

Research & Development Cell, Netaji Subhas University



# NETAJI SUBHAS UNIVERSITY

Estd. Under Jharkhand State Private University Act



1974

2014

Ph.D. Course Work Syllabus

(Effective from Academic Session 2020 Onwards)



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Jamshedpur, Jharkhand

### Aims and Objectives:

As per UGC Minimum Standards and Procedure for Award of PhD Degree Regulations, a PhD scholar shall be required to undertake course work for a minimum period of one semester which is compulsory pre-requisite for both full time and part time candidates.

It shall consist of three compulsory papers i.e. Research Methodology, Research and Publication Ethics and Computer Applications which shall cover areas such as quantitative methods, computer basics and applications, Research ethics and review of published research in the relevant field, training, and field work and other areas found relevant to the departments concerned. The two elective departmental papers are also included which will focus on advanced level areas in the subjects concerned for enabling the students to acquire deep understanding of the concepts for the preparation of doctoral degree.

### Course Outcomes:

The five papers included in the course work are designed to empower the research scholars with conceptual and technical knowhow to proceed smoothly in their research journey. After the completion of the course work, the scholars will be equipped with tools and resources so as to be competent enough to move forward efficiently in their concerned field of research.

### Course Structure and Evaluation Scheme:

Course Code	Course Name	Credit	Internal		End Semester	Total Marks
			Assignment	Presentation		
<b>Common Compulsory course</b>						
PDC-101	Research Methodology	3	20	10	70	100
PDC-102	Research and Publication Ethics	2	10	10	70	90
PDC-103	Computer Application	3	20	10	70	100
<b>Elective-1</b>						
PDC-104	Elective-1	4	20	10	70	100
<b>Elective-2</b>						
PDC-105	Elective-2	4	20	10	70	100



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2011



2011

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## Compulsory Paper – I<sup>st</sup>

Name of Paper – Research Methodology  
Paper Code: PDC- 101

### Unit-I: Conceptual Framework of Educational Research

- Research as a Process of Acquiring Knowledge
- Meaning, Nature and Scope of Educational Research
- Types of Educational Research: Quantitative Descriptive, Historical/Philosophical, Developmental, Casual comparative, Correlational, Experimental (Weak, true and quasi-experimental and Action Research),
- Qualitative Phenomenology, Ethnography, Case Study, Grounded Theory, Narrative Analysis. (Purpose, Characteristics, Steps with common errors committed in planning and conducting the research).

### Unit-II: Planning of Good Research/Preparing and Research Proposal

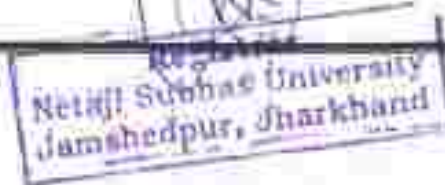
- Formulation of the problem for research (Sources, Specification, Forming Research Questions, problem-analysis procedures, evaluation of the Problem)
- Building Rationale for the Study (Review of related literature, identifying the emerging trends from the review, building a strong rationale for selecting the problem).
- Specifying objectives and hypotheses of the Study.
- Choosing appropriate design and stating the procedure (Selecting appropriate methods, instruments/tools/techniques, deciding about the subjects for the study, conditions for conducting the study including procedures of data collection and data-processing).
- Operational definitions of the concepts and terms used (with the statements of underlying assumptions, perceived limitations and specific delimitations of the study).

### Unit-III: Basic Methods of Educational Research

- Sampling -Types and Techniques of sampling
- Hypothesis and Testing of Hypothesis -Sources of Hypotheses.  
-Type of Hypotheses (Null, Directional, Statistics)  
-Characteristics of good hypothesis -Hypothesis Testing and Theory -Errors in Testing Hypothesis

### Unit-IV: Tools & Techniques of Educational Research

- Tools, preparing, piloting and finalizing.  
-Tests, Tasks, Attitude Scales, Check lists, Questionnaires/ Opinionnaire, Interview Schedules for interview and observation, Inventory, Semantic Differentiate Scale.



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-Use of ICT

- Techniques Observation, Interview, focused Group Discussion, Ethnography, Document Study, Anecdotal, Role play and Simulation, Case Study

### Unit-V: Preparation of Research Report

- General Guidelines: format, language style, bibliography and appendices
- Format of Research Report (Journal Article, Thesis and Dissertation, Paper at Professional Conferences)
- Preparation of the Manuscript
- Writing style
- APA Reference Style
- Preparation of summary and abstract
- Evaluating and Finalizing the Report (including the process of converting dissertations and theses for publication as a journal article)
- Research Ethics
- Steps to avoid Plagiarism in Research

### Suggested Reading:

- Anfara, Vincent & Mertz Norma T. (2006). *Theoretical Frameworks in Qualitative Research*. SAGE Publication
- Best J.W. (1986) *Research in Education*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Borg, W.R. and Gall, M.D. (1983) *Educational Research - An Introduction*, New York, Longman, Inc.
- Borch, M.B. (1978) *A Survey of Educational Research*, CASE, The M.S. University Barodara.
- Broota, K.D., *Experimental design in behavioural sciences*, New age international publishing house, New Delhi.
- Chohan, L., Manion, L. & Morrison, K. (2007) *Research method in education* (6<sup>th</sup> edition) Routledge, London
- Elliott, Jane (2005). *Using Narrative in Social Research: Qualitative and Quantitative Approaches*. SAGE Publication.
- Fraenkel, J.R., Waller, N.E. (1983) *How to Design and Evaluate Research in Education*, Singapore: McGraw Hill, Inc.
- Gravetter, F.J. & Wallanau, C.B. (2002). *Essentials of Statistics for the Behavioural Sciences* (4<sup>th</sup> edition) Australia, Wodsworth.
- Gebick, Carol (2006). *Qualitative Data Analysis: An Introduction*. SAGE Publication
- Gupta, Santosh (1983) *Research Methodology and Statistical Techniques*. New Delhi : Deep and Deep Publisher.
- Kerlinger, F.N. (1973). *Foundations of Behavioural Research*, New York : Holt, Rinehart and Winston.
- Kaul, Lokesh (1984) *Methodology of Educational Research*. New Delhi : Vikas Publications.



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- Leary, M.R. (2004). Introduction to Behavioural research Methods (4<sup>th</sup> edition) Boston: Pearson Prentice hall
- Lichtman, Marilyn (2006). *Qualitative Research in Education-A User Guide*: SAGE Publication.
- Srivastava, G.N.P. (1994) *Advanced Research Methodology*, New Delhi : Radhu Publications.
- Sidhu, K.S. (1987) *Methodology of Research in Education*, New Delhi; Sterling Publishers Pvt. Ltd.
- Travers, R.M.W. (1969) *An Introduction to Educational Research*, New Delhi; Sterling Publishers Pvt. Ltd.
- Van, Dalen, Deborah, B. and Meyer, William J. (1979) *Understanding Educational Research: An Introduction*, New York: McGraw Hill Co.

**Compulsory Paper – 2<sup>nd</sup>**

Name of Paper - Research & Publication Ethics

Paper Code: PDC-102

**Unit-I: Philosophy and Ethics:** Introduction to philosophy; Definition, nature and scope, concept, branches. Ethics: Definition, moral philosophy, nature of moral judgments and reactions

**Unit-II: Scientific conduct:** Ethics with respect to science and research, Intellectual honesty and research integrity. Scientific misconducts: Fabrication, Fabrication and Plagiarism (FFP) Redundant publications: Duplicate and overlapping Publications, salami slicing, Selective reporting and misrepresentation of data

**Unit-III: Publication Ethics:** Publication ethics definition, introduction and importance, Best practice standards setting initiatives and guidelines: COPE, WAME, etc., Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

**Unit-IV: Open Access Publication - Open Access** Publication and initiatives, SHERPA/ RoMEO online resource to check publisher copy, write and self-archiving policies, software tool to identify predatory publications develop by SPPU, journal finder/journal suggestion tools viz. JANE, ELSEVIER journal finder, springer journal suggester.

**Unit-V: Publication misconduct**

**A. Group Discussion:** Subject specific ethical issues, FFP, authorship, Conflict of interest, Complaints and appeals: example and fraud from India and abroad

**B. software tools -** Use of plagiarism software like Turnitin, Urkund another open software tools



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**Unit-VI: Data Base and Research Matrix**

A. **Data base:** Indexing data base, Citation Data base: web of science, Scopus, research scholar, etc.

B. **Research matrix :** Impact of journals as per journal citation report, SNIP,SJR,IPP, Cite score, Matrix: h-index, g- index, i 10 index, altmetric

**Suggested Readings:**

- Bird, A. (2006)Philosophy of science- Routledge.
- MacIntyre, Alasdair (1967) A short history of ethics, London.
- P. Chiddah (2018) Ethics in competitive research: Do not get plagiarized, ISBN: 978-9387486863.
- National Academy of Science, National Academy of Engineering and institute of medicine (2009) On being a scientists: A guide to responsible conduct in research: third Edition. National academy press.

**Compulsory Paper – 3<sup>rd</sup>**

Name of Paper - Computer Applications

Paper Code: PDC-103

**Unit-I: Basic Knowledge of Computer** – Defining of Computer, Block diagram of computer, classification of computer, role of computer in Education, Components of Computer Hardware (CPU, Monitor, Keyboard etc.), Software, Operating system(OS), Functions of OS.

**Unit- II: Computer Applications for Research**

**Word Processing:** Introduction of word processor, creating & saving documents, Formatting of document, Steps in writing report, layout of research report, types, precautions, Presentation of research report.

**Data Processing:** Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions, Use of statistical tool and their presentation in the form of charts and graphs, Use of EXCEL in synthesizing and summarizing

**Power Point:** Introduction of Power Point for presentation-preparation of slides, Designs & Animation, Use of Power Point in preparing the presentation on Research Work (PhD Progress Report, PhD Semester Registration, PhD Pre-Submission Seminar and PhD Defense Seminar).

**Unit-III: Use of Different Software for Research**– Statistical Package for the Social Sciences (SPSS) and other statistical software for data analysis.

**Unit-IV: Use of Internet In Research**- Introduction, Evaluating internet resources: Authority, Accuracy and objectivity, Brief note on ebooks and virtual library, UGC



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info:net, INFLIBNET and ERNET, What is Plagiarism and how to avoid it?

**Suggested Readings:**

- Sanders D. H., Computer Today, McGraw Hill, New York.
- Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi

**Elective – I<sup>st</sup>**

**Name of Paper - Teacher Education**  
**Paper Code – PDC - EDU-104**

**Unit-I:**

Meaning and Scope of Teacher Education, Aims and Objectives of Teachers education at Elementary, Secondary and Higher Secondary levels, Development of Teacher Education in India before and after independence, Changing Context of Teacher Education in the Indian and Global Scenario, Role of UGC, NUEPA, NAAC, NCTE, NCERT, SCERT, DIET for the development and innovative approach in Teacher Education.

**Unit-II:**

Microteaching, Simulation and Intentional Analysis, Role of student teaching in Teacher Education programme, Organisation of Students Teaching various patterns-internship, integrating theory and practice, Supervision and Evaluation of student Teaching, & Programmed learning, Pre-service and In-service Teacher Education-Objectives, Content, Methods and Evaluation at various levels, Integrated Teacher Education Programme.

**Unit-III:**

Maintaining standards in Teacher Education- Admission Policies and Procedures for Student Teachers, Recruitment of Teacher educators Issues, Concerns and Problems of Teacher Education in India, National Curriculum Framework-Concerns on Teacher Education, NCFTE-2009, Innovative Practices in Teacher Education: Co-Operative and Collaborative Teacher Education, Constructivist and Reflective Teacher Education, E-Teacher Education, Value-Based Teacher Education, Competency-Based Teacher Education.

**Unit-IV:**

Teaching as a Profession, Professional Ethics of a Teacher, Performance Appraisal of Teachers, Accountability of Teachers, Research in Teacher Education: Nature, Purpose, Scope, Areas, Problems, and Trends.

**Suggested Readings:**

- Anand, C.L. (1988). Aspects of Teacher Education. Delhi: S. Chand and Co.
- Mukerjee, S.N. (1988). Education of the Teacher in India. Vol. I & Vol. II, Delhi: S. Chand and Co.



