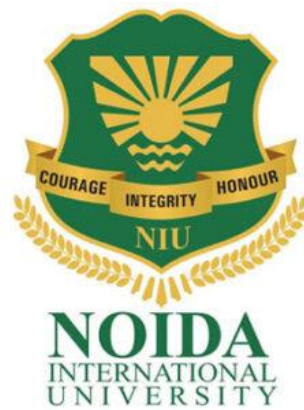


**Ph.D. Cell**

**NOIDA INTERNATIONAL UNIVERSITY**



**Ph.D. PROGRAMME ACADEMIC**

**SESSION 2022-2023**

**Orientation Handbook for Course Work Classes**

**Noida International University,  
Plot No-1, Sector17A, Gautam Budh Nagar (U.P)**

**Evaluation Scheme of Ph.D. Course Work Examination  
Semester-I**

Subject code	Name of the Subject	Continuous Assessment	End Semester Assessment	Total	
		Marks	Marks	Credit	Marks
PHD010104	RESEARCHMETHODOLOGY	40	60	4	100
PHD010202	RESEARCH AND PUBLICATION ETHICS	25	25	2	50
PHD010304	QUANTITATIVE TECHNIQUES & COMPUTER APPLICATIONS	25	25	4	100
PHD010404	ADVANCES IN SUBJECT	40	60	4	100
<b>Total</b>				<b>14</b>	<b>350</b>

Note:

1. Continuous Assessment is done by the respective department based on class test/ seminars and assignments on regular basis.
2. Course work is to be completed within a period of six months subsequent to admission into the Ph.D. program.

**Noida International University,  
Plot No-1, Sector17A, Gautam Budh Nagar(U.P)**

**Subject Code:PHD010104**

**100 Marks**

**Subject Name: Research Methodology**

**TIME: 3 Hrs.**

**Unit I**

**Introduction to Research & Process**

Nature and purpose of scientific enquiry, Parameters of research, Definition of construct and variables, Introduction of Research, Research Process, Steps in Research Process. Choosing a research topic, basis of choosing research topics, identification of interdisciplinary areas.

**Unit II**

Problem Definition, Role of literature review, identification of research gap, formulation of research problem/questions/objectives, signification and relevance of research problems, research plan construction.

**Unit III**

**Research Design**

Research Design- Qualitative & Quantitative research, Concepts and Type of research design, Design of research on the basis of application- pure and applied. Descriptive Research – Qualitative and Quantitative. Cross-sectional & Longitudinal studies. Quantitative – Field studies, Field experiments and laboratory experiments. Design of research on the basis of Techniques/Methodology- Exploratory, Case Study, Focus Group, and, Descriptive. Design of research on the basis of area of research – research in Social sciences – Surveys & Observation.

**Unit IV**

**Questionnaire and Scaling**

Types of questions- open ended & close ended, disguised and skip questions, steps in Design of questionnaire. Types of Measurement Scales (Ratio, Interval, Ordinal, Nominal). Scale response formats (Likert, Graphic, semantic scales), comparative and non-comparative scales, items (or statements). Attitude and measurement. Steps in development of a Scale, validity and reliability.

**Unit V**

**Sampling Methods**

Sampling and Data collection, Population and samples, Techniques of sampling, Random, Stratified, Systematic, Multistage-sampling, Primary and secondary sources of data.. Sample size estimating.

**Noida International University,  
Plot No-1, Sector17A, Gautam Budh Nagar(U.P)  
Research and Publication Ethics**

**Subject Code:PHD010202**

**50 Marks**

**Subject Name: Research and Publication Ethics**

**TIME: 3 Hrs.**

**Unit I: Philosophy and Ethics**

1. Introduction to philosophy: definition, nature and scope, concept, branches
2. Ethics: definition, moral philosophy, nature of moral judgments and reactions

**Unit II: Scientific Conduct**

1. Ethics with respect to science and research.
2. Intellectual honesty and research integrity.
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FET)
4. Redundant publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

**Unit III: Publication Ethics**

1. Publication ethics: definition, introduction and importance
2. Best practices/ standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: definition, concept, Problem that lead to unethical behavior and vice versa, types
5. Violation of publication ethics, authorship and contributorship
6. Identification of publication misconduct, complaints and appeals
7. Predatory Publishers and journals

**PRACTICE**

**Unit IV: Open Access Publishing**

1. Open access publications and initiatives
2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journals Suggester, etc.

**Unit V: publication misconduct**

- A. Group Discussions
  1. Subject specific ethical issues, FFP, authorship
  2. Conflicts of interest
  3. Complaints and appeals: examples and fraud from India and abroad.
- B. Software tools
  - Use of plagiarism software like Turnitin, Urkund and other open source software tools

**Unit VI: Databases and research Metrics**

- A. Databases
  1. Indexing Databases
  2. Citation Databases: Web of Science, Scopus, etc.
- B. Research Metrics
  1. Impact Factor of Journal as per Journal Citation Report, SNIP, SJR, IPP, City Score
  2. Metrics: h-index, g index, i10 index, altmetrics

**Noida International University,  
Plot No-1, Sector17A, Gautam Budh Nagar(U.P)**

**Subject Code:PHD010304**

**100 Marks**

**Subject Name: Quantitative Techniques & Computer Applications**

**TIME: 3 Hrs.**

**(Practical- Continuous Assessment)**

**Unit- I**

**Data analysis:** Introduction, classification and methods of Data Analysis.

Measures of Central Tendency: Mean, Median and Mode (Merits and Demerits). Data Presentation

Measures of Dispersion: Range, Inter-quartile, Quartile Deviation, Mean Deviation, Standard Deviation, Skewness.

**Unit-II**

**Microsoft word:** Creating and editing documents formatting text and paragraph, formatting documents, creating and formatting tables, illustration documents with graphics, creating a web page, mail merge and document merging, working with styles and templates, developing multipage documents, integrating word with other applications, exploring advance graphics, building forms working with charts and diagrams.

**Unit-III**

**Computational Tool- SPSS**

Creating, editing and running procedures from the syntax file in SPSS, Creating and editing output files; Saving output files in WORD in SPSS.

**Unit- IV**

**MS Excel:** Introduction to spreadsheets, Basic text and cell formatting, Basic arithmetic calculation, Charts, Functions and Formulas, Data validation, Basics of a measurement and its interpretation, mean, standard deviation, variance, correlation coefficient, Data Analysis.

**Unit- V**

**Microsoft PowerPoint:** Creating presentation with Microsoft Power Point modifying a presentation inserting objects into presentation, finishing a presentation working with advanced tools and masters, enhancing charts, inserting illustration, objects and media clips, using advanced features.

## References

### Research Methodology:

1. Cooper, "Business Research Methods", Tata McGraw Hill, New Delhi.
2. Fowler, F.J. Survey Research Methods. New Delhi, Sage, 1993
3. Goode, W.J and Hatt, P.K. Methods in Social Science Research. New Delhi, McGraw Hill, 1986
4. Leddy, Paul. D Practical Research: Planning Design. London, Clive Bingley. 1980
5. Sabine, Landau, Brian S. Everitt. "A handbook of statistical analyses using SPSS", 2004 by Chapman & Hall/CRC Press LLC.
6. Coffey, A., & Atkinson, P. (1996). Making sense of qualitative data. Thousand Oaks, CA: Sage.
7. Girden, E.R. (1996). Evaluating research articles from start to finish. Thousand Oaks, CA: Sage.
8. Mason, J. (1996). Qualitative reasoning. London; Thousand Oaks, CA: Sage.
9. Spoull, N.L. (1995). Handbook of research methods: a guide for practitioners and students in the social sciences. (2nd ed.). Metuchen, NJ: Scarecrow Press.
10. Tesch, R. (1990). Qualitative research: analysis types and software tools. New York: Falmer Press.
11. Gentleman, J.F., & Whitmore, G.A. (Eds.). (1994). Case studies in data analysis. New York: Springer-Verlag.
12. Mischler, E.G. (1986). Research interviewing: context and narrative. Cambridge, MA: Harvard University Press.
13. Research Methodology: Methods and Techniques by Kothari, CR and Garg, Gaurav, New Age International.
14. An introduction to intellectual Property rights by J.P. Mishra, Central Law Publication.

### Statistics

1. Practical statistics for medical research by Douglas G. Altman
2. Biostatistics for Medical, Nursing and Pharmacy Students By Abhaya Indrayan and L. Satyanarayana
3. Medical Statistics: Principles and Methods by K. R Sundaram, S. N Dwivedi, and V. Sreenivas, 2015
4. Statistical Analysis: Microsoft Excel 2010, Book by Conrad Carlberg.
5. Statistics and Data with R: An Applied Approach Through Examples, Book by Jeremiah Y. Cohen and Yosef Cohen.
6. Introduction to Statistics with SPSS by Ben Baarda, De Goede Martijn, Corvan Dijkum.

