PROGRAM OUTCOME, PROGRAMME SPECIFIC OUTCOMES & COURSE OUTCOMES
OF
GOVERNMENT COLLEGE ISRANA

BACHELOR OF ARTS

Government College Israna is affiliated to Kurukshetra University Kurukshetra (Haryana), and follows the syllabus In B.A. programme prescribed by the university as per UGC norms. Students are allowed to choose two optional subjects from the variety of courses viz. History, Economics, Political Science, Sanskrit, Geography, Mathematics along with two compulsory subjects i.e. English and Hindi. These courses enrich students with political, historic, economic, health and literary consciousness ultimately preparing them to cope up with the challenging situations of life. The compulsory subjects viz. Hindi and English enhance the students' skills of reading, writing, speaking, thereby developing their proficiency in both languages.

Program Outcomes are as follows:

PO1. Decision Making

Our students get exposure from a variety of subjects, thereby developing their capability of decision making.

PO2. Creativity

Students learn to develop the ability to find the solutions to a problem with their imagination and critical thinking while taking part in co-curricular activities.

PO3. Developing Analytical and Competitive Skills

Quizzes, competitions, cultural and sports activities organised for the students help in developing their analytical and competitive skills. This programme equips them to clear competitive exams as well as enables them to work efficiently.

PO4. Moral Values Inculcation

Our co-educational institute develops the sense of belongingness amongst both sexes. Various activities carried out under Legal Literacy, Anti-Sexual Harassment, women Cell, NCC and NSS, sensitize students towards gender equity and make them socially responsible.

PO5. Employability

After graduation, the student will become eligible & well-equipped for employment in the government and private sector.

PO6. Entrepreneurial Skills

Subjects like Economics and Languages help develop entrepreneurial skills in students.

PO7. Scope of Higher Studies

The program builds a strong academic foundation amongst students, thereby preparing them to excel in higher education.

PO8. Environment and Sustainability

The objective of the Environment course & various activities carried out under NSS and tree-plantation drive in the campus is to help students understand the importance of environment & sustainable development.

PO9. Responsible Citizen

Humanity courses in the program have been designed so as to develop awareness amongst students about issues of national importance, thereby enabling them to act responsibly & empathically so that they can efficiently contribute to civic life.

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for English in Bachelor of Arts (B.A.)

Course Outcomes of English:

1. Described the concept of essay as a genre of prose fiction and analyzed its specific features and objectives
2. Discussed the concept of Parts of Speech and analyzed their relative importance in investing the sentence with a legible meaning as a syntactic unit
3. Described the concept of Tenses and discussed their uses in the formation of different types of sentences
4. Described the concept of Story as a genre of Prose Fiction and discussed its major components, their relevance and objectives
5. Described the concept of Sentence and its kinds
6. Described Modal Auxiliaries and their uses
7. Described the concept of Subject-Verb (Concord) and discussed their grammatical rules and linguistic conventions
8. Described the concept of voice and discussed its uses, relevance and objectives in different contexts
9. Described the concept of Phrasal Verbs and discussed their relevance in effective written and verbal (oral) communication
10. Described the concept of Direct and Indirect Speech and discussed its relevance, function and objectives
11. Described the concept of Punctuation and discussed its essential role in providing language with the trait of accuracy and precision
12. Described the Concept of Poetry as a genre of literature, its kinds, salient features and relevance
13. Described the concept of Non- Finite Verbs, their kinds, uses, relevance and objectives
14. Described the concept of Clauses, their kinds, relevance and objectives
15. Described the concept of One Act Play and discussed its salient features and their relevance and objectives
16. Described the concept of translation, its prominent role in a world of diversity of languages; learned the importance of prevalent linguistic norms and conventions of various languages and their role in the act of good translation

17. Described the concept of Dialogue Writing, Resume Writing, and Writing E-mails; their relevance and objectives
18. Described concept of Novel, its components, salient features and tools of analysis
19. Described the concept of full length play, its components, salient features and tools of analysis
20. Described the concept of Precis Writing and Letter Writing; their relevance and objectives

POs of B.A. English:

PO 1. Reflective Thinking: Analyzing a situation of life from multiple viewpoints through a piece of literature and thereby, enhancing and transforming one's individual perspective to a reflective generalized notion

PO 2. Communicative Skills: Enhancing the ability of learners to speak, write and read in an intelligible and legible fashion by acquainting them with the bottom-line concepts of language and its linguistic components

PO 3. Responsible Citizenship: Acknowledging and recognizing the cultural traits and ethical values of different social groups by reading their varied literature and attaining a sense of a unified Identity and a collective consciousness of being a responsible citizen

PO 4. Attain the ability to sustain one's individual viewpoint in spite of the diversity of opinions in a constructive group discourse and present it emphatically and legibly

PO 5. Attain the ability to control one's emotions, direct one's reason and to exercise a habit of reflection, thereby achieving the target of real education by becoming an embodiment of physical, mental and spiritual growth

PSOs of B.A. English:

Programme Specific Outcome of English

PSO 1. To understand the basic concept of Literature and its relevance in providing an individual the opportunity to perceive life from multiple perspectives

PSO 2. To comprehend the meaning of a literary work with reference to its relation to the writer; to the reader; or to the external world or universe

PSO 3. To understand different genres of literature and their relative significance in catering for the intellectual appetite of the readers

PSO 4. To acquaint the learners with the difference between literary language and language of real life

PSO 5. To acquaint the learners with various figures of speech, thereby making them familiar with the suggestive use of language

PSO 6. To understand the concept of language and its constituent elements like
Phoneme, Morpheme and Syntax

PSO 7. To understand the use of language at phonemic, morphemic and syntactic level

PSO 8. To analyze language as a combined product of prescriptive rules of grammar and some implicit linguistic conventions which function in the background and cannot be confined to any fix rules, but are still capable of governing and moulding the meaning of language from outside

PSO 9. To acquaint the learners with the phonemic system of English language and train them how to articulate different Consonant and Vowel sounds through our vocal apparatus

PSO 10. To understand the supra-segmental features of language like stress, intonation and juncture

PSO 11. To understand the syntagmatic (horizontal relationship of words in a sentence) and Paradigmatic (vertical relationship of words i.e. vocabulary) relationship of words in a sentence

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for Sanskrit in Bachelor of Arts (B.A.)

List of Cos :

Co1 हितोपदेश 14 वीं शताब्दी के आसपास की नीति पूर्ण कथाओं का विवेचन करता है

Co2 नीतिशतक महाकवि भर्तृहरि के नैतिकता पूर्ण श्लोको का संग्रह है

Co3 सन्धि प्रकरण वर्णों के परस्पर मेल से अवगत कराता है

Co4 शब्द- रूप व धातुओं से तीन लिंग व पुरुषों का पता चलता है

Co5 श्रीमद्भगवद्गीता महाभारत के भीष्म पर्व का कर्म प्रधान महाकाव्य है

Co6 छन्द सस्वर गान के लिए उत्तम साधन है

Co7 पंचरात्रम महाकवि भास का तीन अंकों का नाटक है

Co8 रघुवंश महाकाव्य में महाकवि कालिदास 31 सूर्यवंशी राजाओं का मर्म स्पर्शी विवेचन करता है

Co9 लघुसिद्धान्तकौमुदी महाकवि वरदराज का पाणिनी सूत्रों पर विरचित ग्रन्थ है

Co10 शिवराजविजय महाकवि अम्बिकादास का 19 वीं शताब्दी के आसपास का ऐतिहासिक उपन्यास है

Co11 समास प्रकरण के अंतर्गत सभी भागों को शामिल किया गया है

Co12 अशुद्धि संशोधन वाक्य व्यवहार के लिए अति आवश्यक है

Co13 अभिज्ञान शाकुंतलम महाकवि कालिदास का 7 अंकों में निबन्ध सर्वोत्तम नाटक है

Co14 काव्य सौंदर्य के लिए अलंकारों का होना अति आवश्यक है

Co15 कारक के अंतर्गत सभी भागों को शामिल किया गया है

Co16 संस्कृत साहित्य का इतिहास वेद आरण्यक उपनिषद ब्राह्मण आदि का बोध कराता है

Co17 ईश्वरः (ईश्वर की स्तुति)

Co18 वयं तां भजामः (हम सब आपका भजन करते हैं)।

Co19 धर्मः शम:

C020 साधुवृतं चर (सज्जनों के आचरण पर चल

C021 विशीषस्य विलाप: (विशीषण का विलाप)।

Co22 अनुशासनम्।

Co23 सद्वृत्तम्।

Co24 दर्जनसंगो भयावहः

Co25 नीलवर्ण: शृगाल:

