

**SIR CHHOTU RAM GOVERNMENT COLLEGE FOR
WOMEN, SAMPLA**

(Affiliated to Maharshi Dayanand University Rohtak)

COURSE OUTCOMES

“ऋते ज्ञानात् ॥ अकितः”

**COURSE OUTCOMES OF SIR CHHOTU RAM GOVERNMENT COLLEGE FOR
WOMEN, SAMPLA**

B.A. (Pass Course) English (Compulsory)

B.A. Ist Year
Course Code: EN-01 & EN-02 Title: Literature and Language 1 & Literature and Language II
<ol style="list-style-type: none">1. Literature improves the communication skills of the students.2. Linguistic improves the pronunciations of the students.3. Develop a path for understanding of vocabulary and phonology in a better manner.4. Students learn about the basic grammar and mechanism of phonetics.5. Enable students to develop good writing skills.
B. A. IInd Year
Course code- EN-03 & EN-04 Title: Fragrances & Centre Stage
<ol style="list-style-type: none">1. Better understanding of stories as an effective and interesting genre of Literature which develops and enhance their ability as a critical reader and thinker.2. Ability to understand the forms of dramas.3. Short stories enable the students about cultural phenomenon and cultural environment.4. Ability to situate literary texts within historical and cultural contexts.
B. A. IIIrd Year

Course code- EN-05 & EN-06

Title: Kanthapura: A Novel by Raja Rao & The Merchant of Venice: A Play by William Shakespeare

1. Student familiar with famous novels, poets and poetry.
2. Students know about the contributions towards nation.
3. Introduction to related Literacy terms.
4. Enhance the vocabulary, comprehension skills and learn about character dialogues with the rich use of metaphor.
5. Learn about human nature and behavior.

B.A. (Pass Course) Hindi (Compulsory)**B.A. Ist Year**

Course Code: HI-01 & HI-02

Title: Madhyakalin Hindi kavita, Dhruv Swamini

1. Learn the Hindi literature and grammar.
2. Evaluating the concept of Hindi from past to present and making the society more closely through literature.
3. Make an attempt in different areas and theory

B. A. IInd Year

Course code- HI-03 & HI-04

Title: Aadhunik Hindi Kavita, Katha Karam

1. Evaluating the concept of Hindi from past to present and to study the society closely

through Literature.

2. To describe the poem of “Chayawadi writers”: Agey, Maithli Sharan Gupt , Nirala and Nagarjun
3. Through prose and poetry students learn the human values and practice it in day to day life.

B. A. IIIrd Year

Course code- HI-05 &HI-06

Title: Sammkalin Hindi Kavita, Navyatar Gadhya Gourav

1. To know the concept of folk literature and correlation between folk literature and other branches.
2. Students will be made familiar with the changes in Indian Hindi literature post independence, the various novels and plays written during pre - independence and their impact on modern India.
3. To equip students with the fundamentals of journalism, principles sources formation and all the basic techniques required to make an emphatic news.

B.A./ B.Sc. (Non-Medical) Sanskrit:

Semester –I & II

Course Code: SA03, SAN03

Title: संस्कृत चयनिका

1. संस्कृत भाषा में ज्ञान की सरल मनोवैज्ञानिक व विधियां द्वारा छात्रों को बोध कराना
2. उपनिषदों में संस्कृत के अन्य ग्रन्थों से समग्र संकलन करके कहानियों के माध्यम से नैतिक शिक्षा से

अवगत कराया गया है

3. द्वितीया सत्र में महाभारत श्रीमद्भगवत, गीता, चाणक्य, नीति, इत्यादि से समग्र संकलित की गई जो शिक्षा की दृष्टि से बहुत उपयोगी है। इसका अतिरिक्त पंचतंत्र हितो प्रदेश से भी पथ्यक्रम में समग्र संकलन किया गया है।

Semester –III & IV

Course code- SA03, SAN03

Title: संस्कृत प्रभोदिका

1. द्वितीया वर्ष में संस्कृत व्याकरण का ज्ञान प्राप्त होता है। इसके साथ रामायण के बालकांड के प्रथम समर के पथ्यक्रम में निर्धारित किया जाता है। इसके अतिकृत व्याकरण में प्रत्यय समास हिंदी से संस्कृत अनुवाद को पथ्यक्रम में लाया गया है।
2. चतुर्थ सत्र में संस्कृति कार्यक्रम में श्री भगवत गीता रघुवंश का द्वितीया अध्याय पथ्यक्रम में जोड़ा गया है, जिससे संस्कृत भाषा का विकास होता है।

Semester –V & VI

Course Code: SA03, SAN03

Title: अभिज्ञान सार्थक

1. पढ़ने लिखने विचार करने और किसी भी सिद्धांत और उसके व्यावहारिक पक्ष को समझने का भरपुर मौका मिलता है।
2. संस्कृत पढ़ने से व बोलने से भाषा में कुशलता आति और ज्ञान में वृद्धि होती है।

B.A Programme (Physical Education)

Semester –I**Title: PRINCIPLES AND FOUNDATION OF PHYSICAL EDUCATION**

1. Able to know the importance of Physical Education.
2. Know about the historical development of the ancient games.
3. Able to know the historical development of national games.
4. Know the origin and development of physical education.
5. Analyse the Achievement of India in Team Games and Individual sports.
6. Analyse the Modern Olympics Games and rules of eligibility for competition.
7. Know the fundamental of all the games and sports.

Semester –II**Title: HEALTH AND YOGA**

1. Understand the principles of Health and Health Education in Modern Society.
2. Know about the Personnel Hygiene and its importance.
3. Understand the meaning of communicable diseases. Know about Mode of transmission and prevention of the diseases.
4. Understand the meaning, types and aims of Yoga.
5. Learn about the Procedure and Benefits of the Asanas.
6. Read about the Surya Namaskar and the other Yoga Asanas.
7. Able to know the importance of light and cross ventilation at the school and the college level.

Semester –III**Title: PHYSICAL ACTIVITY AND HEALTH**

1. Understand the concept of health and its meaning and definition.
2. Able to know the WHO and UNICEF role in physical and health education.
3. Understand the importance of Balance diet, nutritional tips.
4. Know about the value of the posture.
5. Understand the effects of poor posture and know about how to improve it.
6. Understand the principles of the First Aid.
7. Know about the lifestyle diseases like obesity, heart disease and diabetes.
8. To know about the prevention of disease through exercise

Semester –IV

Title: PHYSICAL FITNESS AND YOGA

1. Understand the need of Physical Education in the modern society.
2. Understand the relationship of Physical Education with General Education.
3. Know about the factors influencing Physical Education.
4. Know about the types of warming up, guiding principles of warming up and Importance of warming up and cooling down.
5. Learn about the Physiological values of sudhi kriyas.
6. Know about the meaning, types and educational values of camping.
7. Know the aims and objectives of Physical Education.

Semester –V

Title: SOCIOPSYCHOLOGICAL FOUNDATION OF PHYSICAL EDUCATION

1. Learning of sports activity.
2. Understand the law of learning, their application to situations on playground.
3. Traditions and their influence on behaviour patterns.

4. Know about the effects of socioeconomic status on sports, spectators and crowd behaviour Sports and economy.
5. Able to know the need and importance of conditioning and methods of conditioning.
6. Learn about the types of doping and prevention of doping.
7. Know the techniques of quitting smoking and drinking habits

Semester –VI

Title: ORGANIZATION AND MANAGEMENT OF PHYSICAL EDUCATION

1. Know the meaning, importance a scope of sports management.
2. Understand the factors influencing sports management.
3. Know about the prevention of the sports injury and rehabilitation.
4. Know about the role of Physical Education teacher in Rehabilitation.
5. Learn the meaning of professional preparation, definition and significance of profession preparation in Physical Education.
6. Learn how to design the curriculum in Physical Education.
7. Know about the Qualification and Qualities needed for a Physical Education Teacher.
8. Know the Meaning and scope of rehabilitation in Physical Education.

B.A. (Pass Course) Economics:

Semester –I

Course Code: EC-01

Title: MICRO ECONOMICS

To introduce the world of Economics to students from individual point of view or correlating it with their own day to day experience. Understand the various aspects of consumer behaviour and demand analysis, demand –supply relations, production theory and behaviour of costs and optimization of Firms.

Semester –II

Course code- EC-02

Title: MICRO ECONOMICS

Students will understand the behavior of market, how market and other government agencies organize economic activities like production, consumption, distribution and the growth of productive resources. Analysing the micro and macro theories of distribution, welfare economics and general equilibrium in closed and open systems and analysis of economic behavior.

Semester –III

Course code- EC-03

Title: MACRO ECONOMICS

Students will gain the knowledge about economics from individual level to National Level by understanding GDP, MPC, APC and Aggregate demand and Aggregate supply.