### Computer Application:

1. Leon & Leon, Internet for Everyone, Leon Tech World
2. Ron Masfield, MS Office, Tech Publication



# **Advances in Subject Domain**



## **ADVANCES IN MASS COMMUNICATION (SJMC)**

**Paper Code: PHD010404/SJMC-1**

**Credits -4**

### **UNIT-I**

**Communication:** meaning, definition, need, characteristics, objectives, process, types, 7Cs, barriers, mass communication: characteristics, meaning, concept, functions, impact, media, Mass media: kinds, characteristics, functions, dysfunctions, changing concept of communication in Indian context. Models: SMR, SMCR, Shannon and Weaver, Lasswell, Os good & HUB.

### **UNIT-II**

**Theories of communication:** Dependency Theory, Cultivation Theory, Agenda Setting Theory, Use and Gratification Theory, Hypodermic Needle Theory, Limited Effects Theory, Noelle-Nuemann's spiral of silence theory, Normative Media Theory – authoritarian, libertarian, social responsibility, democratic participation, developmental theory, interactive theory, psychological and individual differences theory.

### **UNIT –III**

**Media ownership patterns in India,** issues of media monopoly, concepts of ownership, management and control, control by corporates and political interests, changing role of editorial department, Issue of FDI in media, apex bodies in media (INS, ABC, RNI, PCI, AINEC etc). Media content, market-driven media content – effects & infotainment.

### **UNIT –IV**

**Traditional and Modern Media of Mass Communication,** Communication Grammar and communication skill. New concepts and trends of mass media.

# ADVANCES IN FINANCE AND ACCOUNTING (SBM)

Paper Code: PHD010404/SBM-1

Credits -4

**Course Objective:** To provide the brief introduction of all the relevant topics covered in finance and accounting.

**Pedagogy:** Case based Approach

## Unit 1: Accounting for Management

Meaning and scope of accounting, Bookkeeping and accounting, Persons interested in accounting, Branches of accounting, Objectives of accounting, Accounting principles, Accounting cycle, Journal, Ledger, Trial balance, Final Accounts (with and without adjustment entries), Concept of depreciation, Analysis and interpretation of financial Statements, Ratio analysis, Cash flow statement, Fund flow statement, Meaning and scope of cost accountancy.

## Unit 2: Financial Management

Nature of financial management, Objectives of financial management, Finance function, Scope of financial management, Responsibilities and functions of financial manager, Nature and meaning of financial planning, Steps in financial planning, Need and importance of financial planning, Factors influencing financial planning, Characteristics of a sound financial plan, Limitations of financial planning, Importance of capitalization, Meaning of Under and over capitalization, Difference between of capital structure and capitalization, Capital gearing, Trading on equity, Meaning of dividend policy, Nature of dividend policy, Types of dividends, Forms of dividend policy.

## Unit 3: Investment and Portfolio Analysis

Nature and scope of investment management, Investment avenues, Types of financial assets, Security, Return and risk – systematic and unsystematic risk – sources of risk, Measurement of risk and return, Sources of investment information, Fixed income securities – Bonds, Preference Shares – Sources of Risk, Valuation, Duration of Bonds – Theory of Interest Rates – Yield Curve, Bond Innovations and their Valuation. Fundamental Analysis: Economic Analysis, Industry Analysis, Company Analysis and Technical Analysis, Concept of portfolio management, types of portfolio management, Concept of portfolio analysis.

## Unit 4: Indian financial System

Financial markets and institutions; Financial intermediation; Financial system, Overview of Indian financial system, Money market – functions, organization and instruments, Role of central bank in money market, Indian money market – An overview, Capital Markets – functions, organization and instruments, Indian debt market, Indian equity market – primary and secondary markets, Role of stock exchanges in India, Commercial banking – introduction, its role in project finance and working capital finance, Development Financial institutions (DFIs) – An overview and role in Indian economy, Life and non-life insurance companies in India; Mutual Funds – Introduction and their role in capital market development. Non-banking financial companies (NBFCs), Contemporary research issues in accounting and finance.

### Suggested Reading:

1. Reilly and Brown. Analysis and Portfolio Management , Cengage Learning, India Ed.
2. Prasanna Chandra. Investment Analysis and Portfolio Management, McGraw Hill Education
3. V.K. Bhalla. Investment Management, S. Chand & Company Ltd.,
4. L M Bhole and Jitendra Mahakud. Financial Institution and Markets, McGraw-HillEducation
5. Khan, M.Y.Indian Financial System, McGraw-Hill Education.
6. Prasanna, Chandra. Financial Management: Theory and Practice. McGraw-HillEducation.
7. Clifford Gomez. Financial Markets, Institutions and Financial Services, PHI Learning
8. Singh, J.K. Venture Capital Financing in India. Dhanpat Rai and Company, New Delhi.
9. Anthony, RN. and Reece. J.S.: Accounting Principles: Richard Irwin Inc.
10. Gupta. R.L.and Radhaswamy. M. Financial Accounting; Sultan Chand and Sons, New Delhi.
11. Monga J.R., Ahuja Girish, and Sehgal Ashok. Financial Accounting, Mayur Paper Back. Nokia.
12. Shukla. M.C., Grewal T.S., and Gupta, S.C. Advanced Accounts, S. Chand & Co. New Delhi.
13. Compendium of Statement and Standards of Accounting: The Institute of CharteredAccountants of India, New Delhi.

# ADVANCES IN MARKETING MANAGEMENT (SBM)

Paper Code: PHD010404/SBM-2

Credits -4

## Objectives:

To develop scholars with the ability to conduct and evaluate research in the area of marketing by focusing on relevant theories, research issues and quality research in the area of marketing.

**Pedagogy:** Case based Approach

## Unit-1: Introduction to Marketing

Meaning and Concept of Marketing. Core Concepts of marketing. Marketing mix and Marketing environment and its variables. STP strategies. Pricing decisions, setting up of distribution channels. Supply Chain Management

## Unit 2: Advertising & Sales promotion

Promotion mix, concept of advertising, objectives of advertising. Role of Advertising in Marketing Mix and Positioning, Advertisers and Advertising Agencies; advertising budget. Concept of ATL, BTL, TTL. Role of media in advertising. Advertising copy, AIDA model, role of sales promotion in marketing, consumer and trade sales promotion, personal selling; personal selling process.

## Unit 3: Consumer Behaviour & Service Marketing

Consumer Behaviour–Introduction, dimensions of consumer behaviour. Psychological influences on consumer behaviour- motivation- perception-personality- learning and attitude. External influences- socio-cultural, family and reference groups. Consumer decision making process. Diffusion of innovation, managing dissonance. Customer relationship management - process and measurement of customer relationship management

**Service Marketing:** Unique features of services; Tasks involved in service marketing; service quality – meaning; gap model of service quality, measuring service quality- SERVQUAL

## Unit 4: Marketing Research

Introduction, Marketing Research and its Management, Nature and Scope of Marketing Research. Marketing Information System and Research, Online Marketing Research, Recent Trends in Marketing Research, Research in Lifestyle Retail, Marketing Research and Social Marketing, Rural Marketing Research, Trends in Services Marketing Research, Brand Equity Research, International Marketing and Branding Research

**Contemporary Research Issues in Marketing:** Green marketing; event marketing; network marketing; direct marketing; social marketing; buzz marketing / viral marketing.

Above topics are indicative and other contemporary issues – may be discussed.

**Recommended Text Books:**

1. Kotlar, Philip, Marketing Management, Prentice Hall, New Delhi.
2. Stanton, Etzel, Walker, Fundamentals of Marketing, Tata-McGraw Hill, New Delhi.
3. Saxena, Rajan, Marketing Management, Tata-McGraw Hill, New Delhi.
4. Luck and Rubin: Marketing Research; PHI
5. D.R. Cooper & P.S. Schindler: Marketing Research; TMH
6. Naresh K Malhotra: Marketing Research; Pearson
7. Leon G. Schiffman and Leslie Lasar Kanuk, Consumer Behavior, Pearson Education, India,
8. Paul Peter et al., Consumer Behavior and Marketing Strategy, Tata McGraw Hill, Indian Edition
9. Marketing and Branding, S. Ramesh Kumar, Pearson.

