

Skill Enhancement Courses
(Credit-3)

5th Semester
SEC-II
Syllabus

Arts Stream

1. ଅନୁବାଦ ସାହିତ୍ୟିକତା-(Please Refer to Detail Syllabus of Odia)

2. Electoral Studies and Public Opinion Poll

Course Objectives:

Democracy will be truly functional when the citizens would be informed about the electoral politics and exercise their choice independently without being influenced by any vested interest. Thus, Media plays a crucial role in shaping the popular opinion and intern affects the electoral politics. The course thus attempts to make the learners understand the significance of public opinion in electoral politics. It also reflects on the role and function of the election commissioner in ensuring free and fair election. The political parties are also to be studied to have a comprehensive understanding of electoral dynamics of political parties, media and public opinion.

Learning Outcome:

After studying this course, learners would acquire practical skills in electoral studies. The unit wise learning outcomes are given below:

Unit I: Learners would be aware of the significance of public opinion in electoral politics.

Unit II: Learners would be aware of the Representation of People's Act, constituency and the dynamics of political parties in electoral politics.

Unit III: This unit would enable the students to be informed about the Election Commission, election code of conduct with respect to the electoral politics.

Unit IV: The learners would know opinion polls, exit polls, their impact on electoral result and analysis of electoral data which would infuse pragmatic understanding about the electoral behaviour in them.

Course Content:

Unit I: What is Public Opinion, Agents of formulating Public Opinion, Ways of developing healthy public opinion

Unit II: Meaning of Electoral Studies. Representation of People's Act 1951, What is a Constituency, National and Regional Political Parties

Unit III: Composition and Powers of Election Commission in India, State Election Commission, Media and Election Model Code of Conduct.

Unit IV: Different stages of Election analysis, Opinion Poll, Exit Poll, Methods of analysing electoral Data, Analysing Media Reports.

Essential Readings:

- Verma, R., & Sardesai, S. (2014). Does media exposure affect voting behaviour and political preferences in India?. *Economic and political weekly*, 82-88.
- Kanungo, N. T. (2015). India's digital poll battle: Political parties and social media in the 16th Lok Sabha elections. *Studies in Indian Politics*, 3(2), 212-228.
- Rai, P. (2021). Psephological fallacies of public opinion polling. *Economic & Political Weekly*, 56(28), 51.

- Fisher, J., Fieldhouse, E., Franklin, M. N., Gibson, R. K., Cantijoch, M., & Wlezien, C. (Eds.). (2018). The Routledge handbook of elections, voting behavior and public opinion (pp. 280-292). London: Routledge.
- Morwitz, V. G., & Pluzinski, C. (1996). Do polls reflect opinions or do opinions reflect polls? The impact of political polling on voters' expectations, preferences, and behavior. *Journal of Consumer Research*, 23(1), 53-67.
- Traugott, M. W. (2014). Public opinion polls and election forecasting. *PS: Political Science & Politics*, 47(2), 342-344.

Additional Readings:

- Rai, P. (2021). Demystifying the Bandwagon Effect of Election Opinion Polls in India. *Academia Letters*, 2.
- Lang, K., & Lang, G. E. (1984). The impact of polls on public opinion. *The Annals of the American Academy of Political and Social Science*, 472(1), 129-142.

Internet Sources:

- Representative of People's Act, 1951 Available at <https://ceodelhi.gov.in/WriteReadData/ManualElectionLaw/REPRESENTATION%20OF%20THE%20PEOPLE%20ACT,%201950.pdf>
- ADR Recommendations on Electoral reforms https://adrindia.org/sites/default/files/ADR_and_NEWs_recommendations_for_electoral_and_political_reforms_Final_April_20_2011.pdf
- Model Code of Conduct <https://www.eci.gov.in/mcc/>
- Model code of conduct

https://deo.dnh.gov.in/Download/OldUpdates/Model_Code_of_Conduct.pdf

The Theodore H. White Lecture on Press and Politics: "The Press and the Polls"
<https://youtu.be/rKQWvnUOGa4?si=H6jtDKGfFqlQ7mjU>

Activities to do:

- Students are recommended to observe and note the difference in opinion poll and exit poll and study the factors behind this.
- Students are encouraged to have a comparative assessment on exit poll conducted by different media houses and find out if it has been reflected in the election result.
- Students can visit to the voters and conduct a study to find out if the opinion poll affect the public opinion and if it actually changes the vote preferences.

