

Course Title: Vedic Mathematics

Course Code: MATH-307E

Full Marks: 100 (End Term: 70 + Internal: 30)

Credit: 4

Objectives: Vedic Mathematics is a super-fast way of calculation whereby you can do supposedly complex calculations like 996×998 in less than five seconds flat. It is highly beneficial for school and college students and students who are appearing for their entrance examinations. Vedic Mathematics is far more systematic, simplified and unified than the conventional system. It is a mental tool for calculation that encourages the development and use of intuition and innovation, while giving the student a lot of flexibility, fun and satisfaction. It means giving them a competitive edge, a way to optimize their performance and gives them an edge in mathematics and logic that will help them to shine in the classroom and beyond. Therefore, it's direct and easy to implement in schools – a reason behind its enormous popularity among academicians and students. It complements the mathematics curriculum conventionally taught in schools by acting as a powerful checking tool and goes to save precious time in examinations. The methods & techniques are based on the pioneering work of late *Swami Shri. Bharati Krishna Tirthaji, Shankracharya of Puri*, who established the system from the study of ancient Vedic texts coupled with a profound insight into the natural process of mathematical reasoning. There are just 16 Sutras or Word Formulae which solve all known mathematical problems in the branches of Arithmetic, Algebra, Geometry and Calculus. They are easy to understand, easy to apply and easy to remember. Moreover, Vedic Mathematics is an integral part of Indian Knowledge System.

Unit – I: Addition, Subtraction and Multiplication with recognizable patterns: Multiplication of any number by 9, 99, 999, 9999, 99999, Introduction to Sutras, High Speed Addition, Fast Subtraction using complement, Multiplication by 11, 111, 1111, Multiplication by 12, 13, ..., 19, Multiplication by 112, 1112, History of Vedic mathematics.

Unit – II: Base multiplication: Multiplication by numbers below the base, Multiplication by numbers above the base, Multiplication of 3 numbers near a certain base, Multiplication of numbers with different working base, Working base multiplication, Decimal Multiplication.

Unit – III: Generic and Algebraic multiplication: Multiplication by two-digit numbers, Multiplication by three and four-digit numbers, Multiplication of algebraic equations having two terms, Multiplication of algebraic equations with large power of variables, Special cases, Digital roots.

Unit – IV: Division: Divisibility, Division by numbers less than the base, Division by numbers more than the base, Long Division in one-line, Fractional division, Divisibility by prime numbers, Factorizing quadratic expressions, Algebraic division, Factorization of cubic.

Unit – V: Squaring and Cubing: Square of numbers in patterns, Square of number above the base, Square of number below the base, Square of any number using duplex, Cubes of numbers, Cube of number above the base, Cube of number below the base, Cube of any number. Square roots and Cube roots: square roots of exact squares, Square Roots of imperfect squares, Easy Square Roots of Exact squares, Square Roots of decimal numbers, Cube roots of exact cubes, Quick Cube Roots of Exact cubes.

** Any other advancement in this field may be incorporated.

References:

1. Vedic Mathematics for All Ages, Author: Vandana Singhal, *Motilal Banarsidass Publishers*.
2. Vedic Mathematics by Bharati Krishna Tirthaji Maharaja, Author: V. S. Agarwala, *Motilal Banarsidass Publishers*.
3. How to Become A Human Calculator, Author: Aditi Singhal, *S Chand Publishing House*.

Course Title: Mathematics for Social Sciences

Course Code: MATH-205OE

Full Marks: 100 (End Term: 70 + Internal: 30)

Credit: 4

Objectives: Mathematics is the most beautiful and most powerful creation of the human spirit. Nature used beautiful mathematics in creating the world. Mathematics is the art of giving the same name to different things. Everything around us is mathematics. Social Sciences are related to the study of social life, social change, and the social causes and consequences of human behaviour. Sociologists investigate the structure of groups, organizations, and societies, and how people interact within these contexts. The subject matter of social sciences is diverse ranging from crime to religion, the family to the state, the divisions of race and social class, and the shared beliefs of a common culture and social stability to radical change in whole societies. Mathematics for Social Sciences is an interdisciplinary field of research concerned both with the use of mathematics within sociological research as well as research into the relationships that exist between mathematical logic and social phenomena. It is in fact a combination of two seemingly completely different fields of academia and it provides the inherent mathematical understanding of various social issues and challenges.

Unit-I: Basic of calculus: Concept of derivative, partial derivative, integration, solution of simple differential equations. Simple Ideas of Statistics and Probability Theory: Data manipulation, Measures of central tendency (Mean, Median, Mode), Variance, Standard deviation, Skewness and Kurtosis, Correlation and Regression, Basic Probability Theory, Construction process of Index numbers.

Unit-II: Use of Mathematics in Constructing Theoretical Models of Social Phenomena: Methodology of mathematical models, Construction and analysis of mathematical models on various social phenomena: Malthusian Growth model, Logistic Model, George Homan's The Human Group model, Rashevsky's social behaviour models, demand-supply models, Game theory models, Schelling model etc., interpretation of mathematical results from social point of view.

Unit-III: Models and Social Networks through Graphs: Definition and notations, Social Models using directed graphs, signed graphs, weighted graphs, un-oriented graphs, Small world problems using networks.

Unit-IV: Artificial Intelligence: Basic concepts and definitions. Use of artificial intelligence to interpret and analyze various social phenomena.

Unit-V: Stochastic differential equations: Definitions and Notation, Random Walk and Brownian Motion, White and Colour Noise, Diffusion Process, Kolmogorov Differential Equations, Wiener Process, Ito Stochastic Integral, Ito Stochastic Differential Equation, Application of Stochastic Differential Equations in socio mathematical models.

References:

1. Phillip Bonacich, Philip Lu: Introduction to Mathematical Sociology
2. Barbara Foley Meeker, Robert K. Leik: Mathematical Sociology
3. Charles A. Lave: An introduction to models in the social sciences
4. James Samuel Coleman: Introduction to mathematical Sociology
6. Peter Norvig, Stuart J. Russell: Artificial Intelligence: A Modern Approach
7. Philip C. Jackson: Introduction to Artificial Intelligence
8. S. K. Mapa: Real Analysis
9. Narsingh Deo: Graph Theory with application to Engineering and Computer Science
10. Linda J. S. Allen: An introduction to stochastic processes
11. B.R. Bhatt: Modern Probability Theory.

Course Title: National Service Scheme (NSS)

Course Code: NSS-2010E

**Full Marks: 100 (End Term: 70 [Theory: 40, Practical: 30] +
Internal: 30[Theory: 15, Practical: 15])**

Objectives: *The symbol for the NSS has been based on the giant Rath Wheel of the world-famous Konark Sun Temple (The Black Pagoda) situated in Odisha, India. The wheel portrays the cycle of creation, preservation and release. It signifies the movement in life across time and space, the symbol thus stands for continuity as well as change and implies the continuous striving of NSS for social change. The eight bars in the wheel represent 24 hours of a day. The red colour indicates that the volunteer is full of young blood that is lively, active, energetic and full of high spirit. The navy blue colour indicates the cosmos of which the NSS is tiny part, ready to contribute its share for the welfare of the mankind. It stands for continuity as well as change and implies the continuous striving of NSS. The programme aims to instilling the idea of social welfare in students, and to provide service to society without bias. NSS volunteers work to ensure that everyone who is needy gets help to enhance their standard of living and lead a life of dignity. In doing so, volunteers learn from people in villages how to lead a good life despite a scarcity of resources. It also provides help in natural and man-made disasters by providing food, clothing and first aid to the disaster's victims.*

Group-A: Theory

Unit-I: Introduction and basic Concepts:

History, philosophy, aims and objectives of NSS, Emblem, flag, motto, song badge etc., Organizational structure, roles and responsibilities of various NSS functionaries, Basis of adoption of village/slums, Methodology of conducting survey, Maintenance of the diary, Concept of regular activities, Special camping, Day camps, Indian tradition of volunteerism, Needs, Importance, Motivation and Constraints of volunteerism, Shramdan as a part of volunteerism.