Semester –IV

Course code- EC-04

Title: MACRO ECONOMICS

Helps the students to analyze gains from international trade, Balance of Payment, Market of Foreign Exchange. Students also learn about the Public expenditure, Impact of Taxes and characteristics of Good Taxation System.

Semester –V**Course code-** EC-05**Title:** ECONOMICS OF GROWTH AND DEVELOPMENT

The course introduce real scenario of global economics and institutions. It helps to develop a systematic exposition of models that try to explain composition, direction and consequences of international trade. Ability to appreciate novel as a literary production stylistically and contextually.

Semester –VI**Course code-** EC-06**Title:** ECONOMICS OF GROWTH AND DEVELOPMENT

Students come out with the knowldege of Indian economy. Develop a scenario about the problem which our country is facing like poverty, unemployment, recession in trade etc. Develop a systematic presentation of models that attempt to explain the composition, direction, and effects of international trade.

B.A. Pass Course Political Science**Semester –I****Course Code:** PS-01**Title:** Indian Constitution

Understand the source, features, fundamental rights and duties of Indian Constitutions. Students will learn about the union and state executive such as council of ministry, state executive governors and President and also understand Composition, Powers and Jurisdiction of Supreme Court and High Court.

Semester –II**Course code-** PS02**Title:** Indian Politics

Students will learn the values and legacies and social dimensions of Indian Political System and state legislative such as Panchayat Raj. They also understand Election Commission of India and Indian Electoral System, determinants of Voting Behaviour and Problem of Defection.

Understand the politics of economic development in India; Elections; and the role of media in shaping public opinion.

Semester –III**Course code-** PS03**Title:** Indian Political Thinker-I

- Students will learn and understand of Indian Political thinkers like Swami Dayanand Saraswathi and their reforms for society. They also develop an understanding of the key ideas of Modern Indian Political thinkers Rajaram Mohan Ray and Vivekananda.
- Learns about the nature and functions of the state and also concept of sovereignty and its theories (Monistic and Pluralistic).

Semester –IV**Course code-** PS04**Title:** Indian Political Thinker-II

- Have in depth knowledge and understanding of Indian Political thinkers like Mahatma Gandhi, Nehru and Dr. Ambedkar. Impart the knowledge of sovereignty and its theories (Monistic and Pluralistic).

- Develop the theories and concept of social changes.

Semester –V

Course code- PS05

Title: International Organization-I

- Develop an approach of Comparative Politics: Input – Output (System), Structural-Functional, Political Development and Political Culture.
- Understand the meaning and nature of history, types and problems of Constitutionalism.
- Acquire cognitive and analytical skills to apply theories to the question of international politics in practice.

Semester –VI

Course code- PS06

Title: International Organization-II

Develop an understanding about comprehensive and comparative the Constitutions of UK &USA. Learn about the changing nature and democratization of United Nations. Understand the role of United Nations in settlement of disputes and international cooperation.

B.Sc. Mathematics /B.A. Mathematics:

Semester –I

Course Code: BM111, BSM 111

Title: Algebra

1. Solve system of linear equation.
2. Solve Diophantine equation.
3. Find roots of polynomial over rational.
4. Recognize consistent and inconsistent systems of linear equations by the row echelonform of the augmented matrix, using rank.
5. Find eigenvalues and corresponding eigenvectors for a square matrix.

Course code- BM-112, BSM-112

Title: Calculus

1. Students are able to solve the value of the limit of a function, Continuity and derivability by using the definition.
2. Students will understand about the asymptotes, curvature and forms of singular point such as node, isolated points & cusp.
3. Apply derivatives in Optimization, Social sciences, Physics and Life sciences etc.
4. Compute area of surfaces of revolution and the volume of solids by integrating over cross-sectional areas.

Course code- BM-113, BSM-113

Title: Solid Geometry

1. Students will be able to analyze the formation and graphically representation of Conic Section, Tangent on curve and Normals.
2. Students will learn about the characteristics and section of spheres, cones, cylinders, central conicoid and paraboloids.
3. Students will learn about the confocal conicoid and reduction of second degree equation.

Semester –II**Course code-** BM-121, BSM-121**Title:** Number Theory and Trigonometry

1. Find quotients and remainders from integer division.
2. Apply Euclid's algorithm and backwards substitution.
3. Understand the definitions of congruence, residue classes and least residues add and subtract integers, modulo n , multiply integers and calculate powers, modulo n .
4. Determine multiplicative inverses, modulo n and use to solve linear congruence.
5. Learn the theory of quadratic residues.
6. Find the solutions of circular, hyperbolic, inverse circular and inverse hyperbolic functions.

Course code- BM-122, BSM-122**Title:** Ordinary Differential Equation

1. Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.
2. Student will be able to find the complete solution of a nonhomogeneous differential equation as a linear combination of the complementary function and a particular solution.
3. Student will have a working knowledge of basic application problems described by second order linear differential equations with constant coefficients.

Course code- BM-123, BSM- 123**Title:** Vector Calculus

1. Understand the applications of vector algebra to geometry and mechanics.
2. Learn about the directional derivatives, gradient, divergence, curl, Laplacian operators, orthogonal curvilinear coordinates and vector integration.
3. Evaluate line integrals, surface area and surface integrals.

Semester –III

Course code- BM-231, BSM- 231

Title: Advanced Calculus

1. Understand differentiation and fundamental theorem in differentiation and various rules.
2. Represent the functions geometrical and solve problems on Mean value Theorem and Rolle's theorem.
3. Find extreme values of function.

Course code- BM-232, BSM-232

Title: Partial Differential Equations

1. Familiar with the modelling assumptions and derivations that lead to PDEs.
2. Recognize the major classification of PDEs and the qualitative differences between the classes of equations.
3. Solve linear PDEs using classical solution methods.

Course code- BM-233, BSM-233

Title: Statics

1. Determine the resultant of a system of forces.
2. Draw complete and correct free-body diagrams and write the appropriate equilibrium equations from the free-body diagram.
3. Determine the support reactions on a structure.

4. Determine the connection forces in trusses and in general frame structures.

5. Determine the internal reactions in a beam.

Semester –IV

Course code- BM-241, BSM-241

Title: Sequences and Series

1. Determine if an infinite sequence is bounded, monotonic or oscillating.
2. Determine the sequence whether it is convergent or divergent by using the appropriate tests.
3. Find the sequence of partial sum for an infinite series.
4. Determine if an infinite series is convergent or divergent by selecting the appropriate tests such as D' Alembert ratio test, Raabe's test, Bertrand test, Gauss test, Cauchy condensation test, Cauchy nth root test, etc.

Course code- BM-243, BSM-243

Title: Programming in C and Numerical Method

1. Obtain numerical solution of algebraic and transcendental equations.
2. Find numerical solutions of system of linear equations and check the accuracy of the solution.
3. Learn the basic components of computer.
4. Understand and apply the programming concepts of C language which is important for mathematical investigation and problem solving.

Semester –V

Course code- BM-351, BSM-351

Title: Real Analysis

1. Understand some properties of Riemann integrals functions and the applications of the fundamental theorems of integration.
2. Study improper integration using Riemann integration.
3. Understand the concepts of metric spaces and their properties, like openness, closedness, completeness, Bolzano-Weierstrass property, compactness and connectedness.
4. Learn about the continuity of a function defined on metric spaces

Course code- BM-352, BSM-352

Title: Groups and Rings

1. Understand the fundamental concepts of groups, subgroups, cyclic groups etc.
2. Extend group structure to finite permutation groups (Caley Hamilton Theorem).
3. Understand the concepts of ring, subring and integral domain.
4. Study quotient ring, field.
5. Learn about ideal, irreducibility of polynomials.

Course code- BM-353, BSM-353

Title: Numerical Analysis

1. Understand to apply interpolation and extrapolation numerical methods.
2. Learn to apply appropriate numerical methods to determine approximate solution of ODE and system of linear equations.
3. Compare different methods in numerical analysis accuracy and efficiency of solution.
4. Learn about linear equations, matrix algebra, vector space, eigenvalues and eigenvectors, orthogonality and diagonalization.
5. Solve initial and boundary value problems in differential equations using different numerical methods.

Semester –VI

Course code- BM-361, BSM-361

Title: Real and Complex Analysis

1. Study Jacobians, Beta and Gamma functions, their properties, double and triple integrals, change of order of integration in double integrals.
2. Learn Fourier's series, properties of Fourier coefficients, Parseval's identity for Fourier series.
3. Understand the stereography projection of complex plane on the Riemann sphere.
4. Study the mappings by elementary functions such as translation, rotation etc., conformal mapping.
5. Learn about Mobius transformations, fixed points, cross ratio, critical mappings.

Course code- BM-362, BSM-362

Title: Linear Algebra

1. Understand the concepts of vector spaces, subspaces, basis, dimension, quotient spaces and their properties.
2. Relate matrices and linear transformation, compute eigen values and eigen vectors of linear transformations.
3. Learn properties of inner product spaces and determine orthogonality in inner product spaces.
4. Study importance of adjoint of a linear transformation and its canonical form.