Co26 नीतिसुक्तय :

Programme Outcomes:-

P.O(1)	छात्रों में संस्कृत समझने की कौशल का विकास होता है।
P.O(2)	छात्रों को भारतीय संस्कृति का परिचय होगा।
P.O(3)	बच्चों के जीवन में सद्व्यवहार को समझने की समझ का विकास होगा।
P.O(4)	संस्कृत भाषा में रूचि बढ़ती है।

Programme Specific Outcomes:-

संस्कृताध्ययन हेतु।

PSO1	छात्रो की विशिष्ट अभिरूचि का विकास।
PSO2	बच्चों में नैतिकव्यवहार के ज्ञान की वृद्धि होगी।
PSO3	'वासुवैव कुटुम्बकम्' जैसे संस्कृतश्लोकों से छात्रों में अनर्राष्ट्रीय भावना की वृद्धि होगी।
PSO4	विज्ञानस्वीकृत छात्रों में संस्कृत को लेकर रूचि का विकास होगा।
PSO5	हिन्दी, अंग्रेजी आदि भाषाओं के शब्दों को संस्कृत में परिवर्तन करने की क्षमता का विकास होगा।
PSO6	संस्कृत व्याकरण के महत्व को लेकर विकसित ज्ञान की वृद्धि होगी।

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for Hindi in Bachelor of Arts (B.A.)

Course Outcomes

Co.1 कविता क माध्यम स सन्त, सफ़ी काव्य ,ननगण सगण काव्य और अष्टछाऩ काव्य का विरण प्रस्तत करना ह।

Co.2 हहन्दी साहहत्य इनतहास का नामकरण ,विशषताओ का ान प्राप्त होता ह तथा आहदकालऱन साहहत्य का सम्ऩण जानकारी प्राप्त होती ह।

Co.3भाषा का विकास,अऱोकार,शब्द -शक्तताॉ तथा रस क माध्यम स काव्य का ननमाुण होता

ह। काव्य सौन्दय ननखरता ह।

Co.4 जयशकर प्रसाद कत ध्रिस्ालमनी नाटक ऐनतहालसकता स जड़ा हआ ह। तीन अको म विभतत इस नाटक म नारी शोषण हदखाया गया ह।

Co.4 भक्ततकाऱ स्ण काऱ ह ,इस यग म रामकाव्य ,कष्णकाव्य ऩर गहन चिन्तन ककया जाता ह।

Co.5 भाषा क रुऩ मानक भाषा।,राजभाषा।,राष्रभाषा,माध्यम भाषा।,मातभाषा ,हहन्दी ितनी की समस्या का समाधा

Co.6काव्य मन क उद्धगारो को व्यतत करन का सशतत माद्यम ह। आधननक हहन्दी कविता द्ारा आधननक यग की समस्याओ ,समाधान तथा आधननकता का बोध होता ह Co.7 रीनतकाऱीन साहहत्य शगार,रीनतनीनत,करओ,कामकता तथा नारी शोषण का काऱ ह।

Co.8 कम्प्यटर ,इटरनेट,मीडिया ,प्रस अिधारणा आधननकता की ओर ऱ जान ाऱ उऩकरण नह।

Co.9 कहानी जीन क यथाथ स जड़ी होती ह। कहानी स हम समाज का रुऩ ,नारी रुऩ।,करा की कदर ,भेदभाि को उजागर करना करता ह

Co.10आधननक गद्य साहहत्य कहानी ,नाटक,उऩन्यास ,ननबन्ध आहद का उदभि और विकलसत रुऩ ह।.

Co.11 ऩाररभावषक शब्दाऱी कामकाजी भाषा का रुऩ ह।

Co.12समकाऱीन कविता मनष्य को जमीन स जोड़ रखती ह।

Co.13 आधननक हहन्दी कविता छायाि◌ाद ,प्रयोगिाद,प्रगनतिाद,नई कविता का रुऩ ह।

Co.14 प्रोजनमऱक ऩल्लल्लिन, ऩत्र ऱेखन तथा कायाुऱयी भाषा का ाान करती ह।

Co.15 नव्यतर गद्य निीन विधाओ जैस ररऩोताुज ,यात्रा हास्य।-व्यॉग आहद से अिगत कराती ह।

Co.16 हररयाणिी साहहत्य हमार प्रदश स जड़ा हआ ह तथा हमारी सस्कनत को उजागर करता ह।

Co.17 प्रोजनमऱक हहन्दी आधननक उऩकरण कम्प्यटर ,मीडिया, ऩत्रकाररता , इटरनेट स जड़ा हआ ह।

Co.18 एकाॉकी,सॉस्मरण आहद से सामाक्जक ि व्यक्तगत जीिन क उतार -ि़ाि को दशाुता ह।

Co.19कविताओ म मानलसकता क चित्रण साथ -साथ ऩत्र ऱेखन का प्रलशंण भी ककया गया ह।

programme outcomes

1.मध्यकालऱन कवियों तथा आहदकालऱन साहहत्य का विस्तार स छात्रों को ाान होता ह।

2 हहन्दी साहहत्य का गहन अध्ययन कराया जाता ह।

3 छात्रों को भाषा की क्जाासा और शद्धता स बौवद्धक विकास होता ह।

4 .कविता स छात्रों की आतररक भाि और मन क उदगार प्रकट होता ह।

5 नाटक छात्रों को रगमॉि स जोड़ रखता ह।

6 कहानी ,उऩन्यास आहद छात्रों को सस्कनत स जोड़ रखती ह।

7. हररयाणिी साहहत्य राज्य क ऱोक जीिन और सस्कनत स छात्रों को जोड़ रखती ह।

8 .मीडिया ,इटरनट छात्रों को यग स जोड़त ह।

9 .एकाॊकी, सॊस्मरण, ररऩोताुज,जीिनी ,आहद से छात्रों की निीन विधाओ का ऻान होता ह।

10 ऩाररभावषक शब्दाि़ी स छात्रों को कामकाजी भाषा का ऻान होता ह।
dghkliujjk

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for Political Science in Bachelor of Arts (B.A.)

To understand the concept of Indian Constitution-Sources its Features, Preamble, Fundamental
Rights, Fundamental Duties and Directive Principles of State Policy

- To understand the concept of Union Executive - President, Vice-President, Prime Minister, Council of Ministers
- To understand the concept of State Executive- Governor, Chief Minister and Council of Ministers
- To understand the concept of Legislature- Parliament-Composition and Functions; Speaker of Lok Sabha Amendment Process
- To understand the concept of State Legislature-Vidhan Sabha
- To understand the concept of Panchayati Raj Institutions-History, Basic Features and 73rd Amendment
- To understand the concept of Judiciary-Supreme Court, High Courts, Judicial Review and Judicial Activism
- To understand the concept of Federalism and its Working with reference to Centre-State Relations
- To understand the concept of Demand For State Autonomy
- To understand the concept of Emerging Trends in Indian Federalism
- To understand the concept of Election Commission, Electoral Process and its Defects and Voting Behaviour, Electoral Reforms, Problem of Defection
- To understand the concept of Party System in India: National and Regional Political Parties, Interest and Pressure Groups
- To understand the concept of Role of Caste, Religion, Language, Regionalism in India
- To understand the concept of Politics of Reservation
- To understand the concept of Emerging Trends and Challenges before Indian Political System
- To understand the importance of the profound thinkers of India like Raja Ram mohan rai, Swami Dayanand, Swami Vivekanand Aurbind Ghosh, Lala Lajpat Rai, Bal Gangadhar Tilak, Dada Bhai Narojee, Gopal Krishan Gokhle, J.P. Narayan, Ram Manohar Lohia, Mahatma Gandhi & M.N, Roy, Jawaharlal Nehru & B.R.Ambedkar, Subhash Chander Bose & Bhagat Singh and their formative influence in Social, Political, Religious and Economic theories
- The syllabus of the subject offers a diverse and flexible approach designed to help students prepare for meaningful career prospects in government sector, public services, profession of law, journalism, teaching and other related areas.
- To understand the concept of Comparative Politics, its scope; Traditional & Modern Concerns and Comparative Methods
- To understand the relative importance of different political approaches in a comprehensive understanding of the concept of comparative politics

- To understand the concept of constitutionalism, its history, types, nature and problems in modern times
- To understand the concept of constitutional formal structure, executive, legislative and judiciary
- To understand the concept of constitutional Informal Structures– Political Parties and Pressure Group

 To understand the concept of Conventions, Legacies and Basic features of Constitutions of UK & USA

 To understand the concept of Socio-Economic basis of Constitutions of UK & USA

 To understand the concept of Comparative Study of Executive, Legislation and Judiciary System of UK & USA

 To enhance the capability of students to identify the differences between major political parties in UK &USA and help them understand the functioning electoral processes

 To develop an understanding of the emergence of political institutions, their operations, their interaction with internal and external environment, and their formative influence in shaping individual and collective behavior with special references of UK&USA.

