

## SEMESTER IV

### CORE COURSES:

1. Introduction to the Principles of Public Administration
2. Basics of Indian Foreign Policy
3. Exploration of Literary Forms
4. Macro Economics 1
5. Principles of Marketing
6. Introduction to Environmental Law
7. Foreign Languages

### ELECTIVES:

1. Statistics
2. Rural Development in India
3. Cognitive Psychology
4. Educational Psychology
5. Soft Skills
6. Fundamentals of Programming and Data Structure
7. Advanced Atmospheric Science
8. Principles of financial Management

## **1. Introduction to the Principles of Public Administration (Core Course)**

Course Credit: 03

### **Course Contents:**

#### ***Course Rationale:***

This paper is an introductory course in Public Administration. The essence of Public Administration lies in its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of community living. The paper covers public administration in its historical context thereby proceeding to highlight several of its categories, which have developed administrative salience and capabilities to deal with the process of change. The importance of legislative and judicial control over administration is also highlighted.

#### ***Learner's Objective:***

- Students get oriented on the fundamental principles of Public Administration as a discipline.
- Students get oriented on the essential frameworks and concepts of Public Administration and its significance with regard to the concepts and theories of Public Policy execution.
- The students get ground knowledge to take Public Administration as Major, should they wish so.

### **1. Introduction**

- a. Meaning, Nature & Scope of Public Administration
- b. Significance of Public Administration
- c. Public and Private Administration: Differences and similarities

### **2. Control over Public Administration**

- a. Legislative
- b. Executive
- c. Judicial

### **3. Organization**

- a. Meaning of Organization
- b. Forms of Organization: Formal & Informal

### **4. Principles of Organization**

- a. Hierarchy – Meaning, Merits and Demerits
- b. Span of Control
  - i. Meaning
  - ii. Different Factors of Span of control
  - iii. Unity of Command – Meaning and Importance
  - iv. Communication – Meaning, Types and Principles
  - v. Co-ordination – Meaning, Needs & Means

## 5. Line and Staff Agencies

- a. Line Agencies – Meaning, Functions and Types
- b. Department of Public Corporation
- c. Staff Agencies – Meaning Functions & Types
  - i. General, Technical and Auxiliary

### Recommended Books:

1. Arora, Ramesh K., **Comparative Public Administration**, New Delhi, Asia Publishing House, 1972
2. Arora, Ramesh K., (ed.) **Themes and Issues in Administrative Theory**, Bookman Associates, Jaipur, 1980
3. Avasthi, A., and S. R. Maheswari, **Public Administration**, Agra, Lakshmi Narain Aggarwal, 2003
4. Bhattacharya, Mohit, **Public Administration**; New Horizon, JPH, 2009
5. Dimock, M. E. and G.O. Dimock, **Public Administration**, Oxford, I.B.H. Publishing Co., 1975
6. Nigro, F. A. and G. L. Nigro, **Modern Public Administration**, New York, Harper Row, 1980
7. White, L.D., **Introduction to the Study of Public Administration**

## **2. Basics of Indian Foreign Policy (Core Course)**

Course Credit: 03

### **Course Contents:**

1. Determinants of Foreign Policy
  - a. Internal and External Factors
  - b. Limitations
2. National Security
  - a. Nuclear Policy and Armament Programmes
3. Driving Forces of Foreign Policy
  - a. Energy Security
  - b. Diaspora
  - c. Indian Ocean
4. India and its Neighbours
  - a. China
  - b. Pakistan
  - c. Bangladesh
  - d. Myanmar
  - e. Nepal
  - f. Sri Lanka
5. India and Super Powers
  - a. US
  - b. Russia
6. India and Regional Organizations:
  - a. ASEAN
  - b. SAARC
  - c. EU
  - d. AU
  - e. Mercuser
7. India and global Issues
  - a. Apartheid
  - b. Environment
  - c. Human Rights
  - d. Democracy