# ADVANCES IN HUMAN RESOURCE MANAGEMENT (SBM)

Paper Code: PHD010404/SBM-3

Credits -4

**Course Objective:** This course involves scholars in an intensive analysis of human resource management. The Aim of interaction with the scholar is to encourage them to develop cross-boundary ideas and prepare a research proposal.

**Pedagogy:** Case based Approach

**Unit-I Human Resource Management & Strategic Human Resource Management:**

**HRM:** Concept, Functions, Roles, Skills and Competencies, Changing Environment of HRM, Global HRM and Workforce Diversity

**SHRM:** Conceptual Framework of SHRM, Components of SHRM, Total quality Management, Challenges in SHRM.

**Unit-II Talent Management and Human Resource Development:**

**Talent Management:** Meaning and objectives, Role of talent Management, Key processes of talent management: Job analysis, Human resource planning, Recruitment and selection, Employee Engagement and Retention, Talent Management issues and challenges.

**Human Resource Development:** Concept, significance of training and development, training need analysis, training methods and evaluation, Management Development.

**Performance Management System:** Overview, Objectives, Performance Appraisal & Review, Balance Score Card.

**Unit-III Organizational Behavior and Development:**

**Overview:** Personality, Attitude and Perception, Organization Systems and Structure, Motivation, Leadership, Power and Politics, Group Dynamics, Organization Culture, Organization Change, Conflict Management.

**Unit-IV Contemporary Research Issues in HR**

Organization Effectiveness, Person- Organization fit & Artificial Intelligence in HR, Emotional Intelligence, Social Intelligence, Generational Studies in HR.

Above topics are indicative and other contemporary issues – may be discussed.

**Suggested readings:** A list of reading may be prepared by the discussant faculty keeping research processes, courseware, path breaking and contemporary works in mind.

**Reference books:**

1. Gareth R. Jones, Organizational Theory, Design & Change, Pearson Education.
2. Robbins Organisation Theory; Structure Design & Applications, Prentice Hall of India.
3. Dessler Gary, A Framework for Human Resource Management, Pearson Publication, 7th Edition.
4. K. Aswathappa – Human Resources and Personnel Management, Tata McGraw Hill

## ADVANCES IN OF ECONOMICS(SBM)

Paper Code: PHD010404/SBM-4

Credits -4

**Course Objective:** To provide the brief introduction of all the relevant areas of Economics

**Pedagogy:** Case Based Approach

### Unit-I:Micro Economic Theory

Theory of Consumer Behaviour; Theory of Production and Costs; Decision making under uncertainty, Attitude towards Risk; Game Theory – Non-Cooperative games; Market Structures; Efficiency Criteria: Pareto-Optimality; Asymmetric Information: Adverse Selection and Moral Hazard

### Unit-II: Macro Economic Theory

Classical & Keynesian Approach: Determination of output and employment; Consumption Function; Investment Function; Demand for Money & Supply of Money; IS-LM Model Approach; Inflation and Phillips Curve Analysis; Business Cycles; Monetary and Fiscal Policy; Rational Expectation Hypothesis and its critique

### Unit-III: International Trade and Finance

Theories of International Trade; Balance of Payments: Composition, Equilibrium and Disequilibrium and Adjustment Mechanisms; Determination and Types of Exchange Rate; Foreign Exchange Market and Arbitrage; Gains from Trade, Terms of Trade, Trade Multiplier; Tariff and Non-Tariff Barriers; Dumping; GATT, WTO and Regional Trade Blocks; IMF & World Bank; 2007-08 International Debt Crisis

### Unit-IV: Basic Econometrics

Introduction to Econometrics; Nature of Regression Analysis; Two-Variable Regression Analysis; Classical Linear Regression Analysis; Multiple Linear Regression Analysis; Multicollinearity; Autocorrelation; Heteroscedasticity; Qualitative Regression Models; Time-Series Analysis

### Suggestive Reading:

1. N. Gregory Mankiw (2007). Economics: Principles and Applications, 4th edition, India edition by South-Western, a part of Cengage Learning, Cengage Learning India Private Limited, ISBN-13:978-81-315-0577-9 (hereafter Mankiw, 2007, 4e).
2. Pindyck, Robert S. and Daniel L. Rubinfeld. Microeconomics Microeconomics, 8th edition, Upper Saddle River, New Jersey.
3. N. Gregory Mankiw (2013). *Macroeconomics*, 8th edition, Worth Publishers.
4. Edward Shapiro (2013). *Macroeconomic Analysis*, 5<sup>th</sup> edition, Galgotia Publications.
5. Dominick Salvatore (2011). *International Economics: Trade and Finance*, 10th edition, John Wiley International Student Edition.
6. D.M. Mithani (2015). *International Economics*, Himalaya Publishing House, Delhi
7. Damodar N Gujarati, Dawn C Porter and Sangeetha Gunasekar
8. Christiana E. Hilmer and Michael J. Hilmer (2020). *Practical Econometrics - data collection, analysis, and application*. Tata McGrawhill Education

**ADVANCES IN ENVIRONMENTAL ENGINEERING**  
**(SET) Paper Code: PHD010404/SET-1**

**Credits -4**

**UNIT I**

**Conventional water and waste water treatment methods**, their capabilities and limitations, need for advanced treatment of water and waste water, Advanced water treatment-

Iron and manganese removal, colour and odour removal, Activated carbon treatment, chlorination of wastewater, Pure oxygen systems, Multistage treatment systems

**UNIT II**

**Methods for the removal** of heavy metals, oil and refractory organics, Flotation: Objective, Types of flotation systems, Design considerations, Chemical precipitation for removal of phosphorous, heavy metals and dissolved inorganic substances, Gas transfer: Aeration systems

**UNIT-III**

**Advanced waste water treatment-** Carbonate balance for corrosion control and modern methods and fluoride removal,

Membrane filtration: Terminology, Process classification, Membrane configurations, Membrane operation for micro filtration, Ultra filtration, Ion exchange and Reverse osmosis, Area requirement, Membrane fouling and its control, Application of membranes.

**UNIT-IV**

**Microbial growth kinetics**, Modeling suspended and attached growth treatment processes. Suspended growth processes for biological nitrification and denitrification, Nutrient control in effluents, Nitrogen and phosphorus removal methods including biological methods, Anaerobic sludge blanket processes, Design considerations for Upflow Anaerobic Sludge Blanket process (process options, components influence process design).

**Wetland and aquatic treatment systems**; Types, application, Treatment kinetics and effluent variability in constructed wetlands and aquatic systems, Design procedures for constructed wetlands, Management of constructed wetlands and aquatic systems.



# ADVANCES IN DATA MINING (SET)

Paper Code: PHD010404/SET-2

Credits -4

## UNIT-I

**FUNDAMENTALS:** Relation to Statistics – Databases – Data Mining Functionalities – Steps in Data Mining Process – Architecture of a Typical Data Mining Systems – Classification of Data Mining Systems–Overview of Data Mining Techniques

## UNIT-II

**DATA PREPROCESSING AND ASSOCIATION RULES:** Data Preprocessing – Data Cleaning –Integration – Transformation – Reduction –Discretization Concept Hierarchies – ConceptDescriptionDataGeneralizationandSummarizationBasedCharacterization– MiningAssociationRulesinLargeDatabases.

## UNIT-III

**PREDICTIVE MODELING:** Classification and Prediction Issues Regarding Classification andPrediction,ClassificationbyDecisionTreeInduction– BayesianClassification–OtherClassification Methods– Prediction –Clusters Analysis – Types of Data in Cluster Analysis –CategorizationofMajorClusteringMethods – PartitioningMethods–HierarchicalMethods.

## UNIT-IV

**DATA WAREHOUSING:** Data Warehousing Components – Multi Dimensional Data Model –DataWarehouseArchitecture–DataWarehouseImplementation– MappingtheDataWarehousetoMultiprocessorArchitecture –OLAP–Need – CategorizationofOLAPTools.

## **ADVANCES IN WELDING TECHNOLOGY (SET)**

**Paper Code: PHD010404/SET-3**

**Credits - 04**

### **Syllabus content:**

**UNIT-1** Welding Metallurgy: Welding as compared with other fabrication processes, Classification of welding processes; Heat affected zone and its characteristics; Effects of alloying elements on weldability, Weldability of steels, stainless steel, cast iron, and aluminum and titanium alloys, Weld testing standards, Hydrogen embrittlement, Lammellar tearing, residual stresses and its measurement, heat transfer and solidification, Analysis of stresses in welded structures, Pre and post welding heat treatments, Metallurgical aspects of joining, Conditions of soldering, Brazing and welding of materials.

