EDCG CC/GE-1 (INTRODUCTION TO EDUCATION):

CO1 – Obtaining adequate knowledge about the meaning, nature, scope and aims of education, especially with reference to the recommendations of Delors Commission, 1992

CO2 – Knowing about the different indispensable factors of education

CO3 – Understanding the roles played by various agencies of education

CO4 – Getting acquainted with the concepts of Child-centricism and Play-way in education as well as learning about some popular child-centric methods of education

SEMESTER - II

EDCG CC/GE-2 (PSYCHOLOGICAL FOUNDATION OF EDUCATION):

CO1 – Understanding the meaning of and relation between Psychology and Education and also the nature of Educational Psychology as a separate discipline

CO2 – Getting acquainted with the process of human development through the learning of various theories of development

CO3 – Obtaining in-depth knowledge about the cognitive processes of learning, memory and intelligence

SEMESTER - III**EDCG CC/GE-3 (SOCIOLOGICAL FOUNDATION OF EDUCATION):**

CO1 – Getting introduced to the concept of Sociology of Education

CO2 – Understanding the concept of social groups and the process of socialization

CO3 - Understanding the concept of social change and social interaction in education

CO4 - Becoming aware of social communication in education

EDCG SEC-A1 (COMMUNICATION SKILL):

CO1 - Understanding the basic elements of any communication process

CO2 - Acquiring Listening Skills

CO3 - Acquiring Speaking Skills

CO4 - Acquiring Reading and Writing Skills

SEMESTER – IV**EDCG CC/GE-4 (INCLUSIVE EDUCATION):**

CO1 – Understanding the concepts of inclusion and exclusion, the elements needed for creating an inclusive society and the barriers encountered during inclusion

CO2 – Knowing extensively about the differently abled and the socially disabled and why they are excluded from educational settings

CO3 – Getting an in-depth knowledge about the educational reforms needed for building inclusive and barrier-free schools

EDCG SEC-B1 (TEACHING SKILL):

CO1 - Knowing the basic concept of teaching

CO2 - Knowing the types of teaching

CO3 - Understanding the skills and phases of teaching

CO4 - Understanding the concept of Learning Design

SEMESTER – V**EDCG DSE-A2 (EDUCATIONAL THOUGHT OF GREAT EDUCATORS):**

CO1 - Developing an understanding of educational ideas of some Indian and Western educational thinkers

CO2 – Understanding the pedagogical concepts given by some Indian and Western educational thinkers

SEMESTER - VI

DSE-B2 (WOMEN EDUCATION):

CO1 - Knowing the historical perspectives of Women Education

CO2 - Knowing the various policy perspectives and recommendations of Committees and Commissions on Women Education

CO3 - Knowing the contribution of Indian thinkers towards Women Education

CO4 – Identifying the major constraints of Women Education and Women Empowerment

DEPARTMENT OF SANSKRIT

PROGRAMME SPECIFIC OUTCOMES (PSO) OF SANSKRIT HONOURS AND SANSKRIT GENERAL

PSO1. A student of Sanskrit language and literature will have a strong foundation needed for developing his/her personality based on the values and morality as reflected in all branches of Sanskrit literature.

PSO2. The learning of ancient scriptures and texts written in Sanskrit language will help to build within the students' minds an impervious admiration for Indian civilization and culture.

PSO3. The study of Sanskrit language will be very beneficial for developing better linguistic capabilities, thereby removing the challenges of speaking and reading in Sanskrit.

PSO4. Almost all Indian languages and other South Asian and South-east Asian languages have their origin in Sanskrit. Therefore, Sanskrit assists in the study of other languages.

PSO5. The study of Sanskrit language helps to critically review ancient Indian scriptures and texts.

PSO6. The learning of Sanskrit mantras has a meditative quality which helps to calm the mind. It also helps to improve concentration power.

PSO7. The study of Sanskrit as a discipline promises better and varied career options to the students such as –

- Teaching in Schools, Colleges and Universities
- Research opportunities in reputed research institutions in India as well as outside of India
- Interpreter and Translator
- Editing and proof reading
- Technical and academic content writer
- Ayurvedic Medicine, treatment and therapy
- Epigraphist
- Manuscript expert
- Journalism
- Anthropological services
- Archaeological services

COURSE OUTCOMES (CO) OF SANSKRIT HONOURS

SEMESTER – I

SANA CC1 - Classical Sanskrit Literature (Poetry)

Through the study of Raghuvamśam : Canto-I (Verses 1-25), Kumārasambhavam : Canto V (Verses 1-30), Kirātārjunīyam : Canto-I (Verses 1-25) and Nītiśatakam (Verses 1-20), students will:

CO1. Learn about the origin and development of Classical Sanskrit Poetry

- CO2. Obtain an overall idea of Sanskrit Mahākāvya and Gītikāvya
- CO3. Experience the elegance of style of Sanskrit Poetry
- CO4. Understand the proper pronunciation and recitation of Sanskrit verses

SANA CC2 - Critical Survey of Sanskrit Literature

Through a detailed study of Vedic Literature, Rāmāyaṇam, Mahābhārata and Purāṇas, students will be able to:

- CO1. Create a clear idea about the different genres of Sanskrit Literature
- CO2. Gather a basic knowledge about the entire Vedic Literature
- CO3. Understand the basic principles and concepts about different schools of Indian Philosophy
- CO4. Experience the influence of Epics and Purāṇas on Indian culture, literature, society and history
- CO5. Know about the different schools and important works in Sanskrit grammar

SEMESTER – II

SANA CC3 – Classical Sanskrit Literature (Prose)

In this course, students will be able to:

- CO1. Have an overall idea about origin and development of Classical Sanskrit Prose and Sanskrit Narrative Literature
- CO2. Gain experience about the beauty of Sanskrit Prose
- CO3. Understand and appreciate the famous texts of Sanskrit Prose Literature
- CO4. Understand about the origin and development of Sanskrit Narrative Literature
- CO5. Practice acts of morality in human life

SANA CC4 – Self Management in The Gītā

- CO1. Students will be acquainted with The Gītā as a technical text of self-awareness
- CO2. They will understand the philosophical mechanism of the mind and its fluctuations
- CO3. Students will explore the path for cessation of mental modifications
- CO4. They will learn to maintain a balanced life through the application of spiritual techniques as prescribed by The Gītā
- CO5. They will experience a blissful sensation as an advanced practitioner

SEMESTER – III

SANA CC5 - Classical Sanskrit Literature (Drama)

- CO1. It will help students to get an overall understanding about the origin and development of Classical Sanskrit Drama

CO2. It will make students aware about the dramatic theme, style, techniques, and characteristics of Sanskrit Drama

CO3. Students will gain experience about the world-wide popular texts of Sanskrit Drama of Kālidāsa and Bhāsa

SANA CC6 - Poetics and Literary Criticism

CO1. Students will get to know about the origin and development of Sanskrit Poetics

CO2. They will develop a clear concept about various schools of Sanskrit Poetics i.e. rasa, alaṅkāra, rīti, vakrokti, dhvani etc.

CO3. They will be familiarized with the divisions of Sanskrit Kāvya

CO4. Students will understand different technical terms related to Sanskrit Literary Criticism

CO5. They will acquire a sound concept of rasa theory

SANA CC7 - Indian Social Institutions and Polity

CO1. Students will develop a basic concept about various aspects of ancient Indian social institutions and ancient Indian polity

CO2. They will understand the meaning and concept of various technical terms of Dharmaśāstra and Arthaśāstra

CO3. They will develop a better understanding of the aims and importance of puruṣārtha (human endeavour)

CO4. Students will get an idea about structures and functions of various political institutions

CO5. They will understand the difference between Dharmaśāstra and Arthaśāstra

CO6. Students will be acquainted with various theories and thinkers of Indian polity

CO7. They will understand the position of women in different stages of society

SANA SECA1 - Sanskrit Writing Skill

CO1. The course aims to develop Sanskrit writing skill of the students.

CO2. It improves answering skills in Sanskrit through comprehension part.

CO3. Students will be able to express their own views on recent issues in Sanskrit.

CO4. They will be able to easily translate from English to Sanskrit and vice versa, thereby building up a strong foundation in Sanskrit language.

SEMESTER – IV

SANA CC8 – Indian Epigraphy, Palaeography and Chronology

This course will help students to:

CO1. Understand Indian Epigraphy as a material of historical reconstruction

CO2. Know interesting facts about antiquity of writing, writing materials etc.

CO3. Gain knowledge about the module of various types of Epigraphy

CO4. Get an idea about ancient rulers and their thoughts through the study of their orders

CO5. Develop knowledge about ancient Indian history, society, geography, economics etc.

CO6. Understand the value of Epigraphical Literature

CO7. Get an idea about ancient Indian scripts

CO8. Know the role and contributions of Indian and foreign scholars in the field of Epigraphical study

SANA CC9 – Modern Sanskrit Literature

This course will help students:

CO1. To get an idea about the rich and profound creation of modern creative writings in Sanskrit

CO2. To know the role and contributions of modern Sanskrit writers

CO3. To know about the language, theme and style of modern Sanskrit writings through some very popular texts of Modern Sanskrit Literature

SANA CC10 - Sanskrit World Literature

This course will help students:

CO1. To know the influence of Sanskrit Literature on world Literature

CO2. To understand the role of Sanskrit Literature as World Literature

CO3. To comprehend the influence of Kālidāsa's Literary creations on western literature and theatre

CO4. To be acquainted with information about Sanskrit study centres across the world

SANA SECB2 – Spoken & Computational Sanskrit

This course will help students:

CO1. To develop and nourish their Sanskrit communication skill

CO2. To use Sanskrit language in their day-to-day conversation

CO3. To polish their Sanskrit writing skills

CO4. To understand the use and operation of different software applications related with Sanskrit teaching-learning process

SEMESTER –V

SANA CC11- Vedic Literature

CO1. Students will get a clear idea about the different genres of Sanskrit Literature

CO2. They will acquire a basic knowledge about Vedic Literature

CO3. They will understand the basic principles and concepts about different schools of Indian Philosophical Wisdom

SANA CC12- Sanskrit Grammar

This course will help students:

- CO1. To be involved in an in-depth study of prescribed vyakarana texts
- CO2. To become proficient in the use of Sanskrit language
- CO3. To be acquainted with finding out the case-ending and sentence structure.
- CO4. To understand sutras of the compound, and expound of the compound.
- CO5. To know about philology, phonetic laws, classification language, phonetic tendencies etc.
- CO6. To learn sentence correction and translation

SANA DSE1- Darśana

Students will be able to:

- CO1. Explain different kinds of perception
- CO2. Discuss nature and characteristics of inference
- CO3. Elucidate Nayayika's views on liberation
- CO4. Examine Nayayika's arguments on testimony as a valid source of knowledge
- CO5. Learn Vedanta focusing mainly on its meaning, philosophical background and teachings
- CO6. Get acquainted with the Brahmana as the one and only truth, Divinity of the soul according to Vedanta philosophy

SANA DSE2- Kāvya

Students will be able to:

- CO1. Get acquainted with the division of kavya
- CO2. Understand the basic concepts of literary theories in Sanskrit through a general study of certain text
- CO3. Know that poetry brings fame and riches, knowledge of the ways of the world and relief from evils, instant and perfect happiness
- CO4. Understand the definition of kavasa
- CO5. Know, define and illustrate Alamkara and metre
- CO6. Understand Rasa-sutra of Bharata and its prominent exposition

SEMESTER – VI**SANA CC13 – Indian Ontology & Epistemology**

- CO1. This course aims to get the students acquainted with the cardinal principles of the Nyāya-Vaiśeṣika philosophy through the Tarkasaṃgraha and to enable students to handle philosophical texts in Sanskrit.
- CO2. It intends to give them an understanding of essential aspects of Indian Philosophy.

CO3. The course aims to create awareness about the logical theories and its application for engendering the knowledge about the heritage of Indian wisdom.

CO4. It familiarizes students with Sanskrit Sastra and introduces them to the concept of Pramana.

CO5. It familiarizes students with the basic concept of Sanskrit Nyaya Philosophy and its scope in everyday life.

CO6. It enriches the students' concepts of theories of knowledge in Indian context with a view of developing skills for extensive reading for academic purposes.

SANA CC14- Sanskrit Composition & Communication

CO1. This paper aims at teaching composition and other related information based on Laghusiddhāntakaumudī Vibhaktiyartha Prakaraḥ.

CO2. It helps students learn Sanskrit for effective communication in different spheres of life.

CO3. Students will learn to use Sanskrit Language freely without any doubt.

CO4. It will help students to have a deep knowledge of prescribed Vyākaraṇa texts.

CO5. It will make the students proficient in the use of Sanskrit Language.

CO6. It will help them write flawless Sanskrit and translate into Sanskrit from other languages.

SANA DSE3- Vyākaraṇa

CO1. To have a deep study of prescribed vyākaraṇa texts

CO2. To make the students proficient in the use of Sanskrit language

CO3. To familiarize find out the case-ending and sentence structure.

CO4. To familiarize explain sutras of the compound, and expound of the compound.

CO5. Students will know general introduction of philology, phonetic laws, and classification language. Phonetic tendencies etc.

CO6. Students will learn sentence correction, and translation

SANA DSE4- Veda

This course will help students to:

CO1. Identify some of the terms used in the Vedic literature which highlights the nature of Vedic Society

CO2. Understand how Vedic texts describe the Society of the Vedic period

CO3. Be acquainted with Vedic deities

CO4. Understand the concept the old heritage

CO5. Understand the technicalities of Vedic grammar

CO6. Understand the difference between Vedic Literature and classical literature

CO7. Know the grammar in mantras

CO8. Learn about Vedic words

COURSE OUTCOMES (CO) OF SANSKRIT GENERAL

SEMESTER - I

SANG CCA1- Sanskrit Poetry

CO1. This course aims to get students acquainted with Classical Sanskrit Poetry.

CO2. It intends to give an understanding of literature, through which students will be able to appreciate the development of Sanskrit Literature.

CO3. The course also seeks to help students to negotiate texts independently and to have some idea of eternal truth of life.

CO4. This course is designed to give an overall understanding of Mahakavyas.

CO5. It enables the students to understand and appreciate Sanskrit Poetry.

CO6. It helps to create awareness of proper pronunciation and recitation of poems in a charming way.

SEMESTER – II

SANG CCA2 – Sanskrit Prose

CO1. This course aims to acquaint students with Classical Sanskrit Prose literature, origin and development of prose, important prose, romances and fables in Sanskrit for students to get acquainted with the beginnings of Sanskrit Prose literature.

CO2. The course also seeks to help students negotiate texts independently.

CO3. The course also helps the students to critically assess the prose texts on a comparative basis.