Unit-II: Cognitive Youth Development:

Definition, profile of youth, categories of youth, Issues, challenges and opportunities for youth, Youth as an agent of social change, Meaning and types of leadership, Qualities of good leaders, traits of leadership, Importance and role of youth leadership, National Youth Policy, Healthy Lifestyles, HIV-AIDS, Drugs, Substance abuse, COVID-19, Home nursing, First Aid, Awareness against Anti-Ragging, Positive thinking, Self confidence and self esteem, Setting life goals and working to achieve them, Stress and Time management.

Unit-III: Society and Community Mobilization:

Concept of community and society, Mapping community stakeholders, Designing the message in the context of the problem and culture of the community, Identifying methods of mobilization, Youth-adult partnership, Human values, Gender sensitization, Human rights, Fundamental Rights and Duties, RTI, Cyber Crime and its prevention, Sociological and Psychological factors influencing Youth Crime, Basic features of constitution of India.

Unit-IV: Environmental Issues:

Environment conservation, Enrichment and Sustainability, Climate change, Waste management, Natural resource management (Rain water harvesting, energy conservation, waste land development, soil conservations and afforestation), Disaster Management, Classification of disasters, Role of youth in Disaster Management, Safe drinking water, water borne diseases and sanitation, Swachh Bharat Abhiyan.

Unit-V: Youth and Yoga:

India History, Philosophy and concept of Yoga, Myths and misconceptions about yoga, Different yoga traditions and their impacts, Yoga as a preventive, promotive and curative method, Yoga as a tool for healthy lifestyle.

Group-B: Practical**Project Work:**

Project planning, Project implementation, Project monitoring, Project evaluation, Impact assessment, Collection and analysis of data, Preparation of reports/documentation, Dissemination of documents/reports.

Field Work:

Cleanliness Drive, Awareness Campaigns, Conducting surveys, Workshop/Seminars on personality development and improvement of communication skills etc.

** Any other advancement in this field may be incorporated.

HIST-204 (OE): M.K. Gandhi and India

Course Specific Outcome:

At end of the course student will:

1. Learn about Gandhian philosophy.
2. Learn about Gandhi's method and strategy during national movement.
3. Learn about Gandhi's relation with contemporary leaders and personalities like Rabindranath Tagore, Nehru, Ambedkar.
4. Get a detailed overview on Gandhi and his critiques.
5. Learn about the contemporary relevance and impact of Gandhi.

Course Content:

- A. Gandhi: his Early Life, South African Experience and participation in the India National Movement.
Gandhi: Political Philosophy: Hind Swaraj, Satyagraha, Ahimsa, Communal Harmony; His relation with Contemporaries: i) Subhash, ii) Ambedkar, iii) Jinnah, iv) Tagore etc.
- B. Gandhi: Socio-Economic Philosophy: Ecology, Peasantry, Rural Development, untouchability, women, trusteeship, education.
- C. Gandhi and his Critique: Imperialists, Left, Feminists, Capitalists, Psycho-dynamic critique
- D. Gandhi and his relevance: i) Contemporary socio-political movements, ii) Contemporary environmental movements, iii) Conflict resolution and Gandhian ethics.

Reference Books:

1. Judith Brown: Gandhi's rise to Power.
2. Judith Brown : Prisoner of Hope
3. Rajmohan Gandhi : The Good Boatman
4. Rajmohan Gandhi: Mohandas
5. David Hardiman: Gandhi in his time and ours
6. Partha Chatterjee : nationalist Thought and Colonial World
7. Denis Dalton : Gandhi's Power
8. Louis Fischer : Gandhi
9. Pannalal Dasgupta : Revolutionary Gandhi
10. Anthony Copley : Gandhi
11. M.K. Gandhi: My Experiments with Truth.

HIST 403(CC-XII): INDIAN KNOWLEDGE SYSTEM

Course Specific Outcome:

At end of the course student will:

1. Learn about the nature, object, components and structure of Indian Knowledge System with reference to knowledge system of Vedas, Upanishads, Bhagavadgītā, Buddhism and Jainism.
2. Learn about knowledge system of Bhakti Movement, Brahma-samaja, Rāmānuja, Chaitanya, Sankar Deva , Nanak and Kabir
3. Give student an idea about Swami Vivekananda, Sri Aurobindo, Tagore and Gandhi and their contributions in the Indian Knowledge System.

A

- Definition of – Indian Knowledge System
- The Nature and object & Components, Structure of Indian Knowledge System
- Indian Knowledge System of Self-Discipline and Cleanliness
- Indian Knowledge System and Rural Technology
- Knowledge System of Vedas – River, Earth, Agni, Mathematics.
- Knowledge System of Upanishads:
- Knowledge System of Bhagavadgītā: Jñānayoga, Karmayoga and Bhakti yoga.

B

- Knowledge System of Buddhism: Four Noble Truths, Pratīyasamutpāda, Anātmavāda (No-soul theory) and Nirvāna.
- Knowledge System of Jainism: Nature and Classification of Reality, Syādvāda, Anekāntavāda.

C

- Knowledge System of Bhakti Movement-
- Rāmānuja, Chaitanya, Sankar Deva
- Nanak, Kabir,
- Brahma-samaja and Aryasamaja,
- Theosophical Movement & Annie Besant.

D

Knowledge System of –

- Swami Vivekananda: - Idea of the East and the West, Service and traditional spirituality.
- Sri Aurobindo: Absolute, Super mind and Evolution.
- Tagore: The Concept of Infinite, Religion of Man, Nature
- Gandhi: Truth, Non-Violence and Satyāgraha

HIST-405 (DSE-II): ECOLOGY AND ENVIRONMENT IN HISTORY

Course specific Outcome:

1. the course makes an attempt to apprise the students of History with a crucial issue of ecology and environment
2. Students will get an in-depth idea about the nature of Human- Nature interaction ancient India.
3. Students will get an in-depth idea about the nature of Human- Nature interaction in medieval India.
4. The course intends to apprise the students about the impact of colonial rule on India's environment
5. Students will also learn about environmental issues in post-independence India.