### 3. Exploration of Literary Forms (Core Course)

Course Credit: 03

#### Course Contents:

1. Discussion of what is Literature and its Characteristics
2. Literary Forms of Poetry:
  - a. Epic
  - b. Ballad
  - c. Lyric
  - d. Sonnet
  - e. Ode
  - f. Pastoral Poetry
  - g. Elegy
  - h. Satire
3. Introduction of Essay as a Literary Form
4. Types of Essays
5. Collection of Essays:
  - a. Francis Bacon
  - b. Richard Steele
  - c. Charles Lamb
  - d. A. G. Gardiner
  - e. Nirad Chaudhuri
  - f. Amitav Ghosh
  - g. Arundhati Roy
6. Introduction of Drama as a Literary Form
7. Constituents of Drama
8. Texts:
  - a. Othello by William Shakespeare
  - b. Hayavadana by Girish Karnad
9. Novel and Short Story as Literary Forms
10. Collection of Short Stories:
  - a. The Lost Child by Mulk Raj Anand
  - b. Exchange of Lunatics by Saadat Hasan Manto
  - c. The Flight by Kamala Das

- d. The Butterfly by Kamleshwar
- e. Taking the Veil by Katherine Mansfield
- f. Schools and Schools by O' Henry

**Reference Books**

- 1 Dictionary of Literary Terms by J.A. Cuddon
- 2 English Literature: An Introduction for Foreign Readers by R.J.Rees, Macmillan India

#### **4. Macro Economics 1 (Core Course)**

Course Credit: 03

##### **Course Objective:**

To increase the student's understanding and make them appreciate of the development, progression, and determining change in Economic Thoughts.

##### **Course Contents:**

1. Nature and Scope of Macro Economics:
  - a. Circular Flow of Product and Income
  - b. Four Sector Economy Model
  - c. Stocks and Flows
  - d. Key Macro Aggregates
  - e. Concepts and Measurement of National Income
2. Classical and Keynesian Economics:
  - a. Says Law
  - b. Macro Economic Variables and Functions
  - c. Consumption, Saving, Investment
  - d. Consumption Function
  - e. Investment Function
  - f. Interest Rate
  - g. Concept of Interest Rate
  - h. Gross Interest Rate and Real Rate of Interest
  - i. Time Preference
  - j. Present Value and Future Value
3. Macro Economic Policies:
  - a. Fiscal and Monetary Policies
  - b. Meaning and Scope
  - c. Objectives
  - d. Instrument of Monetary and Fiscal Policy
  - e. Macro Economic Policy of India
4. Inflation:
  - a. Meaning
  - b. Measurements
  - c. Types of Inflation
  - d. Economic Impact
  - e. Inflation in India

5. Unemployment:
- a. Meaning
  - b. Measurements
  - c. Types of Unemployment
  - d. Unemployment in India
  - e. Poverty and Income Inequality

**Basic reading list:**

- V.N. Reddy, History of Economic Thought
- Blackhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.
- Grey, A. and A.E. Thomson (1980), The Development of Economic Doctrine, (2nd Edition), Longman Group, London.
- Roll, E. (1973), A History of Economics Thought, Faber, London.
- Schumpeter, J.A. (1954), History of Economic Analysis, Oxford University Press, New York.
- Hunt, E.K. History of Economic Thought, A Critical Perspective.



## **5. Principles of Marketing (Core Course)**

Course Credit: 03

### **Course Contents:**

#### **Unit I: Introduction to Marketing**

1. Nature, Scope and Importance of Marketing
2. Basic concepts
3. Marketing Environment
4. Market Segmentation
5. Targeting and Positioning

#### **Unit II: Product**

1. Product Levels
2. Product Mix
3. Product Strategy
4. Product innovation and Diffusion
5. Product Development
6. Product Lifecycle and Product Mix
7. Pricing Decisions:
  - a. Designing Pricing Strategies and Programmes
  - b. Pricing Techniques

#### **Unit III: Place**

1. Meaning and Importance
2. Types of Channels
3. Channels Strategies
4. Designing
5. Managing Marketing Channel
6. Managing Retailing
7. Physical Distribution
8. Marketing
9. Logistics and Supply Chain Management

#### **Unit IV: Promotion**

1. Promotion Mix
2. Push vs. Pull Strategy
3. Promotional Objectives

4. Advertising:
  - a. Meaning and Importance
  - b. Types
  - c. Media Decisions
  - d. Promotion Mix
5. Personal Selling:
  - a. Nature
  - b. Importance and Process
6. Sales Promotion:
  - a. Purpose and Types
7. Publicity and Public Relations:
  - a. Definition, Importance and Methods

**Text Book:**

Kotler, Koshi Jha, (2009), Marketing Management, 13<sup>th</sup> Edition, Pearson Education.