 To understand the basic factual information about politics within a particular

Programme Outcomes (POs)

 To better understand why countries choose different mechanisms and institutions for governing and to comprehend the value of these choices

 To understand the use of the major theories, concepts, and tools of comparative political science in a judicious and responsible manner

 To understand the relationships among political, social, and economic phenomena within countries and in the international environment

 To understand the political consequences of differing practices and historical paths across the countries

 To understand the concept of democracy and how it is successfully sustained

 To develop the capacity to assess objectively the outputs of political systems

 To learn about political, social and religious views and implement in present scenario.

Programme Specific Outcomes (PSOs)

 The course as a whole is meant to provide a sense of the broad streams of Indian thought while encouraging a specific knowledge of individual thinkers and texts.

 Based on the study of individual thinkers, the course introduces a wide span of thinkers and themes that defines the modernity of Indian political thought.

 The objective is to study general themes that have been produced by thinkers from varied social and temporal contexts.

 Selected extracts from original texts are also given to discuss in the class.

 Emphases on understanding the issues of contemporary India in a larger historical perspective

 Analyses the nuanced interconnections between the present and the past

- Develops a sense of rootedness to reflect upon issues and challenges of contemporary India.
- The basic focus of study is on individual thinkers whose ideas are framed by specific themes
- Describes the specific elements of Indian Political Thought spanning over two millennia.
- Motivates the students to understand the various political thinker's philosophy their relevance and objectives.

.

POs, PSOs & COs of Economics

On completion of the course the students will be able to

CO 1	understand the basic terminology of micro economics and they will be able to provide definitions for fundamental economic concepts, such as, scarcity, choice, opportunity cost, utility, demand, supply, elasticity, cost and profit
CO 2	answer the questions what, how, and for whom should goods and services be produced with limited resources
CO 3	understand the factors on which demand of a commodity depends
CO 4	exhibit the measures of demand elasticity relative to change in price, income and price of substitutes
CO 5	Understand the behavior of consumers in making decisions on the allocation of limited resources in order to get maximum satisfaction
CO 6	understand the concept of production function in short run and long run and develop an understanding of law of diminishing marginal product, law of variable proportion and returns to scale
CO 7	understand the factors on which supply of a commodity depends and the students will be able to calculate the price elasticity of supply
CO 8	exhibit the calculation of various production costs fixed, variable and marginal cost
CO 9	understand the total, average and marginal revenue and break even analysis

Paper: Microeconomics-II **Session: 2020-21**

Subject code: EC22 **Semester: Second**

On completion of the course the students will be able to

CO 1 compare and contrast the market structures, including

	competition, monopoly, monopolistic competition and oligopoly
CO 2	exhibit how firms under perfect competition, monopoly and monopolistic competition determine their price, output and profit maximization
CO3	gain the knowledge of marginal productivity theory of distribution, theory of wages, identify different types of rent and grasp different theories of rent and interest

Paper: Macroeconomics-I **Session: 2020-21**

Subject code: EC23 **Semester: Third**

On completion of the course the students will be able to

CO 1	understand the nature ,scope and importance of macroeconomics
CO 2	demonstrate the process of measuring National Income Statistics, identify its components and analyze the various income identities
CO 3	understand the role of household sector, producer sector, government sector and rest of the world in circular flow of income in an economy
CO 4	understand Say's law of market, classical theory of employment and Keynesian theory of income and employment; demonstrate the principle of Effective Demand
CO 5	understand the meaning of consumption function, relationship between APC and MPC, Keynesian Psychological Law of Consumption
CO 6	Understand the meaning of capital and investment; types of investment and understand the relation between MEC and MEI

Paper: Macroeconomics-II **Session: 2020-21**

Subject code: EC24 **Semester: Fourth**

On completion of the course the students will be able to

CO 1	understand the concept of multiplier and its relation with MPC and

	MPS, demonstrate the working of multiplier
CO 2	understand Acceleration principle and the concept of Super Multiplier
CO 3	demonstrate the demand for and supply of money, high powered money, illustrate various version of quantity theory of money, Keynesian Liquidity theory of Money
CO 4	illustrate the classical theory of inflation understand the meaning of inflation, identify different types of inflation, causes and effects of inflation on different sectors of the economy
CO 5	examine different phases of trade cycle, demonstrate various trade cycle theories, understand the impact of cyclical fluctuation on the growth of business, and elaborate classical and Keynesian theories of interest

Paper: Indian Economy-I **Session: 2020-21**

Subject code: EC25 **Semester: Fifth**

On completion of the course the students will be able to

CO 1	make a comparison between capitalistic, socialistic and mixed economy
CO 2	develop ideas of the basic characteristics of Indian economy, its potentials and different resources, make a comparison with developed economies
CO 3	Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development
CO 4	Understand the current and historical scenario of poverty, causes and measures of eradication of poverty
CO 5	Understand the nature and types of unemployment in India, identify various causes of unemployment in India
CO 6	analyze the role of agriculture in Indian economy, causes of low productivity, demonstrate achievements and failures of green

	revolution
CO 7	understand the defects and measures of agricultural marketing, identify various sources of agricultural finance
CO 8	Understand the features and problems of SEZs

Paper: Indian Economy-II **Session: 2020-21**

Subject code: EC26 **Semester: Sixth**

On completion of the course the students will be able to

CO 1

	understand the role of industrialization, analyze the impact of liberalization, globalization and privatization on Indian economy,
CO2	Understand the growth and problems of small and large scale industry, have knowledge about information technology and software consultancy
CO 3	Understand the characteristics of industrial labour, have knowledge on the various causes of industrial dispute and initiatives taken by the govt. for their social security
CO 4	Understand the economic planning undertaken by Indian government,have knowledge on the various objectives, failures and achievement as the foundation of the on-going planning
CO 5	demonstrate trends, composition and direction of exports and imports
CO 6	Analyze the role of FDI, FII and MNCs in India,
CO 7	Understand external borrowings and BOP problem in India
CO 8	Establish relationship between international institutions and Indian economy

Program outcomes (POs) of B.A. Economics

On completion of graduation level the students would be able to

PO 1	develop the ability to explain core micro and macro-economic terms, concepts and theories

PO 2	demonstrate the ability to employ the Economic way of thinking
PO 3	apply economic theories and concepts of contemporary social issues, as well as formulation and analysis of policy
PO 4	apply the oral and written communication skill within the discipline
PO 5	use critical thinking skill within the discipline of Economics and Economic matters
PO 6	recognize the role of different ethical values in Economic decisions
PO 7	develop on awareness of concern choices for undergraduate economic majors and the options graduate study

Program Specific Outcomes (PSOs) of B.A. Economics

On completion of graduation level the students would be able to

PO 1	apply microeconomics theories to explain the behavior of consumers, producers, firms and industries in market-based system
PO 2	analyze macroeconomics theories of income and employment determination, including classical and Keynesian theory, for formulating the economic plans for an economy
PO 3	understand the features and structural changes of Indian economy and compare with growth pattern of developed economies and apply the theoretical knowledge in actual working of Indian economy

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for Histroy in Bachelor of Arts (B.A.)

List of COs:

CO-1 Describe the copper Civilization to urban Civilization in Indian Continental which emerged in about 5000 B.C.

CO-2 Understand how the Vedic Civilization was a Rural Civilization in Indian Continental which emerged in about 1500-600 B.C.

CO-3 Understand how First Urban revolution had started in India in 600 B.C.

CO-4 Understand how India became the first centralise state under the Mouraya's reign

CO-5 Understand how the social system declined in India from 600 B.C to the upliftment of downtrodden people in India, the rise of Buddhism and Jainism Movement

CO-6 Understand the political, social and economic conditions and their respective impact on cultural growth in Gupta's Empire

CO-7 Understand the emergence of many feudal states in whole India after the decline of Gupta's empire

CO-8 Understand the main purpose of Muslim invaders behind the conquest of India.