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- NCTE (1978). Teacher Education Curriculum-A Framework, New Delhi: NCERT.
- Panda, B.N & Tewari, A.D(1997). Teacher Education, New Delhi: A.P.I.L Publishing Corporation.
- Pareek, R. (1996). Role of Teaching Profession, Guwahati: Eastern Book House.
- Passi, B. K. (1976). Becoming a Better Teacher, microteaching Approach, Amedabad: Sahitya Mudranalaya
- Rama, V.T. (1998). Teacher Education: A Perspective, Guwahati: Eastern Book House.
- Singh, L.C. (ed) (1990). Teacher Education In India- A Resource Book, New Delhi: NCERT.
- Tibble, J.W. (ed) (1995). The future of Teacher Education, London: Routledge and Kegan Paul.
- Caggart, G.L. (2005). Promoting Reflective Thinking in Teachers, Crown Press.
- Joyce, B., and Weil, M. (2003). Models of Teaching (TE4).
- Lampert, M. (2001). Teaching problems and the problems of teaching, New Haven: Yale University Press.
- Linda Darling Hammond & John Bransford (Ed.) (2005). Preparing Teachers for a Changing World, Jossey-Bass, San Francisco.
- Martin, D. J. & Kimberly S. Loomis (2006). Building Teachers: A constructivist approach to introducing education, Wadsworth Publishing, USA.
- Martin, R.J. (1994). Multicultural Social Reconstructionist education: Design for diversity in teacher education. Teacher Education Quarterly 21(3)77-89, EJ 492(4).
- Mohanty, J. (2003). Teacher Education, Deep and Deep, New Delhi Publications Pvt. Ltd.
- NCERT (2005). National Curriculum Framework, New Delhi.
- NCERT (2006). Teacher Education for Curriculum renewal, New Delhi.
- NCTE (1998). Perspectives in Teacher Education, New Delhi.
- NCTE (2014). NCTE New Norms and Regulation, 2014, New Delhi.

**Elective - 2<sup>nd</sup>**

**Name of Paper- Educational Assessment and Evaluation  
Paper Code- PDC -EDU-105**

**Unit-I: Overview of Assessment and Evaluation**

Scales of Measurement: Nominal, Ordinal, Interval and Ratio

Concept of Test, Assessment, Measurement and Evaluation, Functions of Evaluation and the basic principles of Evaluation. Types and purpose of evaluation -Placement, formative, diagnostic, Summative, Types of test -Teacher made, standardized, Norms referenced Vs criterion referenced test, Continuous and Comprehensive Assessment.

**Unit-II: Criteria of a Good Test and Procedure for Test Construction**

Reliability: Concept, Nature, Methods of Determining Reliability, Factors influencing the Reliability and Relationship between Reliability and Validity.



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Validity : Concept, Nature, Methods of ascertaining Validity and Factors affecting Validity.

Norms: Meaning, Significance, Types- Age norms, Grade Norms, Percentiles, Z-Scores, T-scores. Construction and standardization of an achievement test including item analysis, Construction of Attitude Scales by Likert Method.

**Unit-III: Tools of Measurement and Evaluation**

Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor) Subjective and Objective tools; Essay tests, Objective type tests, Scales, Questionnaires, Schedules, Inventories.


Statistical Interpretation of Data : Classification and tabulation of data, frequency distribution, Diagrammatic and graphical presentation of data, measures of central tendency, measures of dispersion, correlation, regression analysis, measures of Variability, standard error, parametric and non-parametric statistics, chi square Test, NPC, ANOVA( up to two-way) and socio-metric Test.

**Unit-IV: New Trends in Evaluation**

Grading, Semester system, Open Book Examination, Question Bank, Online examination and uses of computers in evaluation.

**Suggested Readings:**

- Anastasi A. (1976). Psychological Testing (4th edition). New York: McMillan Pub Co.
- Anastasi, A. and Urbina, S. (2005). Psychological testing. Singapore: Pearson Education.
- Atkin, L.R. (2000). Psychological Testing and Measurement. London: Allyn and Bacon.
- Bloom B.S & Other (1976). Handbook of Formative and Summative Evaluation of Student Learning. New York: McGraw Hill Book Co.
- Bel, R. L. and Frisbee (1979). Educational Achievement. Singapore: Pearson Education.
- Edwards, A.L. (1975). Techniques of Attitude Scale Construction. Bombay: Ferflet & Semens Pvt Ltd.
- Fetico, T and McClure, J (2005). Educational Psychology: An Integrated Approach to Classroom Decisions. U.S.A.: Pearson Education.
- Gronlund, N.E. and Linn, R.L. (2003). Measurement and Assessment in Teaching. Singapore: Pearson Education.
- Harper (Jr.), A.F & Harper, E.S. (1990). Preparing Objective Examination: A Handbook for Teachers, Students and Examiners. New Delhi: Prentice Hall.
- Linn, R.L. and Miller, M.D. (2005). Measurement and Assessment in Teaching. U.S.: Pearson Education.
- Reynolds, C.R., Livingston, R.B. and Wilson, V. (2005). Measurement and Assessment in Education.



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### Elective Paper-3rd

Name of Paper-Philosophical, Psychological and Sociological Foundations of  
Education

Paper Code-PDC-EDU-106

#### Unit -I: School of Philosophy and Indian Thinkers

- Idealism, Realism, Naturalism, Pragmatism, Existentialism
- Sankhya, Vedanta, Buddhism, Jainism
- Swami Vivekananda, Rabindranath Tagore, Sri. Aurobindo, Mahatma Gandhi

#### Unit -II: Intelligence, Creativity and Learning

- Intelligence: meaning, theories of measurement, multiple intelligence, artificial intelligence
- Creativity: meaning, process, identification, measurement & fostering
- Learning: Thorndike's connectionism; Pavlov's classical and Skinner's operant conditioning; Learning by insight; Hull's Reinforcement Theory and Tolman's theory of learning, Lewin's Field Theory, Gagne's hierarchy of learning, Factors influencing learning, Transfer of learning and its theories.

#### Unit -III: Childhood, Adolescence and Adulthood

- Physical development, Cognitive Development and Social Development
- Nature versus Nurture
- Challenges during Childhood, Adolescence and Adulthood

#### Unit- IV: Sociology and Socialization

- Education as related to modernization, culture and democracy
- Education as related to social stratification and social mobility
- Education as related to social equity and quality of educational opportunities

#### Suggested Readings:

- Pandey, R.S. (1982). An Introduction to Major Philosophies of Education, Agra: Vinod Pustak Mandir.
- Taneja, V.R. (2005). Foundation of Education, Chandigarh: Abhishek Publishers.
- Walla, J.A. (2011). Philosophical, Sociological and Economic Bases of Education, Jalandhar: Ahim Paul Publishers.
- Paudey, R.S. (2013). Education in Emerging Indian Society, Agra: Aggarwal





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**Publications-**

- Pandey, R.S. (1997). East West Thoughts on Education. Allahabad: Horizon Publishers.
- Sodhi T.S. & Suri A. (1998). Philosophical and Sociological Foundation of Education. Patiala: Bawa Publications.
- Gupta, Rainu (2011). Philosophical, Sociological and Economic Bases of Education, Ludhiana: Tondon Publications.



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## Compulsory Paper: 1<sup>st</sup>

Name of Paper: Research Methodology

Paper Code: PDC- 101

### Unit-I: Introduction

Development of Legal Research in India. Meaning and importance of Research, Types of Research, Challenge for conducting research, Inter-disciplinary research and legal research models, Amicus curiae research vis-a-vis empirical research, Legal research-common law and civil law legal systems, how to formulate Research Problem.

### Unit-II: Research Design

Meaning and Definition of Research Design, Various types of Research Design, Importance, Research Design-III Qualitative and Quantitative Design with illustration, Major steps in research design, Literature Review and its steps, Hypothesis-formulation and evaluation and how to write Hypothesis.

### Unit-III: Research Techniques

Sampling- Meaning, Definition, Various form of Sampling, Principle of Sampling, Survey and Case Study method

### Unit-IV: Method and Techniques Of Legal Research Studies

Observation, Interview and schedule, Questionnaire, Survey, Case Study Method, Scaling and Content Analysis and interpretation of data, Online Legal Research-Use of Electronic Databases

### Unit-V: Legal Writing

Research Proposal and its Content with exercise; Report/Article writing & legal research, Citation methodology and Bibliography, Book review and case comments.

### Suggested Readings:

- Robert Watt- Concise book on Legal Research
- Good and Hatt- Research Methodology
- Earl Babbie- Research Methodology
- S.K. Verma & Afzal Wani- Legal Research Methodology
- Dr C R Kothari- Research Methodology
- Dr. Mohan Kumar- Research Methodology





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## Compulsory Paper –2<sup>nd</sup>

Name of Subject - Research and Publication Ethics

Paper Code: PDC-102

### Unit-I: Philosophy and Ethics:

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

### Unit-II: Scientific Conduct:

Ethics with respect to science and research, Intellectual honesty and research integrity  
Scientific misconducts: Falsification, Fabrication and Plagiarism (FFP) Redundant publications: Duplicate and overlapping Publications, salami slicing, Selective reporting and misrepresentation of data

### Unit-III: Publication Ethics:

Publication ethics: definition, introduction and importance, Best practice/ standards setting initiatives and guidelines: COPE, WAME, etc., Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

### Unit-IV: Open Access Publication :-

Open Access Publication and initiatives, SHERPA/ROMEO online resource to check publisher copy, write and self-archiving policies, software tool to identify predatory publications develop by SPPU, journal finder/journal suggestion tools viz. JANEELSEVIER journal finder, springer journal suggester

### Unit-V: Publication misconduct

**A. Group Discussion:** Subject specific ethical issues, FFP, authorship, Conflict of interest, Complaints and appeals; example and fraud from India and abroad

**B. Software Tools:** Use of Plagiarism Software like Turnitin, Urkund another open software tools.

### Unit-VI: Data Base and Research Matrix

**A. Data base:** Indexing data base, Citation Data base: web of science, Scopus, research scholar, etc.

**B. Research matrix:** Impact of journals as per journal citation report, SNIP, SJR, IPP, Cite score, Matrix: h-index, g- index, I 10 index, Altmetrics

### Suggested Readings:



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- Bird, A. (2006) Philosophy of science. Routledge.
- MacIntyre, Alasdair (1967) A short history of ethics, London.
- P. Chaddah (2018) Ethics in competitive research: Do not get plagiarized. ISBN: 978-9387480865.
- National Academy of Science, national Academy of Engineering and institute of medicine (2009) On being a scientists: A guide to responsible conduct in research; third Edition. National academy press

## Compulsory Paper – 3<sup>rd</sup>

Name of Paper - Computer Applications

Paper Code: PDC-103

### Unit-I: Basic Knowledge of Computer

Definition of Computer, Block diagram of computer, classification of computer, role of computer in Education, Components of Computer Hardware (CPU, Monitor, Keyboard etc.), Software, Operating system(OS), Functions of OS.

### Unit-II: Computer Applications for Research

**Word Processing:** Introduction of word processor, creating & saving documents, Formatting of document, Steps in writing report, layout of research report, types, precautions, Presentation of research report.

**Data processing:** Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions, Use of statistical tool and their presentation in the form of charts and graphs, Use of EXCEL in synthesizing and summarizing

**Power Point:** Introduction of Power Point for presentation-preparation of slides, Designs & Animation, Use of Power Point in preparing the presentation on Research Work (PhD Progress Report, PhD Semester Registration, PhD Pre-Submission Seminar and PhD Defense Seminar).


### Unit-III: Use of Different Software for Research

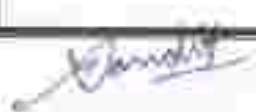
Statistical Package for the Social Sciences(SPSS) and other statistical software for data analysis.

### Unit-IV: Use of Internet in Research

Introduction, Evaluating internet resources: Authority, Accuracy and objectivity, Brief note on ebooks and virtual library, UGC jafonet, INFLIBNET and ERNET. What is

  
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Plagiarism and how to avoid it?

**Suggested Readings:**

- Sanders D. H., Computer Today, McGraw Hill, New York.
- Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi.