## **6. Introduction to Environmental Law (Core Course)**

Course Credit: 03

### **Course Contents:**

1. Jurisprudence-Philosophy & Method of Law
2. Soft Law - Had Law and Stoic School of Zeno
3. Framework of Conventions
4. Constitutional Provisions
5. Directives Principles & Environmental Law
6. The EPA, 1986
7. Criminal Enforcement of Environmental Law
8. Role of Judiciary in Environmental Protection
9. Some Important Cases

### **Leading Cases Referred:**

1. *K.M. Chinnappa vs. UOI AIR 2003 SC 724, 731*
2. *Chhetriya Pardushan Mukti vs. State Of U.P And Ors. 1990 AIR 2060.*
3. *M. C. Mehta vs. Kamal Nath (1997)1 SCC 388*
4. *Karnataka Industrial Areas Development Board vs. C. Kenchappa, AIR 2006 SC 2038*

## 7. Foreign Languages (Core Course)

Course Credit: 03

### Course Contents:

#### A. Spanish III

#### Topics and Vocabulary

1. Daily Routine and Weekend Activity
2. Internet
3. Leisure Activities and Sports (2)
4. Professions
5. Transport
6. Giving Opinions
7. Describing the activities of Yesterday

#### Grammar

1. Present Tense of Regular and Irregular Verbs
2. Reflexive Pronouns
3. Frequency Adverbs
4. Quantifiers: mucho/ bastante/ poco
5. Question Words: como
6. Prepositions: de...a, desde...hasta, en, a, por
7. Differences between saber and conocer (to know)
8. Agreeing and Disagreeing (tambien, tampoco, si, no)
9. Verb Creer to give opinions
10. Ser + bueno / malo
11. Introduction to the Past Tense: preterito indefinido, regular and irregular verbs (hacer, venir, ser, ir, estar)
  - a. Revision of Tenses: Present, preterito indefinido and Future (ir + infinitive)
  - b. Present Perfect (he comido...)
  - c. Imperative (singular forms, tu y usted)
  - d. Future Tense (ire...)
  - e. Preterito imperfect
  - f. Expressing Ability – poder
  - g. Present Continuous
  - h. Possessive Pronoun: mio, tuyo, suyo

#### Cultural Content:

1. Travelling around Peru/ LA / Spain / Argentina
2. Spanish Television habit
3. Famous Latin – American people

#### Skills Work:

1. Speaking
2. Listening
3. Pronunciation

B. French III

**Topics and Vocabulary**

1. Review and Practice Level 1 vocabulary/grammar
2. Talking about Family, Friends and Celebrities
3. Talking about oneself – Key Personal Information + Likes/Dislikes
4. Talking about Hobbies
5. Daily Life – Routine, Habits, Leisure Time
6. Days of the Week
7. Animals
8. Time
9. Consumer Goods – Clothes, Accessories, Food
10. Describing Objects – Shapes, Colour, Size
11. Talking about Weather
12. Shopping

**Grammar**

1. Possessive Pronouns
2. Revision of 'ER' verbs
3. The Immediate past: 'venir de'
4. Negative Sentence
5. Key Verbs: faire, aller, sortir, etc.
6. Demonstrative Pronouns
7. Frequency Adverbs
8. Reflexive Verbs in 'ER'
9. Question Word (quel)

**Cultural Content**

1. French Food and Drinks
2. Eating Etiquette
3. French Eating habits
4. Famous French People
5. French NGOs
6. French cheeses

**Skills Work**

1. Speaking
2. Role-Plays
3. Listening
4. Pronunciation

## **8. Statistics (Elective)**

Course Credit: 03

### **Course Contents:**

1. Meaning of Statistics
  - a. Origin of Statistics
  - b. Importance of Statistics
2. Classification and Tabulation of Data
3. Graphical Study of Statistical Data
4. Measures of Central Tendency
  - a. Mean, Combined Mean
  - b. Median , Quartiles, Deciles , Percentiles
  - c. Mode, Geometric Mean
5. Measures of Dispersion
  - a. Standard Deviation
  - b. Coefficient of Standard Deviation
  - c. Coefficient of Variation
  - d. Quartile Deviation
6. Index Number
7. Study of Correlation and Regression
8. Permutation & Combination
9. Probability and Probability Distribution