Model Questions:

1. When was People's Representative Act enacted? [1 Mark]
2. What is the difference between Opinion Poll and Exit poll? [2 Marks]
3. What is the impact of opinion poll on vote preference in India? [5 Marks]
4. Election commission is the watch dog of Indian Democracy. Comment. [8 Marks]

3. Basics of Archives and Museum

Course Objectives:

- To introduce students to the institutions of Archives and Museums as a site of knowledge.
- To aid students to understand the making of the primary sources for the study of history.
- To help students understand and appreciate the different kinds of archives and museum and then new structuring in the digital era.

Course Outcomes:

- Students would learn about the many uses of archives and museums as a site of historical and social knowledge.
- They would be trained to use archives and understand the process of classification and cataloguing of the records.

📌 **Unit I:** Definition of Archives and Museum: types - digital, virtual, crafts, media; difference between archives, museum, and library

📌 This unit defines Archives and Museum. It also elaborates on the types of archives and museums which includes digital, virtual, crafts, media. It also tells the difference between archives, museum, and library.

📌 **Unit II:** History of development of archives and museums in India with one case study each

📌 This unit examines the history of development of archives and museums in India with one case study each.

📌 **Unit III:** Collection, documentation, preservation

📌 This unit elaborates upon distinct characteristics of collection. It also examines the concerns which govern its documentation and preservation.

📌 **Unit IV:** Museum presentation and exhibition

📌 This unit familiarizes students with the way in which museums are organised and managed. It also examines the considerations which govern the way exhibitions in museums are managed.

Unit I: Students will learn about archives and museums; their types, and their advances.

Unit II: Students will grasp the historical development of archives and museums by collectively studying one case study each. They will understand and be able to discuss their significance.

Unit III: Students will understand and closely witness the processes of archiving and preservation in museums. How records and artifacts are collected, classified, and preserved.

Unit IV: In the last unit students will be acquainted to the process of presentation and exhibition of artifacts.

Suggested Readings

- 📌 Singh, Kavita. (2003). "Museum is National: The Nation as Narrated by the National Museum New Delhi". in Geeti Sen (Ed.). India: A National Culture. New Delhi:Sage.
- 📌 Bhattacharya, Sabyasachi. (2018). Archiving the Raj: History of Archival Policy of the Govt. of India with Selected Documents 1858- 1947. Delhi: Oxford University Press
- 📌 Agrawal, O. P. (2007). Essentials of Conservation and Museology. Delhi: Sundeep.
- 📌 Kathpalia, Y. P. (1973). Conservation and Restoration of Archive Material. Paris:

UNESCO.

- ✚ Mathur, Saloni. (2000). "Living Ethnological Exhibits: The Case of 1886". Cultural Anthropology vol. 15 no.4, pp. 492-524.
- ✚ Breckenridge, Carol. (1989). "Aesthetics and Politics of Colonial Collecting: India at World Fairs." Comparative Studies in Society and History vol. 31 no.2, pp. 195-216

Reference Readings

- ✚ Ambrose, Timothy & Crispin Paine. (1993). Museum Basics. London: Routledge.
- ✚ Choudhary, R. D. (1988). Museums of India and their Maladies. Calcutta: Agam Prakashan.
- ✚ Mathur, Saloni. India by Design: Colonial History and Cultural Display. Berkeley: University of California.
- ✚ Nair, S. N. (2011). Bio-Deterioration of Museum Materials. Calcutta: Agam Prakashan.
- ✚ Sengupta, S. (2004). Experiencing History through Archives. Delhi: MunshiramManoharlal.

Internet Resources

1. Internet Archives <https://archive.org/>
2. Partition Archives <https://in.1947partitionarchive.org/>
3. National Museum <https://nationalmuseumindia.gov.in/en>

Activities to Do

Students are expected to collect and catalogue some primary sources by downloading them from internet or getting them photocopied from a local archive or a library.
Students are expected to collect and record the details of various museums in their state and others.

4. Psychological First Aid

Course Outcomes:

- 🎯 This course is aimed at increasing the learners' abilities in managing psychological crisis situations.

Learning Outcomes:

Unit I:

- How do crisis events affect people, Introduction to Psychological First Aid (PFA), Concept and Development of PFA; PFA: Who, when and where; How to help responsibly (respect safety, dignity and rights of the people); Core Competencies of PFA

Learning Outcomes:

- Increase their abilities to discuss key concepts related to PFA and Listen reflectively
- Manage psychological crisis reactions, learn and apply psychological first aid and Practice self-care

Unit II:

- Psychological Consequences of Trauma (Posttraumatic Stress Disorder, Depression, Generalized Anxiety, Panic Disorder, Substance abuse)
- Psychological consequences of Disaster (Natural Disasters, Technological Disasters, Human-Made Disasters: riots, war; Accident)

Learning Outcomes:

- Recognize the potential risk factors and warning signs for a range of mental health problems, including: depression, anxiety/trauma, substance use disorders, and self-injury.