CO4. Students will have an overall understanding of Prose Literature

CO5. Students will get an overall understanding of narrative Literature in Sanskrit.

SEMESTER – III

SANG CCA3 – Sanskrit Drama

CO1. This course aims to acquaint students with two most famous dramas of Sanskrit literature which represent two stages in the growth of Sanskrit drama.

CO2. Study of the origin and development of Drama helps students to get acquainted with the beginnings of Sanskrit Drama literature.

CO3. This course aims to acquaint students with Kalidasa's best drama and Sanskrit meters.

CO4. The course enables students to experience the aesthetic brilliance of Sanskrit drama and dramatic techniques.

CO5. This course also reflects poetic excellence but also depicts contemporary society and highlight human values.

CO6. It helps students get acquainted with Sanskrit Dramas, Bhasa and his Plays and classical performing arts.

CO7. It makes them aware of characteristics of Sanskrit Dramas and the works and dramatic skill of Kalidasa.

SANG SECA1 - Basic Sanskrit

This course aims to get students acquainted with our Great Sanskrit Heritage . Sanskrit is taught with a view to making students aware and understands the great aware and understands the great cultural heritage of India. By learning Sanskrit at both the levels students are exposed the traditions, rituals, literary works and above the very ideologies and values of the culture of India.

SEMESTER – IV

SANG CCA4- Sanskrit Grammar

This course is aimed to provide knowledge of Paninian Grammar to students about the syntax, Samjna, Sandhi with Sutras by which they can understand in few syllables, in a comprehensive and universal way.

SANG SECB1 – Spoken Sanskrit

The objective of this course is to give students a deeper understanding and appreciation of Sanskrit as a living language.

SEMESTER – V

SANG DSE2- Indian Perspectives in Personality Development

The objective of this course seeks to help students negotiate the text independently without referring to the traditional commentaries so as to enable them to experience the richness of the text. It intends to make the students aware of the main teachings of Bhagavad Gita. The course enables students to experience the richness of spirituality and its impact on day to day life.

SANG SECA2 – Basic Elements of Āyurveda

This course is aimed to provide primary knowledge of Ayurveda to students. Students are known how Ayurveda helps to maintain good health , and to prevent disease in order to promote quality of life and long life. The language of Ayurveda is Sanskrit. In Sanskrit , ‘Ayur’ means an ancient system of life and ‘Veda’ means knowledge.

SEMESTER – VI**SANG DSE3 - Literary Criticism**

The study of s̄ahityaśāstra (Sanskrit Poetics) embraces all poetic arts and includes concepts like alaṅkāra, rasa, r̄iti, vakrokti, dhvani, aucitya etc. The entire domain of Sanskrit poetics has flourished with the topics such as definition of poetry, Reason of creating Poetry and its divisions according to Kavyaprakasa written by Mammata.

SANG SECB2- Yogasūtra of Patañjali

This course is aimed to provide primary knowledge of Yogasutra to students. The Yoga Sutras of Patañjali is a collection of Sanskrit Sutras on the theory and practice of Yoga. The Yoga Sutras built the concepts of Purusha and Prakriti. The contemporary Yoga tradition holds the Yoga Sutras of Patañjali to be one of the foundational texts of classical Yoga philosophy. The course enables students to experience the richness of spirituality and its impact on day-to-day life.

DEPARTMENT OF DEFENCE STUDIES

PROGRAMME SPECIFIC OUTCOMES (PSO) OF DEFENCE STUDIES GENERAL

- PSO1.** Students of this programme will understand the concept of national security of the country.
- PSO2.** They will be able to evaluate the factors that affect national security such as Geography, political environment, the country's military & industrial potential.
- PSO3.** They will study about the frontier states and the buffer zones that are vital to the security of India.
- PSO4.** Different types of modern and ancient war and its tactics are critically studied so that the comparison gives them a clear understanding about warfare.
- PSO5.** They will be able to analyse India's resources and its industrial potential and the various medium of communication that contribute to the strengthening of military organizations.
- PSO6.** Students will acquire an understanding of the nature, scope and impact of Indian foreign policies.
- PSO7.** They will be able to critically comprehend India's relationship with the neighbouring Asian countries and some powerful nations.
- PSO8.** Strategic importance of coastal areas, land frontiers, Air borders and the Himalayan regions are precisely studied.
- PSO9.** The practical syllabus attempts to give a basic idea about the types, characteristics and functions of the different types of Arms that are used by the Land army, Naval army and the Air force of India.
- PSO10.** The programme basically caters to students who aspire to join the military services.

COURSE OUTCOMES (CO) OF DEFENCE STUDIES GENERAL

SEMESTER – I

DFSG CC/GE 01 - National Security, Military Geography of India

- CO 1. Understanding the meaning of national security, its objectives and the scope of national security with its elements
- CO 2. Explaining how geography of India affects national security
- CO 3. Explaining the country's economic resources and military capabilities affecting the security of the country
- CO 4. Analysing the military potential and capabilities that are key to the security of the country
- CO 5. Understanding of national policies and morale of the country which is important in refining the people's perspectives towards the country
- CO 6. A thorough understanding as to how size, location, nature, climate and populations are important factors that defend the country from external and internal interference and are vital to national security
- CO 7. Understanding the role of Indian states that share the international border and understanding their role and importance as buffer states

CO 8. Practical handling of conventional signs, map reading and scaling of topography to acquaint students with the geography of the country enabling them to relate with the above topics

SEMESTER – II

DFSG CC/GE 02 - Types of war, Military History of India

- CO 1. Understanding the concept of war, objectives of war, their causes and effects
- CO 2. Explaining the different types of war and their causes
- CO 3. Explaining how different types of armed forces are deployed and the kind of warfare that are conducted depending upon the country's topography
- CO 4. Understanding the principles of war, its operation along with strategies and its interrelation and differences
- CO 5. Critically analysing the three World Wars and India's Wars with her neighbours to understand the causes of the war and role of each one of them
- CO 6. Comprehending the effects of war on India's role in international community
- CO 7. Acquiring a basic idea of small arms, its mechanisms and functions

SEMESTER – III

DFSG CC/GE 03 - Indian Economic and Industrial Potential, India's Transportation and Communication System

- CO 1. Understanding the meaning of resources and their importance in the India's security
- CO 2. Analysing the Industrial revolution and its impact on strengthening the economy of the country which reinforces India's armed forces
- CO 3. Explaining the scientific and industrial development post-independence
- CO 4. Explaining the importance of various modes of transportations and their effects on the security of India
- CO 5. Analysing the importance and effect of various types of Media that influence national security
- CO 6. Getting acquainted with different types of modern armaments, their characteristics and mechanisms through a practical approach

DFSG SEC-A1 - Naval Armament & Drawing and Process of Night March

- CO 1. An introduction to different types of Naval Armaments
- CO 2. Explaining their mechanisms and functions
- CO 3. Explaining the uses and functions of Night March Chart used by the military forces

SEMESTER – IV

DFSG CC/GE 04 - National Defence Policies, Indian Foreign Policy

- CO 1. Explaining India's defence policies, their objectives and functions
- CO 2. Explaining the nature, objectives and development of India's foreign policies

- CO 3. Critically analysing India's foreign policies
- CO 4. Explaining the importance and impact of National Foreign policies on defence of the country
- CO 5. Analysing the military history of ancient India and the tactics and warfare of different significant battles
- CO 6. Understanding of battle formation of ancient Indian wars

DFSG SEC-B2 - Air Force Armament & Service Protractor and its Applications

- CO 1. Getting acquainted with different types of Air Force Armaments
- CO 2. Explaining the mechanism and functions of each armament
- CO 3. Understanding the concept of Service Protractor and its uses in armed forces

SEMESTER –V

DFSG DSE-A1 - Security of India

- CO 1. Understanding the concepts of security and the factors affecting it
- CO 2. Explaining the factors that affect the internal security of India
- CO 3. Understanding the concepts of arm controls and their importance
- CO 4. Understanding the various military pacts especially after the Second World War
- CO 5. Understanding the role and importance of second line of Defence of India
- CO 6. Preparing a project on newspaper clippings on security related incidents in the country and thereby understanding the issues that disturb the peace of the nation

DFSG SEC- A3 - Land Warfare & Mountain Warfare

- CO 1. Getting acquainted with different armaments of Land warfare and Mountain Warfare
- CO 2. Explaining the mechanisms and functions of land and mountain armaments
- CO 3. Understanding the importance of visibility of military geography vital to Mountain warfare

SEMESTER –VI

DFSG DSE- B4 - International Relation

- CO 1. Understanding the nature and scope of international relations
- CO 2. Critically analysing India's relationship with the super power countries and its effect on security of the country
- CO 3. Critically evaluating India's relationship with its neighbouring countries and its effect in internal and external security of India
- CO 4. Preparing a power point presentation on modern weapons of the country, thereby better understand the capabilities and strengths of the military forces of the country

DFSG SEC- B4 - Sketching of Strategic Maps of India

- CO 1. Getting acquainted with Indian States and Union territories, their geographical locations and their capitals

- CO 2. Locating the strategic sources of raw materials of the country
- CO 3. Locating and understanding the country's defence industries and atomic installations
- CO 4. Mapping India's neighbours
- CO 5. Locating the placement of Indian Army, Navy & Air force and different commands and their headquarters

DEPARTMENT OF MATHEMATICS
PROGRAMME SPECIFIC OUTCOMES (PSO) OF MATHEMATICS HONOURS
AND GENERAL

PSO1: Solid Foundation in Knowledge: Bachelor Degree in Mathematics is the culmination of in-depth knowledge of many core branches of mathematics, viz. Algebra, Calculus, Geometry, Differential Equations, Mechanics, Real and Complex Analysis including some related areas like Computer Science and Statistics. Thus, this programme helps students in building a solid foundation for further higher studies and research in Mathematics.

PSO2: Competency in Skills: The skills and knowledge gained has intrinsic beauty, which leads to proficiency in analytical reasoning, critical understanding, analysis and synthesis in order to solve theoretical and practical problems. This can orient students towards applications of mathematics in other disciplines and moreover, can also be utilised in modelling and solving real life problems.

PSO3: Problem Solving: Students undergoing this programme learn to logically question assertions, to recognize patterns and to distinguish between essential and irrelevant aspects of problems. This helps them to learn behave responsibly in a rapidly changing interdependent society.

PSO4: Interdisciplinary and Research Skills: 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.

PSO5: Proficiency in Employments: This programme will help students to enhance their employability for Government jobs, jobs in banking, insurance and investment sectors, data analysis jobs, and jobs in various other public and private enterprises.

COURSE OUTCOMES (CO) OF MATHEMATICS HONOURS

CORE COURSES (CC)

SEMESTER – I

MTM-A-CC-1-1 Calculus, Geometry & Vector Analysis

Students will be able to –

CO1. Gain knowledge of derivatives of a function of real variables and its application to determine the curvature of a curve, concavity, convexity, tangent-normal and its properties.

CO2. Gain insight into tracking a curve and finding many of its properties.

CO3. Understand the concept of asymptotes of a polynomial curve and the idea of envelope to a family of curves

CO4. Define scalar and vector triple products and understand their geometrical significance and apply these to various problems of geometry and mechanics

CO5. Solve vector equations using the definition of products of two and three vectors

CO6. Understand vector functions and vector valued functions and the concept of calculus extended to such functions

CO7. Find limit, continuity, derivative and integration of such functions

CO8. Learn to plot graphs of functions, sketch parametric curves, trace conics etc.

MTM-A-CC-1-2 Algebra

Students will be able to -

CO1. Develop the basic ideas of Classical Algebra (Complex Number, Theory of Equation, and Inequality), Abstract Algebra (Relation, Mapping, Integers) and Linear Algebra (Rank of a Matrix, System of Linear Equations etc.)

CO2. Gain knowledge about complex numbers and some functions like exponential functions, logarithmic functions, hyperbolic functions of complex variables.

CO3. Apply De Moivre's theorem to find the sum of a trigonometric series and to solve some problems of real functions.

CO4. Obtain detailed idea to solve cubic, biquadratic and some special type of higher order polynomial equations.

CO5. Acquire fundamental ideas of sets, relations, mappings.

CO6. Acquire a preliminary idea of number theory, which will be beneficial for reading number theory in higher studies

CO7. Define rank and inverse of a matrix and characterize invertible matrices

CO8. Understand row reduction of matrices and define row echelon matrices

CO9. Apply the method of row-reduction to find inverse of square matrices and solution of linear systems of equations that arises in different applications of science and engineering

SEMESTER – II

MTM-A-CC-2-3 Real Analysis

Students will be able to –

CO1. Get an idea about real numbers and its properties, countability of sets and examples of countable and uncountable sets.

CO2. Acquire the concept of bounded and unbounded sets in \mathbb{R} .

CO3. Learn about order completeness axiom, Archimedean property of \mathbb{R} and Density property of rational and Irrational numbers in \mathbb{R} .

CO4. Acquire the concept of Neighbourhood of a point, Interior point, limit point and isolated point of a set and sequence of real numbers.

CO5. Get an idea of open sets, closed sets and their properties.

CO6. Understand the Bolzano-Weierstrass theorem for set and sequence, Sandwich rule, Nested interval theorem for sequence of closed bounded intervals, Cauchy general principle of convergence, Cauchy's first and second limit theorems and their applications.

CO7. Acquire the concept of convergence, absolute convergence, conditional convergence and non-convergence of infinite series of real numbers, tests for convergence

CO8. Apply comparison test, ratio test, Cauchy's n-th root test, Kummer's test and Gauss test and Leibniz test.

CO9. Plot sequences and verify theorems through plotting of sequences

MTM-A-CC-2-4 Group Theory – I

Students will be able to –

- CO1. Acquire knowledge of group theory and its simple properties.
- CO2. Apply group theory to solve some special problems in elementary number theory like Fermat's Theorem, Wilson's Theorem and so on.
- CO3. Gain deep knowledge of group theory by learning symmetric group, dihedral group, group of congruence classes modulo, some positive integer etc.
- CO4. Understand the ideas of cyclic groups, quotient groups, normal subgroups, homomorphism, isomorphism and related theorems.