Course Content:

- A. Scope of Ecology, Ecology- Science or Art, its relation to other subjects, Terminology of Ecology, Basic concept of Ecology, Approaches to Ecology, Component of Environment, Living and Non - Living components, Management and conservation of living and non - living resources of environment for sustainable development, Environmental degradation and its impact on present and future generations.
- Environment consciousness in ancient India: Indus Valley civilization; planned urbanization, drainage system, watershed management, waste management, worship of different components of nature, concept of prakriti and purush. Pre-Vedic and Post-Vedic civilization. Forest and wild life management in Maurya and Gupta period small scale

PS-101(CC-I)

Political Theory

The objective of this course is to increase understanding about politics, develop research and analytical skills including ability to think critically to construct logical arguments among the post graduate level students. It is intended to guide the students to collect, analyse and interpret evidence and data and to formulate reasoned conclusions linking them with some theoretical ideas.

Unit-I

Introduction

1. Understanding Political Concepts and Political Theory, Political Theory in the 21st Century: Debate on Decline and Resurgence
2. Debate on the 'End of Ideology'
3. Positivism and Neo Positivism

Unit-II

Political Traditions-I

4. Liberalism: John Rawls and Robert Nozick
5. Conservatism
6. Marxism and Neo-Marxism

Unit-III

Political Traditions-II

7. Feminism; Post-Modernism
8. Green Political Theory
9. Multiculturalism

Unit-IV

Contemporary Democratic Theory and Critical Theory

10. Participatory Theory; Deliberative Theory;
11. Key Debates in Contemporary Democratic Theory
12. Critical Theory: Herbert Marcuse; Habermas- Legitimation Crisis

PS-103 (CC-III)

Indian Government and Politics

The Constitution of India provides the basis of Government and Political System of independent India. The Constitution sets out the framework of powers, privileges, responsibilities and areas of functions of central government, state government and other bodies. This course aims to train the students giving a holistic idea about Indian polity and administration.

Unit-I Historical Background: Indian Constitution

1. Constitutional Foundations-Development of the Constitution of India-Indian National Movement to the making of the Indian Constitution
2. Composition and Working of the Constituent Assembly-Ideology of the Constitution-Constitutional Debates
3. Philosophy of the Constitution: Preamble-Fundamental Rights-Directive Principles of State Policy

Unit-II Constitutional Framework of Government

4. Constitutionalism in India: Democracy-Social Change-National Unity-Checks and Balances-Basic Structure Debate-Constitutional Amendments, Federalism in India
5. Central and State Executive: President and Prime Minister; Governor and Chief Minister, Council of Ministers.
6. Union Parliament: Structure-Role and Functioning-Parliamentary Committees

Unit-III Constitutional, Statutory and Non-Statutory Authorities

7. Judiciary: Supreme Court; High Court; Judicial Review; Judicial Activism; Public Interest Litigation; Judicial Reforms
8. Election Commission and Electoral Reforms
9. Comptroller and Auditor General; NITI Aayog

Unit-IV Local Government and Institutions

10. Local Government- Rural and Urban
11. 73rd and 74th Constitutional Amendment Act
12. Functioning of Local Self Government in Tripura-TTAADC-Panchayats-Municipalities

PS-106 (DSE-I)

Development Studies

Development Studies is a multidisciplinary branch of Social Science and is being taught in different Universities especially in the third world countries. The issue has become an important area of academic research as the developmental aspect of a country is having correlative and causal relationship with numerous other issues affecting the ultimate development called 'sustainable development.' The paper therefore, intends to impart conceptual and theoretical knowledge to the students relating to diverse aspects of development. Through the understanding of conceptual and theoretical basis, the students would acclimatise themselves on the current debates relating to the relationship of development with gender, environment and tribal issues.

Unit-I Introduction

1. Development: Ideas, Concepts
2. Politics and history of Development: Capitalism, Colonialism, Liberalism, Democracy, the Anthropocene
3. Capabilities and Human development

Unit-II Development: Theories and Approaches

4. Classical and Neo-Liberal Approaches
5. Gandhian Model, Marxian and Dependency Theory
6. Alternative and Participatory Approaches

Unit-III Gender, Environment and Industrial Development

7. Gender Approach to Development
8. Environment and Sustainable Development
9. Industry and Development: Politics of Industrial Policy, Labour Laws and the Labour Movement in India

Unit-IV Issues and Challenges of Development

10. Social Exclusion and Social Justice; Development and Displacement
11. Unemployment, Inequality, Poverty
12. Corruption, Crimes and Compliance

PS-202 (CC-V)

Public Administration: Concepts, Theories and Approaches

Theories are perspectives with which people make sense of their world experiences. It accentuates intellectual depth in the discipline. The course is designed to train the students with different theoretical perspectives available in Public Administration. The course is expected to provide cumulative experience and synthesize them to deepen their understanding about the discipline.

Unit-I **Introduction**

1. Meaning, Nature, Scope, Evolution and Significance of Public Administration as a Discipline- Public and Private Administration
2. Politics and Administration Dichotomy-A Century Debate
3. Role of Public Administration in Developed and Developing Societies

Unit-II **Theoretical Approaches**

4. Classical Approach: Woodrow Wilson, F. W. Taylor, Max Weber, Lyndall Urwick and Henry Fayol
5. Human Relations Approach: Elton Mayo, D McGregor, Chris Argyris
6. System Approach (Chester Bernard), Decision Making Approach (Herbert Simon), Ecological Approach (F. W. Riggs)

Unit-III **Paradigms of Public Administration**

7. New Public Administration, New Public Service Approach
8. Public Choice Approach, New Public Management
9. Comparative Public Administration, Development Administration

Unit-IV **Contemporary Debates and Emerging Trends**

10. Ethics and Public Administration
11. Globalization, Good Governance and E- Governance
12. Globalization and Changing Role of Public Administration, Public Private Relations, Future of Public Administration

PS-204 (OE)

Indian Constitution and Institutions

Constitution of India is the most fundamental document, which defines the structure, powers and framework of functioning of different organs of governments and encompassing the central, state and local governments. The course aims to give students ideas about the basis of Indian Constitution and functioning of governments and other organs of governments in India.

Unit-I Basics of Indian Constitution

1. Framing of Indian Constitution: Issues and Challenges, Role of the Constituent Assembly, Democracy and Activist State.
2. Fundamental Rights and Directive Principles of State Policy: Relations between Fundamental Rights and Directive Principles of State Policy, Judiciary and Fundamental Rights, Individual and Group Rights.
3. Secularism: Nature of Indian Secularism and its Critics.

Unit-II Constitutional Organs

4. Executive and Legislature: President, Prime Minister, Governor, Chief Minister; Norms of Representation, Parliamentary Sovereignty.
5. Judiciary: Structure, Judicial Review and Judicial Activism.
6. Bureaucracy and the Defence Forces: Civil-Military Relations, Nature of Indian Bureaucracy.

Unit-III System of Government

7. Practice of Federalism in India: Nature of Working Centre-State Relations, Recommendations of Commissions.
8. Democracy, Electoral Process, Election Commission & Electoral Reforms in India.
9. Coalition Politics: Implications on Indian Politics and Administration

Unit-IV Local Self Government

10. Local Self Governments-Rural and Urban in India: Meaning, Nature, Scope; Evolution of Local Government in India-British and Post Independence Scenario.
11. 73rd and 74th Constitutional Amendment Acts: Basic Features, Problems and Issues of Rural and Urban Governance (Funds and Capacity Building).
12. Functions and Role of Local Self Governments in India, State-Local Relations in India.

PS-205 (OE)

Women's Studies

The central concern of this paper is to offer a broad outline with regard to the nature and growth of women's movement in the modern age, women's participation in political and administrative activities, legal provisions available for protection of rights of women and most vital issue of women's health.