Course code- BM-353, BSM-363 Dynamics

Title: Dynamics

1. Identify the basic relations between distance, time, velocity, and acceleration.
2. Understand the concept of velocity and acceleration along radial and transverse axes.
3. Learn about Newton and Kepler law of motions.

B.A. History (Pass Course)

Semester –I

Course Code: HR01

Title: History of India (from earliest times C. 1200 A.D.)

1. Students of History can achieve knowledge regarding geographical background and sources with approaches to Ancient Indian History.
2. They learn about pre and proto history of our country, emergence and growth of earlier dynasties like Maurya, Gupta and the empires in Post Maurya period as well as in Post Gupta period. History students will acquire knowledge about historiography of Ancient India.
3. The socio, political, economic, religious and cultural features of early medieval India are vividly depicted in this paper

Semester –II

Course code- HR02

Title: History of India (1200AD to 1707AD)

1. The history of Delhi Sultanate is thoroughly described in this portion.
2. Students can gather knowledge regarding Sultanate administration, socio-cultural – political situation of Delhi under Sultanate. The Mughal is a topic of controversy and attraction for their purse-proud to history lovers.
3. Students will learn from this paper how did Mughal polity, economy, trade, commerce,

society, culture become so famous in medieval period. They also learn the history of downfall of the Mughals, the end of an era.

Semester –III

Course code- HR03

Title: History of India (1707AD to 1947AD)

1. To understanding the mid – eighteenth century this paper is considered as mandatory. Students will gather knowledge about expansion and consolidation of British Empire, economic changes, land revenue settlements, commercialization of agriculture, de-industrialization, spread of western education, Indian Renaissance, several peasants and tribal movements. To understanding Modern India this paper is essential.
2. Students from history stream will get knowledge about the penetration, expansion and consolidation of British Rule in India. Indian awakening, cultural changes and socio-religious reforms movements, Revolt of 1857 are described in this paper.
3. Students of History acquire knowledge about communal politics, partition in India in between 1947-1950.

Semester –IV

Course code- HR04

Title: HISTORY of HARYANA (From Earliest Times to 1947 AD)

1. Students understand the theme of regional history is explored through study of Haryana from stone age to independence of India.
2. Critically analyses the rise of various cultures are explored in the region of Haryana.
3. Critically evaluate the efforts of the people of this region in the foreign invasions.
4. Critically analyses the rise of state formation and new power in the region of Haryana.
5. Explain and analyses the Turkish Invasion and its impact on Haryana.

Semester –V**Course code-** HR05**Title:** History of Ancient and Medieval World

1. Critically evaluate the development of human society and various cultures from stone age to iron age, worldwide phenomenon.
2. Critically discuss major cultural structures, events and then shaping the world context.
3. Evaluate and analyze different sources (particularly archaeological) in overseas.
4. Critically evaluate the concept the decline of different civilizations.
5. Critically evaluate the concept of relation of civilizations to each other.
6. Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World.
7. Critically evaluate the concept the decline of feudalism and advent of capitalism.
8. Critically analyze and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and abased dynasty.

Semester –VI**Course code-** HR06**Title:** History of Modern World

1. Students' enable to understand the various socio-economic trends in modern period.
2. Critically evaluate how the modern west was emerged through renaissance and other socio-economic developments.
3. Critically analyze the rise of capitalism and imperialism led all these developments.
4. Critically evaluate how the new political system emerged based on representative system.
5. Explain and analyze the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars.

B.A. Geography (Pass Course)

Semester –I

Course Code: GE-01

Title: Geography of India

1. Knowledge about Location, relief structure and drainage, Climate, Soils, Natural vegetation, Natural disaster of India. Population: distribution and density Migration, human settlement types.
2. Land resources, Irrigation, Cropping pattern and green revolution, Problems of Indian agriculture, Energy and mineral resources,
3. Industries –iron and steel, cotton textiles, Modes of transport and communication.

Semester –II

Course code- GE02

Title: Physical Geography

1. Nature and scope of physical geography
2. Earth movements , Earthquakes, volcanoes
3. Weathering, mass movements, wind process, cycle of erosion, water glacier, sea waves.

Semester –III

Course code- GE03

Title: Physical Geography

1. Introduction about weather and climate origin, composition and structure of atmosphere,
2. Air pressure, planetary winds, humidity, Air mass and climatic classification global warming.
3. Ocean resources, configuration of ocean floor.

Semester –IV

Course code- GE04

Title: Human Geography

1. Nature and scope of human Geography, Human races and Tribes of India, The concept of man - environment relationship.
2. Human adaptation to environment, Resources: meaning, nature and components, Classification of resources, Distribution and utilization of resources, Distribution and utilization of biotic resources, Conservation of resources.
3. Population of the world, Concept of population, Overpopulation And under population, Theories of population, rural settlement.
4. Origin and growth of town, Classification and function of towns, Population pressure, and resource use environmental optimum degradation, Sustainable development.

Semester –V

Course code- GE05

Title: Economic Geography

1. Understand the elements of weather and climate, different atmospheric phenomena and climate change.
2. Learn to associate climate with other environmental and human issues. Approaches to climate classification. Learn to use of various meteorological instruments
3. To analyze the dynamics of the Earth's atmosphere and global climate. Assessing the role of man in global climate change and prepare various climatic maps and charts and interpret them.

Semester –VI

Course code- GE06

Title: Introduction to Remote Sensing, GIS and Quantitative Method

1. Evaluate the role of the global hydrological cycle.
2. Studying the behavior and characteristics of the global oceans.
3. Realize the importance of water conservation. Interpret hydrological and rainfall dispersion graphs and diagrams.

B.Com. (Pass Course)

Semester –I

Course Code: 1.01

Title: Financial Accounting-I

1. Apply quantitative skills to help analyse and solve business problems and to take advantage of business opportunities.
2. Demonstrate an appropriate mastery of the knowledge, skills and tools of financial accounting principles and managerial accounting principles.
3. Demonstrate an appropriate mastery of the knowledge, skills and tools of cost accounting.

Course code- 1.04

Title: Business Management –I

1. Demonstrates comprehensive knowledge and understanding of various areas of management.
2. Familiarize students with the basic concepts and principles of management.
3. Exhibit knowledge and skill required to administer the affairs of the management.

Course code- 1.05

Title: Business Communication Skills

1. To correlate concepts and processes of managerial communication.
2. Identify the gap between current level of communication skills and the expected industry standards.
3. To enhance overall competency of students.
4. Develop effective communication skills required for managing a business aspect like email, letter writing, Reports writing etc.

Semester –II

Course code- 2.01

Title: Financial Accounting –II

1. Understand the process and preparation of financial statements for Sole Proprietorship and Company and Departmental Business Organizations.
2. Students will be able to analyse communication problems effectively.
3. Show proficiency in basic accounting concepts, conventions and understanding of the accounting process.
4. Students will be able to develop an attitude to focus on financial statement users, their information needs.

Course code- 2.04

Title: Business Management –II

1. Develop the knowledge of business and management principles.
2. Learn effective communication skills.
3. Learn critical thinking and problem-solving skills.
4. Able to analyse the different financial and non-financial incentive methods.

Course code- 2.05

Title: Business Environment

1. Students will go through the meaning and various components of business environment and learn the techniques to analyse the business environment.
2. They will be able to explain certain economic problems of growth like unemployment, regional imbalance etc.
3. They will understand the role of government and key policies like monetary, fiscal, industrial policies etc.

Semester –III

Course code- 3.01

Title: Corporate Accounting-I

1. Increase the practical knowledge.
2. Deep knowledge of Accountancy as like Profit Prior.
3. Knowledge of check the accounts of other company.
4. Accounting deep knowledge is help to employment.

Course code- 3.02

Title: Business Statistics-I

1. Knowledge about mathematical and positional averages.
2. Able to make difference between primary data and secondary data sources.
3. Learning of correlation and regression.
4. Understand the concept of dispersion, kurtosis and skewness.

Course code- 3.03

Title: Business Regulatory Framework-I

1. Can learn the conditions of Indian Partnership Act and Dissolution of Firm.
2. Can use negotiable instrument in practical life.
3. Critically evaluate conditions and warranties of sales of goods act.
4. Aware about rights and importance of Right to information Act.

Course code- 3.04

Title: Corporate Law-I

1. To give insight on Memorandum of Association, Article of Association, and Prospectus.
2. Describe the concept of joint stock companies.
3. To regulate investors, employees, stakeholders etc.

Course code- 3.05

Title: Human Resource Management

1. Knowledge of Human importance in Company.
2. Knowledge of Active Assets and Passive Assets.
3. Knowledge of Practical Aspect, Social Aspect and Emotional Aspect.
4. Help in employment In Human Resource Department.

Course code- 3.06

Title: Fundamental of Insurance

1. To provide the thorough knowledge and applicability of insurance.
2. How different types of insurance works?
3. To provide knowledge that how they can protect themselves from risk.
4. To provide knowledge that how they can secure their future financially.