CO-9 Understand how Delhi Sultanate established according to Islamic political system

CO-10 Understand how new technological change occurred in India under the Delhi Sultanate which was used in Agricultural, Trade and commerce

CO-11 Understand the emergence of new social classes in Medieval time which was the result of a new State Formation

CO-12 Understand how composite culture started in Medieval India which was the result of growth of Literature, Art and Architecture

CO-13 Understand how new state and administration established in India after the decline of Delhi Sultanate under the Mughals

CO-14 Understand how Akbar Consolidated and Expanded the Mughal State to their liberal and secular policies

CO-15 Understand how Akbar revised their administration, based on State, after the expansion of the Mughal state

CO-16 Understand how Aurangzeb's, the Mughal emperor, policy resulted in the decline of Mughal state

CO-17 Understand how the cause of rivalry between French and British was to achieve mercantile supremacy in India and to save their imperial interest

CO-18 Understand how the objective behind the expansion of British empire in India was to achieve their economic interests

CO-19 Understand how the revolution of 1857 was the First War of

Independence.

CO-20 Understand how the 1857 uprising resulted in an awareness of British imperialist policies and an understanding of the nature of colonial state leading to the formation of India as a nation

CO-21 Understand how the Indian National Congress was a symbol of rise of Nationalism in India

CO-22 Understand how the different dimensions of Indian Nationalism emerged time to time during the Indian National Movement, and its ultimate objective to accomplish India's Independence

CO-23 Understand the use of British Policy of Divide and Rule in India and their chief objective to safe their imperial interests

CO-24 Understand how the rise of Communalism in India was a cause of

Political interests of different communities in India and imperial state

CO-25 Understand Mahatma Gandhi's struggle not only against the British

Empire but also against Indian Social, Economic and political system

CO-26 Understand the significance of Mahatma Gandhi's theory of Non-Violence against British State for the Freedom of India

CO-27 Understand how the transition from feudalism to capitalism in Europe and emergence of Renaissance and Reformation influenced the making of

Modern Europe which started in 15th-16th century

CO-28 Understand Mercantile Revolution as an early stage of capitalism in

Europe

CO-29 Understand Scientific Revolution given new light and approaches to understand things and solutions of problems related to life

CO-30 Understand how the Revolution of England in 1688 started the process of liberalism in England and Europe and served an important role in the emergence of Democratic system in Europe

CO-31 Understand how the Industrial Revolution started and considered as the second stage of capitalism in Europe and World

CO-32 Understand how the Agriculture Revolution was followed by the commercialization of Agriculture in Europe and World

CO-33 Understand how Imperial interests was the main cause of American

Revolution and discuss the French Revolution.

CO-34 Understand the World War-1 was highly stage of the capitalism

CO-35 Understand how develop Fascism and Nazism were the Despotic rules in Europe and direct challenge to Democratic system in Europe and World

CO-36 Understand the World War-11,its main cause was imperial interest of European power , Fascism and Nazism

List of POs:

PO 1. In Social History, Discussed the nature of family, condition of women, the Reform Movements during the Indian Renaissance like Brahmo Samaj, Arya Samaj, Prarthna Samaj, Ramkrishan Mission etc.

PO 2. Discussed the relevance of the profound thinkers and reformers like Ramanand, Kabir, Naamdev, Guru Nanak Dev, Raja Ram Mohan Rai, Swami Dayanand Saraswati and Swami Vivekanand in the history of India

PO 3. In Economic History, discussed the growth of Capitalism in India, Industrial Revolution, Agriculture Revolution, Banking System, Trade and Commerce and means of transport etc

PO 4. In Religious History, discussed the emergence of New Religion like Hinduism, Buddhism, Jainism, Islam and Sikhism etc. Discussed the role of Christianity in Asia and Europe, in medieval time

PO 5. In Cultural History, discussed the gradual development of societies, their customs and traditions, education systems, growth of architecture, literature and arts

PO 6. In Military History, discussed the disintegrating impact of War in the post-war World; the exigencies of post-war life and relevance of various forces of defence in a country. The devastating impact of the use of atom- bomb on Hiroshima and Nagasaki in Japan and its aftermath

List of PSOs:

PSO 1. Organized Group-Discussions (GDs) for History students on the college campus to enhance their abilities to engage in a constructive historical discourse and to learn the importance of cogency of argumentation in academic discussions

PSO 2. Introduced the methods of E-Learning in the teaching of the subject to acquaint the students with the advance and variegated sources used for the analysis of any historical concept

PSO 3. Organized the History Students' Association in the college to facilitate the students with opportunities to have active and positive interaction about various historical concepts

PSO 4. Organized quiz competitions among the college students to make them articulate and intelligibly expressive

PSO 5. Engaged the students in the activity of visiting college library and instructed them how to utilize the assets available in the library

PSO 6. Organized historical tours for the college students giving them the opportunity to have the firsthand knowledge of the historical events they study in

their curriculum. Showed them historical museum, archaeological sites and monuments

PSO 7. The History Department has made special endeavours to collect antiquities from the sites of Harappan civilization like *Rakhigari* (Jind) and *Bhagwanpura* (Kurukshetra) for the grand objective of establishing their own Historical Museum in the college.

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for Mathematics in Bachelor of Arts (B.A.)

ALGEBRA

CO1: Symmetric, Skew symmetric, Hermitian and skew Hermitian matrices. Elementary Operations on matrices. Cayley Hamilton theorem and its use in finding the inverse of a matrix.

CO2: Applications of matrices to a system of linear (both homogeneous and non–
homogeneous) equations.

CO3: Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations.

CO4: Nature of the roots of an equation Descarte's rule of signs. Solutions of cubic equations
(Cardon's method). Biquadratic equations and their solutions.

CALCULUS

CO5: Definition of the limit of a function. Basic properties of limits, Continuous functions and classification of discontinuities. Maclaurin and Taylor series expansions.

CO6: Asymptotes in Cartesian coordinates, intersection of curve and its asymptotes, asymptotes in polar coordinates. Curvature, radius of curvature for Cartesian curves, parametric curves, polar curves.

CO7: Tracing of curves in Cartesian, parametric and polar co-ordinates. Reduction formulae, Rectification, intrinsic equations of curve.

CO8: Quardrature (area)Sectorial area. Area bounded by closed curves. Volumes and surfaces of solids of revolution.

SOLID GEOMETRY

CO9: General equation of second degree. Tracing of conics. Tangent at any point to the conic, chord of contact, pole of line to the conic, director circle of conic.

CO10: Sphere: Plane section of a sphere. Sphere through a given circle. Intersection of two spheres, radical plane of two spheres. Co-oxal system of spheres

CO11: Central Conicoids: Equation of tangent plane. Director sphere. Normal to the conicoids, Polar plane of a point. Enveloping cone of a coincoid. Enveloping cylinder of a coincoid.

CO12: Paraboloids: Circular section, Plane sections of conicoids, Generating lines. Confocal conicoid. Reduction of second degree equations.

NUMBER THEORY AND TRIGNOMETRY

CO13: Divisibility, G.C.D.(greatest common divisors), L.C.M.(least common multiple) Primes, Complete residue system and reduced residue system modulo m. Euler function, Euler's generalization of Fermat's theorem. Chinese Remainder Theorem.

CO14: De Moivre's Theorem and its Applications. Expansion of trigonometrical functions, Direct circular and hyperbolic functions and their properties.Inverse circular and hyperbolic functions and their properties. Logarithm of a complex quantity.

ORDINARY DIFFERENTIAL EQUATIONS

CO15: Geometrical meaning of a differential equation. Exact differential equations, integrating factors. Orthogonal trajectories: in Cartesian coordinates and polar coordinates. Self orthogonal family of curves.

CO16: Linear differential equations of second order: Reduction to normal form. Solution of simultaneous differential equations involving operators x (d/dx) or t (d/dt) etc. Method of auxiliary equations.

VECTOR CALCULUS

CO17: Scalar and vector product of three vectors, product of four vectors. Divergence and curl of vector point function, Cylindrical co-ordinates and Spherical coordinates. Vector integration; Line integral, Surface integral, Volume integral, Theorems of Gauss, Green & Stokes and problems based on these theorems.

ADVANCED CALCULUS

CO18: Continuity, Sequential Continuity, properties of continuous functions, Uniform continuity, chain rule of differentiability. Taylor's theorem for functions of two variables.Lagrange's method of multipliers. Surfaces: Tangent planes, one parameter family of surfaces, Envelopes.

PARTIAL DIFFERENTIAL EQUATIONS

CO19: Partial differential equations: Formation, order and degree, Equations reducible to linear equations with constant co-efficients. Solution of linear hyperbolic equations, Monge's method for partial differential equations of second order. Cauchy's problem for second order partial differential equations.

STATICS

CO20: Composition and resolution of forces. Parallel forces. Moments and Couples. Analytical conditions of equilibrium of coplanar forces. Friction. Centre of Gravity. Virtual work. Forces in three dimensions. Poinsots central axis, Wrenches.