SEMESTER – III

MTM-A-CC-3-5 Theory of Real Functions

Students will be able to –

- CO1. Acquire the concept of limit and continuity of a function at a point, sequential criterion for limit and continuity of a function.
- CO2. Understand continuity of a function on a set and important properties such as neighbourhood properties, boundedness properties, and intermediate value theorem of continuous functions.
- CO3. Understand discontinuity of functions and two kinds of discontinuity of bounded functions.
- CO4. Gain knowledge about the property of a monotone function at many points of discontinuity and the property of a monotone function from an interval to an interval.
- CO5. Understand uniform continuity of a function on a set and related theorems, Lipschitz condition
- CO6. Understand Differentiability of a function at a point and in an interval and related theorems.
- CO7. Gain knowledge about Statement of L' Hospital's rule and its consequences.
- CO8. Understand Point of local extremum (maximum, minimum) of a function in an interval, how to determine the same and how to apply the principle to geometrical problems

MTM-A-CC-3-6 Ring Theory & Linear Algebra-I

Students will be able to –

- CO1. Acquire knowledge about rings, integral domains, ideals and classification of ideals
- CO2. Generalise the homomorphism theorems, isomorphism theorems, correspondence theorems and one-one correspondence between the sets of ideals and the set of congruences in rings
- CO3. Define vector spaces, subspaces and quotient spaces and understand the algebra and geometry of such spaces
- CO4. Understand the concept of linear span and linear independence of vectors and its use in the definition of basis and dimension of vector spaces
- CO5. Understand the concept of linear transformation and its algebra and find the matrices of linear transformation
- CO6. Calculate the rank and nullity of a linear operator

CO7. Define isomorphism of two vector spaces and understand the theorems related to isomorphism

CO8. Understand characteristic equation of a square matrix and the Cayley-Hamilton theorem associated to it and apply this theorem to find the inverse of a square matrix

CO9. Define eigen-values and eigen-vectors of a square matrix and use in to solve related problems

MTM-A-CC-3-7 Ordinary Differential Equation & Multivariate Calculus-I

Students will be able to –

CO1. Learn about the concepts of forming differential equations in case of geometric and mechanical problems, how to solve higher order linear differential equations using special techniques such as variation of parameters and integrating factors, special non-linear differential equations, such as Clairaut's form and singular solution

CO2. Solve simultaneous differential equations of two variables using algebraic techniques

CO3. Acquire an idea of phase space by knowing the idea of critical points in case of planar autonomous systems

CO4. Understand Power series solution for nth order linear differential equation

CO5. Get an elaborate idea and concepts of ordinary differential equations so that they can apply it to advanced topics such as mechanics, modelling, and many other branches of higher mathematics.

CO6. Understand the concept of function of more than one independent variable, the idea of simultaneous limit , iterated limits and partial derivatives

CO7. Understand the concepts of finding extreme values for the function of two and three variables which will be useful in various advanced topics of analysis and algebra

SEMESTER – IV

MTM-A-CC-4-8 Riemann Integration & Series of Functions

Students will be able to –

CO1. Acquire the idea of how to find the areas of curves.

CO2. Recognize whether a function is integrable or not.

CO3. Learn about a zero set and its relation with integrability of a function.

CO4. Develop the ideas of improper integrations, how to find the values of improper integral and gain the idea to test a function whether it is convergence or not.

CO5. Learn some special functions such as Beta-function, Gamma-functions.

CO6. Find the values of some complicated integrals easily using these functions.

CO7. Generalise the sequence and series in a broader area

MTM-A-CC-4-9 Partial differential equation & Multivariate Calculus-II

Students will be able to –

CO1. Understand the concept and theory of linear and non-linear partial differential equations of first order, and different methods of solving such equations e.g., Lagrange's method and Charpit's method

CO2. Derive different second order PDE's e.g., heat equation, wave equation and Laplace equation

CO3. Classify second order linear PDE's and reduce them to canonical forms

CO4. Understand the Cauchy problem of PDE's and the related theory and learn the method of separation of variables to solve vibration and heat conduction problems.

CO5. Get the idea of double and triple integral as well as the very important concept of differentiation under the sign of integral with parametric values.

CO6. Understand the concept of line integral and Stokes Theorem, Green's Theorem, Gauss-Divergence Theorem which will be useful in various branches like advanced mechanics, astrophysics and quantum mechanics.

MTM-A-CC-4-10 Mechanics

Students will be able to –

CO1. Get the idea of coplanar forces, force system in space, equilibrium in the presence of sliding friction force, virtual work, stability of equilibrium, kinematics of a particle, Newton laws of motion and law of gravitation, dynamics of a particle, planar motion & three dimensional motion of a particle and dynamics of many particles system.

CO2. Apply these concepts in various branches of Applied Mathematics like advanced mechanics, fluid mechanics, astrophysics, quantum mechanics, etc.

SEMESTER – V

MTM-A-CC-5-11 Probability & Statistics

Students will be able to –

CO1. Learn the concepts of random experiment, σ -field, probability space and the axioms of probability

CO2. Define conditional probability, understand Bayes theorem and use it to solve real life problems

CO3. Understand the concepts of discrete and continuous random variables and distribution functions of one variable, the concepts of probability mass and density function together with important and common examples of such functions

CO4. Understand the concepts of mathematical expectation and characteristic function of random variables and the common characteristics associated with it

CO5. Understand the extension of the concepts of Unit-I to many variables, especially to two random variables

CO6. Understand the concepts of covariance, correlation coefficient, marginal and conditional distributions and also the concepts of regression lines and curves of two variables

CO7. Understand Markov and Chebyshev's inequality and the concept of convergence of a sequence of random variables in probabilistic sense

CO8. Understand the weak and strong law of large numbers and the central limit theorem for independent and identically distributed random variables with finite variance

CO9. Learn about the measures of central tendencies, standard deviation, skewness and kurtosis.

CO10. Get the idea of sampling techniques, different sampling distributions such as normal distribution, chi-square distribution and t-distribution.

CO11. Learn about estimation techniques and the theory of testing hypotheses, the notion of critical regions using Neyman-Pearson lemma

MTM-A-CC-5-12 Group Theory-II & Linear Algebra-II

Students will be able to –

CO1. Gain knowledge of automorphism, automorphism groups, cyclic groups, factor groups and its applications to automorphism groups, external direct products, internal direct products and fundamental theorem of finite abelian groups.

CO2. Check whether a finite group has a subgroup corresponding to any divisor of the order of the group

CO3. Gain knowledge of inner products, norms, Gram-Schmidt orthogonalization process, orthogonal complement, Bessel's inequality, linear operator, dual space, dual basis and transpose of a linear transformation

CO4. Learn how to diagonalise a symmetric matrix, how to test for critical points of a function of several variables and How to find eigenspace, eigenvalues of a linear operator.

SEMESTER – VI

MTM-A-CC-6-13 Metric Space & Complex Analysis

Students will be able to –

CO1. Understand the concept of metric space and subspace of a metric space

CO2. Understand Convergent sequence, Cauchy sequence and the interrelation between them

CO3. Understand the concept of Completeness and Cantor's intersection theorem

CO4. Get an idea about continuous mappings, sequential criterion of continuity and uniform continuity

CO5. Get an idea about Compactness, Sequential compactness and understand Heine-Borel theorem in \mathbb{R} , Finite intersection property, continuous functions on compact sets.

CO6. Understand the concept of connectedness and some examples of connected metric space, connected subsets of \mathbb{R} , \mathbb{C} .

CO7. Understand Contraction mappings, Banach Fixed point Theorem and its application to ordinary differential equations.

CO8. Understand stereographic projections

CO9. Acquire an idea about derivatives, differentiation formulas, different types of functions and Mobius transformation

CO10. Get a detailed idea about power series

CO11. Get an idea about contours, the Cauchy- Goursat theorem and its consequences and the Cauchy integral formula

MTM-A-CC-6-14-TH& MTM-A-CC-6-14-P Numerical Methods (Theory& Practical)

Students will be able to –

CO1. Learn about polynomial interpolation for both equal difference tabular data as well as unequal difference table using divided difference and Lagrange formula

CO2. Solve simultaneous equations with two variable using different determinant & matrix as well as solve non-linear equations using different iterative methods such as Newton-Raphson method

CO3. Solve differential equations using Picard's method, Euler's method, etc.

CO4. Perform numerical integration using computer programmes

DISCIPLINE SPECIFIC ELECTIVES (DSE)

SEMESTER – V

MTM-A-DSE-A-5-1-TH Advanced Algebra

Students will be able to –

CO1. Acquire knowledge of group action and its application to group theory, generalisation of Caley's theorem, index theorem and class equation

CO2. Gain knowledge as to how to determine all possible subgroups of a group of given order and to check whether a group of finite order can have a subgroup corresponding to each divisor of the order of the group.

CO3. Learn about principal ideal domain, principal idealring, prime element, irreducible element, gcd, lcm, etc.

CO4. Learn about FD,UFD, PID and their inter-relations and how to embed a ring.

MTM-A-DSE-B-5-1-TH Linear Programming & Game Theory

Students will be able to –

CO1. Understand the theory of duality in LPP and construct the dual problem from the primal problem and vice-versa

CO2. Understand the relation between dual and primal problems and the relation between their optimal solutions and learn to determine the optimal solutions of the primal problem from the simplex table for the dual problem and vice-versa

CO3. Understand the optimization problems popularly known as Transportation problems, Assignment problems and Travelling Salesman problems and learn the methods of solving these problems and use it to work out such problems for optimal solutions

CO4. Understand the concepts of game theory - especially two-person zero sum games, which may be either deterministic or probabilistic in nature.

CO5. Find the saddle points for rectangular games with pure strategies and the corresponding value of the games

CO6. Learn the various methods of solving rectangular games with mixed strategies and the fundamental theorem of rectangular games with the concept of inter-relation between the theory of games and LPP

CO7. Understand in detail, the concept of LPP, slack and surplus variables and the algorithm

SEMESTER – VI**MTM-A-DSE-A-6-2-TH Mathematical Modelling**

Students will be able to –

CO1. Find the power series solution of Legendre's equation and series solution of Bessel's equation and learn all necessary properties of Legendre and Bessel functions together with the reduction formulae

CO2. Understand the concepts of Laplace transform and inverse transform with sufficient examples and apply these concepts to solve initial value problems associated with ordinary differential equations up to the second order

CO3. Understand the concept of the harbor system in morning rush hour models using Monte Carlo simulation

CO4. Generate random numbers using linear congruence method as well as learn different queuing theory models and their use in different methods of solving real life situations

CO5. Get an overview of optimization modelling and linear programming models and use the algebraic and simplex methods for solving LPP's

CO6. Understand the concepts of sensitivity analysis and apply it to the problems of linear programming

MTM-A-DSE-B-6-2-TH Point Set Topology

Students will be able to –

CO1. Get a basic idea of topological spaces, basis, and sub-basis for a topological space.

CO2. Learn topology as a generalisation of real analysis.

CO3. Gain knowledge about separation axioms, connected spaces, compact spaces.

CO4. Learn Hein-Borel Theorem in R_n , the concept of compactness in a metric space, sequential compactness of a metric space.

SKILL ENHANCEMENT COURSES (SEC)**SEMESTER – III****MTM-A-SEC-A-TH C Programming Language**

CO1. Students will learn about the constants, variables, loops, library functions, user defined functions, arrays used in c program.

CO2. They will get preliminary ideas for writing a C program

SEMESTER – IV**MTM-A-SEC-B-TH Mathematical Logic**

Students will be able to -

CO1. Understand the concepts of introduction, propositions, truth table, negation, conjunction and disjunction, implications, biconditional propositions, converse, contra positive and inverse propositions and precedence of logical operators.

CO2. Acquire an understanding of General Notions like - Formal language, object and meta language, Formal Theory/Formal Logic.

CO3. Get a detailed insight into various aspects of Propositional Logic and Predicate Logic

COURSE OUTCOMES (CO) OF MATHEMATICS GENERAL

GENERIC ELECTIVES (GE)

SEMESTER - I

MTM-G-CC-1-1-TH / MTM-G-GE-1-1-TH (Algebra-I, Differential Calculus - I, Differential Equation - I, Coordinate Geometry)

Students will be able to –

CO1. Acquire the ability to solve polynomial equations and to find the nature of their roots, to define some complex functions like exponential, hyperbolic, logarithmic functions.

CO2. Learn how to represent real numbers geometrically in real line, basic ideas of real valued functions and their limit, continuity, differentiability, geometrical explanation of derivatives, relation between derivative and continuity, derivatives of more than one variables, Cauchy's theorem Schwartz's theorem, Euler's Theorem.

CO3. Find the derivatives of higher orders of the product of two or more functions.

SEMESTER – II

MTM-G-CC-2-2-TH / MTM-G-GE-2-2-TH (Differential Calculus - II, Differential Equation - II, Vector Algebra, Discrete Mathematics)

Students will be able to –

CO1. Learn about different type of sequences, series and their convergence.

CO2. Acquire the knowledge of how to expand and a real valued function on an interval.

CO3. Find the maximum or minimum value of a function.

CO4. Find the limits of some complicated functions.

CO5. Gain the knowledge of solving linear homogeneous and non-homogeneous equations, simultaneous equations.

CO6. Gain the knowledge of solving basic partial differential equations.

CO7. Learn basic theorems in elementary number theory.

CO8. Acquire the ability to determine rules of how a positive integer is divisible by another positive integer.

CO9. Understand the techniques to find integral solutions of systems of linear equations.

CO10. Check whether a ISBN no. or a credit card no. is true or false.

CC11. Acquire the ability to determine a schedule of a tournament and to detect error in UPC.

SEMESTER – III**MTM-G-CC-3-3-TH / MTM-G-GE-3-3-TH (Integral Calculus, Numerical Method, Linear Programming)**

Students will be able to –

- CO1. Get the basic idea of improper integral and its various applications.
- CO2. Attain the knowledge of polynomial interpolation, numerical integration techniques as well as solving non-linear equations using Newton-Raphson method.

SEMESTER – IV**MTM-G-CC-4-4-TH / MTM-G-GE-4-4-TH (Algebra II, Computer Science & Programming, Probability & Statistics)**

Students will be able to –

- CO1. Get a basic idea about Group Theory, ring, field, vector space over a field and real quadratic form
- CO2. Analyse the characteristic equation of square matrix of order not more than three determination of Eigen Values and Eigen Vectors
- CO3. Understand the statement and illustration of Cayley-Hamilton Theorem.
- CO4. Understand computer science and programming and its historical development
- CO5. Understand different forms of programming language and get ideas about some HLL, like - BASIC, FORTRAN, C, C++, COBOL, PASCAL, etc.
- CO6. Understand the concepts of algorithms and flow charts
- CO7. Get acquainted with FORTRAN 77/90
- CO8. Get an idea of the elements and theorems of probability
- CO9. Get an idea of the elements and techniques of statistical methods
- CO10. Understand sampling theory in detail

SKILL ENHANCEMENT COURSES (SEC)**SEMESTER – III****MTM-G-SEC-A-TH C Programming Language**

Students will be able to –

- CO1. Students will learn about the constants, variables, loops, library functions, user defined functions, arrays used in c program.
- CO2. They will get preliminary ideas for writing a C program

SEMESTER – IV**MTM-G-SEC-B-TH Mathematical Logic**

Students will be able to -

CO1. Understand the concepts of introduction, propositions, truth table, negation, conjunction and disjunction, implications, biconditional propositions, converse, contra positive and inverse propositions and precedence of logical operators.