Semester –IV

Course code- 4.01

Title: Corporate Accounting-II

1. It includes Accounts of Holding Company, Banking Company accounts.
2. It also describes the process of liquidation which is included in the company accounts.
3. This subject also provides the knowledge of amalgamation of the company.
4. It also helps students to give practical knowledge of accounts.

Course code- 4.02

Title: Business Statistics-II

1. Help to correlate between two aspects.
2. Knowledge of Index Practically.
3. Knowledge of how to arrange data in tabulation form.
4. To provide the knowledge of applicability of statistics in various fields.

Course code- 4.03

Title: Business Regulatory Framework-II

1. Help to understand Contract and their parties.
2. How to use RTI Act.
3. Knowledge of Negotiable Act.
4. Knowledge of Sales Act.

Course code- 4.04

Title: Corporate Law-II

1. To provide the knowledge of different typed of company working around the world.
2. How a company established.

3. To provide the knowledge of fundamental documents of company.

4. To provide the knowledge of different type of charges on assets.

Course code- 4.05

Title: Marketing Management

1. Enables students to understand the concept of marketing and the recent innovations in marketing.

2. Helps identify the marketing dynamics.

3. Helps in formulating marketing strategies and its practical application of market orientation.

4. To study consumer behaviour.

Course code- 4.06

Title: Secretarial Practices

1. To make the students learn meaning, functions duties, powers and position of Secretary.

2. To know about Promotion of Company and Secretary.

3. To understand about company meetings.

4. To help the students understand about Motion and Resolutions, Voting and Proxy.

Semester –V

Course code- 5.01

Title: Taxation Law –I

1. To make the students understand the basic concepts, definitions and Important terms related to Taxation Law.

2. To make the students understand the concept of residential status and scope of total income for an assessee with different kinds of residential status.
3. To make students understand the various heads of Income. Various heads namely income from salaries, house property, business/ profession, capital gains and income from other sources.
4. To help the students to understand the various deductions from 80 C to 80 U.

Course code- 5.02

Title: Cost Accounting-I

1. To make aware about cost structure and cost elements.
2. To understand various techniques and methods of cost accounting.
3. To understand various aspects of material control & wastage.
4. To understand various aspects of labour cost control.
5. To understand classification of overheads & methods of absorption.
6. To understand the features of a cost-sheet & determining tender price.

Course code- 5.03

Title: Accounting for Management

1. To make the students understand the meaning, nature and scope of Management Accounting.
2. To make the students understand about Management accounting vs. financial accounting vs. Cost accounting. And to know about different tools and techniques of management accounting.
3. To know about Cash flow Statement and Financial planning.

Course code- 5.04

Title: Financial Market Operations

1. Students will learn about the Indian financial system, various financial institutions, financial services and innovative financial instruments.
2. They will understand the working of Indian money market and capital market.
3. They will learn about SEBI, merchant banking and various credit rating agencies.
4. Students will get familiar with various mutual funds available in the market and will come to know about various development banks.

Course code- 5.05

Title: Entrepreneurship and Small-Scale Business

1. Demonstrate the ability to apply knowledge of key leadership concepts in an integrated manner.
2. Demonstrate the ability to identify and evaluate business opportunities and trends.
3. Demonstrate the ability to identify potential start-up models and resources given trends and opportunities.
4. Demonstrate the ability to apply knowledge of business concepts and functions in an integrated manner.

Course code- 5.06

Title: International Business Environment

1. Help to understand of international culture.
2. Knowledge how to enter other nation markets.
3. Improve the skills of other nation culture.
4. Help in employment in Marketing field.
5. Knowledge about international trade theories and balance of payment.
6. Knowledge about foreign exchange market.
7. Understand the concepts of international business environment.

Semester –VI

Course code- 6.01

Title: Taxation Law-II

1. To make the students determine the net total taxable income of an assessed after reducing the deductions from the gross total income.
2. To help the students understand the computation of income and tax for a partnership firm.
3. To make the students understand the provisions of Deduction of Tax at source.
4. To help the students understand the powers of Income Tax Authorities and about Appeals& Revision.
5. To make the students understand how to fill and file an Income Tax Return electronically.

Course code- 6.02

Title: Cost Accounting –II

1. To make aware about cost structure and cost element.
2. To understand various aspects of process costing along with joint and by-product
3. To understand the concept of contract costing along with job and batch costing.
4. To understand the concept of budget and its controlling tools.
5. To understand the concept of standard and marginal costing.

Course code- 6.03

Title: Financial Management

1. To develop the knowledge of business finance and financial management decision.

2. To learn different techniques and problem skills.
3. To study effective written and oral communication.
4. To teach a sense of responsibility and a capacity for financial management.

Course code- 6.04

Title: Auditing

1. Understand the concept of auditing, its nature and importance.
2. Students will be able to differentiate between different aspects of auditing like internal audit, internal check and internal control.
3. Learn the appointment procedure, power, duties and liabilities of an auditor.
4. Understand the concept of routine checking and vouching.

Course code- 6.05

Title: Goods and Services Tax & Customs Law

1. Help to understand Single tax calculation.
2. Help to understand impact of all type of business.
3. Help to computation of tax.
4. Knowledge of SGST AND CGST.

Course code- 6.06

Title: International Marketing

1. Students should be able – To learn model building process used for solving marketing problems.

2. Choose various analytical techniques for improving marketing decisions.
3. Learn to bring innovation in the marketing strategy and achieve marketing plan objective.
4. Learn to apply marketing strategy under different market conditions and business challenges.

B.Sc. with Chemistry:

Semester –I

Course Code: CH101

Title: INORGANIC CHEMISTRY

1. To understand the concept of atomic orbitals, quantum numbers, wave functions, de Broglie matter waves and Heisenberg uncertainty principle.
2. To study the general principles of periodic table, electronic configuration of elements and trends in the periodic table like atomic radii, ionic radii, ionization energy, electron affinity and electronegativity.
3. Knowledge of Valence bond theory, Valence shell electron pair repulsion theory and Molecular Orbital theory.
4. To study the ionic structures (NaCl, CsCl, ZnS, CaF₂), lattice defects radius ratio effect, Born-Haber cycle, Fajan's rule and the concept of Solvation energy.

Course code- CH102

Title: PHYSICAL CHEMISTRY

1. To understand the structure and Properties of liquids – surface tension, viscosity, vapour pressure and optical rotations and their determination.

2. To understand the Laws of crystallography, Derivation of Bragg equation and determination of crystal structure of NaCl and KCl.
3. To understand Maxwell's distribution of velocities, Deviation of Real gases from ideal behaviour and Derivation of Vander Waal's Equation of State and its applications.
4. Knowledge of Critical temperature, Critical pressure, critical volume, PV isotherms of real gases and about Liquefaction of gases.

Course code- CH103

Title: ORGANIC CHEMISTRY

1. To understand the concept and types of isomerism, resonance, hyperconjugation, inductive effect, electrometric effect & their comparison.
2. To understand R & S systems and E & Z system of nomenclature, conformational analysis of ethane and n-butane & Newman projection and Sawhorse formulae
3. To understand the Types of organic reactions & Energy considerations, Reactive intermediates, carbocations, carbanions, free radicals, carbenes, arynes and Nitrenes.
4. Knowledge of IUPAC nomenclature of branched and unbranched alkanes, synthesis of Cycloalkanes and their derivatives along with Baeyer's strain theory and its limitations.

Course code- CH104

Title: CHEMISTRY PRACTICAL BASED ON CH101, 102 AND 103.

1. To perform redox titrations, Iodometric titrations and Complexometric titrations.
2. To determine the surface tension of a given liquid by drop number method.
3. To determine the viscosity of a given liquid.
4. To determine the specific refractivity of a given liquid.

Semester –II

Course code- CH201

Title: INORGANIC CHEMISTRY

1. Concept of Hydrogen Bonding, Vander Waals Forces and Knowledge of Semiconductors.
2. Comparative study of the elements and Chemistry of xenon, structure and bonding offluorides, oxides & oxyfluorides of xenon.
3. Emphasis on comparative study of properties of p-block elements, to understand Diborane, Knowledge of Borazine, Silicones and Catenation.
4. Discussion of Oxides, Oxyacid, white, yellow and red phosphorus, H₂O₂ and to study Hydro and oxyacid of chlorine.

Course code- CH202

Title: PHYSICAL CHEMISTRY

1. To understand the Rate of reaction, order of reaction and half-life period of a reaction.
2. To understand Theories of reaction rate and Arrhenius equation.
3. Knowledge of Electrolytic conduction and factors affecting electrolytic conduction, Arrhenius theory of ionization and Ostwald's Dilution Law and Debye- Huckel – Onsager's equation for strong electrolytes.
4. To understand Kohlrausch's Law and its application, conductometric titrations and Henderson –Hassel equation.