## 9. Rural Development in India (Elective)

Course Credit: 03

### ***Course Rationale:***

Rural development has always been an important issue in all discussions pertaining to economic development, especially of developing countries, throughout the world. In the developing countries, rural mass comprise a substantial majority of the population. Over 60% people in India live in rural areas. Although millions of rural people have escaped poverty as a result of rural development in many Asian countries, a large majority of rural people continue to suffer from persistent poverty. The socio-economic disparities between rural and urban areas are widening and creating tremendous pressure on the social and economic fabric of many developing Asian economies. The **Rural Development in India** is one of the most important factors for the growth of the Indian economy. India is primarily an agriculture-based country. Agriculture contributes nearly one-fifth of the gross domestic product in India. These factors, among many others, tend to highlight the importance of rural development.

### ***Learner's Objective:***

1. Students get an understanding of the evolving meaning of rural development and their awareness is enhanced about the complexities involved in defining and measuring rural development.
2. Students get a general view of the political-economic scenario in rural India in the post-independence period.
3. Students get an understanding of concepts, processes and relationships among social systems, political structures, and production systems.

### **Course Contents:**

1. Rural Development:
  - a. Concepts and connotations
  - b. Paradigms and determinants
  - c. Policies and strategies
2. Rural Development Interventions:
  - a. Forms of Rural Development
  - b. Critical Analysis of the Development Interventions
3. Sector Reforms:
  - a. Financial Sector Reforms
  - b. Rural Institutions
  - c. Conflicts And Negotiations
4. Emergence of the agrarian structure:
  - a. Land Reforms in India
  - b. Green Revolution and Rural Development
  - c. Caste, Class and Power – the emerging equations

5. Alternative Approach to Rural Development:
  - a. State-led Rural Development interventions
  - b. Issues in Food Security
  - c. Issues in Income Generating Wage Employment Programmes

***Reading List:***

1. Bagchi, A.K. (1982): **Political Economy of Underdevelopment**, Cambridge, London
2. Bardhan, P., (1984): **Political Economy of Development in India**, OUP, Bombay
3. Desai, A. R., **Rural Sociology in India**
4. Dreze J. and Amartya Sen (ed.) (1990): **The Political Economy of Hunger**, Vol. I, Clarendon Press, Oxford
5. Kothari, Rajni, **Politics in India**
6. Sainath, P., (1996): **Everybody Loves a Good Drought**, Penguin, New Delhi
7. Sen, Amartya, (1999): **Development as Freedom**, OUP, New Delhi
8. Singh, Katar, (1999): **Rural Development: Principles, Policies and Management**, II Edition, Sage, New Delhi.



## 10. Cognitive Psychology (Elective)

Course Credit: 03

### Course Contents:

#### Unit 1: Introduction

1. Meaning and Nature
2. Domains of Cognitive Psychology
3. Approaches to Cognition: Information-Processing and Connectionist Approaches

#### Unit 2: Learning

1. Definition and Basic Concept
2. Classical Conditioning
3. Instrumental Conditioning
4. Schedules of Positive Reinforcement
5. Cognitive Learning
6. Verbal Learning

#### Unit 3: Memory

1. Basic Concept
2. Sensory Memory
3. Short-Term Memory
4. Long-Term Memory
5. Theories of Memory
  - a. Information-Processing Theory
  - b. The Levels-of-Processing Theory
  - c. Organization of Long-Term Memory
  - d. The Tip-of-the-Tongue (TOT) Phenomenon
  - e. Semantic and Episodic Memory
  - f. Encoding and Storing Long-Term Memories:  
The Role of Organization/The Role of Imagery/  
The Role of Constructive Processes/Forgetting

#### Unit 4: Perceptual and Attention Processes

1. Meaning and Nature
2. Sensory Channels
3. Perceptual Processes:
  - a. Sensation and Perception
  - b. Perceptual Selectivity
  - c. Form Perception and Visual Depth Perception
4. Theories of Selective and Sustained Attention

**Unit 5: Thinking and Problem Solving**

1. Thinking Process:
  - a. Images and Thinking
  - b. Language and Thinking
2. Concept Formation
3. Problem Solving:
  - a. Rules in Problem Solving
  - b. Habit and Set in Problem Solving
  - c. Decision Making
  - d. Creative Thinking