CO2. Acquire an understanding of General Notions like - Formal language, object and meta language, Formal Theory/Formal Logic.

CO3. Get a detailed insight into various aspects of Propositional Logic and Predicate Logic

SEMESTER – V**MTM-G-SEC-A-TH Object Oriented Programming in C++**

Students will be able to –

CO1. Understand the concept of programming paradigms and the characteristics of object oriented programming languages

CO2. Get a detailed insight about C++ program

SEMESTER – VI**MTM-G-SEC-B-TH Boolean Algebra**

Students will be able to –

CO1. Understand the basic properties of ordered sets, maps between ordered sets, duality principle, maximal and minimal elements, lattices as ordered sets, complete lattices, lattices as algebraic structures, sub lattices, products and homomorphisms.

CO2. Understand the properties of modular and distributive lattices and Boolean algebras.

CO3. Get an idea of Boolean polynomials, minimal forms of Boolean polynomials, Quinn-McCluskey method, Karnaugh diagrams, switching circuits and minimization of switching circuits using Boolean algebra.

DISCIPLINE SPECIFIC ELECTIVES (DSE)**SEMESTER – V/VI****MTM-G-DSE-A-TH Particle Dynamics**

Students will be able to –

CO1. Get the idea of motion in one dimension as well as two dimension under gravity or any sort of attractive , periodic forces.

CO2. Understand planetary orbit motion using Kepler's Three Laws

CO3. Understand about motion in resisting media under gravity as well as in constrained motion

CO4. Gain knowledge of tangential-normal acceleration in case of Cartesian coordinate and radial- cross-radial component of velocity, acceleration

CO5. Get a comprehensive idea of dynamical motion and its analysis.

MTM-G-DSE-B-TH Advanced Calculus

Students will be able to –

CO1. Understand the concept and applications of Point-wise and Uniform convergence of sequence of functions and series of functions with special reference of Power Series

CO2. Understand about Periodic Fourier series on $(-\pi, \pi)$

CO3. Understand the concept of Laplace Transform and its application to ordinary differential equation

DEPARTMENT OF PHYSICS

PROGRAMME SPECIFIC OUTCOMES (PSO) OF PHYSICS HONOURS AND GENERAL

PSO1. Physics deals with a wide variety of natural as well as synthetic systems, from microscopic level (atoms, nucleus) to Astronomical level (Sun, galaxy). Basic principles are more-or-less same used by physicists at every level. Each of these theories are experimentally verified in a number of ways and found to be a sufficiently appropriate description of nature. Students get oriented along this line of thinking and earn enough proficiency to use Physical Principles/concepts to explain various phenomena.

PSO2. Physics uses mathematics as a tool to organize and formulate experimental results. Students gather handsome knowledge on mathematics required for formulating and solving problems.

PSO3. Students learn to perform various types of numerical calculations.

PSO4. Students acquire laboratory skills, enabling them to take measurements in a physics laboratory and analyse the measurements to draw valid conclusions.

PSO5. Students will develop good oral and written scientific communication skill.

PSO6. Students learn to think critically and work independently.

COURSE OUTCOMES (CO) OF PHYSICS HONOURS

CORE COURSES (CC)

PHSA-CC-1-1-TH & PHSA-CC-1-1-P (Mathematical Physics 1 – Theory & Practical)

- 1) To acquire knowledge of calculus which are integral part of any branch of Physics
- 2) Understand divergence, gradient and curl and their physical interpretation which are very important for theories of electricity and magnetism to be taught later.
- 3) Understand basics of matrices and determinants i.e. inverses, adjoint, linear vector spaces, basis, basis transformations, how to calculate eigenvalues, eigenvectors. Solve simple problems with physics oriented application.
- 4) To develop the problem solving capability

PHSA-CC-1-2-TH & PHSA-CC-1-2-P (Mechanics Theory & Practical)

- CO1. Students learn accurately how to describe motion of objects, planetary motions, and gravitation etc. and understand the motion of objects in different frame of references.
- CO2. Know how to apply the conservation principle and symmetry of a system.
- CO3. Understand laws of motion, reference frames, and its applications i.e. projectile motion, simple harmonic oscillator, Rocket motion, elastic and inelastic collisions.
- CO4. Understand the idea of conservation of angular momentum, central forces effective potential.
- CO5. Understand the application of central force to the stability of circular orbits, Kepler's laws of planetary motion.

CO6. Understand the dynamics of rotating objects i.e. rigid bodies, angular velocity, the moment of inertia and related examples involving the centrifugal force and Coriolis force.

CO7. Learn that different kinds of matter have various properties. For example, pressure, surface tension is important properties for a fluid, but stress, Modulus are important properties of solid objects.

CO8. Understand the basics of material properties like, elasticity, elastic constants and their relation, torsion of a cylinder, bending of a beam, cantilever, and beam supported at its ends and loaded in the middle.

CO9. Know the basics of motion of fluid which includes streamlined and turbulent flows, equation of continuity, critical velocity, and flow of a liquid through a capillary tube.

PHSA-CC-2-3-TH & PHSA-CC-2-3-P(Electricity and Magnetism – Theory & Practical)

CO1. To learn about basic concepts of electrical charges and currents and their properties

CO2. Enhance problem solving capability based on various realistic situations

CO3. Understand the concept of conductors, dielectrics, inductance and capacitance.

CO4. Gather knowledge on the nature of magnetic materials.

CO5. Understand the concept of static and time varying fields.

CO6. Gain knowledge on electromagnetic induction and Faraday's law and its applications

CO7. Learn about EM waves and its propagation

CO8. Learn to use and solve Maxwell's equations

PHSA-CC-2-4-TH & PHSA-CC-2-4-P(Waves and Optics – Theory & Practical)

CO1. Students learn about various types of waves and their propagation.

CO2. To provide a basic understanding of physical and geometrical optics

CO3. To provide a knowledge of various optical phenomena, for example interference, diffraction, polarization etc.

PHSA-CC-3-5-TH & PHSA-CC-3-5-P(Mathematical Physics II – Theory & Practical)

CO1. Understand how to expand a function in a Fourier series.

CO2. Solving differential equation using power law expansion (so called Frobenius method).

CO3. Learn about various special functions i.e. Legendre, Bessel functions, generating functions and their properties.

CO4. Fourier integral and its properties and application to signal analysis and also in quantum mechanics

CO5. Application of probability and various distribution functions in Physics.

CO6. Learn to solve partial differential equation which is very important in all branches of physics.

PHSA-CC-3-6-TH & PHSA-CC-3-6-P(Thermal Physics – Theory & Practical)

CO1. To understand the principle of calorimetry

CO2. Understand the basic principle and laws of Thermodynamics

CO3. Understand the concepts of Entropy, various thermodynamic potentials and their applications in various systems

CO4. Gain knowledge about microscopic behaviour of systems in explaining pressure, transport properties, viscosity, diffusion etc.

PHSA-CC-3-7-TH & PHSA-CC-3-7-P(Modern Physics – Theory & Practical)

CO1. To know about Radiation and its nature, old quantum theory, concept of wave-particle duality and de Broglie hypothesis.

CO2. To learn about Schrodinger equation as first principle, probabilistic interpretation of quantum mechanics, commutation relation and their meaning. These are very crucial as students learn Quantum Mechanics for the first time and these are basic building block of modern physics.

CO3. Students learn about Nuclear structure and various models, Interaction within and with nucleus, Gamma, Beta decay and Nuclear Fission and Fusion

PHSA-CC-4-8-TH & PHSA-CC-4-8-P(Mathematical Physics III – Theory & Practical)

CO1. To study complex analysis, Cauchy Riemann conditions, Analyticity, Cauchy Integral formula, Laurent and Taylor series expansion and definite integrals using contour integration.

CO2. To learn variational calculus. Lagrangian and Hamiltonian formulation, Euler-Lagrange equation, Use of symmetry and conservation laws.

CO3. To understand special theory of relativity, length contraction, time dilation, mass-energy relation etc. This is one of the corner stone of modern physics.

PHSA-CC-4-9-TH & PHSA-CC-4-9-P(Analog Electronics – Theory & Practical)

CO1. To know basic Boolean principle and how various electronic instruments work based on this

CO2. To motivate the students to apply the principles of electronics in their day-to-day life.

CO3. Learn various network theorems, diodes and their application

CO4. Study various theory and working principles of transistors, regulated power supply, amplifiers, concept of feedback, OPAMP, Multivibrators and Oscillators

PHSA-CC-4-10-TH & PHSA-C-4-10-P(Quantum Mechanics – Theory & Practical)

CO1. One of the most important subject in undergraduate course. Students solve various quantum mechanical features by solving various potentials: example, Finite and infinite well, Harmonic oscillator

CO2. Learn Quantum theory of Hydrogen atoms, solution of Schrodinger equation under central force, Orbital angular momentum and spin angular momentum

CO3. To know generalized angular momenta, Electron's magnetic moment, Energy of a magnetic dipole, Stern-Garlach experiment

CO4. To study Fine structure of hydrogen atoms, atoms in presence of electric and magnetic fields-- application of Quantum mechanics for atomic systems

CO5. To learn Many electron atoms, identical particles, Pauli principle.

PHSA-CC-5-11-TH & PHSA-CC-5-11-P(Electromagnetic Theory – Theory & Practical)

CO1. Learn Maxwell's equations, gauge transformations, Poynting vector, Electromagnetic field energy density, momentum density etc.

CO2. Learn about propagation of electromagnetic wave through medium

CO3. Learn about Polarization

PHSA-CC-5-12-TH & PHSA-CC-5-12-P(Statistical Physics – Theory & Practical)

- CO1. To understand statistical properties of matter, connections with thermodynamics
 CO2. To use these theory in practical systems (ideal gas, Bose and Fermi systems), Identical particles
 CO3. To learn Bose-Einstein statistics, and its application, Fermi-Dirac statistics and its application

PHSA-CC-6-13-TH & PHSA-CC-6-13-P(Digital systems and applications – Theory & Practical)

- CO1. To learn integrated circuits(IC), number system and Boolean description, introduction to logic systems, various Gates
 CO2. To understand product and sum in logical expression, conversion between truth table and logical expression, Karnaugh map
 CO3. To learn how to Implement different circuits: adder, subtractor, idea of multiplexer, demultiplexers, encoder, and decoder
 CO4. To know registers and counters, computer organization, data conversion.

PHSA-CC-6-14-TH & PHSA-CC-6-14-P(Solid State Physics – Theory & Practical)

- CO1. To learn crystal structure, lattice dynamics
 CO2. To understand quantum properties of matter like magnetic property, dielectric property
 CO3. To understand elementary band theory
 CO4. To understand Superconductivity – one of major breakthrough in modern science

DISCIPLINE SPECIFIC ELECTIVES (DSE)

SEMESTER – V

PHSA-DSE-A1(b)-TH (Laser and Fiber Optics)

- CO1. To know theory of laser, its basic properties
 CO2. To learn about resonators, transient effect, many laser systems and practical use of laser

PHSA-DSE-B1(a)-TH(Astronomy and Astrophysics)

- CO1. Gain knowledge on various tools of astronomy, basic introduction of stars, galaxies, interstellar medium, mass and length scales of astronomy
 CO2. To learn observational tools of astronomy
 CO3. To understand star and other stellar systems, formation and evolution of stars
 CO4. To know about the galaxies and its components
 CO5. To learn basics of cosmology, redshift, field equations and accelerating universe

SEMESTER – VI

PHSA-DSE-A2(a)-TH(Nano Materials and applications)

CO1. To learn about nanoscale systems, their bandstructures, application of Schrodinger equation for nano structures

CO2. To know how to synthesis nano materials and how to characterize them

CO3. To know various properties of nano materials, e.g. optical and electrical (transport) properties

PHSA-DSE-B2(a)-TH(Communication Electronics)

CO1. To introduce students to basics of electronic communication

CO2. To learn analog modulations and to modulate analog pulse

CO3. To learn how to modulate digital pulse

CO4. Students are introduced to communication and navigation system, which has many modern day applications.

SKILL ENHANCEMENT COURSES**SEMESTER – III****PHSA-SEC-A2-TH(Renewable energy and Energy Harvesting)**

Students learn about fossil fuels and its hazards and need for alternative energy sources, how to harvest energy from various non-conventional energy sources

SEMESTER – IV**PHSA-SEC-B2-TH(Electrical Circuits and Network Skills)**

Students know about various electrical instruments (generators, transformers, AC motor etc.).

PRACTICAL TOPICS**Practicals of Mechanics, Thermodynamics, Electricity and Magnetism, Waves, Optics, Modern Physics**

CO1. Various theories which students learn in theory lesson are verified in practical classes.

CO2. Students learn various practical situation, how to handle tools and instruments, measurement techniques, graph plotting, statistical/error estimations etc.

CO3. Physics is essentially a practical based subject, knowledge of proving/disproving a certain theory is important. Practical bridge between theoretical knowledge and real life situation.

Practicals based on Computation and Programming (Python language)

CO1. Understand how to write an algorithm, iteration techniques

CO2. Various numerical methods to solve many problems numerically. E.g. finding solution of an equation, integration and differentiation etc.

CO3. Plotting different kinds of graphs, how to label them etc. knowledge/information based on facts available.

CO4. The mathematical skill and theoretical principles learnt during the three-year program, help them motivate and contribute to the society by actively participating in innovative research, teaching. Also, they can induce rational thinking to the society which is, otherwise, very important in today's scenario.

CO5. Students are well prepared for cutting edge research activity for example, Nano Science, Astrophysics, Nuclear and Particle Physics, Condensed Matter Physics etc.

COURSE OUTCOMES (CO) OF PHYSICS GENERAL

GENERIC ELECTIVES (GE)

PHS-G-CC-1-1-TH & PHS-G-CC-1-1-P (Mechanics –Theory& Practical)

CO1. Students learn accurately how to describe motion of objects, planetary motions, and gravitation etc. and understand the motion of objects in different frame of references.

CO2. Know how to apply the conservation principle and symmetry of a system.

CO3. Understand laws of motion, reference frames, and its applications i.e. projectile motion, simple harmonic oscillator, Rocket motion, elastic and inelastic collisions.

CO4. Understand the idea of conservation of angular momentum, central forces effective potential.

CO5. Understand the application of central force to the stability of circular orbits, Kepler's laws of planetary motion.