Unit-I **History of Women's Movement:**

1. Ideas of Enlightenment and the quest for women's rights; The socio-economic conditions of women during the age of Industrial revolution; Suffrage Movement;
2. Significance of Mary Wollstonecraft's "A Vindication of the Rights of Woman" and the Seneca Falls Convention and the Call for Women's Rights 1848; CEDAW
3. Socio-economic cultural conditions of women in 19th century India; Conceptualizing Patriarchy and Sexuality

Unit-II **Women and Politics:**

4. Women's Participation in Indian Nationalist Movement;
5. Women and Political Participation
6. Women's Leadership and Governance

Unit-III **Women and Law:**

7. Constitutional rights of Women, Women and Hindu & Muslim Law;
8. Domestic Violence Act and Protection of Women from Sexual Harassment Act
9. Institutional Frame Work for Protection of Women in India

Unit-IV **Women and Health:**

10. Women's Health- A Human Rights Perspective
11. Adolescent Health; PNDT Act
12. Women and Diseases; Women and Nutrition

PS-206 (OE)

Human Rights: Theory and Practice

The objective of this course is to train students about different aspects of rights of human beings. Students are expected to learn here different international and national instruments for protection of human rights more specifically the rights of the vulnerable groups.

Unit- I Human Rights and International Scenario:

1. Human Rights: Nature, Concept, Evolution, Theories
2. Human Rights and the UN: Role of UN, UDHR and Covenants,
3. International Humanitarian Law: Definition, Origin and Development.

Unit- II Human Rights and India:

4. Human Rights Movement in India
5. Indian Constitution: Part-III and Part-IV
6. Enforcement of the Human Rights: Role of Judiciary, the Protection of Human Rights Act, 1993

Unit- III Human Rights and Vulnerable Groups:

7. Human Rights and Children: Rights of Children- International-National Instruments.
8. Issues Relating to Women: International-National-State Mechanisms, Legislations to Protect the Rights of Women, Women in Conflict Situation
9. Refugee Law: Origin, Definition, Rights of Internally Displaced Population- International Provisions and Responsibilities.

Unit- IV Human Rights in the Context of North East India:

10. Sources of Violation of Human Rights: Autonomy Movements, Ethnic Conflicts, Displacement
11. Role of Enforcement Agencies: Police, Security Forces
12. Assessment of Armed Forces Special Power Act - Role of State Human Rights Commissions - Role of Human rights Organizations

PS-303 (CC-IX)

Research Methodology

Research is the basis for development of any discipline. Through research, one can make scientific and systematic study of a particular issue of the discipline. It is an art of scientific investigation. This course will enable students to understand the basic idea about social science research, different methods of scientific research.

Unit-I

Introduction

1. Social Science Research: Meaning, Objectives, Scope and Importance of Social Science Research, Normativity and Objectivity in Social Science Research.
2. Distinction between Method and Methodology; Role of Research in Theory-building
3. Types of Research: Quantitative Research, Qualitative Research, Applied Research, Basic Research, Problem Oriented and Problem Solving

Unit-II

Scientific Method in Research

4. Scientific Methods in Social Science Research.
5. Problem Formulation and Hypothesis; Identification of Variables, Concepts and Operationalization of Concepts; Hypothesis and Procedure of Hypothesis Testing and Estimation.
6. Data: Sources-Primary and Secondary, Methods of Data Collection.

Unit-III

Use of Statistics

7. Sampling and Sampling Techniques; Scales of Measurement, Measures of Central Tendency and Dispersion, Mean, Mode and Median, Standard Deviation, Correlation.
8. Observation, Questionnaire, Schedule, Interview, Processing and Analysis of Data.
9. Research Design and Research Report Writing; Citation Pattern and Bibliography

Unit-IV

Research in Public Administration

10. Trends of Research in Public Policy and Governance.
11. Ethics of Research in Public Administration.
12. Use of Computers in Social Science Research.

PS-404 (DSE-II)

Environment and Disaster Management

Environmental pollution is now recognized as a serious global problem. It is causing severe environmental disasters in many parts of the world every now and then. An effective environmental administration at global, national and local level has become the most urgent need of the hour to save all living creatures and make the earth a live able place without further endangering the environment. The objective of the course is to draw the attention of the students about this menace, train them in the mechanisms for its mitigation and to initiate debates, dialogues and directions of thinking about politico-administrative reforms for evolving an environmental state structure to the pursuit of 'good life'.

Unit-I Introduction

1. Environment: Meaning, Nature and Aspects; Environment Administration: Concept and Significance.
2. Approaches to Environmental Administration: Ethical Approach, Legal Approach and Multi-Disciplinary Approach
3. Environmental Governance: Stockholm (1972) to the Present

Unit-II Agencies for Environmental Administration

4. Role of UNEP, World Bank
5. Role of Pollution Control Board, Bio-diversity Authority, State and Local government in Environmental Administration in India
6. Public Participation and Role of NGOs and Judiciary in Environmental Administration

Unit-III Human Affairs and Environment

7. Growth and Control of Human Population, Health and Environment
8. Rural and Urban Challenges in Environmental Administration (Deforestation, Soil Erosion, Solid Waste Management)
9. Environmental Issues: Global Warming and Climate Change, Sustainable Development, Environmental Protection Verses Development

Unit-IV Disaster Management

10. Meaning, Nature and Types of Disasters; Elements of Disaster Management; Disaster and Environment
11. Disaster Mitigation (Risk Assessment, Protective measures and Public Information), Disaster preparedness (Disaster Plan, Disaster Forecasting, Warning and prediction)
12. Role of Government and NGOs in Economic and Social Rehabilitation during Disasters (Shelter, Food and medical Supply, Mass Media Coverage, Maintenance of Public Order)

PS-407 (DSE-II)

Traditions of Knowledge System in Ancient Indian Polity

The objective of this course is to acquaint the students with traditions of knowledge system in ancient Indian polity and its relevance in studying politics in modern times. After studying this course, the students are expected to be familiar with the knowledge system that prevailed in ancient India about the origin of state, functions and role of kingship and government as enriched in Vedic Sahitya, Brahmanas and Upanishads, Buddhist and Jain Political Philosophy and in the political thought of Kautilya, Manu etc.

Unit-I Introduction

- (i) Ancient Indian Political Thought and Ideas: Vedic Sahitya, Brahmanas and Upanishads
- (ii) Salient Features of the Ancient Indian Political Thought

Unit-II Idea of State

- (i) Origin and the Theory of State
- (ii) The Role of Kingship and Functions of Government

Unit-III Political Philosophy of Buddhism and Jainism

- (i) Evolution and Basic Concepts of Buddhist and Jain Political Philosophy
- (ii) Status of Women in Buddhist and Jain Political Philosophy

Unit-IV Ancient Indian Political Thinkers

- (i) Manu: King, Saptanga Theory
- (ii) Kautilya: Statecraft, Mandal Theory

Semester – I
Ability Enhancement Compulsory Course

AECC – Paper I
Environmental Studies

TOTAL MARKS – 100
End semester- 80, Internal- 20

Unit 1 : Introduction to Environmental Studies and Natural Resources (Renewable and Non---renewable Resources)

- Multidisciplinary nature of environmental studies;
- Scope and importance; Concept of sustainability and sustainable development.
- Land resources and land use change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over---exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter---state).
- Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

(10 lectures)

Unit 2 : Ecosystems and Biodiversity and Conservation

- What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems :
 - a. *Forest ecosystem*
 - b. *Grassland ecosystem*
 - c. *Desert ecosystem*
 - d. *Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)*
- Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega---biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity: Habitat loss, poaching of wildlife, man---wildlife conflicts, biological invasions; Conservation of biodiversity : In---situ and Ex---situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

(14 lectures)

Unit 3 : Environmental Pollution and Environmental Policies & Practices

- Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution
- Nuclear hazards and human health risks
- Solid waste management: Control measures of urban and industrial waste.
- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture
- Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).

- Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

(15 lectures)

Unit 4 : Human Communities and the Environment

- Human population growth: Impacts on environment, human health and welfare.
- Resettlement and rehabilitation of project affected persons; case studies.
- Disaster management : floods, earthquake, cyclones and landslides.
- Environmental movements :Chipko, Silent valley, Bishnois of Rajasthan.
- Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.
- Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

(8 lectures)

Suggested Readings:

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
4. Gleick, P. H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. *Threats from India's Himalaya dams*. *Science*, 339: 36---37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams*(pp. 29---64). Zed Books.
8. McNeill, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.
9. Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. *Environmental and Pollution Science*. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M. L. 2001. *Environmental law and policy in India*. Tripathi 1992.
14. Sengupta, R. 2003. *Ecology and economics: An approach to sustainable development*. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology: Voices from the Tropics*. John Wiley & Sons.
17. Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
18. Warren, C. E. 1971. *Biology and Water Pollution Control*. WB Saunders.
19. Wilson, E. O. 2006. *The Creation: An appeal to save life on earth*. New York: Norton.
20. World Commission on Environment and Development. 1987. *Our Common Future*. Oxford University Press.

Paper Code ICH 1006E (optional Elective, DSE-12)

Paper Name: Chemistry and Society

Credit: 04

Course outcome:

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

- Develop understanding of various branches of science during different eras in different parts of the world
- Analyze the role played by the science in different eras in the evolution of modern day science
- Ethics in science outcomes
- About history and evolution of the major disciplines of science.
- About history of ancient Indian mathematics.
- Comprehend about legacy of ancient Indian scientific discoveries.
- About green chemistry and sustainability, sustainable chemistry technologies and alternate energy sources. Learning Outcome

Learning outcome:

After completion of the course students will be able to

- Acquaint about History and Philosophy of Science as a need of Modern Science.
- Gathered the Knowledge about Construction of materials in the ancient times.
- Acquire key scientific ideas that developed from Aristotle to Newton.
- Acquire ability to recognize the importance of environmental changes and understand various aspects of air, soil and water.
- Earn ability to apply recycling vis-à-vis resource recovery technologies for useful conversion of specific waste type to eco-friendly products.
- Gathered the Knowledge to critically examine development actions with the fundamentals understanding sustainable development.
- Gathered knowledge to demonstrate understanding of the global, regional and local initiatives for energy conservation and sustainable development.
- Ability to apply critical mind in policy and approach aimed at resolving environmental issue, which, often, are with social aspects.
- Earn ability to critically appreciate national and international laws and policies connected with India.

UNIT-I: History and Philosophy of Science-I

Why History of Science? History and evolution of the major disciplines of science, which include the basic sciences, bioscience, natural sciences and medical science, with special emphasis on the Indian perspective; Astronomy in the ancient world - people, theory and instruments; Astronomy across civilizations of the old world, main discoveries, their contribution and instruments during those times. The Dark ages in Europe - the Arabian influence - The Islamic science, translations and original contributions of Arabians, dark ages Europe, logic, literature and scientific method, early universities of Europe; The ethical and moral issues related to social values, along with the controversies that arise in relation to the discourse of science from the philosophical perspectives.

The Copernican revolution and the rise of modern science - The background of Copernican revolution, interaction between civilizations, the rise of modern sciences - when and why?

The key scientific ideas that developed from Aristotle to Newton;

The Greek legacy: Eratosthenes, Pre-Socratic period: the Pythagoreans school; Classic period: Plato and Aristotle; Astronomy and Mathematics in the Hellenistic period: Ptolemy, Eratosthenes, Hipparchus, Euclid, Archimedes.

The scientific revolution at renaissance- Copernicus, Galileo, Kepler, Newton: motion in the solar system; Separation between science and religion; Technology major inventions- printing technics, navigation instrument:

The significant and overwhelming influence of history and scientific philosophy on present day civilization; The journey of development of sciences, the colonial influences on science

UNIT-II: History and Philosophy of Science-II

Introduction, Logic and methodology of Indian sciences; An overview of Indian contributions to sciences; An overview of Indian contributions to technology;

Elements of Indian Astronomy and Mathematics and their influence on Europe: Prehistory: the Vedic period, discoveries in mathematics, astronomy and medicine; Middle age, Late middle age: science technology transfer with Europe.

Astronomy- Development of astronomy in India; Pancanga: Indian calendrical computations; The distinct features of Indian planetary models; Computation of eclipses: Its simplicity, elegance and efficiency; Observational astronomy in India

Mathematics- An overview of the development of mathematics in India; Mathematics contained in Sulbasutras; history of ancient Indian mathematics; Combinatorial aspects of the Chandassastra; Solutions to the first and second order indeterminate equations; Weaving mathematics into beautiful poetry: Bhaskaracarya; The evolution of sine function in India; The discovery of calculus by Kerala astronomers

Ayurveda-History of Ayurveda; Rational foundations of Ayurveda; Textual sources in Ayurveda; Ayurveda and allied disciplines; Approach to health and disease in Ayurveda; Approach to diet and nutrition in Ayurveda; Ayurveda and modern medicine; Ayurveda and Yoga

Technological development in India: Agriculture- Origin and development; Ancient crops; Traditional practices; Water management in ancient time.

UNIT-III: Sustainable Chemical and Environmental Science-I

State of Environment and Unsustainability, concept of sustainability science: different approach towards sustainable development and its different constituents; sustainability of society, resources and framework; Traditional conservation systems in India, Overview of International Treaties and Conventions, Overview of Legal and Regulatory Frameworks. Impacts, causes, effects, control measures, international, legal and regulatory frameworks of: Climate Change, Ozone depletion, Air pollution, Water pollution, Noise pollution, Soil / land degradation / pollution.

UNIT-IV: Sustainable Chemical and Environmental Science-II

Environmental impacts of non-renewable energy consumption; future energy options and challenges. solar cells, JNN solar mission; benefits of hydropower development; nuclear fission reactors, pros and cons of nuclear power, storage of radioactive waste, radioactive contamination; tidal energy; wave energy; ocean thermal energy conversion (OTEC); geothermal energy; energy from biomass; bio-diesel; sustainable energy strategy; principles of energy conservation; Indian renewable energy programme. Ethical issues related to resource consumption, Intergenerational ethics, Need for investigation and resolution of the root cause of unsustainability, Traditional value systems of India, Significance of holistic value-based education for true sustainability.