SEQUENCES and SERIES

CO21: Boundedness of the set of real numbers; least upper bound, greatest lower bound of a set, Neighborhoods. Infinite series: Convergence and divergence of Infinite Series, Infinite series: D-Alembert's ratio test, Raabe's test, Convergence and absolute convergence of infinite products.

SPECIAL FUNCTIONS AND INTEGRAL TRANSFORMS

CO22: Series solution of differential equations – Power series method, Definitions of Beta and Gamma functions. Bessel equation and its solution: Bessel functions and their propertiesConvergence, recurrence, Relations and generating functions, Orthogonality of Bessel functions.

PROGRAMMING IN C & NUMERICAL METHODS

CO23: Programmer's model of a computer, Algorithms, Flow charts, Data types, Operators and expressions, Input / outputs functions. Decisions control structure: Decision statements, Logical and conditional statements, Implementation of Loops.

REAL ANALYSIS

CO24: Riemann integral, Integrabililty of continuous and monotonic functions, The Fundamental theorem of integral calculus. Mean value theorems of integral calculus. Improper integrals and their convergence, Comparison tests, Abel's and Dirichlet's tests, Frullani's integral.

GROUPS AND RINGS

CO25: Definition of a group with example and simple properties of groups, Subgroups and Subgroup criteria, Rings, Subrings, Polynomial rings over commutative rings, Unique factorization domain.

NUMERICAL ANALYSIS

CO26: Finite Differences operators and their relations. Finding the missing terms and effect of error in a difference tabular values, Central Differences: Gauss forward and Gauss's backward interpolation formulae, Numerical Differentiation, Eigen Value Problems: Power method, Jacobi's method, Given's method, HouseHolder's method, QR method, Lanczos method.

REAL AND COMPLEX ANALYSIS

CO27: Jacobians, Beta and Gama functions, Double and Triple integrals, Dirichlets integrals, change of order of integration in double integrals. Fourier's series: Fourier expansion of piecewise monotonic functions, Properties of Fourier Co-efficients, Dirichlet's conditions.

LINEAR ALGEBRA

CO28: Vector spaces, subspaces, Sum and Direct sum of subspaces, Linear span, Linearly Independent and dependent subsets of a vector space. Finitely generated vector space, Homomorphism and isomorphism of vector spaces, Linear transformations and linear forms on vactor spaces, Vactor space of all the linear transformations Dual Spaces,

DYNAMICS

CO29: Velocity and acceleration along radial, transverse, tangential and normal directions. Relative velocity and acceleration. Simple harmonic motion. Elastic strings. Mass, Momentum and Force. Newton's laws of motion. Work, Power and Energy. Definitions of Conservative forces and Impulsive forces.

Programme Outcomes, Programme Specific Outcomes and Course Outcomes for Geography (B.A.)

PROGRAMME OUTCOMES

- To understand the scope and evolution of the diverse discipline of Geography.
- Instill confidence and develop a sense of identity in facing the real world.
- Develop critical thinking and skills that train students to analyze problems and validate real life solutions.
- Development of knowledge, skills and holistic understanding of the discipline among students.
- Students become equipped with the ability to respond to both natural and man – made disasters and acquire management skills. This is attained through the curriculum by studying and analyzing hazards, disaster, their impact and management.
- Ensure that the lessons are self-directed and lead to lifelong learning.

PROGRAMME SPECIFIC OUTCOMES

- Establish the position of Geography as a subject and its importance and interrelationships that reiterate and validate the Man Environment relationship.
- Understand the nature and basic concept of Geomorphology, Climatology, Oceanography, Geography of India, Economic Geography, etc
- In the course of field surveys, students acquire a greater understanding of the socio-economic and cultural dimensions of the society.
- Practical of the physical features enable the students to understand the landforms, geomorphic process and associated hazards.
- Provide training to students in handling modern instruments and methods like Aerial Photographs, Satellite Imagery, GPS, Plane Table Survey, Prismatic compass, Chain – Tape and Meteorological instruments.
- Computer-based techniques (RS & GIS) are incorporated in the syllabus which prepares the students for further analytical studies.
- The Ability Enhancement Course strives to develop communication powers in the student, both written and oral.
- The syllabus is oriented towards emerging job opportunities and future prospects for the students.
- Assistance is given to students in preparing for various competitive exams like NET, State Govt. TET, SSC, HSSC etc.

COURSE OUTCOMES

The course outcomes of the different papers offered in first to sixth semester are presented below. After completion of the course the student will be able to:

Paper Code	Course Title	Credits	Course Outcomes
		Semester – I	
101	Geography of India	50 + 20 = 70	• Students will get an introduction to the main regions of the India in terms of physical and regional classification. • In-depth knowledge of climate, natural vegetation, population resources, agriculture and resources and industries of India. • Students will be introduced to demographic, social and cultural attributes such as migration, social relation, and cultural identity, rural and urban settlements. • Recognize regional identities and environmental dimension of regionalization to address the issues and concern needed for regional planning. • Showing an awareness and responsibility for the environment and India. • Evaluating the impacts of human activities on natural environments special reference to India.
		Semester – II	
103	Physical Geography - I	50 + 20 = 70	• In this course, students will understand the concept of Physical Geography and Geomorphology. • Students will learn how earth's tectonic and structural evolution and they also gain knowledge about earth's interior. • Students develop an idea about concepts of plate tectonics and resultant landforms. • Students will be exposed to the nature of physical systems such as geomorphologic processes and natural hazards. • Students will be able to read and interpret information on folds, faults, earthquakes, volcanoes and associated landforms.

			• Students identifying and explaining the earth, physical feature and processes from global to local scales. • To make the students aware of the need of protection and conservation of different landforms.
102 & 104	Maps, Scales & Representation of Physical Features (Practical)	60	• Classification and uses of the maps, scales and Topographical maps. • Preparation of various scales and illustration of physical features. • Recognize basic themes of map making. • This course developed the capacity for using these scales, maps and physical features in the relevant areas.
Semester – III			
201	Physical Geography - II	50 + 20 = 70	• In-depth knowledge of climate,Temperature, Composition and structure of Atmosphere. • Conceptualize the Atmospheric Pressure, Humidity and Precipitation. • Air masses, Climatic Classification and Global warming. • Students will be able to know about the Ocean Floor, oceanic Circulation, Oceanic temperature and oceanic salinity
Semester – IV			
203	Human Geography	50 + 20 = 70	• In-depth knowledge about the Tribes and races of India, Relationship between Nature and Human. • Students will be able to understand the meaning, nature and classification of resources, conservation of natural resources. • Recognize the distribution, Density and growth of population.
202 & 204	Representation of Climatic Data and Map Projections (Practical)	60	Students will be able to understand and representation of climatic data. Chain and tape survey Map Projections and plain table survey

Semester – V			
301	Economic Geography	50 + 20 = 70	• In-depth knowledge of Nature and Scope of Economic Geography. • Conceptualize and Classified of Economic Activities. • To make the students aware about Agriculture and Mineral resources • Students will be able to conceptualize the Manufacturing industries, Trade, communication and international trade
Semester – VI			
303	Introduction to Remote Sensing, GIS & Quantitative Methods	50 + 20 = 70	• In-depth knowledge of Aerial Photography. • Students can easily understand and interpret the Aerial photography. • To make the students aware about Remote sensing imageries and their Application.
302 & 304	Representation of Climatic Data and Map Projections (Practical)	60	Students will be able to understand the symbolization and distributional maps making process. Students will be able to understand the main aspects of prismatic compass survey Practical of Aerial photographs their scale and interpretation.

PROGRAM OUTCOME OF BACHELOR OF SCIENCE

Government College Israna adheres to the syllabi for B.Sc. programme offered by the university in accordance to UGC norms. College have non-medical stream in which the subject combination offered are mathematics, physics and chemistry. As compulsory subject English language at first year level and Sanskrit at second year level in taught in order to enhance the reading, speaking, writing and reproducing skills of the students.

The programme outcomes of Bachelor of Science as follows:

1. Basic knowledge of Science: Students get acquainted with the knowledge of science which helps them to understand various events taking place in their surroundings.
2. Disciplinary knowledge and skill development:
    a. Comprehensive knowledge and understanding of major concept, theoretical principal and experimental finding in science and its sub field; including broader interdisciplinary streams such as physics, chemistry, mathematics.
    b. Ability to use modern instrumentation for advance technology.
3. Dealing with untoward incidence: The basic knowledge of science helps them to deal with the untoward incidence in the neighborhood, For example sudden explosion by chemicals, misuse of unwanted substances excessive rain or drought can be managed by basic knowledge of science.
4. Environmental protection: The environmental pollution is the main concern of the society these days. The students can aware the society about harmful pollutants, their affect on environment in general and effect on human health in particular.
5. Employability : The students can find employment in following fields:
    (i) They can opt carrier in ethno botanical study, environment conservation, preservation.
    (ii) The students can go in industries viz. Pharmaceutical, fertilizer, bio- fertilizer, organic fertilizer, textile, food ceramic, cement, petroleum, pesticides etc.
    (iii) The students can opt carrier in defense services (CDS) forest services
    (IFS), atmosphere sciences, etc.
    (iv) The students can go for ballistics, forensic, bio warfare labs, CBIR labs, DRDO, biotechnology, industrial chemistry etc.