## Elective Paper – 1<sup>st</sup>

Name of Paper - Indian Constitutional Law- New Dimension  
Paper Code: PDC-LAW 104

### Unit-I: Constitutionalism

Creation of New state, Centre state relation, Distribution of powers between them, Election and electoral reform, Parliamentary and Presidential form of Government, Nature of Government—Unity and Federal

### Unit-II: Fundamental Rights

Emerging shades of Fundamental Rights through changing society, right to equality, Freedom of Speech and expression and reasonable restriction, Changing dimension of Protection of Life and personal liberty in contemporary times.

### Unit-III: Indian Judicial System

Judicial Independence, Judicial Activism and Judicial Restraint -Pt., Power of Judicial Review.

### Unit-IV: The Federalism

Concept and Development of Federalism, Essentials, Indian Federalism, Doctrine of Pith & Substance, Repugnancy, Eclipse, Colorable Legislation.

### Unit-V: Good Governance

Principle of Good Governance—administrative responsibility and accountability, Liability of state in torts-Constitutional torts and compensatory jurisprudence, Right of Minorities under Constitution, Empowerment of Women.

### Suggested Reading:

- H.M. Seervai : Constitutional Law of India, 3rd edition, pp. 133-44
- M. Hidayatullah : Constitutional Law of India, Vol. I, pp. 13-14
- M. Ghose : Society and Law in India (1973)
- M.P. Jain : Constitution of India, pp. 340-42





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- Faizan Mustafa : Constitution & Article 350 (Chapter I, II, V)
- D.D. Bami : Constitution of India
- V.N. Shukla : Constitution of India
- J.N. Pandey : Constitution of India
- B.K. Sharma : Introduction to the Constitution of India

**Elective Paper - 2<sup>nd</sup>**

**Name of Paper - Legal Thought and Interpretation**

**Paper Code: PDC-LAW 105**

**Unit-I: Introduction and its Development**

Bentham's theory of Utility and its relevance, Rules of Interpretation and Aid of Interpretation, Concept of Eternal and Moral Values, Relation between law and morality.

**Unit-II: Feminism and Legal Development**

Concept of Feminism: Post-modernism, Feminism, Critical Legal Studies, Race theory, Constitutional and legal right, Crime against Women.

**Unit-III: Concept of Development of Law and Interpretation**

Concept, nature and characteristic features of Analytical School of Jurisprudence, Bentham's contribution to Analytical Jurisprudence John Austin's command and sovereignty theory and Kelsen's theory of Law, H.L.A. Hart's legal system and Dworkin's theory of adjudication.

**Unit-IV: Historical Development of Law and Interpretation**

Characteristic features of Historical School of Jurisprudence, Von Savigny's theory of Law Henry Maine's historical materialism, Concept of status to contract and vice-versa.

**Unit-V: Sociological development of Law and Interpretation**

Sociological development of Law as an instrument, Amendment of law as per changing dimension for all vulnerable group (National and International perspective), Contribution of Rosco pound

**Suggested Readings:**

- Freeman, M.D. A., Lloyd's Introduction to Jurisprudence (Sweet & Maxwell, London, 2001)
- Din, R.W. M., Jurisprudence, (Lexis Nexis, Gurugram India, 5th edn. 2013)
- J. Salmond, Jurisprudence (Sweet & Maxwell, 12th Edn. 1966)
- B.N.M. Tripathi, An Introduction to Jurisprudence and Legal theory, (Allahabad



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- Law Agency, Allahabad, 2013)
- SURI RATNAPALA, JURISPRUDENCE, (CAMBRIDGE UNIVERSITY PRESS, NEW YORK, IND EDN. 2013) 6. E.W. Patterson, Jurisprudence (edn. 1st. 1952)
- Julius Stone, Social Dimension of Law and Justice (1996, Australia)
- Roscoe Pound, An Introduction to Philosophy of Law (ed. 1954, London)

**Elective Paper-3rd**  
Name of Paper-Recent Legal Trends  
Paper Code- PDC-LAW-106

**Unit – I: Recent trends in Environmental & Labour law :**

Climate Change and Sustainable Development , National Policies and Legislation , Environmental Protection Measures , Measures for Economic and Social Development , Institutional Structure , Trade Regulation and Environment

**Unit – II :Intellectual Property Rights :**

Recent international and national Trends in Intellectual Property Rights , Issues and challenges relating to Patent , Copyright Protection , Ethical and Legal Challenges , Farmer's Rights Protection , Geographical Indication , Registration and Protection , Protection of Bio-Diversity.

**Unit – III: Recent Socio-legal trends:**

Ethics, Morality and Law, Inter- relationship between Law and Modernization in a developing society, Modern Challenges to Legal Formalism and Recent Legal Theories: Critical Legal Studies, Feminism, Postmodernism, Emerging Regime of New Rights and Remedies , Alternative Dispute Resolution: Lok Adalats, Nyaya Panchayaths, Legal Aid

**Unit-IV: Emerging trends and Challenges in Cyber Law:**

International Cyber Law , Challenges in mobile laws , Cyber Crimes and cyber security , Cloud computing and law , Social media and legal problems , Spam laws

**Unit – V : Compensatory jurisprudence:**

The Motor Vehicles Act, 1988 ,The Criminal Procedure Code, 1973 , The Probation of Offender Act, 1958, The Constitutional Remedies for Human Rights Violation.

**Suggested Readings:**

- Allen, C.K. : Law in the Making (1961)
- Baxi, Upendra : Towards a Sociology of Indian Law (1986)
- Collins, Hugh : Marxism and Law (1982)







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- Maine, Henry : Ancient law (1900)
- Millor, D. : Social Justice (1976)
- V.D. Mahajan, Jurisprudence and Legal Theory, (5th ed.), Eastern Book Co., Lucknow, 2005
- U.Baxi, The Crisis of the Indian Legal System (1982) Vikas, New Delhi 15.

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## Compulsory Paper -1st

Name of Paper- Research Methodology

Paper Code: PDC-101

### Unit-I: Meaning of Research :

Meaning, Aims, Nature and Scope of research; Prerequisites of research; Types of Research.

### Unit-II: Research Problem -:

Meaning of Research Problem; Sources of research problem; Characteristics of a good research problem; Hypothesis: Meaning and types of hypothesis; Research proposal or synopsis.

### Unit-III: Methods of Research Studies:

Qualitative and Quantitative research methods.

### Unit-IV: Review of Related Literature:

Purpose of the review; Identification of the related literature; Organizing the related literature.

### Unit-V: Data Collection (Sampling):

Population and sample, Characteristics of a good sample, Techniques of sample Selection; Types of data in research.

### Unit-VI: Tools of Data Collection :

Characteristics of good research; Types of data collection tools.

### Unit-VII: Descriptive Statistics:

Tabulation, Organization, and Graphical Representation of Quantitative data; Measures of Central Tendencies; Mean, Median, Mode; Measures of Variability: Range, Quartile Deviation, Standard Deviation.

**Unit-VIII: Research Report** - Format of the research report; Style of writing the report.

### Suggested Reading:

- Garg, B.L., Karadia, R., Agarwal, P. and Agrawal, U.K., 2002. An introduction to Research Methodology, RBSA Publishers.
- Kohari, C.R., 1990. Research Methodology: Methods and Techniques, New Age International, 418p.
- Sinha, S.C. and Dhanan, A.K., 2002. Research Methodology, EssEss Publications- 2 volumes.



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- Tröchim, W.M.K., 2005. Research Methods: the concise knowledge base, Atomic Dog Publishing, 270p.
- Wadehra, B.L. 2000. Law relating to patents, trademarks, copyright designs and geographical indications. Universal Law Publishing.
- Leedy, P.D. and Ormrod, J.E., 2004 Practical Research: Planning and Design, Prentice Hall.

**Compulsory Paper - 2<sup>nd</sup>**

**Name of Subject - Research and Publication Ethics**  
**Course Code: PDC-102**

**Unit-I: Philosophy and Ethics:**

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

**Unit-II: Scientific Conduct:**

Ethics with respect to science and research, Intellectual honesty and research integrity. Scientific misconducts: Fabrication, Falsification and Plagiarism (FFP) Redundant publications: Duplicate and overlapping Publications, salami slicing, Selective reporting and misrepresentation of data.

**Unit-III: Publication Ethics:**

Publication ethics: definition, introduction and importance, Best practice/ standards setting initiatives and guidelines: COPE, WAME, etc., Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and types Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

**Unit-IV: Open Access Publication :**


Open Access Publication and initiatives, SHERPA/ ROMEo online resource to check publisher copy, write and self-archiving policies, software tool to identify predatory publications develop by SPPU, journal finder/journal suggestion tools viz. JANE, ELSEVIER journal finder, springer journal.

**Unit-V: Publication Misconduct**

**A. Group Discussion:** Subject specific ethical issues, FFP, authorship, Conflict of interest, Complaints and appeals: example and fraud from India and abroad  
**B. Software Tools:** Use of Plagiarism software like Turnitin, Utkund another open software tools.

**Unit-VI: Data Base and Research Matric**



  
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**A. Data base:** Indexing data base, Citation Data base: web of science, Scopus, research scholar, etc.

**B. Research Matrix:** Impact of journals as per journal citation report, SNIP,SJR,IPP, Cite score, Matrix, h-index, g- index, F10 index, altmetrics

**Suggested Readings:**

- Bird, A. (2006)Philosophy of science, Routledge.
- Macintyre, Alasdair (1967) A short history of ethics, London.
- P. Chaddah (2018) Ethics in competitive research: Do not get plagiarized, ISBN: 978-9387480865.
- National Academy of Science, National Academy of Engineering and institute of medicine (2009) On being a scientists: A guide to responsible conduct in research: third Edition. National academy press.



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## Compulsory Paper -3<sup>rd</sup>

Name of Paper - Computer Applications  
Paper Code: PDC-103

### Unit-I: Basic Knowledge of Computer:

Definition of Computer, Block diagram of computer, classification of computer, role of computer in Education, Components of Computer Hardware (CPU, Monitor, Keyboard etc.), Software, Operating system(OS), Functions of OS.

### Unit-II: Computer Applications for Research:

**Word Processing:** Introduction of word processor, creating & saving documents, Formatting of document, Steps in writing report, layout of research report, types, precautions, Presentation of research report.

**Data Processing:** Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions, Use of statistical tool and their presentation in the form of charts and graphs, Use of EXCEL in synthesizing and summarizing.

**Power Point:** Introduction of Power Point for presentation-preparation of slides, Designs & Animation, Use of Power Point in preparing the presentation on Research Work (PhD Progress Report, PhD Semester Registration, PhD Pre-Submission Seminar and PhD Defense Seminar).


### Unit-III: Use of Different Software for Research:

Statistical Package for the Social Sciences (SPSS) and other statistical software for data analysis.

**Unit-IV: Use of Internet in Research-** Introduction, Evaluating internet resources: Authority, Accuracy and objectivity, Brief note on ebooks and virtual library, UGC infonet, INFLIBNET and ERNET.

### Suggested Readings:

- Sanders D. H., Computer Today, McGraw Hill, New York
- Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi



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## Elective Paper - 1<sup>st</sup>

Name of Paper - Software Design and Engineering

Paper Code – PDC-IT-104

### Unit-I: Introduction to Software Engineering:

The evolving role of software, Changing Nature of Software, legacy software, Software myths, A Generic view of process: Software engineering-A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models.

#### Process Models:

The waterfall model, Incremental process models, Evolutionary process models, specialized process models, The Unified process, Software Requirements: Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document, Requirements engineering process: Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management.

### Unit-II: Role of Software Design:

The nature of the design process, transferring design knowledge: constraints upon the design process and product, recording design decisions, designing with others, context for design, economic factors, assessing design, qualities, quality attributes of the design product, assessing the design process.

Transferring Design Knowledge-Representing abstract ideas, design viewpoints, the architecture concept, design methods, design patterns, Design representations, and rationale for design methods, Design Processes and Strategies, The role of strategy in design methods, describing the design process -The D - Matrix, design by top-down decomposition, design by composition and organizational influences upon design.