Recommended books:

1. O. S. Owen, D. D. Chiras, and J. P. Reganold, Natural Resource Conservation – Management for Sustainable Future (7th edition). Prentice Hall (1998).
2. J. R. Craig, D. J. Vaughan and B. J. Skinner. Resources of the Earth: Origin, Use, and Environmental Impacts (2nd edition). Prentice Hall, New Jersey (1996).
3. A. M. Freeman, Measures of value and Resources: Resources for the Future, Washington DC. (2001).
4. A. M. Freeman, Millennium Ecosystem Assessment: Conceptual Framework. Island Press. (2003).
5. D. S. Ginley, & D. Cahen, Fundamentals of Materials for Energy and Environmental Sustainability, Cambridge University Press. (2011).
6. G. A. Klee, Conservation of Natural Resources. Prentice Hall Publication, Miller, T. G. 2012. Environmental Science, Wadsworth Publishing Co. (1991).
7. F. Ramade, Ecology of Natural Resources, John Wiley & Sons Ltd., (1984).
8. G. N. Tiwari and M. K. Ghosal, Renewable Energy Resources: Basic Principles and Application. Narosa Publishing House, (2005).
9. Nandan Bhattacharya, The History and Philosophy of Science, An Indian Perspective, Taylor & Francis Books, (2020).
10. A. Reader, The History and Philosophy of Science, Bloomsbury Publishing, (2018).
11. S. J. Reynolds, Philosophy, Science, and History: A Guide and Reader. New York: Routledge publishers, (2014).
12. Edwin Arthur Burt, The Metaphysical Foundations of Modern Science, Doubleday Anchor Books, (2001).
13. Mansoor Niaz, Chemistry Education and Contributions from History and Philosophy of Science, Springer Link, (2016).

ENG-303 (CC-IX)

Literary Theory and Criticism-II

The objective of this course is to give the students a firm grounding in a major methodological aspect of literary studies known as theory as well as to understand the concept of structuralism and post-structuralism, to learn about the rise of feminism and its significance for the betterment of women society and the scope of orientalism by studying post-colonial literature.

- Unit-I Northrop Frye: The Archetypes of Literature/Myth, Fiction and Displacement
I. A. Richards: *The Imagination*
T.S. Eliot: "To Criticize the Critic"/ The Function of Criticism
- Unit-II Structuralism and Post-Structuralism:
 - Jonathan Culler: *Structuralism and Literature*
 - Barthes: *The Death of the Author*
 - Derrida: Deconstruction
- Unit-III Psychoanalysis (Freud Lacan)

Post-Colonialism
 - Edward Said: *The Scope of Orientalism*
 - Aijaz Ahmed/Homi K Bhaba/Gayatri Spivak
- Unit-IV Feminism
 - Gilbert and Gubar: *The Mad Woman in the Attic*
 - Kate Millet: *Sexual Politics*
- Environment and Eco-criticism [Buell, Bateson, Soper ("The Idea of Nature")]

Recommended Readings:

- Cuddon, J.A. *A Dictionary of Literary Terms and Theories*. Penguin.
- Wimsatt and Brooks eds, *Literary Criticism: A Short History*. Indian ed., Oxford Book Company
- Selden, Widdowson and Brooke eds, *A Reader's Guide to Contemporary Literary Theory*, 5th ed. Cambridge University Press
- Ramaswami, S. and Seturaman, V.S. eds. *The English Critical Tradition*. Vol. I. Madras: Macmillan India Limited, 1986.
- Adams, Hazard. *Critical Theory Since Plato*. Heinle and Heinle, 2005.
- Habib, M.A.R. *A History of Literary Criticism and Theory: From Plato to the Present*, Los Angeles: Blackwell Publishing, 2007.
- Barry, Peter. *Beginning Theory*, 4th ed, 2018, Viva Books.
- Nayar, Pramod K. *Contemporary Literary and Cultural Theory*, 2009. Pearson education.

ENG-105 (DSE-I)

Women's Writing

Women's Writing is based on the notion that it is a category of writing done by women based on their experience. It may also refer to the general study of women writers. The objective of this course is to acquaint students to recognize and discuss aspects of women's writing, demonstrate understanding of critical and theoretical debates surrounding women's writing, awareness of cultural and inter-cultural concerns and to interpret and analyse literary works by women.

- Unit-I Virginia Woolf: A room of one's own
- Unit-II Toni Morrison: The Bluest eye
Alice Walker: Possessing the Secret of Joy
- Unit-III Margaret Atwood: The Handmaid's Tale
- Unit-IV Bharati Mukherjee
- A wife's story
 - Jasmine
- Judith Wright
- The Old Prison
 - The Harp and the King
 - Typists in the Phoenix Building
 - Woman to man

Recommended Readings:

- McNay, Lois. *Foucault & Feminism: Power, Gender and the self*. Boston: Northeastern university Press, 1992.
- Cameron, Deborah ed. *The Feminist Critique of Language: A Reader*. London: Routledge, 1998.
- Roy, Anuradha. *Patterns of Feminist Consciousness in Indian Women Writers*. New Delhi: Prestige Books, 1999.
- Nicholson, Colin ed. *Margaret Atwood: New Critical Essays Writing and Subjectivity*. Macmillan, 1993
- Bande, Usha. *Writing resistance*, 2015. Indian Institute of Advanced Study

Unit- IV

Market Structure: Perfect Competition: Assumption; Theory of a firm under perfect competition; Demand and Revenue; Equilibrium of the firm in the short run and long run, The long run industry supply curve: increasing, decreasing and constant cost industry. Allocative efficiency under perfect competition. Monopoly: Short-run and long-run equilibrium of monopoly firm; Concept of supply curve under monopoly; Monopoly Power, Allocation inefficiency and dead-weight loss monopoly; Price discrimination. Concept and basic characteristics of Monopolistic Competition and Oligopoly markets

Suggested Readings:

1. Ahuja, H. L.: *Business Economics*, S. Chand & Co.: New Delhi.
2. Deepashree, *Business Economics*, Ane Books Pvt. Ltd.: New Delhi.
3. Varian, H.R., *Intermediate Microeconomics: A Modern Approach*, Affiliated East West Press: New Delhi.
4. Sachdeva, A.: *Micro Economics*, Kusum Lata Publishers: New Delhi.
5. Shorkhel, Joydeeb: *Managerial Economics*, Book Syndicate: Kolkata.
6. Pindyck and Rubinfeld: *Microeconomics*, Pearson India.

105FC: Foundation Course 1 Environmental Studies

Unit- I

Introduction to Environmental Studies and Natural Resources (Renewable and Non-renewable Resources) • Multidisciplinary nature of environmental studies; • Scope and importance; Concept of sustainability and sustainable development. • Land resources and land use change; Land degradation, soil erosion and desertification. • Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. • Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). • Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit –II

Ecosystems and Biodiversity and Conservation • What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems : a. Forest ecosystem b. Grassland ecosystem c. Desert ecosystem d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) • Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots • India as a mega-biodiversity nation; Endangered and endemic species of India • Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity. • Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit- III

Environmental Pollution and Environmental Policies & Practices • Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution • Nuclear hazards and human health risks • Solid waste management: Control measures of urban and industrial waste. • Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture • Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD). • Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

Unit-IV

Human Communities and the Environment • Human population growth: Impacts on environment, human health and welfare. • Resettlement and rehabilitation of project affected persons; case studies. • Disaster management : floods, earthquake, cyclones and landslides. • Environmental movements :Chipko, Silent valley, Bishnois of Rajasthan. • Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. • Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

Computation of taxable value and tax liability. Procedure relating to Levy: (IGST): Inter-state supply, intra-state supply, Zero rates supply, Value of taxable supply – Computation of taxable value and tax liability. Input tax Credit: Eligibility, Apportionment, Inputs on capital goods, Distribution of credit by Input Service Distributor (ISD) – Transfer of Input tax credit - Simple Problems on utilization of input tax credit.