**UNIT-2** Weld Design & Quality Control: Principles of sound weld design, Welding joint design, Welding defects; Testing of weldment, Material joining characteristics, Welding positions, Allowable strength of welds under steady loads, Weld throat thickness; Weld quality, Discontinuities in welds, their causes and remedies and quality conflicts.

**UNIT-3** Modern Trends in Welding: Friction welding, Explosive welding, Diffusion bonding, High frequency induction welding, Ultrasonic welding, Electron beam welding, Plasma arc welding, Laser welding.

**UNIT-4** Mechanisation in Welding: Mechanisation of flat/circular joints, Thin/thick sheets (resistance/arc weld), Mechanisation of I beams (arc weld), Longitudinal circumferential SA welding (roller blocks, column booms, flux supports), Circular/spherical welding joints (rotating tables positioners), Manufacture of welding longitudinal welded pipes by induction, TIG, Plasma and SA welding of spiral welded pipes.

**UNIT-5** Robotics in Welding: Robot design and applications in welding, Programming of welding robots, tolerances for assemblies for robot welding, New generation of welding robots, Self alignment by current arc variation, Robots for car body welding, Microelectronic welding and soldering, Efficiency of robotics in welding.

References:

1. Advanced Welding Processes Nikodaco & Shansky MIR Publications
2. Welding Technology and Design VM Radhakrishnan New Age International
3. Source Book of Innovative welding Processes M.M. Schwarz American Society of Metals (Ohio)
4. Advanced Welding Systems, Vol. I, II, III J. Cornu Jaico Publishers
5. Manufacturing Technology (Foundry, Forming and Welding) P.N. Rao Tata McGraw Hill

## **ADVANCES IN MACHINE TOOL DESIGN (SET)**

**Paper Code: PHD010404/SET-4**

**Credits -4**

**UNIT-I.** Introduction-Calculation Data (Forces, Velocities and Power Requirements during metal cutting: Turning: Cutting force, Cutting Speed and Feed Rate. Drilling: Cutting forces, Cutting Speed and Feed Rate. Milling: Chip Section, Cutting force, Milling with Cutter Heads.

Grinding: Grinding Forces, Cutting Speed, Feed Rate, and Depth Setting. Planning, Shaping and Broaching.

General Requirements of the Machine Tool: Accuracy of Shape, Dimensional accuracy and surface finish of the components produced. High Productivity. High Technical and Economic Efficiency.

**UNIT-II.** Design Principles: Stiffness and Rigidity of the Separate Constructional Elements and their Combined behavior Under Load, Static Rigidity, Dynamic Rigidity, Natural frequencies, Damping, Mode of Vibration. Standardization of Spindle Speeds and Feed Rates: Layout of Speed Change Gears. Saw Diagrams for Arithmetic Progression, Geometric Progression, Harmonic Progression and Logarithmic Progression of spindle speeds for Mechanical Stepped Drives for Machine Tools. Establishment of Gear Ratios, Layout of the Intermediate Reduction Gears,

**UNIT-III** Calculation of Transmission Ratios, Pulley Diameter, Gear Wheel Diameters and Number of Teeth. Ray Diagram. Speed Diagram. Electrical, Mechanical and Hydraulic Drives for the Operational Movements: Electric Drive and Control Equipment. Mechanical and Hydraulic Drives. Drives for Producing Rotational Movements, Stepped Drives, Step less Drives. Drives for Producing Rectilinear Movements. Backlash Eliminator in the Feed Drive Nut.

**UNIT-IV** Automatic Control: Principles and Constructional Elements. Automatic Driving of the Cutting Movements, Feed Movements, and Return Movements. Automatic control of movements for Starting, Stopping and Reversing. Automatic Clamping and Unclamping the work piece. Automatic Selection of Required Speeds, Automatic Setting of Tools. Automatic Measurement of Machined Shape and Surfaces. Transport of Components from One Machine to the Next. Applications (Examples of Automatic Machines).

Design of Constructional Elements: Machine Tool Structures, Structural Elements Design for Centre Lathe, Drilling Machine, Knee Type Milling Machine, Planning Machine, Boring Machine, and Grinding Machines. Design of Slide Ways: Design of Slide ways for Tables, Saddles and Cross-slides. Antifriction Bearings for slide ways. Hydrostatically Lubricated Slide ways.

### **References:**

1. Design Principles of Metal-Cutting Machine Tools by F. Koenigsberger
2. Machine Tool Design by N. K. Mehta. McGraw Hill Publishing
4. Machine Tool Design by Acherkan, Mir publishing
5. Machine Tool Design by S.K, Basu, Oxford and IBH Publishing
6. Machine tool design by Sen and Bhattacharya, CBS Publications

## **ADVANCES INSURFACE ENGINEERING (SET)**

**Paper Code: PHD010404/SET-4**

**Credits -4**

### **UNIT-1**

Introduction to surface engineering – importance and scope of surface engineering, conventional surface engineering practices like pickling, grinding, buffing etc.,

### **UNIT-2**

surface engineering by material addition like electroplating, surface modification of ferrous and non-ferrous materials like nitriding, cyaniding, aluminizing etc.

### **UNIT-3**

Advanced surface engineering practices like laser assisted surface modification, electron beam assisted modification, spraying techniques like flame and plasma spraying, high velocity oxyfuel, cold spray techniques.

### **UNIT-4**

Sputter deposition processes, PVD and CVD methods of surface coatings, surface modification by ion implantation and ion beam mixing.

Characterizations of the engineered surface and coatings like thickness, porosity and adhesion of coatings, surface microscopy and spectroscopic analysis of the modified surfaces.

Functional coatings and their applications.

### **References:**

1. Surface Engineering & Heat Treatment By: P.H Morton I.I.T, Brooke field, (1991).
2. Metals Handbook Ninth Edition, Vol.5, Surface Cleaning, Finishing & Coating, ASM, Metals Park Ohio, 1982.
3. Corrosion Engineering By: M.G. Fontana, M.C. Graw Hill, N. York, 1987

# ADVANCES IN BIOETHICS, BIOSAFETY & INTELLECTUAL PROPERTY RIGHTS (SOS)

Paper Code: PHD010404/SOS-1

Credits -4

## UNIT I

**Biotechnology and social responsibility,** public acceptance issues in biotechnology, issues of access, ownership, monopoly, traditional knowledge, biodiversity, benefit sharing, environmental sustainability, public vs private funding, biotechnology in international relations, globalization and development divide.

## UNIT II

**Introduction to bioethics:** Social and ethical issues in biotechnology. Principles of bioethics. Ethical conflicts in biotechnology- interference with nature, unequal distribution of risk and benefits of biotechnology, bioethics vs business ethics.

## UNIT III

**Biosafety:** Definition of bio-safety, Biotechnology and bio-safety concerns at the level of individuals, institutions, society, region, country and world with special emphasis on Indian concerns. Biosafety in laboratory institution: laboratory associated infection and other hazards, assessment of biological hazards and level of biosafety. Biosafety regulation: handling of recombinant DNA products and process in industry and in institutions (Indian context).

## UNIT IV

**Introduction to IPR:** IPR, forms of IPR and Intellectual property protection. Concept of property with respect to intellectual creativity, Tangible and Intangible property. WTO: agency controlling trade among nations, WTO with reference to biotechnological affairs, TRIPs. WIPO, EPO.

# ADVANCES IN IMMUNOTECHNOLOGY (SOS)

Paper Code: PHD010404/SOS-2

Credits -4

## Unit 1:

**Introduction to immunology:** History and scope of immunology; types of immunity; anatomy of lymphoid organs- primary and secondary lymphoid organs; immunoglobulin structure and function; memory cells, lymphocyte differentiation.

## Unit 2:

**Biology of complement systems:** Structure and function of MHC class I and II molecules; antigen recognition and presentation; humoral and Cell mediated immune responses; hypersensitivity reaction; immune suppression and immune tolerance; auto immune disorders.

## Unit 3:

**Antigen & Antibodies:** Antigen- isolation, purification and characterization of various antigens and haptens; antibodies- production, purification and quantification of immunoglobulins; antigen - antibody reaction; hybridoma and monoclonal antibody production; immuno-diagnosis and applications; human monoclonal antibodies; complement fixation.

## Unit 4:

**Immunotechnology:** Purification of mononuclear cells from peripheral blood; isolation and characterization of T cells subsets; Antigen processing and presentation; fluorescent activated cell sorter (FACs); mitogen and antigen induced lympho-proliferation assay; mixed lymphocyte reaction (MLR); Assay of macrophage activation; Macrophage & Dendritic cells culture.