**Unit 6: Intelligence**

1. Nature
2. Theories of Intelligence:
  - a. Factor and Process Theories of Intelligence
3. Assessing Intelligence: Stanford-Binet Intelligence Scale and Wechsler Tests

## **11. Educational Psychology (Elective)**

Course Credit: 03

### **Course Contents:**

#### **UNIT 1: Nature of Educational Psychology**

- a. Definition
- b. Nature and Scope of Educational Psychology: Learning environment, Teacher and teaching
- c. Significance of Educational Psychology to the teacher

#### **UNIT 2: Learning-Nature and importance of learning**

- a. The Learner, Learning, Process, Learning Experience
- b. Individual differences in learning
- c. Learning Curves Factors influencing the learning
- d. Theories of learning
- e. Conditioning:
  - a. Classical and Operant (Pavlov, Skinner)
  - b. Trial and Error (Thorndike)
  - c. Learning by Insight (Kohler)
  - d. Transfer of Learning- Learning by Imitation
  - e. Levels of Learning: Gagne- Remembering and Forgetting: Curve of forgetting.

#### **UNIT 3: Guidance and Counselling**

- a. Nature, Types and Need of Guidance and Counselling
- b. Educational, Vocational and Personal. Identification of Children with Counselling Needs
- c. Counselling Techniques: Individual and Group Techniques
- d. Guidance for the children with Learning Difficulties
- e. Under Achievers and Gifted Problems and Approaches to Managing Classroom Behavior

#### **UNIT 4: Growth and Development**

- a. Meaning, stages; Mental, Emotional and Social Development during - childhood, adolescence.
- b. Individual Differences - Meaning, significance and causes.

**UNIT 5: Intelligence and Creativity:**

- a. Concept, Gardner's Theory of Multiple Intelligence
- b. Emotional Intelligence Concept
- c. Educational implications
- d. Creativity - concept, educational implications

**UNIT 6: Emerging Trends:**

- a. Complexity, challenges and choices in the future

**Reference:**

- Baron J. and Sternberg, R. (eds.) (1987) Teaching Thinking Skills: Theory and Practice New York, W.H. Freeman.
- Costa, A. (2001) The Vision: Developing Minds (3rd ed.) Alexandria, VA.
- Sharma R.N. & Sharma R.K. (2003) Advanced Educational Psychology, Atlantic Publishers and Distributors, New Delhi.
- Sharma, P.N. & R. K. Sharma (1996) Advanced Educational Psychology, Surjeet Publications, Delhi.
- Aggarwal J. C., Essentials of Educational Psychology, Vikas Publishing House.
- Aggarwal J. C., (1995) Essentials of Educational Psychology, Shipra Publishers, Delhi.
- Bhatia & Bhatia (1981) Textbook of Educational Psychology, Doaba House, Delhi.
- Bhatia H. R. (1997) A Textbook of Educational Psychology, MacMillan, New Delhi.
- Dandekar W. N. (1995) Fundamentals of Educational Psychology, M. Prakashan, Poona.
- Lahey R.B. Graham J. E., & others (2000) An Introduction to Educational Psychology, 6th Ed., Tata McGraw Hill Publishers, New Delhi.
- Mangal, S.K. (2004) Educational Psychology, Tandon Publishers, Ludhiana.
- Santrock John W. (2010) Educational Psychology, Inwin Professional Publishers, Delhi.
- Walia J.S. Foundations of Educational Psychology, Paul Publishers, Jalandhar.

**12. Soft Skills (Elective)**

Course Credit: 03

**Course Contents:**

1. Team Building
2. Art of Negotiation
3. Dress for Success
4. Table Manners
5. Organizing Meetings
6. Stress Management
7. Telephone etiquettes
8. Time Management
9. Multi-Tasking
10. Presentation Skills
11. Organizational Skills
12. Group Discussion
13. Personal Interviews
14. Public Speaking

### **13. Fundamental of Programming and Data Structure (Elective)**

Course Credit: 03

#### **Course Objectives:**

This course provides students with an entry-level foundation in computer programming. The student will be able to use computer for implementation in the in day-to-day life. The basic aim is to teach the student to program in C at a level where they are able to eventually write programs to help solve their fundamental engineering, science and technology related problems.