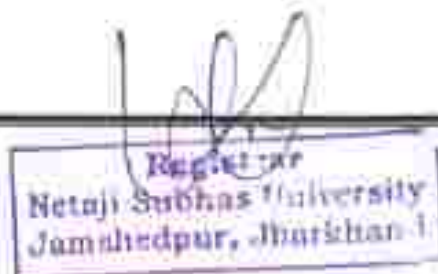
### Unit-III: Designing with objects and components:

Designing with objects: design practices for object-oriented paradigm, Object-oriented frame works, Hierarchical object oriented design process and heuristics, the fusion method, the unified process.

Component based design: The component concept, designing with components, designing components, COTS, Performing User interface design-The Golden rules, Interface analysis and design models, user and task analysis, analysis of display content and work environment, applying interface design steps, user interface design issues, design evaluation.

### Unit -IV Project Management and Metrics:

Project Management: The management spectrum: people, product, process and project, WSHH principle, critical practices, Metrics for Process and Projects: Process metrics, project metrics, size-oriented metrics, function oriented metrics, Object-oriented and use-case metrics, metrics for software quality, integrating metrics within





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the software process.

**Unit-V Project Scheduling and Risk Management:**

**Project Scheduling:** Basic concepts, project scheduling, defining a task set and task network, timeline Charts, tracking the schedule, tracking the progress for an OO project, Earned value analysis.

**Risk Management:** reactive vs. Proactive risk strategies, software risks, risk identification, risk Projection, risk refinement, risk mitigation and monitoring, the RMMM plati.

**Suggested Reading:**

- Software design, David Budgen, second edition, Pearson education, 2003.
- Software Engineering: A practitioner's Approach, Roger S Pressman, seventh edition Mc-Graw Hill International Edition, 2009.
- Software Engineering, Ian Sommerville, seventh edition, Pearson education, 2004.
- Software Project Management, Bob Hughes & Mike Cotterell, fourth edition Tata Mc-Graw Hill, 2006.
- The art of Project management, Scott Berkun, O'Reilly, 2005.
- Software Engineering Project Management, Richard H. Thayer & Edward Yourdon, Second edition, Wiley India 2004.
- Software Engineering Foundations, Yingsu Wang, Auerbach Publications, 2008.



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## Elective-2<sup>nd</sup>

Name of the Paper: Software Testing and Quality Assurance  
Paper Code - PDC-IT-105

### Unit-I

A perspective on Testing, STLC, Functional testing: Boundary value testing, Equivalence -class testing, Decision Table Testing etc., Retrospective on Functional Testing: Structural testing: path testing, data flow testing, mutation testing, etc. Retrospective testing, Levels of testing: Integration testing, system testing, acceptance testing, stress testing, Regression testing-β testing.

### Unit-II

Object-oriented Testing, Interaction testing, Testing of Web Applications, Testing metrics, Testing Paradigms: Scripted testing, Exploratory testing, Test planning, Supporting Technologies: Defect taxonomies, Testing tools and standards, Case studies.

### Unit-III

Introduction to Software Quality, Quality Models: McCall's Model, Hierarchical model FCMM, Measuring Software Quality, Quality Metrics: Process, Product, Quality Control Tools, Quality assurance concept, importance, Requirements for SQA works

### Unit-IV

Pareto Principle to SQA, Costs of Software Quality, SQA metrics, Audit Review, Walk through, Inspection techniques, SQA plan, Quality standards: SEI-CMM, ISO 9000 series, comparison between SEI CMM and ISO 9000.

### Suggested Readings:

- A Practitioner's Guide to Test Case Design by LEE Copland, Artech House Publishers, Boston - London.
- Software Testing – A Craft's man Approach, Paul C. Jorgensen, A CRC Press LLC.
- Software Quality Theory and Management by Alan C. Gillies, Chapman & Hall.
- Software Quality by Galry S. Marliss, Thomson.
- Metrics and Models in Software Quality Engineering by Stephen H. Kan



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## Elective Paper-3rd

Name of Paper- DATA WAREHOUSING AND MINING  
Paper Code—PDC-IT-106

### Unit-I:

#### Introduction

Fundamentals of data mining, Data Mining Functionalities, Classification of Data Mining systems, Data Mining Task Primitives, Integration of a Data Mining System with a Database or a Data Warehouse System, Major issues in Data Mining.

### Unit-II: Data Preprocessing:

Need for Preprocessing, the Data, Data Cleaning, Data Integration and Transformation, Data Reduction, Discretization and Concept Hierarchy Generation.

### Unit-III: Data Warehouse and OLAP Technology for Data Mining:

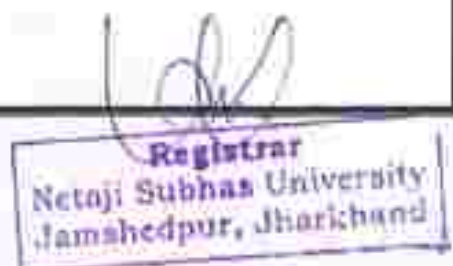
Data Warehouse, Multidimensional Data Model, Data Warehouse Architecture, Data Warehouse Implementation, Further Development of Data Cube Technology, From Data Warehousing to Data Mining Data Cube Computation and Data Generalization: Efficient Methods for Data Cube Computation, Further Development of Data Cube and OLAP Technology, Attribute-Oriented Induction.

### Unit-IV: Mining Frequent Patterns, Associations and Correlations:

Basic Concepts, Efficient and Scalable Frequent Item set Mining Methods, Mining various kinds of Association Rules, From Association Mining to Correlation Analysis, Constraint-Based Association Mining .

### Unit- V: Classification and Prediction:

Issues Regarding Classification and Prediction, Classification by Decision Tree Induction, Bayesian Classification, Rule-Based Classification, Classification by Back propagation, Support Vector Machines, Associative Classification, Lazy Learners, Other Classification Methods, Prediction, Accuracy and Error measures, Evaluating the accuracy of a Classifier or a Predictor, Ensemble Methods.



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**Unit- VI: Cluster Analysis Introduction:**

Types of Data in Cluster Analysis, A Categorization of Major Clustering Methods, Partitioning Methods, Hierarchical Methods, Density-Based Methods, Grid-Based Methods, Model-Based Clustering Methods, Clustering High-Dimensional Data, Constraint-Based Cluster Analysis, Outlier Analysis - Mining Streams, Time Series and Sequence Data: Mining Data Streams, Mining Time-Series Data, Mining Sequence Patterns in Transactional Databases, Mining Sequence Patterns in Biological Data, Graph Mining, Social Network Analysis and Multi-relational Data Mining

**Unit- VII: Mining Object, Spatial, Multimedia, Text and Web Data:**

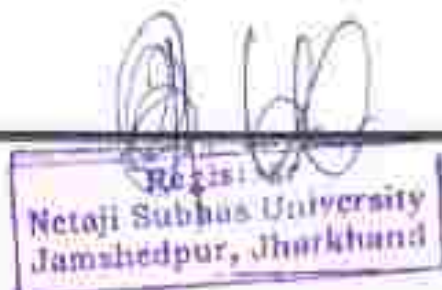
Multidimensional Analysis and Descriptive Mining of Complex Data Objects, Spatial Data Mining, Multimedia Data Mining, Text Mining, Mining the WorldWide Web.

**Unit- VIII: Applications and Trends In Data Mining:**

Data Mining Applications, Data Mining System Products and Research Prototypes, Additional Themes on Data Mining and Social Impacts of Data Mining.

**Suggested Readings:**

- Data Mining – Concepts and Techniques - Jiawei Han & Micheline Kamber, Morgan Kaufmann Publishers, 2nd Edition, 2006.
- Introduction to Data Mining – Pang-Ning Tan, Michael Steinbach and Vipin Kumar, Pearson education.
- Data Warehousing in the Real World – Sam Anthony & Dennis Murray Pearson Edu Asia
- Data Warehousing Fundamentals – Paulraj Ponniah Wiley student Edition
- The Data Warehouse Life cycle Tool kit – Ralph Kimball Wiley student edition
- Building the Data Warehouse By William H Inmon, John Wiley & Sons Inc, 2005. Data Mining Introductory and advanced topics – Margaret H Dunham, Pearson education
- Data Mining Techniques – Arun K. Pujari, University Press.





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## Compulsory Paper- Ist

Name of Paper: Research Methodology

Paper Code: PDC-101

### UNIT I: Meaning of Research:

Meaning, aims, nature and scope of research; Prerequisites of research; Types of research.

### UNIT II: Research Problem:

Meaning of research problem; Sources of research problem; Characteristics of a good research problem; Hypothesis; Meaning and types of hypothesis; Research proposal or synopsis.

### UNIT III: Methods of Research Studies:

Qualitative and Quantitative research methods.

### UNIT IV: Review of Related Literature:

Purpose of the review; Identification of the related literature; Organizing the related literature.

### UNIT V: Data Collection (Sampling):

Population and sample; Characteristics of a good sample; Techniques of sample Selection; Types of data in research.

### UNIT VI: Tools of Data Collection:

Characteristics of good research; Types of data collection tools.

### UNIT VII: Descriptive Statistics :

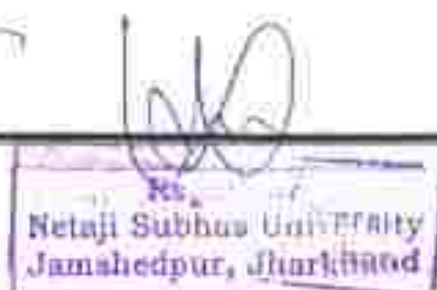
Tabulation, Organization, and Graphical Representation of Quantitative data; Measures of Central Tendencies; Mean, Median, Mode; Measures of Variability; Range, Quartile Deviation, Standard Deviation.

### UNIT VIII: Research Report:

Format of the research report; Style of writing the report

### Suggested Readings:

- Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K., 2002. An introduction to Research Methodology, RBSA Publishers.
- Kothari, C.R., 1990. Research Methodology: Methods and Techniques, New Age International. 418p.
- Sinha, S.C. and Dhiman, A.K., 2002. Research Methodology, EssEss Publications. 2 volumes.





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- Trochim, W.M.K., 2005. Research Methods: the concise knowledge base, Atomic Dog Publishing, 270p.
- Wadehra, B.L., 2000. Law relating to patents, trademarks, copyright designs and geographical indications, Universal Law Publishing.

## Compulsory Paper – 2nd

Name of Paper -Research and Publication Ethics

Paper Code: PDC-102

### Unit –I Philosophy and Ethics:

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

### Unit- II Scientific conduct:

Ethics with respect to science and research, Intellectual honesty and research integrity Scientific misconduct: Falsification, Fabrication and Plagiarism (FFP) Redundant publications, Duplicate and overlapping Publications, salami slicing, Selective reporting and misrepresentation of data.

### Unit-III Publication Ethics:

Publication ethics: definition, introduction and importance, Best practice/ standards setting initiatives and guidelines: COPE, WAME, etc. Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

#### Practice:

### Unit-IV : open access publication :

Open access publication and initiatives, SHERPA/ BeMEQ online resource to check publisher copy, write and self-archiving policies, software tool to identify predatory publications develop by SPPU, journal finder/journal suggestion tools viz. JANE.ELSEVIER journal finder, springer journal suggester

### Unit-V: Publication misconduct

- A. Group discussion: Subject specific ethical issues, FFP, authorship, Conflict of interest, Complaints and appeals; example and fraud from India and abroad
- B. software tools - Use of plagiarism software like Turnitin, Urkund another open software tools

### Unit -VI :Data Base and Research Matric

A .Data base: Indexing data base, Citation Data base: web of science, Scopus, research scholar, etc.

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**B. Research matrix :** Impact of journals as per journal citation report, SNIP, SJR, IPP, Cite score, Matrix: h-index, g- index, i 10 index, altmetrics

**Suggested Readings:**

- Bird, A. (2006) Philosophy of science. Routledge.
- Macintyre, Alasdair (1967) A short history of ethics, London.
- P. Chaddah (2018) Ethics in competitive research: Do not get plagiarized, ISBN: 978-9387480865.
- National Academy of Science, National Academy of Engineering and institute of medicine (2009) On being a scientist: A guide to responsible conduct in research. third Edition. National academy press

## Compulsory Paper – 3rd

Name of Paper-Computer Applications  
Paper Code: PDC-103

### Unit-I: Basic Knowledge of Computer:

Definition of Computer, Block diagram of computer, classification of computer, role of computer in Education, Components of Computer Hardware (CPU, Monitor, Keyboard etc.), Software, Operating system(OS), Functions of OS

### Unit-II: Computer Applications for Research –

**Word processing:** Introduction of word processor, creating & saving documents, Formatting of document, Steps in writing report, layout of research report, types, precautions, Presentation of research report.