Course code- CH203

Title: ORGANIC CHEMISTRY

1. To study the Nomenclature of alkenes, Saytzeff rule, Hofmann elimination, reaction mechanisms involved and Markownikovs rule.
2. Knowledge of Aromatic, anti - aromatic and non – aromatic compounds, Aromatic electrophilic substitution, General pattern of the mechanism and Energy profile diagrams.
3. Nomenclature and classification of dienes and alkynes, chemical reactions and acidity of alkynes, Mechanism of electrophilic and nucleophilic addition reactions.
4. Study of Mechanisms and stereochemistry of nucleophilic substitution reactions of alkyl and aryl halides, About SN2 and SN1 reactions with energy profile diagrams and Discussion of Relative reactivities of halides.

Course code- CH204

Title: CHEMISTRY PRACTICAL BASED ON CH201, 202 AND 203

1. Qualitative Analysis of the Inorganic cations and anions by paper chromatography
2. Preparation and purification of compounds through crystallization or distillation and ascertaining their purity through melting point or boiling point. To study the process of sublimation of camphor and phthalic acid.

Semester –III

Course code- CH301

Title: INORGANIC CHEMISTRY

1. To understand General characteristics & properties of first transition elements.
2. To understand General characteristics and properties of the second and third transition elements.
3. Discussion of Valence bond theory of transition metal complexes.
4. To understand Physical properties of a solvent, types of solvents and their general characteristics, Reactions in non-aqueous solvents with reference to liquid NH₃ and liquid SO₂.

Course code- CH302

Title: PHYSICAL CHEMISTRY

1. Definition of thermodynamic terms, Knowledge of Types of systems, Thermodynamic process, Discussion of First law of thermodynamics, Joule's law, Joule Thomson coefficient for ideal gases and real gas and Inversion temperature.
2. Calculation of w , q , dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process, to understand Temperature dependence of enthalpy and Kirchhoff's equation.
3. Knowledge of Equilibrium constant, Van's Hoff reaction isochore and Van't Hoff reaction isotherm, Le-Chatetier's principle and its applications.
4. About Nernst distribution law its thermodynamic derivation and modification of distribution law.

Course code- CH 303

Title: ORGANIC CHEMISTRY

1. To study the Nomenclature of Monohydric alcohols and methods of formation, chemical reactions of vicinal glycols, synthesis and chemical reactions of epoxides.
2. To understand the concept of phenols and comparative acidic strengths of alcohols and phenols.
3. About Absorption laws, types of electronic transitions and effect of conjugation, Woodward- Fieser rules and Applications of UV Spectroscopy.
4. To study Nomenclature of Carboxylic acids, structure, nomenclature and preparation of acid chlorides, esters, amides and acid anhydrides.

Course code- CH304

Title: CHEMISTRY PRACTICAL BASED ON CH301, 302 AND 303.

1. Quantitative estimations of Cu^{2+} as copper thiocyanate and Ni^{2+} as Ni-dimethylglyoxime.

2. Detection of extra elements, functional groups and determination of melting point or boiling point.

3. Preparation of pure solid derivative of compounds.

Semester –IV

Course code- CH401

Title: INORGANIC CHEMISTRY

1. Knowledge of Lanthanides.
2. To study Chemistry of Actinides.
3. To understand the Chemistry of analysis of various acidic radicals.
4. To understand Chemistry of analysis of various groups of basic radicals.

Course code- CH 402

Title: PHYSICAL CHEMISTRY

1. To understand Second law of thermodynamics, Carnot's cycles and its efficiency and Concept of entropy.
2. About Third law of thermodynamics, Evaluation of absolute entropy from heat capacity data, Knowledge of A & Gas criteria for thermodynamic equilibrium and spontaneity.
3. To understand Electrolytic and Galvanic cells, Calculation of thermodynamic quantities of cell reactions, Types of electrodes, electrochemical series and its applications.
4. To understand Liquid junction potential and application of EMF measurement, potentiometric titrations and determination of ph.

Course code- CH403

Title: ORGANIC CHEMISTRY

1. To understand the interpretation of IR spectra of simple organic compounds and applications of IR spectroscopy in structure elucidation of organic compounds

2. To understand Electrophilic aromatic substitution in aryl amines and Reactions of amines.
3. To understand Mechanism of diazotization, replacement of diazo group, preparation of nitro alkanes and nitro arenes and their chemical reactions.

Course code- CH404

Title: CHEMISTRY PRACTICAL BASED ON CH401, 402 AND 403.

1. To verify Beer - Lambert law for KMnO_4 / $\text{K}_2\text{Cr}_2\text{O}_7$ and determine the concentration of the given KMnO_4 / $\text{K}_2\text{Cr}_2\text{O}_7$ solution.
2. To determine the enthalpy of neutralisation of a weak acid/weak base vs. strong base/strong acid and determine the enthalpy of ionisation of the weak acid/weak base.
3. To study the distribution of iodine between water and CCl_4 .

Semester –V

Course code- CH501

Title: INORGANIC CHEMISTRY

1. Knowledge of elementary idea of crystal-field theory and crystal field splitting in octahedral, tetrahedral and square planar complexes along with factors affecting the crystal-field parameters.
2. A brief outline of thermodynamic stability factors affecting the stability of metal complexes and substitution reactions of square planar complexes of Pt(II).
3. To explain the methods of determining magnetic susceptibility and orbital contribution to magnetic moments and Application of magnetic moment data for 3d metal complexes.
4. Knowledge of Selection rules for d-d transitions, Orgel-energy level diagram for d1 and d9 states and discussion of the electronic spectrum of $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ complex ion.

Course code- CH502

Title: PHYSICAL CHEMISTRY

1. To study Black-body radiation, Plank's radiation law, photoelectric effect, heat capacity of solids, Compton effect, operators and determination of wave function & energy of a particle in one dimensional box.
2. To explain Clausius – Mossotti equation, dipole moments, temperature method, refractivity method, determination and applications of magnetic susceptibility.
3. Basic features of spectroscopy, energy levels of rigid rotator, Maxwell-Boltzmann distribution, determination of bond length and qualitative description of non-rigid rotor
4. To study Infrared spectrum of simple harmonic oscillator, idea of vibrational frequencies of different functional groups, Concept of polarizability and to study pure rotational and pure vibrational Raman spectra of diatomic molecules.

Course code- CH503

Title: ORGANIC CHEMISTRY

1. To understand the principle of nuclear magnetic resonance, features of PMR spectrum, about Chemical shift, shielding and DE shielding of protons, proton counting, splitting of signals, coupling constants and to understand the magnetic equivalence of protons
2. Discussion of PMR spectra of the molecules and study of PMR spectroscopy for structure determination of organic compounds
3. To understand the mechanism of ozone formation, interconversion of glucose and fructose, chain lengthening and chain shortening of aldoses, formation of glycosides, ethers and esters, determination of open chain and cyclic structure of D(+)-glucose & D(-) fructose, to understand the mechanism of mutarotation and to explain the structures of ribose and deoxyribose.
4. An introduction to disaccharides and polysaccharides and to understand organ magnesium, organozinc and organolithium compounds.

Course code- CH504

Title: CHEMISTRY PRACTICAL BASED ON CH501, 502 AND 503.

1. Qualitative analysis of mixture containing not more than four radicals.
2. Separation of leaf pigments from spinach leaves and determination of R_f values through chromatography.

Semester –VI

Course code- CH601

Title: INORGANIC CHEMISTRY

1. Definition, nomenclature and classification of organometallic compounds, preparation, properties, and bonding of alkyls of Li, Al, Hg, and Sn, a brief account of metal-ethylenic complexes, mononuclear carbonyls and the nature of bonding in metal carbonyls.
2. To study different concepts of acids and bases, relative strength of acids & bases and to understand the Concept of Hard and Soft Acids & Bases.
3. To understand the essential and trace elements in biological processes, metalloporphyrin's with special reference to haemoglobin and myoglobin, biological role of alkali and alkaline earth metal ions with special reference to Ca^{2+} and Nitrogen fixation.
4. To know about the preparation, properties, structure and uses of silicones and phosphagens.

Course code- CH602

Title: PHYSICAL CHEMISTRY

1. Qualitative description of selection rules, Franck- Condon principle, qualitative description of sigma and pie and n molecular orbital (MO) their energy level and respective transitions.
2. To understand the Laws of photochemistry, Jablonski diagram and to understand quantum yield and photosensitized reactions-energy transfer processes.
3. To understand the methods of expressing concentrations of solutions, experimental methods for determining various colligative properties and abnormal molar mass and degree of dissociation and association of solutes.
4. Thermodynamic derivation of Gibbs phase rule and phase equilibria of one and two component systems.