CO6. Understand the dynamics of rotating objects i.e. rigid bodies, angular velocity, the moment of inertia and related examples involving the centrifugal force and coriolis force.

CO7. Learn that different kinds of matter have various properties. For example, pressure, surface tension is important properties for a fluid, but stress, Modulus are important properties of solid objects.

CO8. Understand the basics of material properties like, elasticity, elastic constants and their relation, torsion of a cylinder, bending of a beam, cantilever, and beam supported at its ends and loaded in the middle.

CO9. Know the basics of motion of fluid which includes streamlined and turbulent flows, equation of continuity, critical velocity, and flow of a liquid through a capillary tube.

PHS-G-CC-2-2-TH & PHS-G-CC-2-2-P (Electricity and Magnetism – Theory & Practical)

CO1. To learn about basic concepts of electrical charges and currents and their properties

CO2. Enhance problem solving capability based on various realistic situation

CO3. Understand the concept of conductors, dielectrics, inductance and capacitance.

CO4. Gather knowledge on the nature of magnetic materials.

CO5. Understand the concept of static and time varying fields.

CO6. Gain knowledge on electromagnetic induction and Faraday's law and its applications

CO7. Learn about EM waves and its propagation

CO8. Learn to use and solve Maxwell's equations

PHS-G-CC-3-3-TH & PHS-G-CC-3-3-P (Thermal Physics and Statistical Mechanics – Theory & Practical))

- CO1. To understand the principle of calorimetry
 CO2. Understand the basic principle and laws of Thermodynamics
 CO3. Understand the concepts of Entropy, various thermodynamic potentials and their applications in various systems
 CO4. Gain knowledge about microscopic behaviour of systems in explaining pressure, transport properties, viscosity, diffusion etc.
 CO5. To understand statistical properties of matter, connections with thermodynamics
 CO6. To use these theory in practical systems (ideal gas, Bose and Fermi systems), Identical particles
 CO7. To learn Bose-Einstein statistics, and its application, Fermi-Dirac statistics and its application

PHS-G-CC-4-4-TH & PHS-G-CC-4-4-P (Waves and Optics – Theory & Practical)

- CO1. Student learns about various types of waves and their propagation.
 CO2. To provide a basic understanding of physical and geometrical optics
 CO3. To provide a knowledge of various optical phenomena, for example interference, diffraction, polarization etc.

SKILL ENHANCEMENT COURSES (SEC)

SEMESTER – III

PHS-G-SEC-A2-TH (Renewable Energy and Energy Harvesting)

Students learn about fossil fuels and its hazards and need for alternative energy sources, how to harvest energy from various non-conventional energy sources.

SEMESTER – IV

PHS-G-SEC-B2-TH (Electrical Circuits and Network Skills)

Students know about various electrical instruments (generators, transformers, AC motor, etc.)

DISCIPLINE SPECIFIC ELECTIVES (DSE)

SEMESTER – V

PHS-G-DSE-A-TH & PHS-G-DSE-A-P (Analog Electronics)

- CO1. To know basic Boolean principle and how various electronic instruments work based on this
 CO2. To motivate the students to apply the principles of electronics in their day-to-day life.
 CO3. Learn various network theorems, diodes and their application
 CO4. Study various theory and working principles of transistors, regulated power supply, amplifiers, concept of feedback, OPAMP, Multivibrators and Oscillators

SEMESTER – VI

PHS-G-DSE-B-TH & PHS-G-DSE-B-P (Digital Electronics)

CO1. To learn integrated circuits(IC), number system and Boolean description, introduction to logic systems, various Gates

CO2. To understand product and sum in logical expression, conversion between truth table and logical expression, Karnaugh map

CO3. To learn how to Implement different circuits: adder, subtractor, idea of multiplexer, demultiplexers, encoder, and decoder

CO4. To know registers and counters, computer organization, data conversion.

**PROGRAMME SPECIFIC OUTCOMES (PSO) OF CHEMISTRY HONOURS AND
GENERAL**

PSO 1. Apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.

PSO 2. Will become familiar with the different branches of chemistry like analytical, organic, inorganic, physical, environmental, polymer, medicinal and biochemistry

PSO 3. Acquires the ability to synthesise, separate and characterize compounds using laboratory and instrumentation techniques.

PSO 4. To develop leadership and managerial skills promoting the need for lifelong learning as required for a competent professional.

PSO 5. To explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.

PSO 6. Identify chemical formulae and solve numerical problems.

PSO 7. Achieve the skills required to succeed in graduate school, professional school and the chemical industry like Cement industries, Agro product, Paint industries, Rubber industries, Petrochemical industries, Food processing industries, Fertilizer industries etc.

PSO 8. Understand the importance of the elements in the periodic table including their physical and chemical nature and role in the daily life.

COURSE OUTCOMES (CO) OF CHEMISTRY HONOURS

SEMESTER – I

CC-1-1-TH Inorganic Chemistry-1 & CC-1-1-P Inorganic Chemistry: I (1) LAB

CO 1. To learn about the extra nuclear structure of atom and get a basic idea about Quantum Chemistry and its Application

CO 2. To give an idea about different types of acids, their definitions and also gives a clear concept about pH, buffer, and indicator

CO 3. To get an idea of redox reaction –Oxidation and reduction reaction, oxidation number, competitive electron transfer reaction, electrode process.

CO 4. To study the estimation of ions or salts by acid-base titration method and oxidation-reduction titration method

CC-1-1-TH Organic Chemistry-1A & CC-1-1-P Organic Chemistry: O (1A) LAB

CO 1. It gives the basic idea of structure, properties and reactivity of organic molecules and their relationship and an overview about Molecular Orbital Theory (MOT).

CO 2. It informs the students about the different reaction mechanism in organic chemistry.

CO 3. It helps to develop the hand-on skill to determine the nature of the organic compounds on the basis of solubility.

CC-1-2-TH Physical Chemistry-1 & CC-1-2-P Physical Chemistry: P(1) LAB

CO 1. To get some fundamental understanding of the concept of pressure, temperature, average velocity, average energy etc. of gas molecules and be able to derive the expressions of those properties using Kinetic Theory of gas. Students will learn the deviation of the properties of real gas from kinetic theory of gas behaviour and construct an equation of state that describes their properties. Students will also get information about the various intermolecular forces present in the system.

CO 2. To get some ideas about various transport processes such as diffusion and viscosity and their measurements.

CO 3. Help the students to understand the basic concepts regarding rates of various chemical reactions, measurements of the order and rate of the reactions, dependence of rate constants and hence the rate of the reaction on temperature, catalysts etc. and plausible mechanisms of the reactions.

CO 4. The laboratory course enable students to determine the viscosity of unknown liquid with respect to water by using instrument like Viscometer, solubility of sparingly soluble salt in water and in presence of electrolyte with common ion and in presence of non-electrolyte. They will also study the kinetics of various chemical reactions.

SEMESTER – II**CC-2-3-TH Organic Chemistry-2 & CC-2-3-P Organic Chemistry LAB**

CO 1. It provides an advanced idea on axial chirality, topicity, etc. and the conformational analysis of organic molecules.

CO 2. Students will learn thermodynamics of organic reactions and basic concept reaction mechanism

CO 3. To get detailed idea about the nucleophilic substitution reactions (SN1, SN2) along with NGP and SNi and stereochemical and regiochemical outcome of elimination reactions

CO 4. The laboratory course enables students to get basic skill of organic synthesis through the preparation methodology.

CC-2-4-TH Inorganic Chemistry-2 & CC-2-4-P Inorganic Chemistry LAB

CO 1. To get an idea about Ionic bond and Covalent bond, laws, rules and equations for formation of chemical bonds, solubility, hybridization and dipole moment of molecules.

CO 2. To develop a concept about MOT (Molecular orbital theory), LCAO (Linear combination of atomic orbitals), Metallic bond and Weak Chemical Forces etc.

CO 3. To understand about the concept of radioactivity and radioactive compounds, nuclear reactions, artificial radioactivity, radio carbon dating, hazards of radiation and safety measures.

CO 4: To know experimentally how to estimate the percentage of chlorine in bleaching powder; vitamin C; arsenic and antimony in a sample by iodimetric titration method. Students can also learn how to estimate Cu in brass, Cr and Mn in steel and Fe in cement.

SEMESTER – III**CC-3-5-TH Physical Chemistry-2 & CC-3-5-P Physical Chemistry LAB**

CO 1. Students will get knowledge of the basic concepts of thermodynamic properties, nature of changes and the first law of thermodynamics. They can also apply this law in various systems undergoing different thermodynamic process to evaluate various thermodynamic properties such as heat, mechanical work, change in enthalpy, and change in internal energy etc. of the system and also able to explain the thermochemistry of the various chemical processes.

CO 2. Students will first learn the need and the various statements of the second law of thermodynamics and new thermodynamic functions such as entropy, Gibbs free energy, Gibbs-Helmholtz etc. are also introduced to them. From these thermodynamic properties they get knowledge regarding the random behaviour of the system and most importantly the criteria of spontaneity and equilibrium. They will also learn the various important thermodynamic relations, various partial molar quantities, dependence of thermodynamics parameters on composition etc.

CO 3. To get idea about conductance and transport number of electrolytes and their measurements, the derivation of Debye-Huckel Theory, Debye-Huckel limiting law and Ostwald dilution law, knowledge of conductometric titration and its application. Students will gain vast knowledge on chemical equilibrium and electrochemistry.

CO 4. The laboratory course enable students to handle instruments like digital conductometer, digital potentiometer and able to perform various conductometric and potentiometric experiments to find out the ionisation constant of weak acid, rate constants of chemical reaction, K_{sp} values etc.

CC-3-6-TH Inorganic Chemistry-3 & CC-3-6-P Inorganic Chemistry LAB

CO 1. To study in detail about the modern periodic table, physical and chemical properties of the elements along a group or period, factors influences those properties, relativistic effects and inert pair effect.

CO 2. To study the chemistry of s and p block elements and to get an elementary idea about occurrence, use of Noble gases, Nature of bonding of Noble gas compounds and their preparations including noble gases and their compounds in detail.

CO 3. To learn about inorganic polymers with types, structural aspects and their applications in detail

CO 4. To get a basic idea about different types of coordination complexes, theory of coordination complexes and their nature of bonding and to learn about the Werner's theory for complex formation, structural and stereoisomerism of coordination complexes

CO 5. To learn the complexometric and gravimetric estimation of different ions, chromatographic separation of (i) Ni (II) and Cu (II) ions, (ii) Fe (III) and Al (III) ions.

CC-3-7-TH Organic Chemistry-3 & CC-3-7-P Organic Chemistry LAB

CO 1. To get detailed idea about the electrophilic addition reactions of organic molecules with stereochemistry

CO 2. It informs about the reparation of different aromatic compounds using the idea of substitution reaction.

CO 3. To get detailed idea about nucleophilic addition to carbonyl carbon, 1, 2- addition vs. 1, 4- addition by using of organometallics Compounds.

CO 4. The students learn the application of organic reaction and some tricks for qualitative and quantitative analysis of some organic compounds used in daily life.

SEC – A

SEC-1. Mathematics and statistics for chemists

CO 1. To get a basic idea of mathematical functions, differential equations, probability, vectors, matrices and determinants.

CO 2. To learn about qualitative and quantitative aspects of analysis and helps to understand how to present a data after analysis

SEC-2. Analytical clinical biochemistry

CO 1. To learn about the preparation, structures, reactions and biological importance of carbohydrates, proteins, enzymes, lipids and lipoproteins.

CO 2. To know the biochemistry of different diseases through a diagnostic approach by blood and urine analysis

CO 3. To learn how to isolate proteins and how to perform the qualitative estimation of carbohydrate, proteins and lipids

CO 4. To study the quantitative estimation of carbohydrate, cholesterol, nucleic acids, determination of the iodine number of oil and saponification number of oil.

SEMESTER – IV**CC-4-8-TH Organic Chemistry-4 & CC-4-8-P Organic Chemistry LAB**

CO 1. It provides detailed idea about preparations and applications of nitrogenous organic compounds.

CO 2. Students will learn Rearrangements of organic compounds in presence different reagents and learn the mechanism of rearrangement.

CO 3. To get about synthesis strategy of the synthesis of organic compounds with the knowledge of organic reactions and mechanism

CO 4. To get an idea about analysis of different organic compounds using different spectroscopic methods

CO 5. The laboratory course enables students to get idea about detection of functional groups and preparation of derivatives using the knowledge of organic chemistry.

CC-4-9-TH Physical Chemistry-3 & CC-4-9-P Physical Chemistry LAB

CO 1. Students will learn the thermodynamic basis of various colligative properties; its derivation, various applications and its abnormal behaviour. Students will also understand the background of phase transitions and the behaviour of binary solutions.

CO 2. To develop a concept about the fundamental quantum theories which help the students to understand wave-particle duality of matter and uncertainty relationship. Students will become familiar with the techniques to solve the translational motion of quantum mechanical system by modelling particle in box problem with the help of fundamental postulates of quantum mechanics.

CO 3. To understand about the various types of solids, lattices, laws of crystallography, representation of crystal planes and able to solve the dilemma of classical picture of calculation of specific heat of solid

CO 4: To know experimentally how to handle digital polarimeter and study the kinetics of inversion of cane sugar by using it. They will also learn to draw the phase diagram of binary solvents. They will also handle digital pH meter for pH metric titration of dibasic and tribasic acid against strong base.

CC-4-10-TH Inorganic Chemistry-4 & CC-4-10-P Inorganic Chemistry LAB

CO 1. To get an idea about elementary Crystal Field theory, MO concept, Magnetism, Colour, Magnetic moment and Selection rules for electronic spectral transitions etc.

CO 2. To get a basic idea about transition elements (3d, 4d and 5d) like their electronic configuration, oxidation states and properties etc. and also get a clear idea about Lanthanoids and Actinoids.

CO 3. To get idea about various types of substitution reaction and their mechanisms, Thermodynamic and Kinetic stability related problems.

CO 4. The laboratory course enables students to study experimentally how to synthesize inorganic complexes and determine the λ_{max} values of inorganic complexes. To calculate the $10Dq$ value by spectrophotometric method

SEC – B

SEC-3. Pharmaceuticals Chemistry

CO 1. To learn about the drug discovery, design and development of representative drugs of the following classes: Analgesics, Antipyretic, Anti-inflammatory, Anti-bacterial, Antifungal, Antiviral, Antibiotics, Anti-leprosy, Central Nervous System agents, and HIV-AIDS related drugs.

CO 2. To get idea about aerobic and anaerobic fermentation

CO 3. To learn experimentally the preparation of aspirin and its analysis

CO 4. To learn experimentally the preparation of magnesium bisilicate (Antacid).