#### **Deliverables:**

The student will be able to

- Develop the programming ability in students.
- Improve their proficiency in applying the computing fundamentals to their field of study.

#### **Course Contents:**

1. Understanding of Computer Program
2. Understanding of various Number Systems and Conversion
3. Understanding Algorithm and Flowchart
4. Various Forms of Functions
5. Writing Programs:
  - a. Program having loop – for only and loop - do while, while
  - b. Simple 'C' Programs
  - c. Complex 'C' programs

#### **Recommended Book:**

- Let us C by Yashavant Kanetkar (BPB Publications, 9<sup>th</sup> Edition).

#### **14. Advanced Atmospheric Science (Elective)**

Course Credit: 03

##### **Course Contents:**

##### **Unit I: Paleoclimatology**

Basic principles of Paleoclimatology, Sampling and Dating techniques, Radioactivity, Isotopic Fractionation, Mass Spectrometry, Rayleigh Equation, Use of Stable Isotopes as Tracers

##### **Unit II: Proxies for Paleoclimatology**

Various Proxies used for Paleoclimatology (such as ice cores, ocean sediment cores, cave deposits), Paleoclimatological Records from various Proxies, Data Interpretation, Orbital scale Climate Change and Last Glacial Maxima.

##### **Unit III: Meteorological Instruments**

Principles of Measurement, International Protocols to measure various Atmospheric Parameters, In Situ Measurement of Atmospheric Temperature, Humidity, Pressure, Wind, Radiation, Precipitation and Aerosols, Upper Air Observations, Radiosonde Techniques, Measurements in the Ocean, CTD and ARGO

##### **Unit IV: Radiative Transfer in the Atmosphere**

Electromagnetic spectrum, Solar Radiation, Terrestrial Radiation, Blackbody Radiation, Emissivity, Absorptions and Albedo of Surface, Kirchhoff's law, Rayleigh and Mie Scattering, Radiation Budget

##### **Satellite Meteorology**

Meteorological Satellite Orbits, Introduction to Radiative Transfer, Radiative Properties of Surface, Radiative Properties of the Atmosphere, Thermal, Infrared and Microwave Techniques for Measurement of Temperature, Humidity and Cloud Height, Some important results from Satellite Observations

## **15. Principles of Financial Management (Elective)**

Course Credit: 03

### **Objectives:**

To familiarize the students with fundamental principles of financial management. The students are expected to understand the financial statements. It is expected that students start developing analytical ability

### **Course Contents:**

#### **Unit -1 INTRODUCTION**

1. Meaning of Financial Management – Definitions
2. Scope and content of financial management
3. Evolution of Corporate Finance
4. Relation of financial management with other disciplines of business
5. Fundamental Principles of Financial Management

#### **Unit- 2 OBJECTIVES & FUNCTIONS**

1. Profit maximization
2. Shareholder's Wealth Maximisation
3. Economic Value Added and Market Value Added
4. Functions of Finance Manager
5. Financial Management Process and organisation of finance function

#### **Unit – 3 UNDERSTANDING FINANCIAL STATEMENTS**

1. Meaning and Nature of Financial statements
2. Objectives of Financial Statements
3. Form and Contents of Income Statement, Balance Sheet and Cash Flow Statement
4. Statutory Provisions pertaining to Financial Statements
5. Limitations of Financial Statements

#### **Unit – 4 ANALYSIS OF FINANCIAL STATEMENTS**

1. Importance of Financial analysis
2. Types of Financial analysis
3. Comparative Statements
4. Ratio Analysis
5. Du Pont Identity



**Unit-5 TIME VALUE OF MONEY**

1. Basic Concept
2. Compounding Technique
3. Discounting Technique
4. Effective Rate of Interest
5. Practical Applications of Techniques

**Recommended Books:**

1. Financial Management – Theory and Practice  
Author: Prof. Prasanna Chandra  
Publisher: TATA McGraw Hill
2. Fundamentals of Financial management  
Author: Prof. Sheeba Kapil  
Publisher: Pearson
3. Financial Management – Theory and Practice  
Author: Prof. Shashi K Gupta and R.K. Sharma  
Publisher: Kalyani Publishers