**Vaccine Technology:** Introduction to Vaccine technology including DNA vaccines - identification of T and B epitopes for vaccine development. immunodiagnosis of Infectious diseases.

## Suggested Readings:

1. Immunology, Richard A. Goldsby, Thomas J. Kindt, Barbara, A. Osborne, Janis Kuby 5th Edition, 2003. W. H. Freeman & Company.
2. Immunology, L.M. Roitt, J. Brestoff and D.K. Male, 1996.
3. Immunology, V Edition - Richard A.Goldsby, Thomas. J. Kindt, A. Osborne, JanisKuby, 2003. W.H. Freeman and company.
4. Immuno-biology, JanewayCA and Paul Travers 1994.
5. Immunological techniques, D.M. Weir, 1992.
6. Immunology, I.Roitt, 1960
7. Current Protocols in Immunology 3 Volumes, Wiley Publications 1994.
8. Monoclonal Antibodies: Principles and Practice, J. W. Goding, 1983. Academic Press
9. Hybridoma Technology in the Biosciences and medicine, T.A. Springer, 1985. Plenum PressNY.

# ADVANCES IN LINEAR ALGEBRA (SOS)

Paper Code: PHD010404/SOS-3

Credit: 4

## UNIT – I: Basic Concepts

Some special type of matrices: Orthogonal, Symmetric, Skew-symmetric, Unitary; Hermitian and Skew-Hermitian matrices and their Eigen values Definition of groups, rings and fields with illustrations

## UNIT – II: Vector Spaces

Vector spaces, Linear Dependence and independence, Basis, Dimension, Row and Column spaces of matrices, Connection with rank, The space of solution of a system of linear homogeneous equations

## UNIT – III: Linear Transformations

Linear transformations and their algebra, Connecting between matrices and linear transformation, Determinant and trace of a linear transformation, Rank and Nullity of a linear transformation, Eigen values and Eigen vectors, Cayley-Hamilton Theorem.

## UNIT – IV: Singular value decomposition and the spectral theorem

Singular value decomposition of linear maps, Singular value decomposition of matrices, Adjoint maps, The Spectral Theorems.

## References

- **Introductory**
  - *Elements of linear algebra*, Main Author: Pettofrezzo, Anthony J. Publisher: Englewood Cliffs, N.J., Prentice-Hall [1970]. (Location: Anschutz Library; Call Number: QA251 .P46)
  - *A first course in linear algebra*, Main Author: Zelinsky, Daniel, Publisher: New York, Academic Press [1968]. (Location: Anschutz Library; Call Number: QA251 .Z43)
  - *A geometric introduction to linear algebra*, Main Author: Pedoe, Daniel. Publisher: New York, Wiley [1963] . (Location: Anschutz Library; Call Number: QA251 .P28)
  - *Introduction to matrix theory and linear algebra*, Main Author: Reiner, Irving. Publisher: New York, Holt, Rinehart and Winston [1971] . (Location: Anschutz Library; Call Number: QA263 .R45 )
- **Intermediate**
  - *Fundamentals of linear algebra*, Main Author: Nomizu, Katsumi, Publisher: New York, McGraw-Hill [1966]. (Location: Anschutz Library; Call Number: QA251 .N6)
  - *Fundamentals of linear algebra*, Main Author: Lightstone, A. H. Publisher: New York, Appleton-Century-Crofts [1969]. (Location: Anschutz Library; Call Number: QA251 .L5185)
  - *Elements of linear algebra*, Authors: Lowell J. Paige and J. Dean Swift. Publisher: Boston, Ginn [1961]. (Location: Anschutz Library; Call Number: QA251 .P25)
- **Advanced**
  - *Advanced linear algebra*, Steven Roman, Publisher: New York : Springer-Verlag, 1992. (Location: Anschutz Library; Call Number: QA184 .R65 1992)
- **Applied**
  - *Applied linear algebra*, Ben Noble, Publisher: Englewood Cliffs, N.J., Prentice-Hall [1969]. (Location: Anschutz Library; Call Number: QA251 .N54)

# **ADVANCES IN PUBLIC HEALTH (SOAHS)**

**Paper Code: PHD010404/SON&HS-1**

**Credits-4**

## **UNIT I**

**MEDICAL SOCIOLOGY & BEHAVIOURAL SCIENCES:** Principles of Sociology and the Behavioral Sciences, Principles of Social Psychology, Application of Sociology in Health and Development, Nutrition and Food Safety in Public Health, Concept of Health & Disease

## **UNIT II**

**HEALTH INFORMATICS & ADVANCE STATISTICS;** Health Informatics, Advance Statistics, Epidemiology, Public Health Occupational Health and Management (Introduction of Occupational Health Including Development of Occupational Health, Work and Health with Special Reference to Developing Countries, Approaches to Identify and Prevention of Occupational Diseases, Selected Groups of Workers, Approaches to Occupational Health); Communicable Diseases and Non-Communicable Diseases.

## **UNIT III**

**PUBLIC HEALTH MANAGEMENT:** Concept and Theories, Program Planning, SWOT, Quality Management, Management, Health Systems Development and Management, Principles and Practice of Information, Education & Communication, Reproductive & Child Health Including Family Welfare (RCH), (Structure of RCH and Family Welfare Services in India, Components and Services of Reproductive and Child Health, Family Welfare, Evaluation of M C H & FP Services)

## **UNIT IV**

**NATIONAL HEALTH PROGRAMMES:** Health Care for Special Groups (School Children, Adolescent, Aged and the Challenged Groups), School health services, Health Care for the Aged and Challenges (community geriatrics, the challenged and rehabilitation).

Voluntary Sector in Health/Public Private Partnership, Public Health in Emergencies (PHE), Environmental Health & Sustainable



# ADVANCES IN FUNDAMENTALS OF EDUCATION(SOE)

Paper Code: PHD010404/SOE-1

Credits-4

## UNIT-I

### PHILOSOPHY AND SOCIOLOGY OF EDUCATION:

Concept of Educational Philosophy, Indian School of Philosophy (Sankhya, Vedanta, Nyaya, Buddhism, Jainism & Islamic traditions), Modern Concept of Philosophy (logical analysis, logical empiricism & positive relativism), Major Western Philosophy (Naturalism, Idealism & Pragmatism). Concept of Educational Sociology and Sociology of Education, Meaning and Educational implications of Social Stratification, Meaning and Role of culture in Education, Role and Status, Socialization, Concept of Urbanization, Modernization, Westernization, Sanskritization, and Social Change in reference to Indian Society. Meaning of Socio –Economic Factors and their impact on Education.

## UNIT-II

### PSYCHOLOGY OF EDUCATION:

Concept of Educational Psychology (Experimental, Clinical & Differential) , Concept of Growth and Development (Physical, Mental, Social and Emotional), Theories of Growth and Development ( Freud's Theory of Psycho Sexual Development, Jean Piaget's Theory of Cognitive Development ,Erickson's Theory of Psycho Social Development and Kohlberg's Theory of Moral Development) Role of Heredity and Environment in Developing Individual Differences, Meaning, Concept, Needs and Problems of Gifted Children, Concept and Importance of Creativity in Education. Concept of Inclusive Education.

## UNIT –III

**COMPARATIVE EDUCATION AND TECHNOLOGY OF EDUCATION:** Concept, Aims and Scope of Comparative Education, Factors influencing the Educational System, Approaches of Comparative Education (Historical, Philosophical, Sociological), Concept of Universalization and its implication for Indian Education, Primary, Secondary and Higher Education in U.S.A, U.K and India. Concept and Needs of Distance Education.

Meaning, Scope and Components of Educational Technology, Stages of Teaching(Pre-active, Interactive and Post active) , Concept, Principles and Characteristics of Programme Instruction, Flanders Interaction Analysis and Simulation, Concept , Mode and Barriers of Communication. Class room Communication (Interaction, Verbal and Non-verbal)

## UNIT –IV

### CURRICULUM DEVELOPMENT AND EDUCATIONAL MANAGEMENT:

Meaning of the term Curriculum, differentiating between the Role and Nature of Curriculum Framework, Curriculum and Syllabus, Meaning, Role and Interrelationship between Core Curriculum or Hidden Curriculum, Teaching and Instruction, Text Book and Reference book. Different Approaches to Curriculum Development (Subject Centered, Behaviour Centered, Learner Centered, Competency Based, Environmental and Integrated), Models of Curriculum Development by Franlin Bobbit, Ralph Tyler, Hilda Taba and Philip Jackson.