Unit III:

- Practicing the Art of PFA (RAPID Model): Rapport and Reflective Listening, Assessment of Needs, Prioritization, Intervention, Disposition

Learning Outcomes

- Increase their abilities to discuss key concepts related to PFA and Listen reflectively
- Use a 5-step action plan to help an individual in crisis connect with appropriate professional help.

Text Books:

- 🎯 George, S. Everly, Jr. (2017). The Johns Hopkins guide to psychological first aid. Johns Hopkins University Press.
- 🎯 National Disaster Management Training Module (1-4) Psychosocial First Aid. (2023). NIMHANS, Bengaluru; NDMA, New Delhi.

Reference:

- ✚ World Health Organization, War Trauma Foundation and World Vision International (2011). Psychological first aid: Guide for field workers. WHO: Geneva. Baker, E. K. (2003). Caring for ourselves as psychologists. The Register Report, 28, 7–10. <http://www.nationalregister.org/trr.html>.
- ✚ Dieltjens, T., Moonens, I., Van Praet, K., De Buck, E., & Vandekerckhove, P. (2014). A systematic literature search on psychological first aid: lack of evidence to develop guidelines. PloS one, 9(12), e114714. <https://doi.org/10.1371/journal.pone.0114714>
- ✚ Everly, G. S., Jr. (1999). Toward a model of psychological triage. International Journal of Emergency Mental Health, 1, 151–154. 5. Everly, G. S., Jr., & Lating, J. M. (2013). A clinical guide to the treatment of the human stress response (3rd ed.). New York, NY: Springer.
- ✚ Weiten, W. (2013). Psychology: Themes and variations (9th ed.). Belmont, CA: Wadsworth Cengage Learning.
- ✚ Choudhary, V., Sharma, P., Dhingra, A. (2016). Be Equipped Psychologically: The Psychological First Aid. The International Journal of Indian Psychology, 4(1), 311-320.

Science Stream

Digital Cartography

Course Objectives

- To know the basics, importance, and methods of Cartography
- To study the various maps projection and co-ordinate systems.
- To study the different aspects of design in cartography.
- To learn the Generalization and designing aspects of cartography
- To learn the different techniques of Map production and Reproduction\

Learning Outcome:

- Able to define and justify the purpose of each cartographic element
- Use digital tools for generating cartographic products
- Evaluate digital maps for their thematic appropriateness
- Generate maps with a scale and requisite projection

Unit I: Introduction

History and evolution of Cartography. Definition, scope and concepts of cartography. Characteristics of Map. Categories of maps. Methods of mapping, relief maps, thematic maps. Trends in Cartography.

Unit II: Cartographic (Map) Elements

Geoid & Spheroid, Map projection & Transformation, Map Scale and Coordinate system. Plane co-ordinates in UTM system, projection used in Survey of India topographic sheets.

Unit III: Cartographic Representation & Visualization

Digital Data types, Data sources (Survey and positioning, Remote sensing, Census and sampling), Data Visualization of different data types, Labels and Symbols, Visualizing discrete and continuous data. Map design and generation.

Practical:

- Analyzing Toposheets and Geological Maps
- Digital cartographic Data Sources (vector and Raster data)
- Projection and Transformation
- Map design and cartographic output

Textbook:

- ✓ *Cromley .R.G, "Digital Cartography", Prentice-Hall of India, New Delhi, 1992.*

Suggested Readings:

- ✓ *Robinson .A. H, Morrison .J. L, Muehrcke .A. C, Kimerling .A. J and Guptill .S. C, "Elements of Cartography", 6th Edition, John Wiley and Sons, 1995.*
- ✓ *Dent .B. D, "Cartography – Thematic Map Design", 5th Edition, W C B McGraw-Hill, Boston, 1999.*

- ✓ *Anson .R.W and Ormeling .F.J, “Basic Cartography for students and Technicians”, Vol., I, II and III Elsevier Applied Science publishers 2nd Edition, 1995.*

Mushroom Cultivation

Course Objectives:

- To study about types, nutritional and medicinal value of edible mushrooms and the toxicity of Poisonous Mushrooms.
- To learn the Cultivation Technology of edible mushrooms and its regulating factors.
- To know about short-term and long-term storage of mushrooms and their products.
- To understand the Cost benefit ratio - Marketing in India and abroad.