**Data processing:** Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions, Use of statistical tool and their presentation in the form of charts and graphs, Use of EXCEL- in synthesizing and summarizing

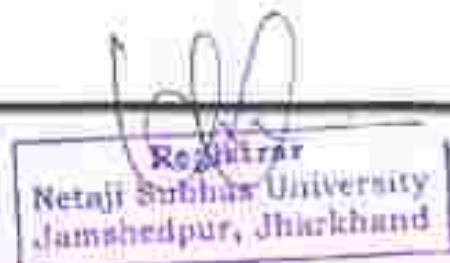
**Power Point:** Introduction of Power Point for presentation-preparation of slides, Designs & Animation, Use of Power Point in preparing the presentation on Research Work (PhD Progress Report, PhD Semester Registration, PhD Pre-Submission Seminar and PhD Defense Seminar).

### Unit-III: Use of Different Software for Research:

Statistical Package for the Social Sciences (SPSS) and other statistical software for data analysis.

### Unit-IV: Use of Internet in Research:

Introduction, Evaluating internet resources: Authority, Accuracy and objectivity, Brief note on ebooks and virtual library) UGC infonet, INFLIBNET and ERNET. What is



Plagiarism and how to avoid it?

**Suggested Readings:**

- Sanders D. H., Computer Today, McGraw Hill, New York;
- Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi



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# PHYSICS

## Elective Paper-Ist

Name of Paper-Mathematical Methods in Physics

Paper Code—PDC-PHY-104

### Unit-I

Matrices, Hamilton Caley equations, Eigen values and Eigen Vectors, Orthogonal, Hermitian, Unitary, Null and Unit matrices, Singular and Non-singular matrices, Inverse of a matrix, Trace of a matrix, Vector Calculus.

### Unit- II

Linear Differential Equations, Fourier series, Fourier and Laplace transforms;

### Unit- III

Elements of Complex Analysis, Cauchy-Riemann conditions, Cauchy's Theorem, Singularities, Residue theorem and applications

### Unit-IV

Solution of Algebraic and Transcendental Equations: (1) Fixed-Point Iteration Method, (2) Bisection Method, (3) Secant Method, (4) Newton-Raphson Method and another new method (if applicable)

### Unit-V

Interpolation: Forward and Backward Differences, Symbolic Relation, Differences of a Polynomial, Newton "Forward and Backward Interpolation Formulas, Divided Differences.

### Suggested Readings:

- Mathematical Physics by B. D. Gupta
- Complex Analysis by Churchill
- Mathematical Methods for Physicist by Arfken and Weber
- Advanced Engineering Mathematics By H. K. Dass
- Mathews, J. H., Numerical Methods for Mathematics, Science and Engineering, Prentice-Hall, (2000).
- Introduction to Numerical Analysis, S. S. Sastry, PHI Learning Pvt. Ltd



## Elective Paper-2nd

Name of Paper- Basics in Theoretical Physics  
Paper Code-PDC-PHY-105

### Unit-I

Elements of Crystallography; Diffraction Methods for structure determination, bonding in solids, Lattice vibrations, thermal properties of solids, free electron theory, band theory of solids, metals, semi-conductors, insulators, conductivity, elements of superconductivity, Type I and type II superconductors, Meissner effect, London Equation.

### Unit-II

Basics of radiation matter interaction, Basics of electron matter interaction, Elastic Scattering, Diffraction of electrons, photons and neutrons, Basic principle, advantages and limitations) X-ray diffraction, Scanning Electron Microscopy- Energy Dispersive X-ray Analysis, Extended X-ray Absorption Fine Structure, X-ray Fluorescence, etc.

### Unit-III

Scanning Probe microscopy- (a) Atomic Force Microscopy- Basic principle, Brief idea of setup- contact mode, tapping mode etc. Different modes of AFM and its importance.

(b) Scanning Tunneling Microscopy: - Basic principle, Brief idea of setup- details of components etc. Different modes of STM and its importance

### Unit-IV

Solutions of electrostatic and magneto-static problems including boundary value problems, dielectrics and conductors, Maxwell's equations, Scalar and Vector potentials, Poynting Vector

### Unit-V

Laser fundamentals- Einstein's coefficients, gain coefficient, optical resonator, Q-factor and stability of optical resonator modes of laser resonator, Q-switching and mode locking, Properties of lasers-coherence, line width and divergence, Laser applications, Fibre Optics-classification of fibres- step index, graded index fibres, Numerical aperture, modes in optical fibre, single mode and multimode fibre, V Parameter, evanescent modes, losses in fibres-bending and coupling losses, dispersion in fibers.

#### Suggested Readings:

- Solid State Physics- Charles Kittel



  
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- Solid State Physics- S. O. Pillai
- Introduction to Electrodynamics, David J. Griffiths, 2<sup>nd</sup> Edition, Prentice Hall India, 1989.
- Classical Electrodynamics, J. D. Jackson, 4<sup>th</sup> Edition, John Wiley & Sons, 2005.
- Goodman J. W, Speckle phenomena in optics, Robert & company 2007
- Hariharan, Optical Holography, Academic Press, 1983
- Pol. H. P, Fundamentals of fiber optics in telecommunication and sensor systems, Wiley Eastern, 1994
- R. P. Khare, Fiber Optics and Optoelectronics, Oxford University Press, 2004
- S. C. Gupta, Optoelectronic Devices and Systems, PHI, 2005

### Elective Paper - 3rd

Name of Paper- Photonics  
Paper Code-PDC-PHY-106

#### Unit - I:

Fourier Optics; Propagation of light in free space- transfer function of free space, Optical Fourier Transform. Fourier transform using a lens, image formation and spatial frequency filtering.

#### Unit - II:

Polarization Optics: Polarization of Light, Optics of anisotropic media. The index ellipsoid; Optical activity and Faraday effect. Polarization devices: Wave retarders, rotators and optical isolators.

#### Unit - III:

Statistical Optics: Statistical properties of Light, Temporal Coherence and Spectrum, Degree of Coherence, Spatial coherence, Mutual coherence function, longitudinal coherence.

#### Unit - IV:

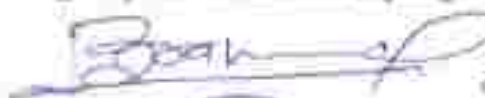
Non-linear Optics: Pockels and Kerr Effect- Electro-optics of Anisotropic media, Phase and amplitude modulators. Non-linear optical media, second order non-linear optics- SHG.

#### Unit - V:

Three wave mixing, Third order non-linear optics, THG and self-phase modulation. Four wave mixing and Optical Phase conjugation.

#### Suggested Reading:

1. A. Ghatak & K. Thyagarajan : Optical Electronics (Cambridge University Press)
2. Fundamentals of Photonics: B.E.A. Saleh and M.C. Teich
3. A. Yariv : Quantum Electronics (Wiley, New York)
4. M. Young : Optics and Lasers (Springer Verlag)

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**LIFE SCIENCES - (Zoology, Botany, Bio-Tech, Micro Biology)**

**ZOOLOGY**

**Elective Paper-Ist**

Name of Paper- Applications of Genetic Engineering  
Paper Code-PDC-ZOO.-104

**Unit I:**

Introduction to Genetic engineering, History of Genetic engineering, Scope and importance of Genetic Engineering.

**Unit II:**

Methods used in Genetic Engineering, Tools Used in Genetic engineering, Different enzymes used in Genetic engineering.

**Unit III:**

DNA and Plasmid isolation from bacteria, Importance of plasmid as vectors, Importance of *E. colias* host, different types of vectors used in Genetic Engineering

**Unit IV:**

Techniques employed to insert the gene of interest into the host, Agrobacterium mediated Gene Transfer in Plants, Identification and Selection of cDNA, construction of cDNA library.

**Unit V:**

PCR and its types, Creation of mutagenesis using PCR, Expression of cloned genes in host, purification of expressed proteins from host (Insulin).

**Suggested Readings:**

- Genetic Engineering: Concepts, Tools and Techniques, Mann R, Synwood Publishing House, USA, 2016.
- An Introduction to Genetic Engineering, Nicholl DST, Cambridge University Press, 2008.
- Molecular cloning 3rd Edition, A laboratory Manual, 1st edition, Maniatis T, Fritsch E F & Sambrook L, Cold Spring Harbour Laboratory, New York, 2006.



VE Pandey



## Elective Paper-2<sup>nd</sup>

Name of Paper-Applications of Techniques in Animal Sciences

Paper Code-PDC-ZOO-105

### Unit I:

Sampling technique, sterilization technique, various methods for isolation of pure culture. Methods for measurement of microbial growth, manipulation of environment, nutritional and genetic parameters, maintenance and preservation of microbes (pure culture).

### Unit II:

Paper and TLC chromatography, Gel filtration chromatography, ion exchange chromatography, affinity chromatography, high performance liquid chromatography.

### Unit III:

Southern, Northern and Western blotting techniques, Polymerase Chain reaction, sequencing of nucleic acids, measuring nucleic acid and protein interaction, Flow cytometry, FISH & GISH.

### Unit IV:

SDS-PAGE, Agarose gel electrophoresis, Isoelectric focusing and two-dimensional gel electrophoresis, Centrifugation, Differential and density gradient centrifugation, analytical ultracentrifugation, separation of DNA/RNA using ultracentrifugation technique, determination of molecular weight and Sedimentation coefficient.

### Unit V:


Principle and applications of tracer technique in biology; Radioactive Isotopes and half-life of isotopes; Effect of radiation on biological system; autoradiography; radiation dosimetry; scintillation counting; safety aspects

### Suggested Readings:

- Prescott's Microbiology, 10<sup>th</sup> Edition, Willey J, Sherwood L & Woolverton C J, Mc-Graw-Hill, 2017.
- Microbiology: An Introduction, 12<sup>th</sup> Edition, Tortora G J, Funke B R, Case C L, Pearson, 2016.
- Principles of Genetics, 8<sup>th</sup> Edition, Gardner, Simmons & Snustad, 2005.

  
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**Elective Paper-3<sup>rd</sup>**  
Name of Paper-Molecular Genetics  
Paper Code-PDC-ZOO-186

**Unit-I:**

History and scope of molecular genetics. Identification of DNA as genetic material. Properties, storage and transmission of genetic information. Overview of Mendelism and deviations.

**Unit-II:**

DNA Replication: Semi conservative model of DNA. DNA polymerases and ligases. Events in replication fork. Discontinuous replication. Leading strand. Circular DNA and its replication.

**Unit-III:**

Transcription: Prokaryotic transcription. RNA polymerases. Transcription signals. Classes of RNA molecules-messenger, ribosomal and transfer. RNA modification: RNA- 5-cap formation, 3-end processing, polyadenylation, splicing, editing.

**Unit-IV: INSD**

Translation: The genetic code. Structure of t-RNA. Translation in prokaryotes. The Wobble hypothesis. Gene Regulation: Operon model. Lac Operon and Tryptophan Operon. Auto regulation and feedback inhibition.

**Unit-V:**

Mutation: Types of mutations. Biochemical bases of mutations. Mutagenesis-base analogue mutation, ultraviolet irradiation, intercalating substances and transposable elements.

**References:**

1. Atherty, A.G. Gitten, J.R and McDonald, J.F. The Science of Genetics. Saunders College, 1999.
2. Gardner, E.J., Simons, M.J and Soustad, D.P. Genetics III Ed. John Wiley & Sons, New York, 1990.
3. Stiekberger, N.W. Genetics, MacMillan Publishing Co. New York, 1985.
4. Watson, J.D et al., Recombinant DNA, W.H.Freeman & Co, 1992.
5. Trevor, B.B and Julian Burke. Gene structure and transcription. Oxford Univ Press, 1998.
6. Benjamin Lewin. Genes Vols I-IV, Oxford Univ Press, 1995.