Meaning, Nature and Scope of Educational Administration, Supervision and Planning. Specific Trends in Educational Management, Organizational Competence and Organizational development, Meaning, Nature and Approaches to Educational Planning, Meaning and Nature of Supervision(Service Activity, Process and Function)

# **ADVANCES IN PHILOSOPHY OF LAW (SLLA)**

**Paper Code: PHD010404/SLLA-1**

**Credits -4**

## **UNIT-I**

### **POSTIVISTIC APPROACH**

1. Command Theory: John Austin
2. The Pure Theory of Law: Hans Kelsen
3. Law as Union of Primary and Secondary Rules: H.L.A. Hart

## **UNIT-II**

### **SOCIOLOGICAL APPROACH**

1. Interest Theory: Rudolf von Ihering
2. Sociological Theory of Eugen Ehrlich
3. Theory of Social Engineering: Roscoe Pound

## **UNIT-III**

### **LAW AND MORALITY**

1. Can law be separated from morality?
2. Hart-Dworkin debate on Law and Morality
3. Enforcement of Morality: Issues of Suicide, Homosexuality, and Euthanasia

## **UNIT-IV**

### **THEORIES OF JUSTICE**

1. Utilitarian Theory of Justice: Jeremy Bentham
2. Contractarian Theory of Justice: John Rawls
3. The Idea of Justice: Amartya Sen

## ADVANCES IN LINGUISTICS (SLA)

Paper Code: PHD010404/SLA-2

Credits -4

### Unit –I General & English Phonetics

- A) Phonetics and its Branches; Articulatory Phonetics; Acoustic Phonetics; Auditory Phonetics; Perceptual Phonetics; Applied Phonetics
- B) The Sound System of a Language: Vowels – Definition, Description and Classification  
Consonants: Description and Classification
- C) The Sound System of English: English Sounds and Letters; English Vowels and Consonants – Phonemic & Phonetics Details; Allophonic Variations
- D) Language: Definitions, Properties and Functions; Language and Society; Language and Culture

### Unit –II Elementary Linguistics

- A) General Linguistics; Definition and the scope of the subject; Historical; Comparative; Descriptive Linguistics; Theoretical and Applied Linguistics
- B) Morphology: The structure of words and morpheme; morph, morpheme and morpheme variants, morphological processes; word formation processes.
- C) Syntax: The study of sentence structure; basic sentence patterns, phrase and clause structure; constituents and constructions; construction types.
- D) Semantics: Definition and scope; Types of word meaning; types of sentence meaning; word meaning relations and sentence meaning relations

### Unit –III Language Learning & Teaching

- A) Language Learning Theories: Behaviourism, Cognitivist
- B) Contrastive Analysis Hypothesis Second Language Learning Theories
- C) Language Learning Strategies and Communication Strategies; Communicative Competence; Inter language hypothesis; Error Analysis.
- D) Methods of Language Teaching: Approach, methods and technique; The Grammar Translation Method; Language teaching innovations in the nineteenth century and the Reform Movement; The Direct Method; The Audio-Lingual Method Communicative Language Teaching.

### Unit –IV Translation & Adaptation

- A) Adaptation: Theory, Practice and Inter-textually
- B) Translation Studies: Introduction, nature, meaning and function.
- C) Theories of translation; types, process, problems and limitations of translation; translation and transliteration.

### Suggested Reading:-

1. Munday, Jeremy. *Introducing Translation Studies: Theories and Applications*. Routledge, 2008.
2. Catford, J. C. *A Linguistic Theory of Translation*. London: OUP, 1994.
3. Kreidler, Charles W. (1997). *Describing Spoken English: An Introduction*. USA & Canada: Routledge.
4. McMahon, April. (2002). *An Introduction to English Phonology*. Edinburgh: Edinburgh University Press
5. Sethi, J & P. V. Dhamija. (2006). *A Course in Phonetics and Spoken English (2nd ed.)*. New Delhi: Prentice Hall.
6. Crystal, D. (2008), *A Dictionary of Linguistics and Phonetics*. 6th edn. Oxford: Blackwell.
7. Pullum, G.K. & W.A. Ladusaw (1996), *Phonetic Symbol Guide*. The University of Chicago Press.
8. Trask, R.L. (1996), *A Dictionary of Phonetics and Phonology*. London: Routledge.
9. Wells, J.C. (2008), *Longman Pronunciation Dictionary*. 3rd edn. with CD: Person Education Ltd.

# ADVANCES IN ENVIRONMENTAL PROBLEMS AND STRATEGIC MANAGEMENT (SLA)

Paper Code: PHD010404/SLA-3

Credits -4

Department of Geography

## Unit I:-Introduction

Meaning and Concept of Environment, Pollution, Types of Pollution and Environmental Degradation;

## Unit II

Environmental Quality Indices: Air, Water, Soil, Noise and Solid Waste; Environmental Management: Meaning, Concept and Approaches

## Unit III: - Environmental Problems:

Environmental Problems at Global, National and Regional level: Air Pollution and Global Climatic Change, Water Pollution and its Crisis, Land Degradation and Biodiversity, Natural Hazard and Mapping; Human Response and Attitude towards Environmental Problems; Environmental Quality and Health

## Unit IV: - Environmental Management:

Strategies for Environmental Management, Environmental Monitoring, Environmental Education and People's Participation, Environmental Laws and Role of International Bodies, EIA of Development Schemes: some case studies, National Environmental Policy.

## Suggested Readings

1. Anjaneyulu, Y. 2002. Environmental Impact Assessment Methodology, B.S Publications, Hyderabad
2. Blodgett, J. 2000. Environmental Protection: New Approaches, CRS Report, National Council for Science and the Environment
3. Commoner, B. 1988. Rapid Population Growth and Environmental Stress in Developing Countries. Proceedings of the United Nations Expert Group meeting, 23-26th August 1988, United Nations, New York.
4. Copeland, C. 2006. Water Quality: Implementing the Clean Water Act, CRS Report, National Council for Science and the Environment
5. Cruz, W. and Gills, C. 1990. Resource Policy Reform in the Context of Population Pressure in D. Chapman (ed.). Arresting Renewable Resource Degradation in the Third World. World Bank Environment Working Paper No. 44. Washington, DC: the World Bank
6. Hardoy, J. E. et al. 1997. Environmental Problems in Third World Cities, Earthscan Publications limited, London
7. Inhaber, H. et. al. 1976. Environmental Indices, A Wiley-Inter Science Publication
8. Jain, R.K. et. al. 1977. Environmental Impact Analysis A New Dimension in Decision making, Van Nostrand Reinhold Company, New York
9. Khoshoo, T. N. 1981. Environmental Concerns and Strategies, Ashish Publishing House, New Delhi
10. Kumra, V.K. 1982. Kanpur City: A Study in Environmental Pollution, Tara Book Agency, Varanasi
11. Lohani, Bindu N. 1984. Environmental Quality Management, South Asian Publisher, New Delhi
12. Manners Ian R. and Mikesell Marvin W. 1974. Perspectives on Environment, edited by

# ADVANCES IN GEOGRAPHY OF TOURISM AND HERITAGE (SLA)

Paper Code: PHD010404/SLA-4

Credits -4

## UNIT I: - INTRODUCTION

Development of the Geography of Tourism and Heritage; Basic concepts: Tourism Studies: Concepts and Principles; Methodologies and Approaches

## UNIT II: - GEOGRAPHY OF TOURISM

National, Regional and Global scenarios; Alternative tourism and Prospects: Ecotourism, Sustainable tourism, Heritage Tourism; Tourism Management, heritage issues and prospects: policy and planning - global, and national.

## UNIT III: - INDIAN SCENARIO

Tourism and Heritage resources, Tourism as industry and economy: national, state and local contexts; Heritage Planning and Master Plan, Varanasi:

## UNIT IV

Heritage Zoning, identification and planning's Types of tourism: domestic, international, local, pilgrimages; Tourism policies, perspectives, and plans.