Unit-IV

(a) Customs Law Basic concepts of customs law, Territorial waters, high seas, Types of custom duties – Basic, Countervailing & Anti- Dumping Duty, Safeguard Duty, Valuation, Customs Procedures, Import and Export Procedures, Baggage, Exemptions (b) Information Technology and Tax administration TAN (Tax Deduction and Collection Account Number), TIN (Tax Information Network), e-Tax Deducted at Source/e-Tax Collected from Source

Suggested Readings:

1. Singhania Vinod K. & Singhania, M.: *Students' Guide to Indirect Taxes*, Taxmann Publications Pvt. Ltd.: New Delhi.
2. Datey, V.S.: *Indirect Tax Law and Practice*, Taxmann Publications Pvt. Ltd.: New Delhi.
3. Kumar, Sanjeev: *Systematic Approach to Indirect Taxes*, Taxmann Publications Pvt. Ltd.: New Delhi.
4. Garg, Kamal: *Understanding GST*, Barat's Publication: New Delhi.
5. Ahuja, Grish & Gupta, Ravi: *Indirect Taxes*, Flair Publication Pvt. Ltd.: New Delhi.
6. Gupta, N. K., & Bhatia, Sunnania: *Goods & Services Tax – Indian Journey*, Barat Publication: New Delhi.

603C: Human Resource Management

Unit-I

Human Resource Management: Concept and Functions, Role, Status and competencies of HR Manager, HR Policies, Evolution of HRM, HRM vs HRD. Emerging Challenges of Human Resource Management; Workforce diversity; Empowerment; Downsizing; VRS; Human Resource Information System

Unit-II

Acquisition of Human Resource Human Resource Planning- Quantitative and Qualitative dimensions; job analysis – job description and job specification; Recruitment – Concept and sources; Selection – Concept and process; test and interview; placement and induction

Unit-III

Training and Development Concept and Importance; Identifying Training and Development Needs; Designing Training Programmes; Role-Specific and Competency-Based Training; Evaluating Training Effectiveness; Training Process Outsourcing; Management Development; Career Development.

Unit-IV

Performance Appraisal: Nature, objectives and importance; Modern techniques of performance appraisal; potential appraisal and employee counseling; job changes - transfers and promotions; Compensation: concept and policies; job evaluation; methods of wage payments and incentive plans; fringe benefits; performance linked compensation.

Suggested Readings:

1. Gary Dessler: *A Framework for Human Resource Management*. Pearson Education: New Delhi.
2. Robert L. Mathis and John H. Jackson: *Human Resource Management*, Cengage Learning: New Delhi.
3. TN Chhabra: *Human Resource Management*, Dhanpat Rai & Co.: New Delhi.
4. Biswajeet Patttanayak: *Human Resource Management*: PHI Learning: New Delhi.
5. Neeru Kapoor: *Human Resource Management*: Taxmann Publication: New Delhi.

604C: Financial Analysis and Reporting

Unit-I

Basis of Financial Reporting: Purpose of financial reporting, users of financial reports, conceptual framework for financial statements. Accounting Standards in India & IFRS :Basic Framework

Unit-II

Understanding Financial Statements: Structure of Financial Statements: Introduction, Statement of Financial Position (Balance Sheet), Statement of Earnings (Income Statement), and Statement of Cash Flows (Cash Flow Statement). Additional disclosure statements: Need for Additional Statements, Auditor's Report, Director's Report, Funds Flow Statement, Electronic Dissemination, and Corporate Governance.

Unit-III

Components of Financial Statements: Inventories, Receivables, Assets (Fixed Tangible, Intangible), Leases, Revenue, Income-Tax, Retained Earnings.

Unit-IV

Analysis & Interpretation of Financial Statements: Ratio Analysis – Liquidity, Solvency, Activity & Profitability Analysis, Comparative & Common Size Analysis (Vertical & Horizontal Analysis), Financial Statement Variation by Type of Industry. Expanded Analysis: Financial Ratios used in Annual Reports, Management's use of Analysis, Graphing Financial Information.

Suggested Readings:

1. Lal, Jawahar: *Corporate Financial Reporting: Theory & Practice*, Taxmann Publications: New Delhi.
2. Raiyani, J. R. & Lodha, G.: *IFRS and Indian Accounting Practices*, New Century Publications: New Delhi.
3. Singh, N. T. & Agarwal, P.: *Corporate Financial Reporting in India*, Raj Publishing: Jaipur.
4. Hennie, V. G.: *International Financial Reporting Standards: A practical guide*, Washington: World Bank.
6. Grewal, T. S.: *Introduction to Accounting*, S. Chand and Co.: New Delhi

605C: Dissertation and Viva-Voce

Paper 605C (6th Semester) is Dissertation and Viva-Voce. The students will submit a dissertation on a title/topic approved by the Department. The student will select a title/topic on any issues covered in the syllabus or related areas and submit the same for approval to the Department. The respective Department will reject / modify / accept the same with the name of a teacher as Supervisor to monitor the work.

4. Sharma, Satya Pal, N. K. Et al.: *Banking and Insurance*, New Delhi: Himalaya Publishing House: New Delhi.
5. Desai, Vasant: *Bank Management*, Himalaya Publishing House: New Delhi.
6. Sethi, Jyotsna, & Bhatia, Nishwan: *Elements of Banking & Insurance*, Prentice Hall of India: New Delhi.

Tenth Semester

1001C: Research Methodology and Statistical Software for Research (Theory and Practical)

Group A: Research Methodology (Theory)

Unit-I

Introduction to Research: Features and Importance of research in business, Objectives and Types of research- Basic, Applied, Descriptive, Analytical and Empirical Research. Formulation of research problem, Research Design, significance of Review of Literature Hypothesis: Formulation, Sources, Importance and Types Sampling: Significance, Methods, Factors determining sample size.

Research Process: Stages in Research process Data Collection: Primary data: Observation, Experimentation, Interview, Schedules, Survey, Limitations of Primary data, Secondary data: Sources and Limitations, Factors affecting the choice of method of data collection. Questionnaire: Types, Steps in Questionnaire Designing, Essentials of a good questionnaire.

Unit-II

Data Processing and Statistical Analysis: Data Processing: Significance in Research, Stages in Data Processing: Editing, Coding, Classification, Tabulation, Graphic Presentation.

Research Reporting and Modern Practices in Research: Research Report Writing: Importance, Essentials, Structure/ layout, Types References and Citation Methods: APA (American Psychological Association), CMS (Chicago Manual Style), MLA (Modern Language Association), Vancouver Referencing Style, Modern Practices: Plagiarism and Ethics in Research.

Group B: Statistical Software for Research (Practical)

Unit-III

Use of Computer in Research: Statistical Software for data interpretation (SPSS). Only licensed versions should be used.