Course code- CH603

Title: ORGANIC CHEMISTRY

1. Knowledge of aromatic characteristics of pyrrole, furan, thiophene and pyridine along with methods of synthesis and their chemical reactions, Mechanism of nucleophilic substitution reactions in pyridine derivatives and comparison of basicity of pyridine, piperidine and pyrrole.
2. Introduction to condensed five and six- membered heterocycles, preparation and reactions of indole, quinoline and is quinoline and mechanism of electrophilic substitution, methods of formation and chemical reactions of thiols, thioethers, sulphonic acids, sulphonamides and sulphaguanidine along with synthetic detergents.
3. To understand the acidity of alpha hydrogens, Claisen condensation and keto- enol tautomerism of ethyl acetoacetate, to understand polymerization processes along with natural and synthetic rubbers.
4. To understand the classification and preparation of amino acids, acid-base behaviour, isoelectric point and electrophoresis, peptide structure determination, end group analysis & selective hydrolysis of peptides, classical peptide synthesis and solid phase peptide synthesis, primary & secondary structures of peptides and proteins.

Course code- CH604

Title: CHEMISTRY PRACTICAL BASED ON CH601, 602 AND 603.

1. To determine the strength of the given acid solution conductometrically.
2. To determine the strength of given acid solution potentiometrically.
3. To determine the strength of given acid solution pH metrically.
4. To determine the molecular weight of a non-volatile solute by Rast method.
5. Synthesis of the organic compounds.

B.Sc. (Non-Medical) in Physics

Semester –I

Course Code: PHY-101

Title: Mechanics

1. Understand the role of vectors and coordinate systems in Physics.
2. Explain the conservation of energy, momentum, angular momentum and apply them to basic problems.
3. Write the expression for the moment of inertia about the given axis of symmetry for different uniform mass distributions.
4. Understand the concept of generalised coordinated and solve the problems of linear harmonics oscillator, simple harmonic oscillator and Atwood's machine.
5. Understand the analogy between translational and rotational dynamics and application of both motions simultaneously in analysing rolling with slipping.

Course code- PHY-102

Title: Electricity and Magnetism

1. Understand the concept of scalars and vectors, vector products, gradient, divergence and curl of vector.
2. Demonstrate gauss law, coulomb's law for electric field & apply it to system of point charges as well as line, surface & volume distribution of charges.
3. Understand the concept of magnetic induction, magnetic properties of matter.
4. Studying the importance hysteresis curve and loss.
5. Understanding the propagation of electromagnetic wave, studying the maxwells equations, and pointing vector and theorems.

Course code- PHY-103

Title: PRACTICAL

In this laboratory course, after learning of how to handle measuring instruments (like screw gauge, vernier callipers, travelling microscope) student shall embark on verifying various principles learnt in theory and measuring moment of inertia of flywheel, elastic constants of materials, viscous properties of liquids, measurement of frequency of AC, self-inductance of coil etc.

Semester –II**Course code-** PHY-201**Title:** Properties of Matters, Kinetic Theory and Relativity

1. Understanding the property of matter i.e., elasticity by studying hook's law, elastic constant with suitable examples.
2. Learning the speed distribution of gaseous molecules by studying the principle of maxwell distribution law.
3. Understand the concept of mean free path and Brownian motion.
4. Understand the properties of real and ideal gases. And study the gas equation for both the cases.
5. Understand the relativity by knowing the concept of Galilean in variance and conservation laws and Newtonian principle. • Study the length contraction and time dilation concept.

Course code- PHY-202**Title:** Electro-magnetic Induction and Electronic Devices

1. Understand the concept of electromagnetic induction. And learn the AC circuit analysis.
2. Basic understanding of semiconductor diodes. P-N junction diodes and Zener diodes.
3. Understanding that how regulated voltages can be achieved using Zener diodes and AC to DC voltage conversion using rectifiers.
4. Study the Transistor and its I-V characteristics and working of NPN and PNP in C-E, C-Band C-C mode

Course code- PHY-203**Title:** PRACTICAL

In this laboratory course students will learn the practical aspect of theory studies by performing experiments for measurement 'g' using Bar pendulum, finding modulus of rigidity by Maxwell's needle, elastic constant by Searle's method, also performing the experiment of electricity i.e., measurement of impedance of an AC circuit, low and high resistance by Carey foster bridge and substitution method etc.

Semester –III

Course code- PHY-301

Title: Computer Programming Thermodynamics I

1. Understand the basics of programming and flowchart. Learning the binary representation.
2. Study the FORTRAN basics and short programmes using executable and non-executable statements, looping using DO and GO TO statements.
3. Understand the law of thermodynamics and study the practical example as Carnot heat engine and also understanding the entropy and how the real gases are liquified using Joule-Thomson effects. Understand the phase transition of state of matter, Maxwell's equation and different thermodynamics function.

Course code- PHY-302

Title: Optics- I

1. Understanding the concept of Fourier analysis and Fourier transformations to evaluate the speed of transverse and longitudinal waves.
2. Study the geometrical optics, lens and its aberrations and its remedies.
3. Study the introduction to wave optics by understanding the concept of interferences, wavefronts, phase change due to reflection etc.

Course code- PHY-303

Title: PRACTICAL

In this laboratory course students will learn to find the refractive index and dispersive power of a prism, resolving power of telescope, I-V characteristics of transistors in C-E and C-B mode, voltage doubler and Tripler circuit and some basic FORTRAN program like sum off infinite series, maximum or minimum and range of a set of numbers etc.

Semester –IV

Course code- PHY-401

Title: Statistical Mechanics

1. Understand the basics of probability, phase space, microstate and microstates.
2. Study the postulates of statistical physics, Boltzmann's distribution law and Bose-Einstein Statistics.
3. Study the Fermi-Dirac Statistics, zero-point energy and specific heat of metals and non-metals.

Course code- PHY-402

Title: Optics- II

1. Study the advance wave optics, Newtons rings and Fresnel diffractions.
2. Understand the one, two and N-slit diffraction by Fraunhofer diffraction and Diffraction grating and its resolving power.
3. Understand the polarization, malus law, and analysis of polarised light.

Course code- PHY-403

Title: PRACTICAL

In this laboratory course students will find the wavelength by Newtons rings, and diffraction grating, Frequency response of RC coupled amplifier, series and parallel circuits, and some more advance FORTRAN programs like roots of quadratic equation, evaluating any function etc.

Semester –V**Course code-** PHY-501**Title:** Solid State Physics

1. Understanding the classification of solid state of matter on the basis of crystal structure, lattices, unit cells etc.
2. Study the concept of X-Ray diffraction and Braggs law to determine the structure of solids and their constituents.
3. Understanding the concept of reciprocal lattices and specific heats and its different theories

Course code- PHY-502**Title:** Quantum Mechanics

1. Comprehend the failure of classical EM theory and need of quantum theory.
2. Study the basics Quantum theory formulation i.e., wave particle duality and Heisenberg uncertainty principle.
3. Derivation of Schrodinger wave equation and its solution for harmonic oscillator.
4. Solution of Schrodinger wave equation for one- and two-dimensional potential barrier.

Course code- PHY-503**Title:** PRACTICAL

In this lab students will study the GM counter, Hartley oscillator, transistor as amplifier in C-B and C-E configuration, and looping programs in Fortran language

Semester –VI

Course code- PHY-601

Title: Atomic, Molecular and Laser Physics

1. Understand the atomic particles and molecules world and their interactions by studying the spin orbit interactions and LS coupling.
2. Study the Raman, Zeeman and Panchen back effects.
3. Understanding the concepts of LASER, and study the working of He-Ne laser and RUBY laser and application of laser in medicine and industry.

Course code- PHY-602

Title: Nuclear Physics

1. Elementary introduction of nuclear physics with emphasis on Nuclear Structure, Nuclear Forces, Nuclear Decays and Fission and Fusion.
2. Study the fundamental aspects of accelerators and detectors.

Course code- PHY-603

Title: PRACTICAL (6.1&6.2)

In this lab students measure the band gap using fore probe method, study hall-effect, e/m by Thomson method, Fortran programmes for matrices, Simpson's rule, average of numbers.