(v) The students can go in drone technology in agriculture, remote sensing, geo mapping etc

Physics

Course Outcomes (COs)

Co 1	Classical mechanism and theory of Relativity.
Co 2	Electricity, Mechanism and Electromagnetic waves
Co 3	Properties of Matter and kinetic theory of gases
Co 4	Semi conductor senses
Co 5	Computer programming and thermodynamics
Co 6	Wave and options-I
Co 7	Statistical Physics
Co 8	Wave and options-II
Co 9	Quantum and Laser Physics
Co 10	Nuclear physics
Co 11	Solid state and Nero Physics
Co 12	Atomic and Molecular Spectroscopy

Program Specific Outcomes (PSOs)

PSO 1	It reveals the basic concepts of Mechanics for single particle as well as for system of particles, apply generalized nations techniques to understand different concepts; knowledge of frame of references and their applications to find various parameters.
PSO 2	Basic idea of Electricity and Magnetism and study the various terms in vector actions.
PSO 3	Basic knowledge of properties of matter and find various quantities using this in common life.
PSO 4	Concepts and applications of electronic devices for the development of society.
PSO 5	Basic knowledge of computer; applications with different programming; to understand the concepts of them dynamics and their applications.
PSO 6	Knowledge of light including designs of experiments and solve the complex problems related to light phenomenon.
PSO 7	To know the statistics physics for micro and macro states; different concepts of classical and quantum mechanics and their applications.

PSO 8	Find the solutions of complex form relations related to light and their use in society.
PSO 9	Knowledge of Quantum mechanical and LASER physics theoretical as well as experimentally and applications of LASER in the field of medicine, industry, military , research labs etc.
PSO 10	Understand the concepts of Nuclear physics and their applications in Nuclear accelerates and Nuclear detectors to find the power and energy for constructive purposes.
PSO 11	Knowledge of crystal structure and super conductivity and their applications; knowledge of Nano technology as well as the applications of Nano physics in automobile, Electronics, Biotechnology, material science and medicine etc.
PSO 12	Study of atomic spectrum copy using basic concepts of atomic and nuclear physics and their research based knowledge.

POS of General Higher Education Program:-

PO 1	Students at the time of graduation will be able to critical thinking:- Our ideas or decision must be accurate and clear.
PO 2	Effective Communication:- Speak, read, write and listening must be clear to every student.
PO 3	Social Interaction:- Interaction of students related to various topics is must be clear the concept.
PO 4	Effective Citizenship:- Demonstration and ability awareness for everyone is necessary.
PO 5	Ethics:- Taking decisions and responsibility for each must be clear.
PO 6	Environment and Sustainability:- Understand the issues of environmental contexts for better development.
PO 7	Self directed and life-long learning:- One should acquire the ability to engage himself/herself independent and life-long learning.

B.Sc. I Chemistry

Programme Objectives

1. To provide broad knowledge and skill in Chemistry.
2. To understand the use of Chemicals in daily life.
3. To impart the basic analytical and technical skills to work effectively in the various fields of chemistry.
4. To prevent the mis-use of chemicals by the Society
5. To prevent the harmful Effect of Chemicals used in our daily life.

Programme Specific Outcomes

1. Atomic Structure, Periodic table and atomic properties
2. Covalent Bond, Ionic Solids
3. Hydrogen Bonding and Van der Waals forces, Metallic Bond and semiconductors
4. s-Block elements, Chemistry of Noble Gases
5. p-Block elements, Boron, Carbon, Nitrogen, Oxygen and Halogen family
6. Gaseous States, Critical Phenomenon
7. Liquid and Solid States
8. Kinetics and Electrochemistry
9. Structure and Bonding, Stereochemistry of Organic Compounds
10. Mechanism of Organic Reactions, Alkanes and Cycloalkanes
11. Alkenes, Arenes and Aromaticity
12. Dienes, Alkynes, Alkyl and Aryl Halides

Course Outcomes

1. To discuss Atomic Structure, Periodic Table and Atomic Properties viz. Ionisation Energy, Electron Affinity, Electro negativity, Quantum Numbers, Electronic Configuration of the Elements
2. To study the formation of Covalent Bond, Hybridisation, Bond Energy, Bomd Length, Crystal Structure, Lattice Energy, Crystal Defects, Solvation Energy and Fajan's Rule
3. To elaborate Hydrogen Bonding, Vander Waal's forces, Metallic bond, semiconductors, Compounds of S-block Elements,

4. Noble gases, Bonding in Compounds of Noble gases
5. To discuss about p-block elements, structure, bonding and compounds of Boron, Carbon, Nitrogen and halogen family
6. To discuss Kinetic Molecular Theory of Gases, Derivation of Vander waals Equation and its applications, Critical Temperature, pressure, volume, compressibility factor
7. To elaborate Structure and properties of Liquid, Classification of Solids, Crystal systems,

   Bragg's Law
8. To understand the rate of reaction, Order of reaction, Half life period, Arrhenious equation, Electrolytic conduction, dilution law, Kohlrausch law, Degree of dissociation, Henderson-Hazel Equation
9. To understand localized and de-localized Chemical bonds, Electronic Effects, Isomerism, Configuration, E and Z, R and S Nomenclature, Conformations
10. To draw the mechanism of Organic Reactions, study of attacking reagents, Reaction Intermediates, method of preparation, nomenclature, physical properties of alkanes and cycloalkanes.
11. To study preparation and properties of Alkenes, Arenes, Aromaticity, Mechanism of Aromatic Electrophillic substitution, Activating and De-activating substituents and Orientation
12. To discuss the methods of preparation, structure, properties of Dienes, Alkynes, Alkyl and Aryl halides, S_N1 and S_N^2 mechanisms.

B.Sc II Year CHEMISTRY

Programme Objectives

1. To develop laboratory competence in relating chemical structure to spectroscopic phenomenon.
2. To demonstrate the ability to synthesize, separate and characterize compounds using published procedures, standard laboratory equipments and modern instrumentation.
3. To make aware towards the minimum use of non-biodegradable materials.
4. To make aware towards the use of biodegradable materials
5. To work effectively and safely in a laboratory environment

Programme Specific Outcomes

1. Chemistry of d-Block elements,
2. Coordination Compounds, Non-aqueous solvents
3. Chemistry of f-Block elements
4. Theory of Qualitative and Quantitative Analysis
5. Thermodynamics
6. Chemical Equilibrium, Distribution Law
7. Thermodynamics, Electrochemistry
8. Alcohols, Phenols, Epoxides
9. Ultraviolet (UV) absorption spectroscopy
10. Carboxylic Acids & Acid Derivatives
11. Infrared (IR) absorption spectroscopy, Amines
12. Diazonium Salts, Aldehydes and Ketones

Course Outcomes

1. To discuss the Classification, properties, Comparison of properties of 3d, 4d and 5d elements, Latimer and Forst diagrammes, Structure and properties of Transition element compounds

2. To study nomenclature, Isomerism and bonding in Coordination compounds, Types of Solvents, Physical properties with special reference to liq. NH_3 and SO_2.
3. To discuss about the Electronic configuration, properties of Lanthanides, actinides, Lanthanide Contraction, Separation of Np, Pu, Am fro Uranium, Trans-uranic Elements
4. To elaborate the basic and acidic radicals, their identification, Interference by acidic radicals, solubility product, common ion effects.
5. To study the types of system, Thermo-dynamic process, Heat capacity, Work, Joule-Thomson Effect
6. To discuss the Equilibrium, Law of Chemical equilibrium, Claussius-Calpeyron Equation, Nerst distribution law, degree of hydrolysis, process of Extraction
7. To study the Laws of Thermodynamics, Entropy and Enthalpy Change, Spontaneity of Reaction, Gibbs Free Energy, Collision Theory and Transition state Theory, Electrolytic and galvanic cell, S.H.E. and Nerst Equation
8. To elaborate the methods of preparation, properties of Alcohols, phenols, Epoxides, Fries, Claisen Re-arrangement, Riemer Tiemann, Kolbe's, Schotten and Baumann Reactions
9. To discuss Absorption laws, Chromophore, Auxochromes and Schifts, Calculation of wave number using Woodward Fieser rules, Application of UV-spectroscopy
10. To elaborate method of preparation, structure, bonding and properties of carboxylic acid and its derivatives, relative stability of derivatives, Esterification and hydrolysis
11. To discuss about IR spectroscopy in structure determination, Hook's law, Application of IR, separation of primary, secondary and tertiary amines, Preparation, reaction with Nitrous acid
12. To discuss the diazonnium salts and synthetic applications, synthesis of aldehydes and ketones, special reagents, condensation reactions, oxidation and reduction reactions.