SEC-4. Pesticide Chemistry

CO 1. To learn about the preparation, structures, properties, reactions, benefits and adverse effects of representative pesticide of the following classes: Organochlorines, Organophosphates, Carbonates, and Quinones.

CO 2. Learn to calculate acidity/ alkalinity in a given sample of pesticide formulations as per BIS specifications.

CO 3. To learn experimentally the preparation of organophosphates, phosphonates and thiophosphates

SEMESTER – V

CC 5-11-TH Physical Chemistry-4 & CC 5-11-P Physical Chemistry LAB

CO 1. Students will learn to set up and solve the Schrödinger wave equations for vibrational motion of a system by modelling it as SHO, rotational motion of the system by modelling it as rigid rotor and the real system hydrogen atom and hydrogen like ions. This segment provides some quantum mechanical basis of chemical bonding with the help of VB theory and MO theory.

CO 2. Students will learn to set up some relations of various macroscopic properties with the properties of microscopic constituents of the system using statistical method and the concept of partition function.

CO 3. Help students to derive numerical methods of various mathematical operations such as differentiation, integrations, and the solutions of linear and nonlinear equations.

CO 4. The laboratory course enables students to become familiar with the computer program, FORTRAN and by using this program they can evaluate numerical differentiation, numerical Integrations, etc.

CC 5-12-TH Organic Chemistry-5 & CC 5-12-P Organic Chemistry LAB

CO 1. It provides knowledge about the detection and transformation of carbohydrates and their uses.

CO 2. To get an idea about the preparation and different reactions of heterocyclic compounds

CO 3. To get general idea about pericyclic reactions, stereochemistry of cyclic organic compounds and their reactions

CO 4. To get a basic idea about preparations and applications of biomolecules

CO 5. The laboratory course helps students to learn about qualitative and quantitative separations and purifications of organic compounds. It helps to do qualitative analysis of organic compounds using IR and NMR spectroscopy.

DSE A-1. Molecular Modelling & Drug Design

CO 1. It introduces to the students with the pharmaceutical aspect and importance of chemistry by molecular modelling and computer simulation.

CO 2. Students will learn to optimized C – C bond lengths and compare the shapes in different Organic molecules.

CO 3. Students will learn to visualise the electron density and electrostatic potential maps of some compounds.

CO 4. Students will learn to build and minimize organic compounds and also to determine the heat of hydration and compute the resonance energy.

DSE A-2. Applications of Computers in Chemistry

CO 1. It helps students to learn about different languages (FORTRAN) and software which are useful in the study and development of chemistry.

CO 2. It helps to know about statistical data analysis.

CO 3. To learn how to prepare graphs by using spread sheet and introduction to spread sheet software (MS Excel)

CO 4. To study about the Acid-Base Titration Curve, Plotting of First and Second derivative Curve for pH metric and Potentiometric titrations, Calculation and Plotting of a Precipitation Titration Curve with MS Excel, Michaelis-Menten Kinetics for Enzyme Catalysis using Linear and Non – Linear Regression.

DSE B-1. Inorganic Materials of Industrial Importance

CO 1. Students will learn the synthetic procedure and use of different commercially important materials like silicates, fertilizers, alloys, catalysts, surface coating materials and batteries.

CO 2. To learn about the general principles, properties, classification, industrial use, deactivation and regeneration of catalysis

CO 3. To learn about the preparation and explosive properties of lead azide, PETN, RDX and the basic idea of rocket propellant

CO 4. The practical course helps to learn how to analyse the composition of cement, composition of percentage of metals in alloy, electrodes metallic coatings on ceramic and plastic.

CO 5. To know how to determine free acidity in ammonium sulphate fertilizer, estimation of Calcium in Calcium ammonium nitrate fertilizer and phosphoric acid in superphosphate fertilizer

DSE B-2. Novel Inorganic Solids

CO 1. It introduces students with advance fields of chemistry like synthetic modification of different industrially important Inorganic solids, synthesis of nano material, polymers etc.

CO 2. To understand how to synthesize hydro-gel by co-precipitation method and silver and gold nanoparticles

CO 3. Determination of ions by cation exchange method and total difference of solids in a composite material

SEMESTER – VI

CC 6-13-TH Inorganic Chemistry-5 & CC 6-13-P Inorganic Chemistry LAB

CO 1. Students get an idea about basic principles involved in qualitative analysis of cations and anions in various groups.

CO 2. To study about the essential and beneficial elements of our life and various types of dioxygen management protein and their activity

CO 3. To learn about inorganic polymers with types, structural aspects and their applications in detail

CO 4. To develop an idea about different types of organometallic compounds and their preparation and their applications as catalysis in various industrial process

CO 5. To study experimentally the qualitative detection of known and unknown radicals and insoluble materials in a mixture

CC 6-14-TH Physical Chemistry-5 & CC 6-14-P Physical Chemistry LAB

CO 1. To get a vast knowledge of the principles, experimental techniques and broad chemical application of Rotational, Vibrational, Electronic and Raman spectroscopy

CO 2. To learn about various photochemical and photophysical processes like fluorescence, phosphorescence etc., various laws of photochemistry and the concept of quantum yield. Students are also able to get knowledge regarding the detailed theoretical and mathematical treatment of reaction rate and the mechanism of unimolecular reactions.

CO 3. To get information about the origin of various surface properties such as surface tension, adsorption etc., and molecular properties such as dipole moment and polarizability. They will also learn the various types of colloids, their stability, electro kinetic phenomena and the concept of micelle.

CO 4. The students will learn to handle very sophisticated instrument like Spectrophotometer to perform various spectroscopy based experiments like verification of Lambert Beer's law and measurement pH of unknown buffer solution, indicator constant of acid- base indicator, rate constants of chemical reaction. They will also able to handle instrument like Stalagmometer for the determination of surface tension of liquid and CMC of micelle.

DSE A-3. Green Chemistry And Chemistry Of Natural Products

CO 1. Students of undergraduate course are continuously being introduced and encouraged about the different possibilities in this field. It helps students to think and perform to design and develop environmentally benign methods for organic synthesis.

CO 2. To know about the examples of green reactions and future trends in green reaction.

CO 3. To learn how to perform green synthesis of a number of organic compounds in the laboratory

DSE A-4. Analytical Methods In Chemistry

CO 1. It helps to learn about different analytical methods (Flame Atomic Absorption and Emission Spectrometry, Thermogravimetry, pH metric, Potentiometric and Conductometric Titrations) to identify and separate the products formed during different chemical transformations.

CO 2. To study the fundamental laws of spectroscopy and selection rules

CO 3. To learn the methods of separation of stereoisomers by spectral, chemical and chromatographic data analysis (IC, GLC, GPC, TLC and HPLC)

CO 4. To study experimentally how to separate and identify a mixture of monosaccharaides by chromatography method

CO 5. To learn experimentally how to separate a mixture of ions by solvent extraction technique; determination of pH of soil and estimation of Ca, Mg and phosphate ion in soil

CO 6. To determine the pKa values of an indicator, COD and BOD using spectrophotometry

DSE B-3. Polymer Chemistry

CO 1. To learn about the history, functionality and importance of polymeric materials

CO 2. To study the kinetics of polymerization, crystallization and crystallinity of polymers

CO 3. To understand the nature and structure of polymers, determination of molecular weight of polymers, and Tg

CO 4. To study the preparation, structure, properties and application of different types of addition and condensation polymers

CO 5. To learn experimentally the synthesis of polymers

CO 6. To learn experimentally how to characterize and analyse a polymeric compound or material

DSE B-4. Dissertation

CO 1. Here students have immense opportunities to consult different national and international research papers. Thus they can enhance their knowledge and prepare useful review work in their desired topic with the help of faculty members.

CO 2. To know how to handle the technical devices for presenting research works

COURSE OUTCOMES (CO) OF CHEMISTRY GENERAL

SEMESTER – I

CC1/GE1

CO 1. To learn about the Kinetic Theory of Gases and Real Gases and to get an idea about the liquid state of matter, chemical kinetics

CO 2. To learn the basic concept of Atomic Structure, Chemical Periodicity and Acids and Bases

CO 3. To learn about the fundamentals of organic chemistry, stereochemistry, nucleophilic substitution and elimination reactions

CO 4. To learn experimentally the quantitative estimation of some compounds and ions in a solution by using iodometric titration, permanganate titration and dichromate titration

SEMESTER – II**CC2/GE2**

CO 1. To learn about Thermodynamics, Chemical Equilibrium, Solutions, Phase Equilibria and Solids

CO 2. To learn the basic concept of Aliphatic Hydrocarbons

CO 3. To learn about the Error Analysis and Computer applications

CO 4. To understand the various types of Redox Reactions and their applications

CO 5. To learn experimentally the how to study the kinetics of some reactions, viscosity of unknown liquid, surface tension of a liquid and solubility of sparingly soluble salt

SEMESTER – III**CC3/GE3**

CO 1. To understand Chemical Bonding and Molecular Structure and also to learn about the p-Block Elements, Transition Elements and Coordination Chemistry

CO 2. To learn the basic concept of Aromatic Hydrocarbons, Organometallic Compounds and Aryl Halides

CO 3. To get detailed knowledge of Electrochemistry

CO 4. To study experimentally the qualitative detection of known and unknown radicals in a mixture

SEC-A1. Basic Analytical Chemistry

CO 1. To get a basic idea of analytical chemistry, sampling, accuracy and precision, sources of errors in analytical measurements

CO 2. To learn about the analysis of soil, cosmetics, water and food products

CO 3. To understand Chromatography and Ion-exchange phenomenon

SEC-A2. Analytical Clinical Biochemistry

CO 1. To learn about the preparation, structures, reactions and biological importance of carbohydrates, proteins, enzymes, lipids and lipoproteins

CO 2. To know the biochemistry of different diseases through a diagnostic approach by blood and urine analysis

SEMESTER – IV

CC4/GE4

CO 1. To learn about Alcohols, Phenols, Ethers, Carbonyl Compounds, Amines, Diazonium Salts, Amino Acids and Carbohydrates

CO 2. To learn the basic concept of Crystal Field Theory

CO 3. To learn about the fundamentals of Quantum Chemistry and Spectroscopy

CO 4. To learn experimentally the qualitative analysis of single solid organic compound(s) and identification of a pure organic compound

SEC-B3. Pharmaceuticals Chemistry

CO 1. To learn about the drug discovery, design and development of representative drugs of the following classes: Analgesics, Antipyretic, Anti-inflammatory, Anti-bacterial, Antifungal, Antiviral, Antibiotics, Anti-leprosy, Central Nervous System agents, HIV-AIDS related drugs

CO 2. To get idea about aerobic and anaerobic fermentation

SEC-B4. Pesticide Chemistry

CO 1. To learn about the preparation, structures, properties, reactions, benefits and adverse effects of representative pesticide of the following classes: Organochlorines, Organophosphates, Carbonates, Quinones

SEMESTER – V**DSE A-1. Novel Inorganic Solids**

CO 1. It introduces students with advance fields of chemistry like synthetic modification of different industrially important Inorganic solids, synthesis of nano material, polymers etc.

CO 2. To understand how to synthesize hydro-gel by co-precipitation method and silver and gold nanoparticles

CO 3. Determination of ions by cation exchange method and total difference of solids in a composite material

DSE A-2. Inorganic Materials Of Industrial Importance

CO 1. Students will learn the synthetic procedure and use of different commercially important materials like silicates, fertilizers, alloys, catalysts, surface coating materials and batteries.

CO 2. To learn about the general principles, properties, classification, industrial use, deactivation and regeneration of catalysis

CO 3. To learn about the preparation and explosive properties of lead azide, PETN, RDX and the basic idea of rocket propellant

CO 4. The practical course helps to learn how to analyse the composition of dolomite, composition of percentage of metals in alloy, electrodes metallic coatings on ceramic and plastic.

CO 5. To know how to determine free acidity in ammonium sulphate fertilizer, estimation of Calcium in Calcium ammonium nitrate fertilizer and phosphoric acid in superphosphate fertilizer

SEMESTER – VI**DSE B-1. Green Chemistry And Chemistry Of Natural Products**

CO 1. Students of undergraduate course are continuously being introduced and encouraged about the different possibilities in this field. It helps students to think and perform to design and develop environmentally benign methods for organic synthesis.

CO 2. To know about the examples of green reactions and future trends in green reaction

CO 3. To learn how to perform green synthesis of a number of organic compounds in the laboratory

DSE B-2. Analytical Methods In Chemistry

CO 1. Helps to learn about different analytical methods (Flame Atomic Absorption and Emission Spectrometry, Thermogravimetry, pH metric, Potentiometric and Conductometric Titrations) to identify and separate the products formed during different chemical transformations.

CO 2. To study the fundamental laws of spectroscopy and selection rules

CO 3. To learn the methods of separation of stereoisomers by spectral, chemical and chromatographic data analysis (IC, GLC, GPC, TLC and HPLC)

CO 4. To study experimentally how to separate and identify a mixture of monosaccharaides by chromatography method

CO 5. To learn experimentally how to separate a mixture of ions by solvent extraction technique as well as how to determine pH of soil and estimation of Ca, Mg and phosphate ion in soil

CO 6. To determine the pKa values of an indicator, COD and BOD using spectrophotometry

PROGRAMME SPECIFIC OUTCOMES (PSO) OF COMPUTER SCIENCE
GENERAL

PSO 1: Demonstrate the aptitude of Computer Programming and Computer based problem-solving skills.

PSO 2: Display the knowledge of appropriate theory, practices and tools for the specification, design, and implementation.

PSO 3: Ability to link knowledge of Computer Science with other two chosen auxiliary disciplines of study.

PSO 4: Ability to formulate, to model, to design solutions, procedure and to use software tools to solve real world problems and evaluate.

PSO 5: Ability to appreciate emerging technologies and tools.

PSO 6: Apply standard Software Engineering practices and strategies in real-time software project development.

COURSE OUTCOMES (CO) OF COMPUTER SCIENCE GENERAL

SEMESTER – I

CMSG-CC-1-Th (Computer Fundamentals and Digital Logic Design)

CO1: To familiarize students about the basic fundamental design and building blocks of computer system.

CO2: Learn the Boolean logic and circuit design.

CO3: Learn about different Combinational and Sequential Logic circuits and their functionalities.

CMSG-CC-1-Pr (Word Processing, Spread sheet, Presentation and Web Design by HTML)

CO1: To familiarize Student about the office package (Word, Excel, and PowerPoint Presentation in opensource environment.

CO2: Learn the webpage design using HTML

SEMESTER – II

CMSG-CC-2-Th (Algorithm and Data Structure)

CO1: To be familiar with fundamental data structures and with the manner in which these data structures can best be implemented; become accustomed to the description of algorithms in both functional and procedural styles

CO2: Ability to choose a data structure to suitably model any data used in computer applications.