Course Outcomes:

On completion of the course the students shall

- Have knowledge about the importance for integrating mushroom as an alternate nutritive food. Mushrooms.
- Have knowledge and skills for Cultivation of edible mushrooms.
- Know about the edible mushrooms available in India and their processing and storage methods.
- Have an understanding about the Low-cost cultivation Technology of edible mushrooms and adoption of mushroom cultivation as a profitable entrepreneurship.

Unit I:

LO: The students know about the nutritional and medicinal value of edible mushrooms and the toxicity of Poisonous Mushrooms.

Introduction, history. Nutritional and medicinal value of edible mushrooms; Poisonous mushrooms. Types of edible mushrooms available in India - *Volvariella volvacea*, *Pleurotus citrinopileatus*, *Agaricus bisporus*. Cultivation Technology: Infrastructure: substrates (locally available) Polythene bag, vessels, Inoculation hook, inoculation loop, low-cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag.

Unit II: LO: The students will know the Cultivation Technology of edible mushrooms.

Pure culture: Medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation
-paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation - Low-cost technology, Composting technology in mushroom production.

Unit III:

LO: The students know about the short-term and long-term storage of mushrooms and their products.

Storage and nutrition: Short-term storage (Refrigeration – up to 24 hours) Long term Storage (canning, pickles, papads), drying, storage in salt solutions. Nutrition - Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fiber content - Vitamins.

Practical:

1. Preparation of spawn, mycelium culture (paddy mushroom)
2. Raw materials of mushroom bed preparation
3. Treatment of raw materials for sterilization
4. Composting technology in mushroom production
5. Storage, packaging and nutrient analysis of mushroom

Text Books:

- ✓ *B. C. Suman and V. P. Sharma. (2007). Mushroom Cultivation in India. DayaPublishing House, New Delhi.*

Reference Books:

- ✓ *Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.*
- ✓ *Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing andPublishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.*
- ✓ *Tewari, Pankaj Kapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.*
- ✓ *Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.*
- ✓ *Anon. (2010). The Cultivation of Mushrooms - An Outline of Mushroom Culture, Read Book Design, New Delhi*

Commerce Stream

Fundamentals of Data Science & Data Management

Course Objectives

The course aims to

- To understand the Basics of Data Science:
- To explore Data Collection and Pre-processing Techniques:
- To learn Fundamentals of Data Analysis:
- To master Data Visualization and Communication:
- To gain Proficiency in Data Management:
- To develop Skills in Machine Learning and Predictive Modeling:
- To apply Data Science Techniques to Real-World Problems:

Course Outcomes

After completion of the course, learners will be able to:

- Define the key concepts and principles of data science and data management.
- Collect, clean, and pre-process data for analysis using appropriate techniques.
- Analyze data using statistical methods and interpret the results effectively.
- Create informative and visually appealing data visualizations to communicate insights.
- Demonstrate proficiency in managing data and ensuring its integrity, security, and privacy.
- Apply machine learning algorithms to build predictive models and evaluate their performance.
- Solve real-world problems using data science techniques and present findings in a clear and concise manner.

Unit 1: Foundations of Data Science

Introduction to Data Science, Definition and Scope of Data Science, Historical Overview and Evolution, Applications and Real-World Examples, Understanding Data, Types of Data: Structured, Semi-Structured, and Unstructured, Data Sources and Collection Methods, Data Quality and Pre-processing Techniques, Introduction to Programming for Data Science, Basics of Python Programming Language, Data Structures and Control Flow, Introduction to Libraries such as Pandas and NumPy for Data Manipulation, Statistics for Data Science.

Unit 2: Data Analysis and Visualization

Exploratory Data Analysis (EDA), Data Visualization Techniques: Matplotlib, Seaborn, Summary Statistics and Data Visualization,

Identifying Patterns and Relationships in Data, Data Munging and Data Wrangling, Cleaning and Pre-processing Data, Handling Missing Values and Outliers, Data Transformation and Feature Engineering, Data Dashboards and Storytelling, Principles of Effective Data Visualization, Tools for Creating Interactive Dashboards: Tableau, Power BI, Communicating Insights from Data through Storytelling

Unit 3: Machine Learning Fundamentals

Introduction to Machine Learning, Supervised vs. Unsupervised Learning, Regression and Classification Techniques, Model Evaluation and Selection Criteria, Deep Learning Basics,

Introduction to Neural Networks, Deep Learning Architectures: CNNs, RNNs, Applications of Deep Learning in Commerce and Business

Unit 4: Advanced Topics in Data Science

Big Data and Distributed Computing, Introduction to Big Data Technologies: Hadoop, Spark, Handling Large Volumes of Data: Batch vs. Real-Time Processing, Scalable Data Storage and Processing Solutions, Data Ethics and Privacy, Ethical Considerations in Data Collection and Usage, GDPR and Data Privacy Regulations, Strategies for Ensuring Data Security and Compliance

Project Management

Course objectives:

- Provide essential understanding of project management principles, methodologies, and their application across industries.
- Understand fundamental project management principles and terminologies.
- Apply project management techniques to develop project plans, schedules, and budgets.
- Utilize risk management strategies to mitigate project risks effectively.
- Emphasize key concepts such as project lifecycle, scope management, risk assessment, and project monitoring and control.
- Equip students with practical tools and techniques to plan, execute, and manage projects effectively.