B.Sc III Year CHEMISTRY

Programme Objectives

1. To motivate critical thinking and analysis skills to solve complex chemical problems ex. Data

Analysis, spectroscopy, Structure and Modelling etc.

2. To demonstrate an ability to conduct Experiments with mastery of appropriate techniques and proficiency.

3. To develop skills in quantitative modeling of chemical systems.

4. To take preventive measures during the use of hazardous chemicals.

5. To save Environment by using Green (Ecofriendly) Chemicals.

Programme Specific Outcomes

1. Metal-Ligand Bonding in Transition Metal complexes, Thermodynamics and Kinetic Aspects of metal complexes
2. Magnetic properties of Transition metal complexes, Electronic spectra of Transition metal complexes
3. Acids and Bases, Organometallic chemistry
4. Bio inorganic chemistry, Silicones and Phosphazenes
5. Quantum Mechanics-I, Physical Properties and Molecular Structure
6. Spectroscopy, Rotational, Vibrational and Raman Spectrum
7. Introduction to statistical mechanics, Photochemistry
8. Solutions, Dilute Solutions and Colligative Properties, Phase Equillibrium
9. NMR Spectroscopy
10. Carbohydrates, Organometallic Compounds
11. Organic Synthesis *via* Enolates, Heterocyclic Compounds
12. Amino Acids, Peptides& Proteins, Synthetic Polymers

Course Outcomes

1. To discuss the Crystal field theory and metal ligand bonding, Splitting octahedral, tetrahedral and square planar complexes, thermodynamic stability of metal complexes, trans effect
2. To discuss the magnetic materials, magnetic susceptibility, method of determining magnetic susceptibility, spin only formula, orbital contribution to magnetic moments, application of magnetic moment data, Selection rules for d-d transition, orgel energy level diagram
3. To study the concepts of Acids and bases, HSAB principle and its applications, Structure and bonding in organometallic compounds
4. To discuss the metal ions present in biological system, Cooperative effect, Bohr effect, Nomenclature, classification, preparation and uses of silicones, and phosphazenes
5. To discuss the Black-body radiation, Plank's radiation law, photoelectric effect, Hamiltonian operator, Hermitian operator, Optical activity, magnetic susceptibility and types of magnetism

6. To elaborate the basic features of Spectroscopy, Degrees of freedom. Rotational , Vibrational and Raman Spectrum
7. To discuss the statistical thermodynamics, thermodynamic probability, partition function and physical significance, Laws of photochemistry, fluorescence, phosphorescence and quantum yield
8. To discuss the Ideal and non-ideal solutions, Colligative properties, Applications in calculating molar masses of normal, dissociated and associated solutes in solution. Phase Rule, phase equilibria of one and two component systems
9. To discuss the NMR spectroscopy and its application in structure determination of Organic compounds
10. To study the Structure, properties, Inter conversion of Carbohydrates, Formation and chemical reactions of Organomagnesium, Organozinc and Organolithium compounds
11. To study the Organic synthesis using Enolates, Structure and method of preparation and reactions of heterocyclic compounds
12. To study the structure, nomenclature, synthesis of amino acids and proteins, synthetic polymers and their use

MATHEMATICS

ALGEBRA

CO1: Symmetric, Skew symmetric, Hermitian and skew Hermitian matrices. Elementary Operations on matrices. Cayley Hamilton theorem and its use in finding the inverse of a matrix.

CO2: Applications of matrices to a system of linear (both homogeneous and non–
homogeneous) equations.

CO3: Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations.

CO4: Nature of the roots of an equation Descarte's rule of signs. Solutions of cubic equations
(Cardon's method). Biquadratic equations and their solutions.

CALCULUS

CO5: Definition of the limit of a function. Basic properties of limits, Continuous functions and classification of discontinuities. Maclaurin and Taylor series expansions.

CO6: Asymptotes in Cartesian coordinates, intersection of curve and its asymptotes, asymptotes in polar coordinates. Curvature, radius of curvature for Cartesian curves, parametric curves, polar curves.

CO7: Tracing of curves in Cartesian, parametric and polar co-ordinates. Reduction formulae, Rectification, intrinsic equations of curve.

CO8: Quardrature (area)Sectorial area. Area bounded by closed curves. Volumes and surfaces of solids of revolution.

SOLID GEOMETRY

CO9: General equation of second degree. Tracing of conics. Tangent at any point to the conic, chord of contact, pole of line to the conic, director circle of conic.

CO10: Sphere: Plane section of a sphere. Sphere through a given circle. Intersection of two spheres, radical plane of two spheres. Co-oxal system of spheres

CO11: Central Conicoids: Equation of tangent plane. Director sphere. Normal to the conicoids, Polar plane of a point. Enveloping cone of a coincoid. Enveloping cylinder of a coincoid.

CO12: Paraboloids: Circular section, Plane sections of conicoids, Generating lines. Confocal conicoid. Reduction of second degree equations.

NUMBER THEORY AND TRIGNOMETRY

CO13: Divisibility, G.C.D.(greatest common divisors), L.C.M.(least common multiple) Primes, Complete residue system and reduced residue system modulo m. Euler function, Euler's generalization of Fermat's theorem. Chinese Remainder Theorem.

CO14: De Moivre's Theorem and its Applications. Expansion of trigonometrical functions, Direct circular and hyperbolic functions and their properties.Inverse circular and hyperbolic functions and their properties. Logarithm of a complex quantity.

ORDINARY DIFFERENTIAL EQUATIONS

CO15: Geometrical meaning of a differential equation. Exact differential equations, integrating factors. Orthogonal trajectories: in Cartesian coordinates and polar coordinates. Self orthogonal family of curves.

CO16: Linear differential equations of second order: Reduction to normal form. Solution of simultaneous differential equations involving operators x (d/dx) or t (d/dt) etc. Method of auxiliary equations.

VECTOR CALCULUS

CO17: Scalar and vector product of three vectors, product of four vectors. Divergence and curl of vector point function, Cylindrical co-ordinates and Spherical coordinates. Vector integration; Line integral, Surface integral, Volume integral, Theorems of Gauss, Green & Stokes and problems based on these theorems.

ADVANCED CALCULUS

CO18: Continuity, Sequential Continuity, properties of continuous functions, Uniform continuity, chain rule of differentiability. Taylor's theorem for functions of two variables.Lagrange's method of multipliers. Surfaces: Tangent planes, one parameter family of surfaces, Envelopes.

PARTIAL DIFFERENTIAL EQUATIONS

CO19: Partial differential equations: Formation, order and degree, Equations reducible to linear equations with constant co-efficients. Solution of linear hyperbolic equations, Monge's method for partial differential equations of second order. Cauchy's problem for second order partial differential equations.

STATICS

CO20: Composition and resolution of forces. Parallel forces. Moments and Couples. Analytical conditions of equilibrium of coplanar forces. Friction. Centre of Gravity. Virtual work. Forces in three dimensions. Poinsots central axis, Wrenches.

SEQUENCES and SERIES

CO21: Boundedness of the set of real numbers; least upper bound, greatest lower bound of a set, Neighborhoods. Infinite series: Convergence and divergence of Infinite Series, Infinite series: D-Alembert's ratio test, Raabe's test, Convergence and absolute convergence of infinite products.

SPECIAL FUNCTIONS AND INTEGRAL TRANSFORMS

CO22: Series solution of differential equations – Power series method, Definitions of Beta and Gamma functions. Bessel equation and its solution: Bessel functions and their propertiesConvergence, recurrence, Relations and generating functions, Orthogonality of Bessel functions.

PROGRAMMING IN C & NUMERICAL METHODS

CO23: Programmer's model of a computer, Algorithms, Flow charts, Data types, Operators and expressions, Input / outputs functions. Decisions control structure: Decision statements, Logical and conditional statements, Implementation of Loops.

REAL ANALYSIS

CO24: Riemann integral, Integrabililty of continuous and monotonic functions, The Fundamental theorem of integral calculus. Mean value theorems of integral calculus. Improper integrals and their convergence, Comparison tests, Abel's and Dirichlet's tests, Frullani's integral.