CMSG-CC-2-Pr(Programming with C)

CO1: Learn about the strategies of writing efficient andwell-structured computer programs.

CO2: Develop the skills for formulating iterative solutionsto a problem.

SEMESTER – III

CMSG-CC-3-Th(Computer Organization)

CO1: To familiarize the students with arithmetic and logic unit as well as the concept of the concept of pipelining.

CO2: To familiarize the students with hierarchical memory system including cache memories and virtual memory.

CO3: To make students know the different ways of communicating with I/O devices and standard I/O interfaces.

CMS-G-CC-3-3-P: Programming using Python

CO1: To familiarize the students with object oriented programming and procedure oriented programming.

CO2: To familiarize the students with nowadays very much popularity of the software especially in IT base companies for web application, database handling etc.

CMS-G-SEC-A-X-1-TH(Communication, Computer Network and Internet)

CO1: Understand the structure of Data Communications System and its components.

CO2: Know the layered model approach explained in OSI and TCP/IP network models

CO3: Identify different types of network devices and their functions within a network.

SEMESTER – IV**CMSG-CC-4-Th(Operating System)**

CO1: Describe the important computer system resources and the role of operating system in their management policies and algorithms.

CO2: Understanding of design issues associated with operating systems

CMSG-CC-4-Pr (Shell Programming)

CO1: To learn the command substitution to capture program output.

CO2: To learn the conditional statements to control the execution of shell scripts

CMS-G-SEC-B-X-2-TH(Information Security)

CO1: Develop a basic understanding of cryptography, how it has evolved, and some key encryption techniques used today.

CO2: Gain familiarity with prevalent network and distributed system attacks, defences against them, and forensics to investigate the aftermath.

CO3: Develop an understanding of security policies (such as authentication, integrity and confidentiality), as well as protocols to implement such policies in the form of message exchanges.

SEMESTER – V**CMSG-DSE-A-5-1-TH Data base Management System(DBMS)**

CO1: Gain knowledge of database systems and database management systems software.

CO2: Ability to model data in applications using conceptual modelling tools such as ER Diagrams and design data base schemas based on the model.

CO3: Formulate, using SQL, solutions to a broad range of query and data update problems.

CMS-G-DSE-A-5-1-P (DBMS Lab using SQL)

CO1: To learn the Query substitution to capture program output.

CO2: To learn the conditional statements to control the execution of SQL.

CMS-G-SEC-A-X-2-TH (Software Engineering)

CO1: Basic knowledge and understanding of the analysis and design of complex systems.

CO2: Ability to apply software engineering principles and techniques

SEMESTER – VI

CMSG-DSE-B-6-2-TH (Object Oriented Programming)

CO1: Learn the concepts of data, abstraction and encapsulation

CO2: Be able to write programs using classes and objects, packages.

CO3: Understand conceptually principles of Inheritance and Polymorphism and their use and program level implementation.

CMSG-DSE-B-6-2-P (Object Oriented Programming by JAVA)

CO1: Learn about the strategies of writing efficient and well-structured computer programs.

CO2: Develop the skills for formulating iterative solutions to a problem

CMS-G-SEC-B-X-1-TH (Multimedia and its Applications)

CO1: To familiarize the students with the broad practical applications of multimedia.

CO2: Learn about various software and hardware's used in multimedia.

CO3: Develop basic multimedia projects using multimedia software

PROGRAMME SPECIFIC OUTCOMES (PSO) OF B.Com HONOURS AND GENERAL

PSO1. Students will acquire practical implementation and testing skills and be ready for employment in functional areas like accounting, taxation, banking, insurance and corporate law.

PSO2. They will acquire professional and industry skills as well as the ability to work in teams with enhanced communication and inter-personal skills, to impart knowledge through contemporary knowledge in the field of accountancy and finance in a dynamic and challenging global environment.

PSO3. The knowledge of soft skills and critical decision making ability will help them work as businessmen, entrepreneurs, managers, consultants, etc.

PSO4. Students will have the scope of a successful career in competitive market.

PSO5. They will be able to demonstrate progressive learning in various disciplines of commerce, business, accounting, economics, finance, auditing and marketing etc.

PSO6. They will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA and other courses.

COURSE OUTCOMES (CO) OF B.Com HONOURS

SEMESTER – I

GE 1.1Chg Module I Microeconomics

CO1_ Students will understand the law of demand, supply and various concepts related to this and concept and measurement of elasticity. Also they will learn how consumer will allocate his income among goods and services to maximize utility

CO2_ They will be familiarized with the concepts and theory of production and cost along with profit maximization objective on the part of producer

CO3_ Students will be able to analyse the perfectly competitive market structure and equilibrium output determination under short run as well as long run equilibrium condition

GE 1.1Chg Module II Statistics

CO1_ To gain in depth knowledge and understanding of the concept and scope of statistics

CO2_ To gain knowledge of measures of Central Tendency of Arithmetic Mean, Geometric Mean and Harmonic Mean

CO3_ To understand the concept of measures of dispersion, including absolute version and relative version

CO4_ To gain a thorough knowledge about Moments, Skewness and Kurtosis

CO5_ Application of statistics in other different areas

CC 1.1Chg Business Laws

- CO1_ To gain understanding of the various legal and regulatory rules covered in the course and the respective rights and obligations created under these
- CO2_ To apply basic legal knowledge to business transactions
- CO3_ To gain a clear understanding of the legal environment of business
- CO4_ To Communicate effectively using standard business and legal terminology

CC 1.2Chg Principles of Management

- CO1_ Students will have an overall idea about various concepts and the different schools of management
- CO2_ Students will have a detailed introduction to the concepts of planning, organizing, directing & staffing
- CO3_ Students will be able to conceptualize the concepts of motivation, control & coordination

CC 1.1Ch Financial Accounting - I

- CO1_ Students will have an overall impression about Accounting
- CO2_ Students will be able to learn about the preparation of Balance Sheet
- CO3_ Students will be able to understand about accounting concept and conventions

SEMESTER- - II

GE 2.1Chg (A) E-Commerce

- CO1_ Students will gather knowledge about the emergence of the digital economy and its governing characteristics
- CO2_ Students will Understand the ways in which ecommerce is conducted in the virtual space
- CO3_ Students will become proficient in conducting and facilitating economic transactions in the digital space
- CO4_ Students will understand the features of websites and the tools used to build an Ecommerce website

GE 2.1Chg (B) Business Communication

- CO1_ Students will understand the concepts, elements & barriers to communication
- CO2_ Students will learn the types & tools of communication
- CO3_ Students will master the skills of drafting letters, notices, agenda, minutes etc.

CC 2.1Chg Company Law

- CO1_ Students will acquire functional knowledge about the laws governing the world of trade, industry and Commerce
- CO2_ Students will understand about the legal framework within which commercial activities must be restricted, the protection such laws provide and the penalties that have to be borne in case of their breach
- CO3_ Students will understand the legal principles and the fountainheads from which the specific commercial laws have evolved and become well versed about their general applicability

CC 2.2Chg (A) Marketing Management

CO1_ Students will learn the basic concepts and the principles governing the art and science of marketing management

CO2_ Students will develop the skill sets required for converting actualizing a sale

CO3_ Acquire practical knowledge about marketing and getting a domain view of the process

CC 2.2Chg (B) Human Resource Management

CO1_ Students will understand the dynamics of human relations especially in the work place

CO2_ Students will acquire adequate knowledge about the legal and procedural inputs required to manage humans as valuable resource in the entity.

CO3_ Students will be equipped with practical knowledge to maintain good inter-personal and enterprise wide relationships so as to channel all energies towards the common goals

CC 2.1Ch Cost and Management Accounting - I

CO1_ Students will gather knowledge about the importance and efficacies of costing as a prime mover in the world of trade, commerce and industry

CO2_ Students will understand how various cost inputs are factored in, calculated and realized in the production process, down to the final pricing

CO3_ Students will acquire workable knowledge about the calculation of costs and thereby maximize the stated outcomes for which the particular enterprise is run

SEMESTER – III

SEC 3.1Chg (A) Information Technology & Its Application in Business (Theory)

CO1_ Students will develop an overall impression regarding various concepts related to Information Technology, their implementation and usage.

CO2_ Students will gain extensive knowledge about networking, threats, e-security and related legal regulations applicable.

SEC 3.1Chg (B) Information Technology & Its Application in Business (Practical)

CO1_ Students will get working knowledge about Information Technology – the different facets of IT that are ushering in a tectonic shift in the world and the ways they are impacting businesses.

CO2_ Students will be well versed with the different technological advancements that are now finding place in the commercial environment and will acquire the ability to use them for enhancing the overall effectiveness of the enterprise.

GE 3.3Chg (A) Business Mathematics

CO1_ Students will be able to state possible number of arrangements and selection of things under different condition.

CO2_ Students will be able to solve numerical problem related to set theory using Venn diagram.

CO3_ Students will be able to generalize the binomial theorem for any integral power in the expansion.

CO4_ Students will be able to convert exponent to logarithm and vice versa. CO5_ Student will be able to calculate amount, interest and time period related problem on annuities and compound interest.

GE 3.3Chg (B) Statistics

CO1_ Students will be able to find correlation between two variables.

CO2_ Students will be able to solve different problem related to regression.

CO3_ Students will be able to evaluate cost of living index.

CO4_ Students will be able to plan an investigation and display time series distribution.

CO5_ Students will be able to apply key concept of probability and conditional probability.

CC 3.1Ch Financial Accounting - II

CO1_ Students will be well versed with the different laws governing partnerships in relation to their accounting needs

CO2_ Students will be able to prepare branch accounts and to understand the expansion lead to the concept of development of branch

CO3_ Students will be conversant with the both Hire purchase and instalment payment system.

CO4_ Students will be able to understand the departmental Trading Profit & Loss Account and Balance sheet in present competitive business environment.

CO5_ Students will be able to understand the accounting for investments, governed by the provisions set out in AS-13 “Accounting for Investments” issued by ICAI.

CO6_ Students will gather knowledge about how partnership can be converted into limited company and pre and post effect of profit.

CC 3.2Ch Indian Financial System

CO1_ Students will gather knowledge on financial system and financial markets in India.

CO2_ Knowledge on commercial bank and other financial institutions in India

CO3_ Idea about fundamentals of financial services and players in financial sectors of SEBI

SEMESTER – IV

GE 4.1Chg (A) Microeconomics - II

CO1_ Students will be able to understand and analyse the monopoly market structure along with the derivation of market equilibrium

CO2_ In this unit students will be able to understand the features of two more market structures viz. monopolistic competition and oligopoly which are imperfect in nature. Here students will also analyse the oligopoly market with the help of Sweezy’s Kinky Demand Curve Model

CO3_ Students will be able to analyse how factors are determined using various theories related to rent, wage, interest and profit

GE 4.1Chg (B) Indian Economy

CO1_ Students will be able to understand various concepts and measures related to development and underdevelopment. They will also learn about various aspects of National Income.

CO2_ Here students will be able to analyse the sectoral distribution of National Income and Occupational Structure along with its change during post-reform period and issues related to service-led growth.

CO3_ Students will be able to analyse sector-wise trend, problems and reforms related to major sectors agriculture, industry, service and external sectors.

CO4_ Students will be able to understand problem of poverty and the measures related to alleviation of poverty. They will also learn about the problems of unemployment and remedial measures

CC 4.1Chg (A) Entrepreneurship Development

CO1_ Students will learn about the role of different financial institutions in the economy.

CO2_ Students will be able to comprehend the role of family business in India.

CO3_ Students will be able to write business proposals/ plans.

CO4_ Students will be able to identify resources for start-ups.

CO5_ Students will be able to understand different financial aspects in the current scenario.

CO6_ Students will be able to comprehend and appreciate the spirit of entrepreneurship

CC 4.1Chg (B) Business Ethics

CO1_ Students will understand the importance of ethical conduct in business

CO2_ Students will acquire skills which will help them to recognize and resolve ethical issues in business

CO3_ The ethical dimension of decision making will reflect on them in workplace.

CO4_ Students will be able to identify key organizational tools, policies, systems, and laws that apply to managing ethical conduct specifically in the business environment.

CO5_ Students will be able to prioritize personal and organizational values to make ethical decisions.

CC 4.1Ch Taxation – I

CO1_ Students will be imparted with basic knowledge about relevant taxation terminologies

CO2_ Students will master application of analytical skills in computation of various heads of income & ascertainment of taxable income with reference to pertinent taxation provisions.

CO3_ Students will be imparted practical knowledge related to application of various aspects of direct taxation.

CC 4.2Ch Cost and Management Accounting - II

CO1_ Conversant with the joint production process, the allocation of joint product costs according to the benefits-received approaches and the relevant market value approaches, the methods of accounting for by-products and the ascertainment of cost after separation.

CO2_ The students will be able to distinguish between traditional overhead rates and activity based overhead rates and also, they will be able to recognize the suitable allocation treatment.

CO3_ Evaluation of adverse and favourable variations

CO4_ Managerial decision making like preparation of different types of budget, application limiting factor, make or buy through marginal costing technique.

SEMESTER – V

CC 5.1Ch Auditing and Assurance

CO1_Students will come to know why an independent examination of financial books of accounts is essential.

CO2_Students will come to know about the various procedures & techniques that are to be followed to conduct an audit

CO3_Students will understand about the risks which may still remain even after detailed checking and how to consider the same while auditing.

CO4_Students will come to know how the findings have to be reported in the form of Audit Report and how to provide Audit Certificates.

CO5_Students will know about the different kinds of Audit that can be done & its importance

CC 5.2Ch Taxation – II

CO1_Students will master application of analytical skills in ascertainment of taxable income and computation of tax liability.

CO2_Students will be imparted with basic and practical knowledge about the provisions for filing and assessment of return. Basic knowledge about total tax, interest and fee payable under IT Act would also be imparted.

CO3_Students will be imparted with basic knowledge about relevant terminologies under current indirect tax regime.

CO4_Students will be imparted with basic knowledge and application of relevant terminologies under GST law.

CO5_Students will master application of analytical skills in computation of Input and Output Tax and application of Input tax credit mechanism. The basic knowledge about Composition Scheme would also be imparted.

CO6_Students will be imparted basic and practical knowledge about the pertinent taxation provisions with regards to Customs.

DSE 5.1A1 Macroeconomics

CO1_Students will understand the basic concepts of macroeconomics with particular emphasis on the various concepts of national income accounting along with their measurement method.

CO2_Students will learn to determine the equilibrium output and income by using the concepts of consumption, investment and saving and analyse the same in money market and commodity market under monetary as well as fiscal policies.