SPSS Environment: The data editor, The SPSS viewer, The SPSS Smart Viewer, The syntax window, Saving Files, Retrieving a file. **Exploring Data with Graphs:** The art of presenting data, The SPSS chart builder, Graphing means: Bar charts and error bars, Histograms, Line charts and Editing graphs. **Correlation:** Data entry for correlation analysis using SPSS, Bivariate Correlation- Pearson's correlation coefficient, Spearman's correlation coefficient. Partial correlation using SPSS **Regression-** Doing Simple and Multiple regressions using SPSS.

Unit-IV

Comparing Two Means: The Dependent t-test, The Independent t-test. **Comparing Several Means:** ANOVA- Running one-way ANOVA on SPSS. ANCOVA- Conducting ANCOVA in SPSS. **Non-Parametric Test:** Wilcoxon rank-sum test and Mann-Whitney test, Kruskal-Wallis test.

(The Department may recommend the name of other software instead of SPSS like R/ PSPP / STATA etc., if found necessary)

Suggested Readings:

1. Kumar, Ranjit: *Research Methodology*, Sage Publication: New Delhi.
2. Cameron, Sheila, & Price, Deborah: *Business Research Methods*, Excel Books: New Delhi.
3. Mishra, Prahlad : *Business Research Methods*, Oxford University Press: New Delhi.
4. Saunders, Mark, Lewis, Philip & Thornhill, Adrain: *Research Methods for Business Students*, Pearson: New Delhi.
5. Field, Andy: *Discovering Statistics using SPSS*, Sage Publication: New Delhi.
6. Argyrous, G.: *Statistics for Research with a Guide to SPSS*, Sage South India Ed.: New Delhi.

BLIS -101

Core Course (C):

Foundations of Library and Information Science

To enable the student to understand the basic functions and purpose of library. To provide information related to the types and different laws of Library and Information Science. To understand the student about the functions and objectives of different Professional Associations and Organizations associated with library.

Marks: Internal (30) + Semester (70) =100

Unit 1: Information, Knowledge and Society

- Information: Meaning, Characteristics
- Data, Information, Knowledge, Wisdom; Knowledge Society
- Information Transfer Cycle: Generation, Storage and Dissemination of information
- Library and Information Science as a Discipline

Unit 2: Libraries- Types and Roles

- Historical Development of Libraries
- Types of Libraries and Information Centres: Objectives, Features, Functions; Public Relations and Extension Activities
- Role of Libraries in Socio-economic, Cultural, Educational, Scientific and Technological Developments
- Five Laws of Library Science

Unit 3: Laws Related to Libraries and Information

- Library Legislation: Need, Features
- Library Legislation in India
- The Press and Registration of Books Act; The Delivery of Books and Newspapers (Public Libraries) Act; Copyright Act
- Right to Information Act; Intellectual Property Rights; Information Technology Act; Plagiarism

Unit 4: Professional Associations and Organizations

- Librarianship as a Profession
- Professional Ethics
- National and International Professional Associations: ILA, IASLIC, IATLIS, IFLA, ALA, CILIP, ASLIB and SLA
- Role of UNESCO, UGC and RRRLF in the promotion and development of libraries

BLIS -102

Core Course (C):

Library Management

To enable the student to understand the basic principles and functions of management with special reference to library management. This course provides information related to the various housekeeping operations of Library. It also provides knowledge about budgeting and functions of various committees within library.

Marks: Internal (30) + Semester (70) =100

Unit 1: Principles and Functions of Management

- Management: Concept, Scope
- Schools of Management Thoughts
- Principles of Management
- Functions of Management

Unit 2: Collection Development and Management

- Acquisition of Books and Subscription of Periodicals
- Technical Processing
- Circulation Methods and Processes
- Maintenance: Stock Verification, Shelf-rectification, Binding, Preservation

Unit 3: Financial and Human Resource Management

- Sources of Library Finance, Estimation of Library's Financial Requirements
- Budgeting, Accounting and Auditing
- Cost Effectiveness Analysis and Cost Benefit Analysis
- Human Resource Management: Introduction

Unit 4: Library Committee, Rules, and Reports

- Library Committee, Library Rules and Regulations
- Library Statistics; Annual Report
- Library Building and Space Management, Green Library Building
- Disaster Management

Recommended Books

- Beard, W. Ian. & Holden, Len. (1996). *Human Resource Management: A contemporary perspectives*. London: Longman.

BLIS -105

Discipline Specific Elective Course (DSE: 3): Public Library and Information System

To enable the student to provide information on Public Library System. After this course students will able to take appropriate action to develop the Public Library and Information Centre.

Marks: Internal (30) + Semester (70) =100

Unit 1: Role of Public Library and Information System

- Public Library: Definition, Purpose; Development of Public Library System in India
- Role of Public Library in Formal and Informal Education
- Role of Government and other agencies in the Development of Public Libraries: UNESCO, IFLA, Raja Rammohun Roy Library Foundation and National Mission on Libraries including National Knowledge Commission
- Organizational Structure of Public Libraries as depicted in Public Library Acts of States and Union Territories in India

Unit 2: Collection Development and Management

- Printed Information Sources: Selection, Acquisition, Evaluation
- Electronic Information Sources: Selection, Acquisition, Evaluation
- Information Sources for Special Categories of Users: Children, Young Adults, Senior Citizens, Differently Abled People
- Organization and Management of Library Collection

Unit 3: Management of Public Library and Information System

- Library Governance: Composition, and Functions of Library Authority/Library Committee in Public Library Acts of States and Union Territories in India
- Financial Management: Sources of Finance, Financial Provisions in Public Library Acts; Budgeting Methods
- Human Resource Management
- Resource Sharing and Library Networking

Unit 4: Services of Public Library and Information Systems

- Circulation Service, Reference service, Readers' Advisory Service
- Information literacy
- Extension Services: Author Talk, Book Clubs, Exhibition, Lectures
- Outreach Activities: Mobile Library Services, Online Services

MLIS -202

Core Course (C):

Research Methodology

To enable the student to understand the concept of research method. It provides information related to steps and techniques of research. After finishing this course, student will be able to carry out research work more scientifically and appropriately.

Marks: Internal (30) + Semester (70) =100

Unit – 1: Research and Research Design

- Research: Concept, Meaning and Significance
- Types of Research: Qualitative and Quantitative Research
- Research design: formulation of hypothesis, Literature Search

Unit – 2: Research Methods, Techniques and Tools

- Types of Research Methods
- Sampling Techniques
- Types of Data Collection tools

Unit – 3: Statistics and its Applications

- Measurement of Central Tendency
- Measures of Dispersion, Correlation Studies and Regression Analysis
- Chi Square test, t-test, z-test, etc.

Unit – 4: Research Reporting

- Writing Style of Research Report
- Research Ethics and Plagiarism
- Manual Structure and Style MLA, APA, CHICAGO, etc.

Suggested References:

- Alvesson, M & Skoldberg, K. (2009). *Reflexive methodology: new vistas in qualitative research (2nd Ed. Rev.)*. London : Sage Publication.
- Brady, John. (1997). *The Craft of Interviewing*. New York: Vintage.
- Busha, C H (1990). *Research methods in librarianship*. New York: Academic Press..