GROUPS AND RINGS

CO25: Definition of a group with example and simple properties of groups, Subgroups and Subgroup criteria, Rings, Subrings, Polynomial rings over commutative rings, Unique factorization domain.

NUMERICAL ANALYSIS

CO26: Finite Differences operators and their relations. Finding the missing terms and effect of error in a difference tabular values, Central Differences: Gauss forward and Gauss's backward interpolation formulae, Numerical Differentiation, Eigen Value Problems: Power method, Jacobi's method, Given's method, HouseHolder's method, QR method, Lanczos method.

REAL AND COMPLEX ANALYSIS

CO27: Jacobians, Beta and Gama functions, Double and Triple integrals, Dirichlets integrals, change of order of integration in double integrals. Fourier's series: Fourier expansion of piecewise monotonic functions, Properties of Fourier Co-efficients, Dirichlet's conditions.

LINEAR ALGEBRA

CO28: Vector spaces, subspaces, Sum and Direct sum of subspaces, Linear span, Linearly Independent and dependent subsets of a vector space. Finitely generated vector space, Homomorphism and isomorphism of vector spaces, Linear transformations and linear forms on vactor spaces, Vactor space of all the linear transformations Dual Spaces,

DYNAMICS

CO29: Velocity and acceleration along radial, transverse, tangential and normal directions. Relative velocity and acceleration. Simple harmonic motion. Elastic strings. Mass, Momentum and Force. Newton's laws of motion. Work, Power and Energy. Definitions of Conservative forces and Impulsive forces.

BCom

BUSINESS MATHEMATICS I

CO30: Logarithms, Anti-logarithms , Sequences and Series: Arithmetic & Geometric Progressions. Differentiation, Matrices and Determinants: concept of matrix, types, and algebra of matrices; properties of determinants; Compound Interest and Annuities.

BUSINESS MATHEMATICS II

CO31: Permutations and Combinations, Binomial Theorem, Linear inequalities: graphical solution of linear equalities in two variables, solution of system of linear inequalities in two variables. Linear programming-formulation of equation, pie chart, pictographs, graphs of time series or line graphs; graphs of frequency distribution: histogram, frequency polygon, ogives or cumulative frequency curves, limitations of diagrams and graphs.

Commerce Department

Program Outcomes-

B.Com program outcomes for students who have taken admission to this program are expected to concentrate upon the following outcomes.

a) Commercial Sense
b) Develop Managerial skills
c) Entrepreneurial skill
d) Budgeting policy
e) Human Resources Management
f) Develop Numerical ability

PO-1	After completing three year bachelor degree program, students would gain a through knowledge in the fundamental of commerce and finance.
PO-2	The Curriculum focused on a number of specialization and practical exposures which would equip the students to face the Modern day challenges in commerce and Business.
PO-3	Apply Ethical Principles and commit to professional ethics and responsibilities and Norms of the practice.
PO-4	Individual and team work:- Function effectively as an Individual and as a member or leader in diverse teams and in Multidisciplinary settings.
PO-5	Communication:- Communicate effectively on Complex engineering activities with the community and with the society at large, such as being able to compare hand and write effective reports and design documentation, make effective presentations, and give and receive clear instruction.
PO-6	Project Management and Finance:- Demonstrate knowledge and understanding of the management principles and apply these to one's work, as a member and leader in a team, to manage projects and it multidisciplinary environments.
PO-7	Life Long Learning:- Recognize the need for and ability to engage in independent and life-long learning in the broadest context of technological change.
PO-8	Critical Thinking:- Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions(intellectual, organizational and personal) from different perspectives.
PO-9	Effective Citizenship:- Demonstrate empathetic social concern and equity catered national development, and the ability to act with an informed awareness

PO-10	of issues and participate in civil life through volunteering. Environment and sustainability:- Understand the issues of environmental contexts and sustainable development.
PO-11	Self directed and life-long learning:- Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.
PO-12	The all inclusive outlook of the course offer a number of value based and job oriented courses ensures that students are trained into up to date. In advanced accounting courses beyond the introductory level, affective development will also progress to the valuing and organizational levels.
Program Specific Outcomes(PSO)	
PSO-1	Students will be able to demonstrate progressive learning of various tax issues and tax forms related to individuals. Students will be able to demonstrate knowledge in setting up a Computerized set of accounting books.
PSO-2	Students will demonstrate progressive effective domain development of values, the role of accounting in society and business.q
PSO-3	Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
PSO-4	Learners will gain through systematic and subjects skills with in various disciplines of Commerce, business, accounting, economics, finance auditing and marketing.
PSO-5	Learners will be able to recognize features and roles of businessman, entrepreneur, manager, consultant, which will help learners to process knowledge and other soft skills and to react apply when confronted with critical decision making.
PSO-6	Learners will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA and other courses.
PSO-7	Learners will acquire the skills like effective communication, decision making, problem solving in day to day business affairs.
PSO-8	Learners will involve in various co-curricular activities to demonstrate relevancy of foundational and theoretical knowledge of their academic major and to gain practical exposure.
PSO-9	Learners can also acquire practical skills to work as tax consultant audit assistant and other financial supporting services.

PSO-10	Learners will be able to do higher education and advance research in the field of commerce and finance.
PSO-11	Accountancy- Understanding basic concepts of accounting, principles of accountancy and accounting cycle to maintain accounts of trading and non-trading organizations.
PSO-12	Getting acquainted with the procedure of preparation of income statements, retained earnings, balance sheet and statement of cash flows which are required for external users and more useful to managers for managerial decision making.
PSO-13	Including different skills for analysis and interpretation of financial data to understand financial health of an organization and ensure that resources are to being used to achieve the organizations objectives.
PSO-14	Developing knowledge about Cost ascertainment and fixation of selling price and cost control. Obtaining the knowledge of various provisions of Income Tax Act and their application in computation of taxable income of an individual under different heads of income.
PSO-15	Getting working knowledge of generally accepted auditing-procedure, techniques and skills.
PSO-16	Students will learn relevant financial accounting skill, corporate accounting skills, and cost & Management accounting applications.
PSO-17	Learners will gain through systematic and subject skills of business management, Marketing management, Auditing & Economics. Students can also acquire practical skills to work as tax consultant, audit assistant and in other financial supporting services.
PSO-18	Learners will be able to do higher degree like M.Com, MBA, CA, CS & ICWA, etc.
PSO-19	Students will be able to do their best in Competitive exams in various fields like Banking, insurance and SSC exams.

Course Outcomes

B.Com. (1st , 2nd, 3rd Year)

Financial Accounting- To develop Conceptional understanding of fundamentals of Finance Accounting System and develop skills in accounting for various kinds of business transaction.

Business Communication- To develop communication skills and overall personality development of the student.

Business Economics- The objective of this course is to acquaint the students with the business economic principles as are applicable in business.

Principles of Management- To provide knowledge about motivating employees by providing financial and Non-financial incentives. Emanating the economic growth and development of an organization. To know to make planning , decision making, Controlling, Staffing, Organizing etc. to understand new approaches in management.

Corporate Accounting- To understand knowledge of new trends in Corporate Accounting i.e. issue of share and debentures & redemption.

Corporate Law- To acquire knowledge and develop understanding of necessary framework of companies with reference to various provisions or Company Act 2013& 2016.

Cost Accounting- To understand knowledge of Cost Accounting, Process Accounting, Material

Cost, Labor Cost and overhead.

Management Accounting- The objective of the course is to equip the students with the ability to analysis interpret and use of accounting information in managerial decision making. The student is expected to have a good working knowledge of the subject. The course provides the students an understanding of the applications of accounting techniques for management.

Business Law- The objective of this course is to provide a brief idea about the framework of Indian Business Law.

Business Environment in Haryana- The purpose of this course is to give detail knowledge about small, medium and large industries and economy of Haryana.

Principle of Marketing-

1. Enhancing the skill of Marketing among students.
2. Providing different techniques of Marketing for increase of sales.
3. Creating the sense how to behave in the market while buying or selling of product.
4. Understanding how to undertake crucial task such as competition anlaysis, production etc.
5. Providing information about buying pattern and different attitude of consumer.

Income Tax Law and Accounts-

- Knowledge about Income tax provisions regarding Agriculture income, Residence status and tax Liability.
- Practical knowledge about Income from Salaries, Income from House Property, Business or Profession, Capital Gains & income from other sources.
- Computation of total income and tax liability of all assesses.
- Giving practical knowledge about filing the returns of income.

Entrepreneurship Development-

- Understanding the meaning, need and role of entrepreneur in the development of economy,
- Providing knowledge about preparing project report for the new business.
- Giving information about Govt. support and incentives to new enterprises