M.A. Hindi

Semester-I

Course Code- 16HND21C1

Title- आधुनिक हिंदी कविता - I

1. आधुनिक हिंदी कविता के प्रमुख कवियों की समझ
2. आधुनिक हिंदी कविता के विविध आयाम एवं प्रमुख कवियों की रचनाओं का अध्ययन
3. आधुनिक कालीन हिंदी कविता की विकास परम्परा और विविध आन्दोलनों की जानकारी

Course Code- 16HND21C2

Title- आधुनिक गद्य साहित्य - I

1. आधुनिक गद्य साहित्य नई सोच और नई दृष्टि को विकसित करता है
2. आधुनिक गद्य साहित्य परिवेशगत अवमूल्यन पर चोट करता है
3. आधुनिक गद्य साहित्य परिवेश और मनुष्य के बीच के संबंध को बखुबी समझता है

Course Code- 16HND21C3

Title- हिंदी साहित्य का इतिहास - I

1. इतिहास लेखन और साहित्यिक इतिहास की समझ विकसित होगी
2. हिंदी साहित्य के विविध युगों का विश्लेषणात्मक अध्ययन

Course Code- 16HND21C4

Title- भाषा विज्ञान एवम् हिन्दी भाषा

1. भाषा और उसके उपांगों का ज्ञान
2. भाषा विज्ञान की विशिष्ट समझ विकसित होगी

Course Code- 16HND21D1

Title- विशेष रचनाकार विकल्प - कबीरदास ।

1. हिंदी साहित्य के मध्यकालीन युग का विशिष्ट ज्ञान
2. कवि कबीरदास की कविता की समझ विकसित होगी

Course Code- 16HND21D2

Title- विशेष रचनाकार विकल्प - तुलसीदास ।

1. विद्यार्थियों को भारतीय संस्कृति, धर्म से अवगत कराना
2. कलियुग निरूपण के माध्यम से जन-मानस को विकृतियों से बचाने के लिए प्रेरित किया है
3. मर्यादा पुरुषोत्तम राम के चरित्र के माध्यम से शील, शक्ति और सौन्दर्य जैसे मूल्यों को जागृत करना

Course Code- 16HND21D3

Title- विशेष रचनाकार विकल्प - सूरदास ।

1. हिंदी साहित्य के मध्यकालीन युग का विशिष्ट ज्ञान
2. कवि सूरदास की कविता की समझ विकसित होगी
3. भक्ति भावना से विद्यार्थियों को परिचित करवाने हेतु

Semester-II

Course Code- 16HND21C1

Title- आधुनिक हिंदी कविता - II

1. हिंदी साहित्य के आधुनिक युग का विशिष्ट ज्ञान

2. प्रमुख कविओ ऐवम उनकी कविता की समझ विकसित होगी

Course Code- 16HND22C2

Title- आधुनिक गद्य साहित्य - II

1. आधुनिक गद्य साहित्य नई सोच और नई दृष्टि को विकसित करता है
2. आधुनिक गद्य साहित्य परिवेशगत अवमूल्यन पर चोट करता है
3. आधुनिक गद्य साहित्य परिवेश और मनुष्य के बीच के संबंध को बखुबी समाझता है

Course Code- 16HND22C3

Title- हिंदी साहित्य का इतिहास - II

1. हिंदी साहित्य के गद्य का विशिष्ट ज्ञान
2. प्रमुख लेखक ऐवम उनकी कृतियों की समझ विकसित होगी

Course Code- 16HND22C4

Title- भाषा विज्ञान एवम् हिन्दी भाषा - II

1. भाषा और उसके उपांगों का ज्ञान
2. भाषा विज्ञान की विशिष्ट समझ विकसित होगी

Course Code- 16HND22D1

Title- विशेष रचनाकार विकल्प - कबीरदास II

1. हिंदी साहित्य के मध्यकालीन युग का विशिष्ट ज्ञान

2. कवि कबीरदास की कविता की समझ विकसित होगी

Course Code- 16HND21D2

Title- विशेष रचनाकार विकल्प - तुलसीदास II

1. विद्यार्थियों को भारतीय संस्कृति, धर्म से अवगत कराना
2. कलियुग निरूपण के माध्यम से जन-मानस को विकृतियों से बचाने के लिए प्रेरित किया है
3. मर्यादा पुरुषोत्तम राम के चरित्र के माध्यम से शील, शक्ति और सौन्दर्य जैसे मूल्यों को जागृत करना

Course Code- 16HND21D3

Title- विशेष रचनाकार विकल्प - सूरदास II

1. हिंदी साहित्य के मध्यकालीन युग का विशिष्ट ज्ञान
2. कवि सूरदास की कविता की समझ विकसित होगी
3. भक्ति भावना से विद्यार्थियों को परिचित करवाने हेतु

Semester - III

Course Code- 17HND23C1

Title- प्राचीन एवं मध्यकालीन काव्य -I

1. हिंदी साहित्य के प्राचीन एवं मध्यकालीन युग का विशिष्ट ज्ञान
2. प्रमुख कविओं एवं उनकी कविता की समझ विकसित होगी

Course Code- 17HND23C2

Title- भारतीय काव्यशास्त्र-I

1. भारतीय काव्यशास्त्र का परिचय देना
2. भारतीय काव्यशास्त्र के विकासक्रम का परिचय देना

Course Code- 17HND23C3

Title- भारतीय साहित्य - I

1. हिंदी साहित्य के भारतीय साहित्य का ज्ञान
2. भारतीय साहित्य, भारतीय समाज में समानता स्थापित करता है

Course Code- 17HND23DA1

Title- प्रयोजन मूलक हिंदी - I

1. राजभाषा हिंदी का ज्ञान
2. अनुवाद विज्ञान की सैद्धांतिक जानकारी और महत्व
3. प्रयोजनमूलक हिंदी के सैद्धांतिक स्वरूपों का ज्ञान

Course Code- 17HND23DA6

Title – हिंदी उपन्यास - I

1. उपन्यास कि सैद्धान्तिक अवधारण को समझना
2. उपन्यास के उद्भव को संभव बनाने वाली परिस्थितयों को बताना

Course Code- 17HND23DB2

Title – विशेष रचनाकार प्रेमचंद - I

1. प्रेमचंद की युगीन परिस्थितियों का ज्ञान कराना
2. प्रेमचंद की पूर्वव्रती कथा परम्परा से अवगत कराना

Course Code- 17HND23DB3

Title – विशेष रचनाकार सूर्यकांत त्रिपाठी निराला - I

1. निराला की युगीन एवम् पूर्वव्रती परिस्थितियों का आकलन
2. छायावादी कविता की विशिष्टताओं का आकलन

Course Code- 17HND23DB5

Title – विशेष रचनाकार सच्चिदानन्द हीरानन्द वात्स्यायन अज्ञेय - I

1. अज्ञेय के स्मसत् कृतित्व को हृदयगम करने
2. अज्ञेय के विचारों एवं भाषा से विद्यार्थियों को परीक्षित करना

Semester - IV

Course Code- 17HND24C1

Title – प्राचीन एवं मध्यकालीन काव्य -II

1. हिंदी साहित्य के प्राचीन एवं मध्यकालीन युग का विशिष्ट ज्ञान
2. प्रमुख कविओ एवम् उनकी कविता की समझ विकसित होगी

Course Code- 17HND24C2

Title – पाश्चात्य काव्य शास्त्र -II

1. पाश्चात्य काव्यशास्त्र के सिद्धान्तों का ज्ञान कराना
2. पाश्चात्य काव्यशास्त्र के विकास का परिचय देना

Course Code- 17HND24C3

Title – भारतीय साहित्य-II

1. हिंदी साहित्य के भारतीय साहित्य का ज्ञान
2. भारतीय साहित्य, भारतीय समाज में समानता स्थापित करता है

Course Code- 17HND24DA1

Title – प्रयोजन मूलक हिंदी - II

1. प्रयोजन मूलक हिंदी के सैधांतिक स्वरूप का ज्ञान
2. अनुवाद विज्ञान की सैधांतिक जानकारी और महत्व

Course Code- 17HND24DA5

Title - नाटक और रंगमंच-II

1. नाटक की सैधांतिक अवधारणा को समझना
2. नाटक और रंगमंच के इतिहास से परिचित कराना

Course Code- 17HND24DA6

Title - हिंदी उपन्यास -II

1. उपन्यास कि सैद्धान्तिक अवधारण को समझना
2. उपन्यास के उद्भव को संभव बनाने वाली परिस्थितयों को बताना

Course Code- 17HND24DB2

Title - विशेष रचनाकार प्रेमचंद - II

1. प्रेमचंद की युगीन परिस्थितयों का ज्ञान कराना
2. प्रेमचंद की पूर्वव्रती कथा परम्परा से अवगत कराना

Course Code- 17HND24DB3

Title – विशेष रचनाकार सूर्यकांत त्रिपाठी निराला - II

1. निराला की युगीन एवम् पूर्वव्रती परिस्थितयों का आकलन
2. छायावादी कविता की विशिष्टताओं का आकलन

Course Code- 17HND24DB5

Title – विशेष रचनाकार सच्चिदानन्द हीरानन्द वात्स्यायन अज्ञेय - II

1. अज्ञेय के स्मसत् कृतित्व को हृदयगम करने
2. अज्ञेय के विचारों एवं भाषा से विद्यार्थियों को परीचित करना

M.A. History

Semester - I

Course Code- 23HIS21C1OM

Title - Ancient Societies-I

1. Critically evaluate the development of human society and various cultures from stone age to iron age, worldwide phenomenon.
2. Critically discuss major cultural structures, events and than shaping the world context.
3. Evaluate and analyze different sources (particularly archaeological) in overseas.
4. Critically evaluate the concept the decline of different civilizations.
5. Critically evaluate the concept of relation of civilizations to each other.