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## BOTANY

### Elective Paper-Ist

Name of Paper- Analytical Techniques in Plant Sciences

Paper Code- PDC-BOT-104

#### Unit I.

Principles of microscopy: Light microscopy; Fluorescence microscopy; Confocal microscopy, Flow cytometry, Applications of fluorescence microscopy, Transmission and Scanning electron microscopy – sample preparation for electron microscopy, staining.

#### Unit II.

Centrifugation: Differential and density gradient centrifugation, sucrose density gradient, analytical centrifugation, ultracentrifugation, marker enzymes.

#### Unit III.

Spectrophotometry: Principle and its application in biological research; Chromatography: Principle; Paper chromatography; Column chromatography, TLC, GLC, HPLC, Ion-exchange chromatography; Molecular sieve chromatography; Affinity chromatography.

#### Unit - IV

Characterization of proteins and nucleic acids: Mass spectrometry; Characterization of proteins and nucleic acids; Electrophoresis: AGE, PAGE, SDS-PAGE.

#### Unit- V.

Biostatistics: Statistics, data, population, samples, parameters; Representation of Data: Tabular, Graphical; Measures of central tendency: Arithmetic mean, mode, median; Measures of dispersion: Range, mean deviation, variation, standard deviation; Chi-square test for goodness of fit.

#### Unit- VI.

Techniques in Plant Sciences: Algal cell culture Fungal culture media, Protoplast and Spore culture, Plant cell Culture- Cellular totipotency, cyto-differentiation, Somatic embryogenesis, Preservation techniques, Molecular biological Techniques- Gene amplification and PCR, Molecular Probes, DNA fingerprinting.

#### Suggested Readings:

- P.N. Arora and P.K. Malhan (1998). Biostatistics: Himalaya Publishing Bombay.



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- P.S.G. Kumar (2004). Research methods and statistical techniques. B.R. publishing Academy, Udyapur.
- G.B.N. Chaitny, G. Mishra and P.K. Mohanty (2004) Basic Biostatistics. Kalyani Publisher.
- N. Gurumani (2006). Research Methodology for Biological Sciences. MJP Publishing, Chennai.
- Banerjee, P.K. (2007). Introduction to Biostatistics. Rastogi publication, Meerut.
- Ruzin, S.E. (1999). Plant Microtechnique and Microscopy, Oxford University Press, New York, U.S.A.
- Ausubel, F., Brent, R., Kingston, R. E., Moore, D.D., Seidman, J.G., Smith, J.A., Struhl, K. (1995). Short Protocols in Molecular Biology. John Wiley & Sons- 3rd edition.
- Zar, J.H. (2012). Biostatistical Analysis. Pearson Publication. U.S.A. 4th edition.

**Elective Paper -2nd**

**Name of Paper-Recent Trends in Biological Sciences**

**Paper Code-PDC-BOT-105**

**Unit I.**

Enzymes: DNA polymerase, restriction endonucleases, topoisomerase I and DNA ligase, reverse transcriptase, kinase, alkaline phosphatase, nuclease, RNAse.

**Unit II.**

Vectors: plasmids; Cosmids, Bacteriophage, and synthetic plasmids. Application of gene technology.

**Unit III.**

Cell and callus culture, Anther culture, Micro-propagation, somatic cell hybridization, protoplast fusion, Cybrids, artificial seeds, Agro-bacterium mediated gene transfer and use of Ti plasmid.

**Unit IV.**

Applications of plant tissue culture engineering, pathogen resistance (BT gene), and transgenic plants.

**Unit V.**

Southern, Northern and Western blotting technique. PCR: its principles and uses. Gene concepts and molecular biology of gene. Transcription and translation in prokaryotes and eukaryotes. Nitrogen fixing and genes and their genetic manipulation.

**Unit VI.**

Biotechnology and society, socio-economic aspects. Uses of cloned genes in agriculture, medicine and industry. Transgenic plants: Production and applications.

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Plant biotechnology and Intellectual Property rights (IPR):

**Unit VII.**

**Bioinformatics applications:** Agriculture, Molecular Biology, Environment and Biotechnology.

**Suggested Reading:**

- Sambrook J, Fritsch E. F. and Maniatis (1989) Molecular cloning, vol. I, II, III, 11nd edition, Cold spring harbor laboratory press, New York.
- DNA Cloning : A practical approach D.M. Glover and D.B. Hautes, RI. Press, Oxford, 1995
- Molecular Biotechnology, 2nd Ed. S. B. Primrose, Blackwell Scientific publishers, Oxford, 1994
- Molecular and cellular methods in Biology and Medicine, P.B. Kaufman, W. Wu, D. Kim and I. J. Cooke, CRC Press, Florida 1995
- Biotechnology: Current Progress Volume I by P. N. Chermisinoff and L. M. Ferrante, Technomic Publishing Co. Inc
- Advances in Applied Microbiology volumes 6, 10, 17 by D. Perlman and Unbreit (eds). Academic Press.
- Introduction to Bioinformatics, Latwood, T. K. and Parry-Smith, D. J)

**Elective-3rd**

**Name of Paper- Phytochemistry & Herbal Biotechnology**  
**Paper Code-PDC-BOT-106**

**Unit I**

Introduction to Phytochemistry; Types of phytochemicals; Application of phytochemicals in industry and healthcare. Current scenarios (local, regional & global) of herbal & phytochemical products.

**Unit II**

Steps, solvents & equipments used for phytochemical analyses; Techniques used for extraction, separation, purification and in vitro and in vivo analyses of phytochemicals.

**Unit III**

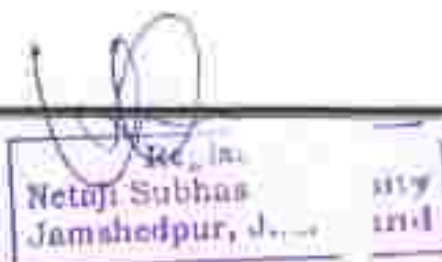
Methods of drug evaluation (morphological, microscopic, physical & chemical); Material balance on herbal & phytochemical processing.

**Unit IV**

Methods to identify adulterants in herbal medicines, drug adulteration - Types of adulterants.



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Methods of analysis and detection of adulterants in herbal medicines: (RAPD, SSR, SCAR and RFLP)

**Suggested Readings:**

1. Pharmacognosy, CK Kokate, AP Purohit, SB. Gokhale (1996), Nirali Prakashan, 4th Ed.
2. Natural Products in Medicine: A Biosynthetic approach (1997), Wiley, UK
3. Cultivation & Processing of Medicinal Plants, L. Harnok (ed.) (1992), John Wiley & Sons, Chichester, UK.
4. Herbal Biotechnology & Pharmacognosy, V Komaresan (2015), Saras Publication.



# MATHEMATICS

## Elective-Ist

Name of Paper-Linear Algebra  
Paper Code- PDC-MATH-104

### Unit-I

Vector space, Basis and dimension, change of base and change of coordinates, Sum and direct sum.

### Unit-II

Linear transformation, Properties of linear transformation, Change of basis, Matrix representation of linear transformation, Rank and nullity.

### Unit-III

Eigen value & Eigen vectors, Cayley-Hamilton theorem, Inner product space, Length and orthogonality, Orthonormal bases, Gram-Schmidt process, Least squares problems.

### Unit-IV

Minimal polynomials, Elementary canonical forms: Diagonalization, Triangulation, Primary decomposition etc.

### Unit-V

Bilinear forms, Quadratic forms, Reduction to quadratic forms, Symmetric, Skew symmetric, Positive & Semi-positive forms etc.

### Suggested Reading:

- Linear algebra and its Application: Gilbert Strang, Cengage Learning
- Linear algebra a Modern introduction: David Poole, Brooks/Cole
- Linear algebra and its Application: By David C. Lay
- Linear algebra and its Application: Judi J. McDonald



## Elective-2nd

Name of Paper- Advanced Complex Analysis

Paper Code- PDC-MATH-105

### Unit-I

**Conformal Mapping:** Definition of conformal and Bilinear transformation, Cross ratio. The mapping from disc to disc, Disc to half plane and half plane to half plane, Mapping of elementary transformation.

### Unit-II

**Analytic Function:** Zeros of analytic functions, Jensen's theorem, meromorphic functions, their zeroes and poles, Poisson-Jensen's formula. Revisit to Argument principle, Rouché's theorem.

### Unit-III

**Entire function:** order and genus of entire functions, Hadamard's factorization theorem, Coefficient formula for the order, The derived function, Exceptional values, Borel's theorem, Little Picard and Great Picard theorem.

### Unit-IV

**Harmonic function:** harmonic function in the disc, Mean value property, Maximum and Minimum Principle, Harnack's inequality, Harnack's theorem, The Dirichlet problem.

### Unit-V

#### Analytic continuation:

Definition and uniqueness of analytic continuation, Standard method of analytic continuation using power series, The principle of reflection, Hadamard multiplication theorem, Monodromy theorem, Riemann surfaces, Homology and homotopy versions of Cauchy's theorem, simply connected regions.

#### Suggested Reading:

- L. V. Ahlfors, Complex analysis, third edition, McGraw-Hillbook, New York, 1978.
- J. B. Conway, Functions of one complex variable, second edition, Graduate Texts in mathematics, 11, Springer-Verlag, New York, 1978.
- T. W. Gamelin, Complex analysis, Undergraduate texts in mathematics, Springer-Verlag, New York, 2001.



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- R. E. Greene and S. G. Krantz, Function theory of one complex variable, third edition, Graduate studies in Mathematics, 40, American Mathematical Society, Providence, RI, 2006.
- S. Lang, Complex analysis, fourth edition, Graduate texts in Mathematics, 103, Springer-Verlag, New York, 1999.
- R. Narasimhan and Y. Nievergelt, Complex analysis in one variable. Second edition, Birkhauser Boston, Inc. Boston, MA, 2001.

### Elective- 3rd

Name of Paper- Advanced Calculus

Paper Code- PDC-MATH-106

#### Unit I:

Differentiation – Basic Theorems – Partial derivatives – Derivatives of Inverse Functions

#### Unit II:

Implicit functions – Integration – Measure zero and content zero – Integrable Functions

#### Unit III:

Fubini's theorem – Partitions of Unity → Change of variables

#### Unit IV:

Integration on chains – Algebraic preliminaries – Fields and Forms – Geometric preliminaries – The fundamental theorem of Calculus

#### Unit V:


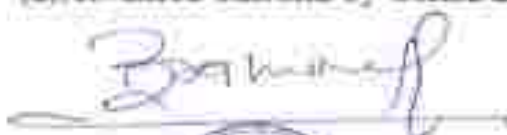
Manifolds – Fields and Forms on Manifolds – Stokes' theorem on Manifolds – The volume element – The classical theorems

#### Text book:

Calculus of Manifolds by Michael Spivak, The Benjamin Cummings Publishing Company

#### References:

- (1) Mathematical Analysis by Tom M. Apostol, Narosa Publishing Company.
- (2) Advanced Calculus by Gerald B. Folland, Pearson Publishing Company.



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**SYLLABUS**  
**FOR**  
**DEPARTMENT OF ARTS,**  
**HUMANITIES AND SOCIAL**  
**SCIENCES**

2018


  
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## Compulsory Paper: I<sup>st</sup>

Name of Paper- Research Methodology

Paper Code-PDC-101

### Unit -I

Definition and Scope of Research; Types of Research - Quantitative, Qualitative, Analytical, etc. Basic Principles of Research, Features of a Research

### Unit -II

Materials and Tools of Research; Use of Primary and Secondary data, Print; Books, Journals, Articles, Magazines, etc, Audio-visual resources: Pictures, Motion Pictures, Documentaries, Audio Tapes, etc, Interviewing, Field Studies, Questionnaires/ Surveys, Web resources, e-Library/ Library as a resource

### Unit -III

Selection of Topic: Area of Research; Genre, Period, Region, Author, Texts, Approach, Interdisciplinary approaches, Current Trends in Research, Background Study, Studies of Literatures, Real Life Observations,, Framing of Topic

### Unit -IV

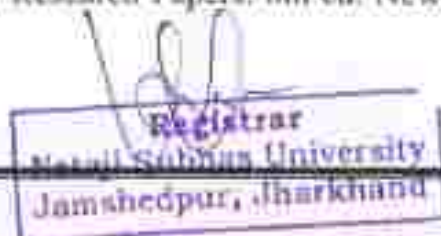
Writing Research Proposal/Research Paper/Thesis, Topic Statement, Abstract, Keywords for Research Paper, Motivation, Aims and Objectives, Research Problem, Hypothesis, Scope and Limitations, Data Collection, Methodology, Review of Literature, Identifying a Research Problem/Research Gap, Planning-Chapter Division, Drafting, Revising, Editing, Citations and Bibliography, The Problems faced by a Research Scholar, Role of Research Supervisor and Advisory Committee.