## Suggested Readings

1. Aitchison, Cara; MacLeod, Nicola E. and Shaw, Stephen J. 2000. Leisure and Tourism Landscape: Social and Cultural Geographies. Routledge, London.
2. Ashworth, G.J. and Dietvorst, A.G.J. (eds.) 1995. Tourism and Spatial Transformations: Implications for Policy and Planning. CAB International, Warwick UK.
3. Ateljevic, Irena; Morgan, Nigel and Pritchard, Annette (eds.) 2011. The Critical Turn in Tourism Studies: Creating an Academy of Hope. Routledge, London.
4. Coles, Tim; Duval, David Timothy and Shaw, Gareth 2011. Student's Guide to Writing Dissertations and Theses in Tourism Studies and Related Disciplines. Routledge, London.
5. Collins-Kreiner, Noga 2006. Christian Tourism to the Holy Land: Pilgrimage during Security Crises. Ashgate Publ., Farnham U.K.
7. Gössling, Stefan; Hall, C. Michael and Weaver, David (eds.) 2008. Sustainable Tourism Futures: Perspectives on Systems, Restructuring and Innovations. Routledge, London.
8. Hall, C. M. and Page, S.J. 2008. The Geography of Tourism and Recreation: Environment, Place and Space. Routledge, London. 4th Ed.
9. Henderson, Carol and Weisgrau, Maxine (eds.) 2007. Raj Rhapsodies: Tourism, Heritage and Seduction of History. Ashgate Publ., Farnham U.K.
10. Higham, James 2007. Critical Issues in Ecotourism: understanding a complex tourism phenomenon. Butterworth-Heinemann, Oxford.
11. Honey, Martha 2008. Ecotourism and Sustainable Development. Island Press, Seattle.
12. Jamal, Tazim and Robinson, Mike (eds.) 2009. The SAGE Handbook of Tourism Studies. Sage, London.
13. Pearce, Douglas and Butler, Richard W. (eds.) 1999. Contemporary Issues in Tourism Development. Routledge, London.
14. Raj, Razaq and Morpeth, Nigel D. (eds.) 2007. Religious Tourism and Pilgrimage Festivals Management: An International Perspective. CABI, London.
15. Singh, Rana P.B. 2009. Banaras, Making of India's Heritage City. Cambridge Scholars Publishing, Newcastle upon Tyne UK.

# **ADVANCES IN REMOTE SENSING & GIS AS TOOLS IN GEOGRAPHICAL RESEARCH(SLA)**

**Paper Code: PHD010404/SLA-5**

**Credits -4**

## **UNIT I: - INTRODUCTION**

Nature of Geographical Data; Conventional methods of geographical data collection vis-à-vis remote sensing and GIS; Some aspects of geodesy of earth and their implications in GIS; Spectra of common natural objects; Mechanism of remote sensing data acquisition.

## **UNIT II: - MODELS OF GEOGRAPHIC DATA REPRESENTATION IN GIS**

Spatial Data quality and error analysis; Conceptual and Logical Data Modelling; Some important characteristics of Remote Sensing Data; Nature of image patterns and their interpretation.

## **UNIT III: - DEM AND DERIVATIVES**

GIS as spatial decision support system; Information extraction procedures from remote sensing data - manual and digital;

## **UNIT IV**

Application of remote sensing and GIS in Land use, hydro-geomorphologic and integrated rural and urban development studies.

## **Suggested Readings**

1. Burrough, P.A. and McDonnell, R. 1998. Principles of Geographic Information Systems. Oxford University Press, Oxford.
2. Campell, J. B. 2003. Introduction to Remote Sensing. 4th ed. Taylor and Francis, London.
3. Chang, K.T. 2003. Introduction to Geographic Information Systems. Tata McGraw Hill Publications Company, New Delhi.
4. Chauniyal, D. D. 2004. Remote Sensing and Geographic Information Systems. in Hindi). Sharda Pustak Bhawan, Allahabad.
5. Demers, M. N. 2000. Fundamentals of Geographic Information Systems. John Wiley and Sons, Singapore.
6. Gautam, N.C. and Raghavswamy, V. 2004. Land Use/ Land Cover and Management Practices in India. B.S. Publications., Hyderabad.
7. Girard, M. C. and Girard, C. M. 2003. Processing of Remote Sensing Data. Oxford and IBH, New Delhi.
8. Goodchild, M.F., Park, B. O. and Steyaert, L. T. (eds.) 1993. Environmental Modelling with GIS. Oxford University Press, Oxford.
9. Heywood, I. 2003. An Introduction to Geographical Information Systems. 2nd edition, Pearson Publishing Company, Singapore.
10. Jensen, J.R. 1986. Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice-Hall, Englewood Cliffs, New Jersey.
11. Jensen, J.R. 2004. Remote Sensing of the Environment: An Earth Resource Perspective. Prentice-Hall, Englewood Cliffs, New Jersey. Indian reprint available.
12. Lillesand, T.M. and Kiefer, R.W. 2000. Remote Sensing and Image Interpretation. John Wiley and Sons, New York.
13. Lo, C.P. and Yeung, A. K. W. 2002. Concepts and Techniques of Geographic Information Systems. Prentice Hall of India, New Delhi.
14. Longley, P., Goodchild, M.F., Maguire, D. and Rhind, D. 1999. Geographic Information Systems. Principles, Techniques, Management, Applications. John Wiley and Sons, New York.

## **ADVANCES IN CULTURE AND WORLD POLITICS(SLA)**

**Paper Code: PHD010404/SLA-6**

**Credits -4**

### **UNIT I: DEBATING CULTURE IN IR**

It serves as an introduction to the field of culture studies in IR. It offers insights into competing approaches to culture by exploring the motivations and political contexts that informed such theorisations.

- 1: Understanding culture
- 2: Culture and International Relations
- 3: Strategic culture
- 4: Culture as 'soft power'

### **UNIT 2.: CULTURAL INTERPRETATIONS OF WORLD POLITICS- I**

It is an enquiry into the cultural expressions of significant 'political' projects and trends of the 19th and 20th centuries. It invites students to explore the cultural hegemony of imperialism, the significance of intercultural communication and the role of the diaspora that mediates between two worlds.

- 1: Imperialism
- 2: The politics of pluralism
- 3: Role of the diaspora

### **UNIT 3.: CULTURAL INTERPRETATIONS OF WORLD POLITICS- II**

It is a critical assessment of some of the more recent political developments. It examines the debate over the homogenising force that globalisation is seen as representing and the role of media in a globalising world. It further explores the return of cultural knowledge to the centre stage of international politics.

- 1: Assessing globalization
- 2: The return of cultural knowledge

### **UNIT 4.**

It further explores the return of cultural knowledge to the centre stage of international politics.

- 1: Role of popular culture Week
- 2: The Politics of Display
- 3: Cultural Pasts and Present in South Asia

#### **Reading Suggestions:**

During, Simon (2005), *Cultural Studies: A Critical Introduction*, Abingdon: Routledge  
Reeves, Julie (2004), *Culture and International Relations: Narratives, Natives and Tourists*, London: Routledge.

Darby, Phillip (1998), 'The Exclusions of Politics', *The Fiction of Imperialism: Reading between International Relations and Post colonialism*, London: Cassell.

Lebow, Richard Ned (2008), *A Cultural Theory of International Relations*, Cambridge: Cambridge University Press.

Jahn, Beate (2000), *The Cultural Construction of International Relations: The Invention of the State of Nature*, Hampshire: Palgrave.

Johnston, Alastair Iain (1995), *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History*, Princeton: Princeton University Press.

## **ADVANCES IN HUMAN RIGHTS (SLA)**

**Paper Code: PHD010404/SLA-8**

**Credits -4**

### **UNIT I: INTRODUCTION**

- Meaning and Concept of Human Rights
- Theoretical Foundation of Human Rights - Natural Law and Natural Rights
- History and Development of Human Rights: Ancient – Medieval – 17th & 18th Century – 19th & 20th Century – Modern Developments
- Generations of Human Rights - Civil and Political Rights -Economic, Social and Cultural Rights - Solidarity Rights

#### United Nations and Human Rights

- UN Charter
- United Nations Commission on Human Rights (Human Rights Council)
- Sub commission on Prevention of Discrimination and Protection of Minorities
- Commission on Status of Women
- UN Centre for Human Rights & UN Commissioner for Human Rights
- Office of UN High Commissioner for Human Rights
- UN High Commissioner for Refugees
- Role of UN in Protection and Promotion of Human Rights

#### International Human Rights Instruments

- International Bill of Human Rights
- Universal Declaration of Human Rights, 1948 – Influence – Legal Significance
- International Covenant on Civil and Political Rights, 1966
- First Optional Protocol
- Second Optional Protocol to ICCPR
- International Covenant on Economic, Social and Cultural Rights, 1966
- Optional Protocols to ICESCR

### **UNIT II: IMPLEMENTATION OF HUMAN RIGHTS**

- UN Commission on Human Rights (Human Rights Council)
- The Human Rights Committee (CCPR) under ICCPR
- The Committee on Economic, Social and Cultural Rights (CESCR) under ICESCR
- Treaty Bodies and Other Bodies

#### Regional System for Protection of Human Rights

- The European Convention on Human Rights, 1950
- The American Convention on Human Rights, 1969
- African Charter on Human and Peoples Rights, 1981
- Arab Charter, 2004
- Asian Human Rights Charter, 1998