CO3_Students will study the various functions of money along with various theories associated with demand for money and supply of money and concepts and impact of inflation on the economy and unemployment

DSE 5.1A2 Advanced Business Mathematics

CO1_Students will be able to understand about the domain and Range. They will be able to understand the dependence of one quantity over the other, that is, the relationship between 'x' and f(x). They will learn to analyse graphs. For understanding Calculus, the students need to

understand this topic. Students will learn to find the limits and continuity of various functions like exponential, logarithmic, sine, cosine, etc.

CO2_ The students will learn about differentiating by the first principle and by the formulas. They will learn why and where differentiation is used in real life. Integration helps the students to find out the area under a curve volume. Students will learn to integrate the different functions with the help of the formulae. They can understand that integration is the inverse of differentiation.

CO3_ Students will be able to apply the practical application of Derivatives. They understand the concept of maxima and minima. They can find out the profit and loss in business.

CO4_ Students learn about the various properties of Determinants. They understand the method of finding out the Determinant with expanding and without expanding too.

CO5_ Students learn about the types of matrices, arithmetic operations like addition, subtraction, multiplication, scalar multiplication.

DSE 5.2A Corporate Accounting

CO1_ Students will be well-versed with issue and forfeiture of shares and debentures as well as provisions of buy back and redemption of shares.

CO2_ Students will be well-versed with preparation of company final accounts, statement of profit and loss and balance sheet.

CO3_ Students will be well-versed with provisions of redemption of debentures.

CO4_ Students will be well-versed with different methods of valuation of shares and goodwill.

CO5_ Students will be well-versed with provisions of amalgamation in the nature of merger and purchase and learn about internal reconstruction.

SEMESTER – VI

SEC 6.1Chg Computerized Accounting System and E-filing of Tax Return

CO1_ Students will gain in depth knowledge of the accounting software applications, word processing, and spreadsheet.

CO2_ Students will be able to establish company records, maintain daily transactions using the general ledger, accounts payable, accounts receivable, inventory, account reconciliation and payroll and create financial statements.

CO3_ Students will be equipped with knowledge about the Indian Taxation System and enhance their skills in the field of Taxation and online filing of tax return.

CC 6.1Ch Project Work

CO1_ Instill among the students the basic knowledge and spirit of entrepreneurship.

CO2_ Students will be encouraged to undertake independent research projects which can add value to society

CO3_ To give a thorough understanding of different financial aspects in the current scenario

CO4_ Develop oral communication skills of the students.

CO5_ Encourage students to understand the practical aspects of trade industry and commerce.

DSE 6.1A Financial Reporting and Financial Statement Analysis

CO1_The students will be able to identify and understand different tools like Ratio analysis, comparative and common size income statement and balance sheet and cash flow statement

CO2_The students will understand the accounting concepts and conventions.

CO3_The students will be able to know about the issues of ethics sustaining true financial reporting of company assets, liabilities and profits.

DSE 6.2A Financial Management

CO1_Developing basic knowledge of the students about the elementary concepts of finance, role and techniques of financial management with an insight into various decisions of the management.

CO2_Understanding the role and responsibilities of the financial manager and corporate financial activities

CO3_Developing concepts relating to management of finance, processing of financial information for the management decision-making in key areas like working capital management, capital budgeting decisions, dividend policy etc.

COURSE OUTCOMES (CO) OF B.Com GENERAL

SEMESTER – I

GE 1.1Chg Module I Microeconomics

CO1_Students will understand the law of demand, supply and various concepts related to this and concept and measurement of elasticity. Also they will learn how consumer will allocate his income among goods and services to maximize utility

CO2_They will be familiarized with the concepts and theory of production and cost along with profit maximization objective on the part of producer

CO3_Students will be able to analyse the perfectly competitive market structure and equilibrium output determination under short run as well as long run equilibrium condition

GE 1.1Chg Module II Statistics

CO1_To gain in depth knowledge and understanding of the concept and scope of statistics

CO2_To gain knowledge of measures of Central Tendency of Arithmetic Mean, Geometric Mean and Harmonic Mean

CO3_To understand the concept of measures of dispersion, including absolute version and relative version

CO4_To gain a thorough knowledge about Moments, Skewness and Kurtosis

CO5_Application of statistics in other different areas

CC 1.1Chg Business Laws

CO1_To gain understanding of the various legal and regulatory rules covered in the course and the respective rights and obligations created under these

CO2_To apply basic legal knowledge to business transactions CO3_To gain a clear understanding of the legal environment of business

CO4_To Communicate effectively using standard business and legal terminology

CC 1.2Chg Principles of Management

CO1_Students will have an overall idea about various concepts and the different schools of management

CO2_Students will have a detailed introduction to the concepts of planning, organizing, directing & staffing
CO3_Students will be able to conceptualize the concepts of motivation, control & coordination

CC 1.1Cg Financial Accounting - I

CO1_Students will have an overall impression about Accounting

CO2_Students will be able to learn about the preparation of Balance Sheet

CO3_Students will be able to understand about accounting concept and conventions

SEMESTER – II

GE 2.1Chg (A) E-Commerce

CO1_Students will gather knowledge about the emergence of the digital economy and its governing characteristics

CO2_Students will Understand the ways in which ecommerce is conducted in the virtual space

CO3_Students will become proficient in conducting and facilitating economic transactions in the digital space

CO4_Students will understand the features of websites and the tools used to build an Ecommerce website

GE 2.1Chg (B) Business Communication

CO1_Students will understand the concepts, elements & barriers to communication

CO2_Students will learn the types & tools of communication

CO3_Students will master the skills of drafting letters, notices, agenda, minutes etc.

CC 2.1Chg Company Law

CO1_Students will acquire functional knowledge about the laws governing the world of trade, industry and Commerce

CO2_Students will understand about the legal framework within which commercial activities must be restricted, the protection such laws provide and the penalties that have to be borne in case of their breach

CO3_Students will understand the legal principles and the fountainheads from which the specific commercial laws have evolved and become well versed about their general applicability

CC 2.2Chg (A) Marketing Management

CO1_Students will learn the basic concepts and the principles governing the art and science of marketing management

CO2_Students will develop the skill sets required for converting actualizing a sale

CO3_Acquire practical knowledge about marketing and getting a domain view of the process

CC 2.2Chg (B) Human Resource Management

CO1_Students will understand the dynamics of human relations especially in the work place
 CO2_Students will acquire adequate knowledge about the legal and procedural inputs required to manage humans as valuable resource in the entity.

CO3_Students will be equipped with practical knowledge to maintain good inter-personal and enterprise wide relationships so as to channel all energies towards the common goals

CC 2.1Cg Cost and Management Accounting - I

CO1_Students will gather knowledge about the importance and efficacies of costing as a prime mover in the world of trade, commerce and industry

CO2_Students will understand how various cost inputs are factored in, calculated and realized in the production process, down to the final pricing

CO3_Students will acquire workable knowledge about the calculation of costs and thereby maximize the stated outcomes for which the particular enterprise is run

SEMESTER – III

SEC 3.1Chg (A) Information Technology & Its Application in Business (Theory)

CO1_Students will develop an overall impression regarding various concepts related to Information Technology, their implementation and usage. CO2_Students will gain extensive knowledge about networking, threats, e-security and related legal regulations applicable.

SEC 3.1Chg (B) Information Technology & Its Application in Business (Practical)

CO1_Students will get working knowledge about Information Technology – the different facets of IT that are ushering in a tectonic shift in the world and the ways they are impacting businesses.

CO2_Students will be well versed with the different technological advancements that are now finding place in the commercial environment and will acquire the ability to use them for enhancing the overall effectiveness of the enterprise.

GE 3.3Chg (A) Business Mathematics

CO1_Students will be able to state possible number of arrangements and selection of things under different condition.

CO2_Students will be able to solve numerical problem related to set theory using Venn diagram.

CO3_Students will be able to generalize the binomial theorem for any integral power in the expansion.

CO4_Students will be able to convert exponent to logarithm and vice versa.

CO5_Student will be able to calculate amount, interest and time period related problem on annuities and compound interest.

GE 3.3Chg (B) Statistics

CO1_Students will be able to find correlation between two variables.

CO2_Students will be able to solve different problem related to regression.

CO3_Students will be able to evaluate cost of living index.

CO4_Students will be able to plan an investigation and display time series distribution.
 CO5_Students will be able to apply key concept of probability and conditional probability.

CC 3.1Cg Financial Accounting - II

CO1_Students will be well versed with the different laws governing partnerships in relation to their accounting needs
 CO2_Students will be able to prepare branch accounts and to understand the expansion lead to the concept of development of branch
 CO3_Students will be conversant with the both Hire purchase and instalment payment system.
 CO4_Students will be able to understand the departmental Trading Profit & Loss Account and Balance sheet in present competitive business environment.
 CO5_Students will be able to understand the accounting for investments, governed by the provisions set out in AS-13 “Accounting for Investments” issued by ICAI.
 CO6_Students will gather knowledge about how partnership can be converted into limited company and pre and post effect of profit

SEMESTER – IV

GE 4.1Chg (A) Microeconomics - II

CO1_Students will be able to understand and analyse the monopoly market structure along with the derivation of market equilibrium
 CO2_In this unit students will be able to understand the features of two more market structures viz. monopolistic competition and oligopoly which are imperfect in nature. Here students will also analyse the oligopoly market with the help of Sweezy’s Kinky Demand Curve Model
 CO3_Students will be able to analyse how factors are determined using various theories related to rent, wage, interest and profit

GE 4.1Chg (B) Indian Economy

CO1_Students will be able to understand various concepts and measures related to development and underdevelopment. They will also learn about various aspects of National Income.
 CO2_Here students will be able to analyse the sectoral distribution of National Income and Occupational Structure along with its change during post-reform period and issues related to service-led growth.
 CO3_Students will be able to analyse sector-wise trend, problems and reforms related to major sectors agriculture, industry, service and external sectors.
 CO4_Students will be able to understand problem of poverty and the measures related to alleviation of poverty. They will also learn about the problems of unemployment and remedial measures

CC 4.1Chg (A) Entrepreneurship Development

CO1_Students will learn about the role of different financial institutions in the economy.
 CO2_Students will be able to comprehend the role of family business in India.
 CO3_Students will be able to write business proposals/plans.

CO4_Students will be able to identify resources for start-ups.

CO5_Students will be able to understand different financial aspects in the current scenario.

CO6_Students will be able to comprehend and appreciate the spirit of entrepreneurship

CC 4.1Chg (B) Business Ethics

CO1_Students will understand the importance of ethical conduct in business

CO2_Students will acquire skills which will help them to recognize and resolve ethical issues in business

CO3_The ethical dimension of decision making will reflect on them in workplace.

CO4_Students will be able to identify key organizational tools, policies, systems, and laws that apply to managing ethical conduct specifically in the business environment.

CO5_Students will be able to prioritize personal and organizational values to make ethical decisions.

CC 4.1Cg Taxation – I

CO1_Students will be imparted with basic knowledge about relevant taxation terminologies

CO2_Students will master application of analytical skills in computation of various heads of income & ascertainment of taxable income with reference to pertinent taxation provisions.

CO3_Students will be imparted practical knowledge related to application of various aspects of direct taxation.

CC 4.2Cg Cost and Management Accounting - II

CO1_Conversant with the joint production process, the allocation of joint product costs according to the benefits-received approaches and the relevant market value approaches, the methods of accounting for by-products and the ascertainment of cost after separation.

CO2_The students will be able to distinguish between traditional overhead rates and activity based overhead rates and also, they will be able to recognize the suitable allocation treatment.

CO3_Evaluation of adverse and favourable variations

CO4_Management decision making like preparation of different types of budget, application limiting factor, make or buy through marginal costing technique.

SEMESTER – V

CC 5.1Cg Auditing and Assurance

CO1_Students will come to know why an independent examination of financial books of accounts is essential.

CO2_Students will come to know about the various procedures & techniques that are to be followed to conduct an audit

CO3_Students will understand about the risks which may still remain even after detailed checking and how to consider the same while auditing.

CO4_Students will come to know how the findings have to be reported in the form of Audit Report and how to provide Audit Certificates.

CO5_Students will know about the different kinds of Audit that can be done & its importance

DSE 5.1A Taxation – II

CO1_Students will master application of analytical skills in ascertainment of taxable income and computation of tax liability.

CO2_Students will be imparted with basic and practical knowledge about the provisions for filing and assessment of return. Basic knowledge about total tax, interest and fee payable under IT Act would also be imparted.

CO3_Students will be imparted with basic knowledge about relevant terminologies under current indirect tax regime.

CO4_Students will be imparted with basic knowledge and application of relevant terminologies under GST law.

CO5_Students will master application of analytical skills in computation of Input and Output Tax and application of Input tax credit mechanism. The basic knowledge about Composition Scheme would also be imparted.

CO6_Students will be imparted basic and practical knowledge about the pertinent taxation provisions with regards to Customs.

DSE 5.2A Corporate Accounting

CO1_Students will be well versed with issue and forfeiture of shares and debentures. Students will be well versed provisions of buy back and redemption of shares.

CO2_Students will be well versed with preparation of company final accounts, statement of profit and loss and balance sheet.

CO3_Students will be well versed with provisions of redemption of debentures.

CO4_Students will be well versed with different methods of valuation of shares and goodwill.

CO5_Students will be well versed with provisions of amalgamation in the nature of merger and purchase and learn about internal reconstruction

SEMESTER – VI

SEC 6.1ChgComputerizedAccounting System andE-filing of Tax Return

CO1_Students will gain in depth knowledge of theaccounting software applications, word processing, and spreadsheet.

CO2_Students will be able to establish companyrecords, maintain daily transactions using the generalledger, accounts payable, accounts receivable, inventory, account reconciliation and payroll and create financial statements.

CO3_Students will be able to equipped with Indian Taxation System and enhance their skills in the field ofTaxation and online filing of tax return

DSE 6.1AFinancialReporting and Financial Statement Analysis

CO1_The students will be able to identify and understand different tools like Ratio analysis, comparative and common size income statement and balance sheet and cash flow statement

CO2_The students will understand the accounting concepts and conventions.

CO3_The students will be able to know about the issues of ethics sustaining true financial reporting of company assets, liabilities and profits

DSE 6.2A Financial Management

CO1_Developing basic knowledge of the students about the elementary concepts of finance, role and techniques of financial management with an insight into various decisions of the management.

CO2_Understanding the role and responsibilities of the financial manager and corporate financial activities.

CO3_Developing concepts relating to management of finance, processing of financial information for the management decision-making in key areas like working capital management, capital budgeting decisions, dividend policy etc.