### Unit -V

Technicalities of Writing Thesis/Research Papers/Articles, Paper margin, spacing, heading and title, font and its size, page numbers, Footnotes and Endnotes, correction and insertion, indentations, and how to make Power-point Presentation

### Suggested Readings:

- Allison, B. The Students' Guide to Preparing Dissertations and Theses. London: Kogan Page, 1997. Print.
- Allick, Richard D. and John J. Fenstermaker. The Art of Literary Research. 4th ed. New York: Norton, 1993. Print.
- Gibaldi, Joseph. MLA Handbook for Writers of Research Papers. 8th ed. New Delhi: East-West Press, 2009





- Kohari, C.R. Research Methodology: Methods and Techniques. New Delhi: New Age International Ltd, 1985.
- Rahim, F. Abdul. Thesis Writing: A Manual for Researchers. New Delhi: New Age International Pvt Ltd, 1996.
- *MLA Handbook, 9th Edition*. Modern Language Association of America, 2021.

## Compulsory Paper – 2nd

Name of Paper -Research And Publication Ethics

Paper Code: PDC-102

### Unit-I

**Philosophy and Ethics:** Introduction to philosophy: Definition, nature and scope, concept, branches. Ethics: Definition, moral philosophy, nature of moral judgments and reactions

### Unit-II

**Scientific conduct:** Ethics with respect to science and research, Intellectual honesty and research integrity. Scientific misconducts: Falsification, Fabrication and Plagiarism (FFP) Redundant publications: Duplicate and overlapping Publications, salami slicing, Selective reporting and misrepresentation of data

### Unit-III

**Publication Ethics:** Publication ethics: definition, introduction and importance, Best practice/ standards setting initiatives and guidelines: COPE, WAME, etc, Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

### Unit-IV :

**Open access publication** – open access publication and initiatives, SHERPA/ RoMEO online resource to check publisher copy, write and self-archiving policies, software tool to identify predatory publications develop by SPPU, journal finder/journal suggestion tools viz. JANE, ELSEVIER journal finder, springer journal suggester

### Unit-V: Publication misconduct

- Group discussion:** Subject specific ethical issues, FFP, authorship, Conflict of interest, Complaints and appeals: example and fraud from India and abroad
- Software tools** - Use of plagiarism software like Turnitin, iThenticate and other open software tools

**Unit -VI :Data Base and Research Matrix**

- A .Data base: indexing data base, Citation Data base; web of science, Scopus, research scholar, etc.
- C. **Research matrix** : Impact of journals as per journal citation report, SNIP,SJR,IPP, Cite score, Matrix: h-index, g- index, i 10 index, altmetrics-

**Suggested Readings:**

- Bird, A. (2006)Philosophy of science. Routledge.
- Macintyre, Alasdair (1967) A short history of ethics, London.
- P. Chaddah (2018) Ethics in competitive research: Do not get plagiarized, ISBN: 978-9387480865.
- National Academy of Science; national Academy of Engineering and institute of medicine (2009) On being a scientist: A guide to responsible conduct in research: third Edition. National academy press

**Compulsory Paper – 3rd**

Name of Paper-Computer Applications

Course Code: PDC-103

**Unit-I:**

**Basic Knowledge of Computer** –Definition of Computer, Block diagram of computer, classification of computer, role of computer in Education, Components of Computer Hardware (CPU, Monitor, Keyboard etc ), Software, Operating system(OS), Functions of OS.

**Unit-II:**

**Computer Applications for Research –**

**Word processing:** Introduction of word processor, creating & saving documents, Formatting of document, Steps in writing report, layout of research report, types, presentations, Presentation of research report.

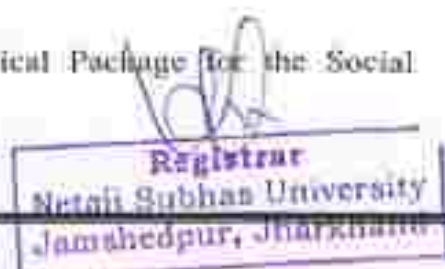
**Data processing:** Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions, Use of statistical tool and their presentation in the form of charts and graphs, Use of EXCEL in synthesizing and summarizing

**Power Point:** Introduction of Power Point for presentation-preparation of slides, Designs & Animation, Use of Power Point in preparing the presentation on Research Work (PhD Progress Report, PhD Semester Registration, PhD Pre-Submission Seminar and PhD Defense Seminar).

**Unit-III:**

**Use of Different Software for Research–** Statistical Package for the Social





Sciences (SPSS) and other statistical software for data analysis.

**Unit-IV:**

**Use of Internet in Research-** Introduction, Evaluating internet resources: Authority, Accuracy and objectivity, Brief note on ebooks and virtual library, UGC infonet, INFLIBNET and ERNET, What is Plagiarism and how to avoid it?

**Suggested Readings:**

- Sanders D. H., Computer Today, McGraw Hill, New York.
- Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi



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## HISTORY

### Elective Paper -I<sup>st</sup>

Name of Paper- Historical Methods And Research

Paper Code- PDC-HIST-104

#### UNIT – I:

Meaning, kinds and Nature of History: Meaning of History – Definition of History – Scope and purpose of History – Important study of History – Uses and Abuses of History – History and Allied subjects.

#### UNIT – II:

Historiography in Ancient, Medieval and Modern period:

#### UNIT – III:

Philosophy of History & Research Methodology: Meaning and Philosophy of History – Definition Development of Philosophy of History. Choice of Topic – Historical Surveys – Primary Sources – Secondary Sources – Problem faced by the scholar and Historians – Collection of sources.

#### UNIT –IV:

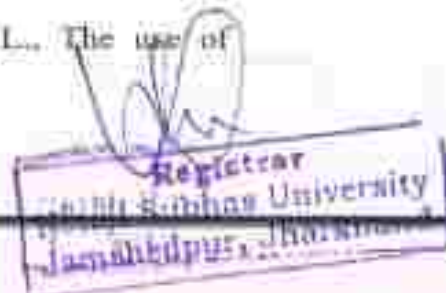
Writing of History: Objectivity in Historical Writing – Analysis of Sources.

#### UNIT V:

Methodology of Teaching Teachings –Objectives of Teaching, Phase of Teaching, Teaching Methods: Lecture Method, Discussion Method, Discovery Learning, Inquiry, Problem Solving Method, Project Method, Seminar.

#### Suggested Readings:

- Mahalingam, T.V., Early South Indian Palaeography.
- Majumdar R.C – Historiography in Modern India. Bombay, 1970.
- Malcolm Williams, Science and Social Science – An Introduction (London and New York : Routledge, 2000) Marickam, S.
- Theory of History and Methods of Research, Madurai, 2000.
- Nagasamy, R., Kalvettiyal Rajayyan, K., History in Theory and Method, Madurai, 1993
- Ralph De Sola Microfilming. Rowse, A.L., The use of History, London, 1963



- Sullim Ghose: Archives in India Sastri, K.A.N., Historical Method, Mysore, 1956.
- Schallenberg, T.R., Modern Archives – Principles and Techniques Sheikh Ali, B.,
- History: It's Theory and Method, Madras, 1991.
- Stear, D.C., Indian Epigraphy Sivaramamurthi, C., Indian Epigraphy and Indian Scripts.
- South India Historians: K.K.Pillai, K.A.N. K Rajayan Sreedharan, E.A.,
- Text book of Historiography 500 BC to 2000 A.D. Delhi

## Elective Paper -2<sup>nd</sup>

Name of Paper - Historical Thought and Development  
Paper Code-PDC-HIST-105

### UNIT - I

#### STATE AND SOCIETY IN ANCIENT INDIA UPTO HARSHA

Origin and evolution of state and society. Four important theories of state: Evolution theory, Force theory, Mystical theory and the contract theory, Kautilya's theory of State Feudalism.

### UNIT-II

#### ECONOMIC HISTORY OF INDIA (1800-1947 A.D)

Three phases of economic exploitation. Drain of wealth, de-industrialization, ruralization of Indian economy, commercialization of Indian agriculture, Rise of modern industries. Experiments in land revenue administration.

### UNIT-III

#### HISTORY OF ART AND ARCHITECTURE

Definition – origin and growth – nature - scope – importance – various styles of architecture – Nagara, Vesara, Dravida and their features. Indian painting.

### UNIT-IV

#### CONTEMPORARY HISTORY OF INDIA (1947 – 1991 A.D)

Partition and its fallout Making of Indian Constitution, Basic features of Indian Constitution – Principles of India Foreign Policy – Merger of Princely States with Indian Union – Re-organization of States on Linguistic basis. Five Year Plans.



War with China (1962) and Pakistan (1974) – Contrasting pictures of famines and Green Revolution, Regionalism and regional politics, formation of Bangladesh, Total revolution by Jayaprakash Narayan – Punjab Crisis and Operation Blue Star.

#### UNIT-V

#### ECOLOGICAL HISTORY OF INDIA (1865- 2000 A.D)

Evolution of the Eco-System; Foundation of Biosphere- Process of Evolution from Azoiic Age to Quaternary Period, Demographic Spread: Settled Agriculture and Population Growth. Colonialism and Disruption of Ecology, British policy on forest management Social conflicts and their consequences. Industrialization and Green Revolution, Pollution and Ecological Degradation, Capitalist mode of development and its impact on Eco System; Change in land use pattern, Displacement of People and Conservation from the below-Chipco movement and Narmada Bachao Andolan- Towards Environmental Awareness.

#### Suggested Readings:

- Alfred W. Crosby, Ecological Imperialism, OUP, 1986
- Madhav Gadgil and Ramachandra Guha, The Fissured Land: An Ecological History of India, OUP, 1993.
- C.J. Baker, An Indian Rural Economy, 1880-1955, OUP, 1995
- Joy Tivy, Agricultural Ecology, Longman, 1990.
- Ramachandra Guha, The Unquiet Woods, Orient BlackSwan, 2013.
- Mahesh Rangarajan, Fencing the Forest, Conservation and Ecological Change in India's Central Provinces, OUP, 1996
- Mahesh Rangarajan and Sivaramakrishnan, India's Environmental History: A Reader, Orient Black Swan, 2013
- Romila Thapar, The Penguin Early India, 2012.
- R. S. Sharma, India's Ancient Past, Orient Black Swan, 2014.
- Padma Charan Dhal, Indian Society and Culture Atlantic Publishers (P)Ltd. A.L. Basham,
- The Wonder that was India Rupa & Co, Calcutta, 1998.
- A Cultural History of India, Oxford Press, 2004.
- Basham, A.L. (1975). History of India. New Delhi, Oxford University Press. Mohideen Badusha, A. H. (2009).
- History of Indian Architecture. Tirunelveli, Sultans Publications
- Dutt, R. C. The Economic History of India, Vols. I & II, Publication Division, Govt. Of India, 1970
- Radha Kamal Mukherjee & H.L. Dey, eds, Economic Problems of Modern India, 2 vols., Macmillan, 1941.
- Bipan Chandra, Nationalism and Colonialism in Modern India, Vikas, 1979.





## Elective 3<sup>rd</sup>

Name of the Paper: History of India (Dawn to 1757 A.D.)

Paper Code-PDC-HIST-105

### Unit-I

Foundation of Indian culture and Civilization, Indus Valley Civilization, Vedic Culture, Sangam Age

### Unit -II

The Mauryan Empire, Mauryan Polity, Society, economy (Chandragupta Maurya and Ashoka's Dhamma)

### Unit- III

Political and Social Conditions, Origins of Rajputs

### Unit- IV

Gupta-Vakataki Age: Development of Sanskrit Language and Literature, Development in Science, Technology and Astronomy

### Unit-V

The Indo-Islamic Culture, Bhakti Movement, Sufism, Rise of the Sikhs, Guru Nanak, Arjun etc.