Unit 1:

Introduction to Project Management: Definition of a project, Importance of project management in various industries, Historical perspective and evolution of project management

Unit 2:

Project Planning and Scope Management: Defining project scope, Scope statement and Work Breakdown Structure (WBS), Scope creep and change control processes, Activity definition and sequencing, Estimation techniques (PERT, CPM), Critical Path Method (CPM).

Unit 3:

Project Execution and Risk Management: Team formation and development, Resource allocation and management, Quality management and assurance, Risk identification, assessment, and prioritization, Risk response planning, Risk monitoring and control

Unit 4:

Project Monitoring, Control, and Closure: Performance measurement and metrics, Change management processes, Project communication and reporting, Criteria for project closure

Books Recommended:

1. Dr. K.K. Chitkara:

Book: "Project Management"

Publisher: McGraw-Hill Education

1. Dr. S. Narayanan:
Book: "Project Management: Techniques in Planning and Controlling Construction Projects"
Publisher: Prentice-Hall of India
2. Dr. Prasanta Chandra Mandal:
Book: "Project Management: A Complete Handbook"
Publisher: Pearson Education India
3. Dr. Rajiv Mishra:
Book: "Software Project Management"
Publisher: Oxford University Press
4. Dr. Narendra K. Sharda Book: "Project Management"
Publisher: Himalaya Publishing House
5. Prof. P.K. Bhattacharya
Book: "Principles and Practice of Management"
Publisher: Pearson Education India

Model Questions 1 Mark Questions:

- What is a project milestone?
- Define project deliverables.
- What is the role of a project sponsor?
- Define the term "project scope."
- What is project governance?

2 Mark Questions:

- Explain the difference between project management and general management.
- Describe the purpose of a project charter.
- What are the key components of a project plan?
- Discuss the importance of stakeholder management in project management.
- Explain the concept of project constraints.

Fundamentals of Data Science & Data Management

Course Objectives

The course aims to

- To understand the Basics of Data Science:
- To explore Data Collection and Pre-processing Techniques:
- To learn Fundamentals of Data Analysis:
- To master Data Visualization and Communication:
- To gain Proficiency in Data Management:
- To develop Skills in Machine Learning and Predictive Modeling:
- To apply Data Science Techniques to Real-World Problems:

Course Outcomes

After completion of the course, learners will be able to:

- Define the key concepts and principles of data science and data management.
- Collect, clean, and pre-process data for analysis using appropriate techniques.
- Analyze data using statistical methods and interpret the results effectively.
- Create informative and visually appealing data visualizations to communicate insights.
- Demonstrate proficiency in managing data and ensuring its integrity, security, and privacy.
- Apply machine learning algorithms to build predictive models and evaluate their performance.
- Solve real-world problems using data science techniques and present findings in a clear and concise manner.

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Introduction to Data Science, Definition and Scope of Data Science, Historical Overview and Evolution, Applications and Real-World Examples, Understanding Data, Types of Data: Structured, Semi-Structured, and Unstructured, Data Sources and Collection Methods, Data Quality and Pre-processing Techniques, Introduction to Programming for Data Science, Basics of Python Programming Language, Data Structures and Control Flow, Introduction to Libraries such as Pandas and NumPy for Data Manipulation, Statistics for Data Science.

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Unit 3: Machine Learning Fundamentals

Introduction to Machine Learning, Supervised vs. Unsupervised Learning, Regression and Classification Techniques, Model Evaluation and Selection Criteria, Deep Learning Basics,

Introduction to Neural Networks, Deep Learning Architectures: CNNs, RNNs, Applications of Deep Learning in Commerce and Business

Unit 4: Advanced Topics in Data Science

Big Data and Distributed Computing, Introduction to Big Data Technologies: Hadoop, Spark, Handling Large Volumes of Data: Batch vs. Real-Time Processing, Scalable Data Storage and Processing Solutions, Data Ethics and Privacy, Ethical Considerations in Data Collection and Usage, GDPR and Data Privacy Regulations, Strategies for Ensuring Data Security and Compliance