Course Code - 23HIS21C2 OM

Title - Medieval Societies (India)

1. Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World.
2. Critically evaluate the concept the decline of feudalism and advent of capitalism.
3. Critically analyze and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and abbasid dynasty.
4. Evaluate and analyze the different aspects of administrative units specially in Indian context.
5. Critically understand the society through the religion.

Course Code - 23HIS21C3 OM

Title - Modern World (Socio-Economic Trends)

1. Students' enable to understand the various socio-economic trends in modern period.
2. Critically evaluate how the modern west was emerged through renaissance and and other socioeconomic developments.
3. Critically analyse the rise of capitalism and imperialism led all these developments.
4. Critically evaluate how the new political system emerged based on representative system.
5. Explain and analyse the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars.

Course Code - 23HIS21C4 OM

Title - History of Haryana (Earliest Times to Sultanate)

1. Students undertand the theme of regional history is explored through study of Haryana from stone age to independence of India.
2. Critically analyse the rise of various cultures are explored in the region of Haryana.
3. Critically evaluate the efforts of the people of this region in the foreign invasions.
4. Critically analyse the rise of state formation and new power in the region of Haryana.
5. Explain and analyse the Turkish Invasion and it's impact on Haryana.

Course Code - 23HIS21C5 OM

Title - State in India (Earliest Times to Sultanate)

1. Evaluate and analyze of institutional history that how the institution of state rise and develop in India.
2. Critically evaluate the nature of the state changes with the time and dynasty.
3. Analyze the emergence of the Mauryan and Gupta empire during the classical age in India.
4. Identify and analyze key facets of Indian Society and the rise of technology and

commerce.

5. Formulate logical arguments substantiated with historical aspects.

Course Code - 23HIS21D1 OM

Title - Science and Technology In Pre-Colonial India

1. Critically, students to know the evolution and developmetn of science and technology through the ages in India upto 18th century.
2. Evaluate and analyze the history of various fields of science viz. Physical, Chemical, Mechanical, Astronomy, Mathematics and Medicine etc.
3. Explain and acquainted with the internal evolution and external influences on science & technology in India.
4. Formulate logical arguments substantiated with historical aspects.

Semester - II

Course Code - 23HIS22C1 OM

Title - Ancient Societies-II

1. Critically evaluate the development of human society and various cultures from Stone age to Iron age, world wide phenomenon.
2. Critically discuss major cultural structures, events and than shaping the world context.
3. Evaluate and analyze different sources (particularly archaeological) in overseas.
4. Critically evalute the concept the decline of different civilizations and concept of relation of civilizations to each other.
5. Formulate logical arguments substantiated with historical aspects.

Course Code - 23HIS22C2 OM

Title - Medieval Societies (Islamic and Europe)

1. Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World.
2. Critically evaluate the concept the decline of feudalism and advent of capitalism.
3. Critically analyze and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and abbasid dynasty.
4. Evaluate and analyze the different aspects of administrative units specially in Indian context.
5. Critically understand the society through the religion.

Course Code - 23HIS22C3 OM

Title - Modern World (Political Trends)

1. Students' enable to understand the various socio-economic trends in modern period.
2. Critically evaluate how the modern west was emerged through renaissance and and other socio-economic developments.
3. Critically analyse the rise of capitalism and imperialism led all these developments.
4. Critically evaluate how the new political system emerged based on representative system.
5. Explain and analyse the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars.

Course Code - 23HIS22D1 OM

Title - History of Haryana (Mughals to 1947)

1. Students understand the theme of regional history is explored through study of Haryana from stone age to independence of India.
2. Critically evaluate the efforts of the people of this region in the foreign invasions.
3. Critically analyse the rise of state formation and new power in the region of Haryana.

4. Explain and analyse the Turkish Invasion and it's impact on Haryana.
5. Evaluate and analyze the different aspects of ancient to modern administrative units.

Course Code - 23HIS22D2OM

Title - State in India (Mughals to Modern Times)-II

1. Evaluate and analyze of institutional history that how the institution of state rise and develop in India.
2. Critically evaluate the nature of the state changes with the time and dynasty.
3. Analyze the emergence of the Mauryan and Gupta empires during the classical age in India
4. Identify and analyze key facets of Indian Society and the rise of technology and commerce.
5. Formulate logical arguments substantiated with historical aspects.

Semester - III

Course Code - 24HIS23C1OM

Title - Historiography : Concepts, Methods and Tools -I

1. Students will have developed their ability to assess critically historical analysis and argument, past and present.
2. Students will have gained an understanding of the development of the academic study of history throughout the world since the later eighteenth century
3. Students will have gained an awareness of recent and contemporary debates in the theory, practice of historical writing and gained debate in history thinker
4. Students will have gained insight into how historical arguments have been and are made become aware of historiographical traditions outside the West
5. Students will have had the opportunity to think reflexively about the nature of the historical enterprise within society

Course Code - 24HIS23GD1OM

Title - Political History of India (1757-1947) I

1. Students understand about the sources of Modern Indian History i.e. Archival Records, Private Papers, Newspapers, Periodicals and Oral Traditions.
2. Students understand the pre-colonial Indian Polity.
3. Students understand the emergence of British Power and Indian resistances.
4. Students understand the diplomatic means of British Expansion and Paramountcy and aftermaths.

Course Code - 24HIS23GD2OM

Title - Indian National Movement (1885-1919)

1. Students understand about the Indian Nationalism and role of Indian National Congress sources.
2. Students understand the emergence of Communal Politics and Era-Communal Coordination India and the first world war
3. Students understand the emergence of British Power and Indian resistances.
4. Students understand constitutional development - British reaction

Course Code - 24HIS23GD3OM

Title - Society and Culture of India (1757-1947) I

1. Students understand about the Pre-British Indian Society, British and Indian Society i.e. Christian Missionaries, British Social Policy and Approaches -Evangelicalist and Orientalist.
2. Critically analyze the growth of new education system and role of press in sociopolitical consciousness

3. Critically analyze the Indian literature and role in Indian cultural renaissance
4. Students understand about social reforms of 19th century in India and women's emancipation

Course Code - 24HIS23GD4OM

Title - Economic History of India (1757-1947)-I

1. Students understand about the Pre-British Indian Society, British and Indian Society i.e. Christian Missionaries, British Social Policy and Approaches -Evangelicalist and Orientalist.
2. Critically analyze the growth of new education system and role of press in sociopolitical consciousness
3. Critically analyze the Indian literature and role in Indian cultural renaissance
4. Students understand about social reforms of 19th century in India and women's emancipation

Semester - IV

Course Code - 24HIS24C1OM

Title - Historiography : Concepts, Methods and Tools - II

1. Students developed their ability to assess critically historical analysis and argument, past and present.
2. Students gained an understanding of the development of the academic study of history throughout the world since the later eighteenth century
3. Students gained an awareness of recent and contemporary debates in the theory, practice of historical writing and gained debate in history thinker
4. Students gained insight into how historical arguments have been and are made become

aware of historiographical traditions outside the West

5. Students had the opportunity to think reflexively about the nature of the historical enterprise within society

Course Code - 24HIS24GD1OM

Title - Political History of India (1757-1947-II)

1. Students get the basic knowledge about the administrative structure i.e. District, provincial and central administration and to understand the Arms of the state i.e. Army, law, Police and Civil services.
2. Students understand the relation with Indian states, Afghan Policy, Foreign Policy of Colonial State, Foreign Affairs.
3. Student understand the Indian Union and Princely States, Vision of New India and India and World Non-Alignment Movement.

Course Code - 24HIS24GD2OM

Title - Indian National Movement (1920-1947)

1. Students get basic knowledge about the emergence of the mass movements. civil disobedience movement etc.
2. Students understand the last phase of Revolutionary Movement. Indian National Congress and Socialist Movement.
3. Students understand the Quit Indian Movement, Emergence of States People's Conference, Praja Mandal Movement.
4. Students understand the Communalism at its Zenith. To understand the British Response Transfer of Power

Course Code - 24HIS24GD3OM

Title - Society and Culture of India (1757-1947)- II

1. Students get basic knowledge about the rise of new classes and role of middle class in Modernization.
2. Students understand the causes and nature of Indian Cultural Renaissance Raja Ram Mohan Roy and Brahmo Samaj and Ram Krishnan Mission.
3. Students understand the Wahabi Movement and Arya Samaj Movement and Aligarh Movement.
4. Students understand the Rise and Growth of depressed class movement, untouchability etc.

Course Code - 24HIS24GD4OM

Title - Economic History of India (1757-1947) II

1. Student get basic knowledge about the foreign trade in colonial India with reference to Mercantilism, Industrial Capitalism and Finance Capitalism, Price Movements, Tariff policy.
2. Student to understand the Urban Markets and growth/decline of urban centres in colonial India, Industries and Industrial policy in colonial India.
3. Student understand the theory about the Drain of wealth , Banking System
4. Student understand the environment, forests and the colonial state, labour and the trade union movement, consequences of colonial rule on Indian economy.