#### Human Rights of Vulnerable Groups

- Women, Children, Minorities, Disabled person

### **UNIT III: HUMAN RIGHTS IN INDIA**

- Rights under Indian Constitution
- Application of International Human Rights Law in India
- Role of Indian Judiciary
- The Protection of Human Rights Act, 1993
- Establishment, Powers and Functions of NHRC - Role of NHRC

### **UNIT IV: CONTEMPORARY CHALLENGES TO HUMAN RIGHTS**

- Science and Technology
- Terrorism



## References

1. Alston, Phillip, The United Nations and Human Rights, Clarendon Press, London (1995).
2. Bajwa, G.S. and D.K. Bajwa, Human Rights in India: Implementation and Violations, D.K. Publishers, New Delhi (1996).
3. Basu, D.D., Human Rights in Constitutional Law, Prentice Hall, New Delhi (1994).
4. Sehgal, B.P.Singh, ed., Human Rights in India: Problems and Perspectives, Deep and Deep Publications, New Delhi (1999).
5. S.K.Avesti and R.P.Kataria, Law Relating to Human Rights, Orient Publications, New Delhi (2000)
6. SK Kapoor, Human Rights under International and Indian Law, Central Law Agency, Allahabad, (1999)
7. HO Agarwal, Human Rights, Central Law Publications, Allahabad, (12th Edn. - 2012)
8. Justice Palok Basu, Law Relating to Protection of Human Rights, Modern Law Publications, Allahabad (2002).
9. Sircar, V.K., Protection of Human Right in India, Asia Law House, Hyderabad (2004-05.)
10. Symmonides, J., Human Right: International Protection, Monitoring and Enforcement, Rawat publications, New Delhi (2005)
11. Mamata Rao, Law Relating to Woman and Children, Eastern Book Co., Lucknow (2008)
12. G B Reddy, Woman and the Law, Gogia Law Agency, Hyderabad (2001)
13. SC Tripathi, Law Relating to Woman and Children, Central Law Publishers, Allahabad, (2001)
14. Paramjit S. Jaswal, Nishtha Jaswal, Human Rights and the Law, APH Publishing, New Delhi (1996)

## **ADVANCES IN CONSTITUTIONAL LAW (SLA)**

**Paper Code: PHD010404/SLA-9**

**Credits -4**

**Unit 1.** Introductory : Salient feature of the constitution; Nature of India Federalism : Preamble, Citizenship & State; Fundamental rights, directives principles and fundamental duties.

**Unit 2.** Union and State Executive : President, Governor- Election, appointment, powers, position, council of ministers, Prime Minister, Parliamentary system of Government Union and State Legislative; Lok Sabha, Rajya Sabha, Vidhan Sabha & Vidhan Parishad - Composition; Speaker, Chairman, Privileges, Legislative procedure.

Union : State Judiciary - Supreme Court & High Court, Composition & Powers, Writs. Union - State Legislative Relationship – Distribution of Legislative Powers; Administrative & Financial Relationship

**Unit 3.** Services under the union and the state; constitutional protection of civil servants; Public Service Commission of the Union & States. Article 300-A - Property Rights : Freedom of trade, Commerce and Inter-course; State Liability in contracts and torts, Suits by and against the State.

**Unit 4.** Emergency provision - National, State and Financial. (b) Amendment of the Constitution – Constitutionality of ordinary law and amendment laws, Judicial review of amendment and the doctrine of basic structure - Major amendments and their constitutional values

**ADVANCES IN POLITICAL THEORY AND INDIAN  
POLITICS (SLA)**

**Paper Code: PHD010404/SLA-10**

**Credits -4**

**Unit 1.** Political theory meaning and approaches

Theories of the state: Liberal, Neoliberal, Marxist, Pluralist, Post-colonial and feminist.

**Unit 2.** Justice: Conceptions of justice with special reference to Rawls's theory of justice and its communitarian critiques.

Equality: Social, political and economic; relationship between equality and freedom; Affirmative action.

**Unit 3.** Rights: Meaning and theories; different kinds of rights; concept of Human Rights.

Democracy: Classical and contemporary theories; different models of democracy - representative, participatory and deliberative. Concept of power, hegemony, ideology and legitimacy.

Political Ideologies: Liberalism, Socialism, Marxism, Fascism, Gandhism and Feminism.

Indian Political Thought: Dharmashastra, Arthashastra and Buddhist traditions; Sir Syed Ahmed Khan, Sri Aurobindo, M.K. Gandhi, B.R. Ambedkar, M.N. Roy.

**Unit 4.** Western Political Thought: Plato, Aristotle, Machiavelli, Hobbes, Locke, John, S. Mill, Marx, Gramsci, Hannah Arendt.

# **ADVANCES IN COMPARATIVE POLITICS AND INTERNATIONAL RELATIONS (SLA)**

**Paper Code: PHD010404/SLA-12**

**Credits -4**

## **Unit 1**

Comparative Politics: Nature and major approaches; political economy and political sociology perspectives; limitations of the comparative method.

State in comparative perspective: Characteristics and changing nature of the State in capitalist and socialist economies, and, advanced industrial and developing societies.

Politics of Representation and Participation: Political parties, pressure groups and social movements in advanced industrial and developing societies.

## **Unit II**

Globalisation: Responses from developed and developing societies.

Approaches to the Study of International Relations: Idealist, Realist, Marxist, Functionalist and Systems theory.

Key concepts in International Relations: National interest, Security and power; Balance of power and deterrence; Transnational actors and collective security; World capitalist economy and globalisation.

Changing International Political Order:

## **Unit III**

Rise of super powers; strategic and ideological Bipolarity, arms race and Cold War; nuclear threat;

Non-aligned movement: Aims and achievements; Collapse of the Soviet Union; Unipolarity and American hegemony; relevance of non-alignment in the contemporary world.

Evolution of the International Economic System: From Bretton woods to WTO; Socialist economies and the CMEA (Council for Mutual Economic Assistance); Third World demand for new international economic order; Globalisation of the world economy.

## **Unit IV**

United Nations: Envisaged role and actual record; specialized UN agencies-aims and functioning; need for UN reforms.

Regionalisation of World Politics: EU, ASEAN, APEC, SAARC, NAFTA.

Contemporary Global Concerns: Democracy, human rights, environment, gender justice, terrorism, nuclear proliferation.

## **ADVANCES IN WESTERN POLITICAL THOUGHT(SLA)**

**Paper Code: PHD010404/SLA-14**

**Credits -4**

The course gives an introduction to Political Thought processes and Theory making in the West. From the Greek Political thinkers to down the ages including Utilitarian, this course introduces the student to the richness and variations in the political perceptions of Western Thinkers. It provides a foundation to the Scholars of Political Science in familiarizing themselves to the Thought & Theory of Western Philosophy.

It particularly focuses on the evolution of idea and institution of State in the West. It covers ancient, medieval and early modern thinkers.

**Unit I:** Introduction to Political Thought Differences between Political Thought – Political Philosophy and Political Theory Interpretative Theory

**Unit II:** Greek Political Thought Plato – Justice and Ideal State. Aristotle – Theory of Form and Theory of State.

**Unit III:** Beginnings of Modern Political Thought Church – State Controversy. Renaissance and Humanism. Machiavelli. Unit IV- Social Contract Theory Hobbes – Individualism and Absolutism. Locke – Natural Rights and Property. Rousseau – General Will and Popular Democracy.

**Unit IV:** Utilitarianism Bentham – Utilitarianism. J. S. Mill – On Liberty.

### Suggested Readings:

1. Alan Ryan (1974) J. S. Mill, New York: Routledge & Kegan Paul.
2. Aristotle (1992) Politics, New York: Penguin.
3. Bertrand Russell (1972) History of Western Political Philosophy, New York: Simon & Schuster, INC.
4. C. B. Macpherson (2011) Political Theory of Possessive Individualism: Hobbes to Locke, New York: Oxford University Press.
5. Ellen Meiksins Wood & Neal Wood (1978) Class ideology and ancient political theory, New York: Oxford.
6. G. H. Sabine (1973) A History of Political Theory, Delhi, Oxford and IBH Publishing Co. First published in 1937 New York: Henry Holt.
7. Karl Popper (2003) Open Society and Its Enemies (Vol. I: The Spell of Plato & Vol. II: Hegel and Marx) New York: Routledge Classics. KP.
8. Niccolo Machiavelli (2011) The Prince, New York: Penguin Books.
9. Plato (2009) The Republic, New York: Penguin.