### Suggested Readings:

- Thapar, Romila, History of Early India.
- Allchin, F.R. and B. Origins of a Civilization: The Prehistory and Early Archaeology of South Asia.
- Jha, D.N, Ancient India in Historical Outline, 1998 Ed.
- Kosambi, D.D, Culture and Civilization of Ancient India.
- Chandra, Satish, Medieval India from Sultanat to the Mughals, Vols. I, II
- Tripathy, R. P, Rise and fall of the Mughal Empire
- Majumdar, R.C. (ed), The History and Culture of the Indian People, Vols. VI
- Asraf, K.M, Life and Conditions of the People of Hindusthan Chitrnis.
- K.N, Socio- Economic History of Medieval India
- Habib, M & Nizami, Comprehensive History of India, Vol V
- Mehta, J.L, Advanced Study in History of Medieval India, Vol. I & II
- Nizami, K.A, Studies in Medieval Indian History and Culture
- Rashid, A, Society and Culture in Medieval India
- Rizvi, S.A.A, The Wonder that was India, Part-II



  
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- Irfan Habib, *The Agrarian System of Mughal India 1556-1707*.
- M. Athar Ali, *Mughal Nobility under Aurangzeb*.
- Shireen Moosvi, *The Economy of the Mughal Empire*.
- S.A.A. Rizvi, *Muslim Revivalist Movements in Northern India during 16th and 17th Centuries*.
- R.P. Tripathi, *The Rise and Fall of the Mughal Empire*, 2 vol. I.
- H. Siddiqui, *Some Aspects of Afghan Despotism*.
- Keshvan Velathat, *Political Structure of Early Medieval South India*.
- P.J. Marshall, *The Eighteenth Century in Indian History*.
- Stewart Gordon, *The Marathas 1600-1818*. Percy Brown, *Islamic Architecture*.

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## ENGLISH Elective-1<sup>st</sup>

Name of Paper- English Literature  
Paper Code- PDC-ENG-104

### Unit-I

Postcolonial Theory and Literature, Diaspora Theory and Literature, Postmodernism, Postcolonial Criticism, Feminism and the Subversion of Identity.

### Unit -II

Formalism, Structuralism, Post Structuralism, Poetics and Linguistics.

### Unit -III

Literary Criticism and Literary Theory—Historical Survey from Plato to contemporary trends, Schools and Approaches, Relation between Literary Theory and Literary Criticism.

### Unit- IV

Post Independent writers: Nirad C. Chaudhuri, Maha Swetha Devi, Vikram Seth and Amitav Ghosh, Mulk Raj Anand, Raja Rao, Anita Desai, Salman Rushdie, and other contemporary Writers of Post Independent writers.

### Unit -V

Major Trends in English Language Teaching—Approaches in English Language Teaching, Methods of Teaching English, Techniques of Teaching English.

### Suggested Readings:

- Ashcroft, Bill, et al. eds. Key Concepts in Post-Colonial Studies. London: Routledge, 2004.
- The Empire Writes Back: Theory and Practice in Post-Colonial Literatures. Routledge, 2002.
- Bassnett, Susan, Comparative Literature: An Introduction. Blackwell, 1993.
- Dev, Aniya, The Idea of Comparative Literature in India. Calcutta: Papyrus, 1984.
- Gifford, Henry. Comparative Literature: Concepts of Literature. Routledge, 1969.
- Glover, David and Cora Kaplan. Eds. Genders. Routledge, 2008.
- Habib, M.A.R. A History of Literary Criticism and Theory: From Plato to the Present.
- London: Wiley-Blackwell, 2012.
- Huggan, Graham and Helen Tiffin. Post-Colonial Ecocriticism: Literature, Animals, Environment. Routledge, 2009.



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- Paranjape Makarand. In *Diaspora: Histories, Texts, Theories*. Delhi: India Inq. 2002.
- *Postmodernism and the Contemporary Novel: A Reader*, Ed. Bran Nicol.
- Gyan Prakash. "Subaltern Studies as Postcolonial Criticism."
- Nicol, Bran, ed. *Postmodernism and the Contemporary Novel: A Reader*. Edinburgh: Edinburgh University Press, 1992.
- Lodge, David, ed. *Modern Criticism and Theory: A Reader*. London: Longman, 1988.
- Barker, Chris. *Cultural Studies: Theory and Practice*. London: Sage, 2011b. D. Course Work/ M. Phil (English)
- Christopher Caudwell *Illusion and Reality*.
- David Lodge and Nigel Wood *Modern Literary Theory and Criticism: A Reader*.
- E. Donald Hall *Queer Theories*.
- Edward Said *Orientalism*.
- Ellis Hansen *Our Times: Essays on Queer Theory and Film*.
- George Lukacs *Studies in European Realism*.

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Elective-2nd

Name of Paper-English Language Teaching

Paper Code-PDC-ENG-105

**Unit I:**

Approaches and Techniques in ESL pedagogy. Issues related to ESL/EFL pedagogy. Learner centred practices, including autonomy, blended learning, feedback, interaction. Role of Teacher and Learner in ESL/EFL classroom.

**Unit II:**

**Curriculum Development and Syllabus Design for English Teaching.**

Factors to be taken into Account in Curriculum Development and their implications for Syllabus Design in English language Teaching. Recent Trends and Developments in Syllabus and Course Design. The Contribution of Linguistic and Allied Studies to Syllabus and Course Design.

**Unit III:**

**Curriculum Development in Language Teaching**

The origin of Language Curriculum Development, Syllabus Design to Curriculum Development, Needs analysis.



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**Unit IV:**

**Developing Programs and Materials for Language Learning.**

The Scope of a Communicative Syllabus, Focusing on language content in a communicative Syllabus, Focusing on process: materials that deal with socio-cultural appropriateness.

**Unit V:**


**Teaching English as a Second Language.**

**Suggested Readings:**

- Abbott, G. & Wingard, P. (eds.) (1992) Teaching of English as an International Language. A Practical Guide. Surrey: Nelson.
- Celce-Murcia, M. M. (ed.) (1991) Teaching English as a Second or Foreign Language. Rowley, MA: Newbury House.
- Crystal, David. (1987) The Cambridge Encyclopedia of Language. Cambridge, England: Cambridge University Press
- David Nunan. (1998) Language Teaching Methodology. NJ: Prentice Hall
- Desmond M. Allison. (1999) Language Testing and Evaluation: An Introductory Course. Singapore: World Scientific Publishing Company
- Doff, Adrian. (1988) Teach English – A Training Course for Teachers. Cambridge, England: Cambridge University Press
- Raghunir Sahai Gupta, Kapil Kapoor. (1991) English in India, Issues and Problems. New Delhi: Academic Foundation
- Richards J. and Rodgers T. (2002) Approaches and Methods in Language Teaching. Cambridge: CUP
- Thirumala, M.S. (2002) An Introduction to TESOL., Mysore: Central Institute of Indian Languages
- Crystal, D. (1987).The Cambridge Encyclopedia of Language. Cambridge: CUP.
- Harmer, J. (2007).The Practice of Teaching English, 4th edition. Pearson Longman.
- Scrivener, J. (1994). Learning Teaching: A Guidebook for English Language Teachers. Oxford: Heinemann.
- Ur, Penn. (1996). A Course in Language Teaching: Practice and Theory. Cambridge: CUP
- Richards C. J. & Rodgers S. T. (2001) Approaches and Methods in Language Teaching, CUP.
- Yule, G. (2010) The Study of Language, 4th edition. CUP.



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## Elective-3rd

Name of Paper- American Literature

Paper Code-PDC-ENG-106

### UNIT-1

History of American Literature- Major Trends, Plot, techniques, Aspects of American Literature, Political Condition, Narration.

### UNIT II

American Novels - Themes - Narrative Techniques

Ernest Hemingway - The Old Man and Sea

Mark Twain- The Adventures of Huckleberry Finn

Tony Morrison - The Bluest Eye

### UNIT III

American Drama - Nature - Characteristics - Plot

Tennessee Williams - The Glass Menagerie

Arthur Miller- All My Sons

Eugene O'Neil - The Hairy Ape

### UNIT IV

American Poetry -

Robert Frost- Mending Wall, Stopping by the Woods on a snowy Evening

Ezra Pound-- The Cantos

Sylvia Plath--Mirror

Emily Dickson--Hope is the Thing with Feathers:

### Suggested Readings:

- Knipping, Alpina Sharma, New Immigrant Literatures in the United States: a source book to our Multicultural Literary Heritage. Westport, CT: Greenwood press, 1996
- Miller, Arthur: Collected Plays, Bombay: allied Publishers, 1973
- Gascoigne, Bamber 20th century Drama, London: Huthinson University Library, 1974
- Morrison Toni, Sula, Bafford:raid, 1980
- O'Neil, Eugene Desire Under the Elms and Great God Brown, Great Britain, NonathonCape, 1925
- Robert Frost : Poems, New York; Washington Square Press, 1969
- Hemingway, Ernest, Old Man and the Sea New York, Charles Scribner's Sons 1952



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- Peck, David R. American Ethnic Literatures: Native American, African American, and other their background, Selam press, 1992.
- Peck, John & Martin Coyle, Literary Terms and Criticism, New York: pulgrave Macmillan, 2002
- Walker, Alice.; In search of Our Mother's Garden, New York:Harvest 1983.



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## POLITICAL SCIENCE

### Elective Paper-Ist

Name of Paper-Key Concepts in Comparative Political Analysis

Paper Code-PDC-POL,SCIE-104

#### UNIT I- Understanding Comparative Political Analysis:

Introduction of Comparative Analysis, Importance of Comparison, Forms of Comparative Analysis, Importance of Comparative political analysis in the study of the Third World, Limits of Comparative political Analysis

#### UNIT II- Nation and Nationalism:

Understanding Nation, Nationalism and Nation States, Forms of Nationalism, Major debates on Nationalism, Future of Nationalism

#### UNIT III- Democracy and Processes of Democratization:

What is democracy? Dimensions of democratization, Processes of transition and consolidation, Future of Democracy and democratization

#### UNIT IV- Development and its Critiques:

The Concept of Development: Theories of Development; Marxist and Neo Marxist Theories, State and the Economy; Role of the State in Economic Development; Democracy and Development

#### UNIT V- Social Movements and Revolutions:

The Concept of Social Movement, Meaning and Types: Reform, Revival, Revolution; Social Movements and Social Change; Schisms and Splits; Counter-Movements; Leadership and Social Movements; Media and Social Movements, Theories of Social Movements Structural Functional; Marxist; Weberian; Contemporary, New Social Movements, Differentiating Social Movements and Revolutions, Contentious Politics; Intersection of Social Movements and Revolutions.

#### Suggested Readings:

- M. Mohanty, (1975) „Comparative Political Theory and Third World Sensitivity”, in Teaching Politics, Nos. 1 and 2, pp. 22-38
- N. Chandhoke, (1996) „Limits of Comparative Political Analysis .. in Economic and Political Weekly, Vol. 31 (4), January 27, pp. PE 2-PE2- PES.
- Heywood, (2002), „The State”, in Politics. New York: Palgrave, pp. 85-102
- T. Landman, (2003) „Transition to Democracy”, in Issues and Methods of



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- Comparative Methods: An Introduction. London: Routledge, pp. 185-215.
- J. Haynes, (1999) „State and Society”, in The Democratization. Oxford: Blackwell, pp. 20-38; 39-63.
  - B. Smith, (2003) „Democratization in the Third World”, in Understanding Third World Politics: Theories of Political Change and Development. London: Palgrave Macmillan, pp.250-274.
  - M. Radhakrishnan, and Debasmita, (2002) „Nationalism is a Great Menace: Tagore and Nationalism” in P. Hogan, Coim and L. Pandit, (eds.) Rabindranath Tagore: Universality and Tradition, London: Rosemont Publishing and Printing Corporation, pp. 29-39.
  - Ormbe, K. (2004) „The End of the Nation State”, L. Lechner, F. J and Boli, J. (eds.) The Globalization Reader. Oxford: Blackwell.
  - N. Menon, (2008) „Power”, in R. Bhargava and A. Acharya (eds), Political Theory: An Introduction, Delhi: Pearson, pp.148-157.
  - B. Parekh, (1997) „The Critique of Modernity”, in Gandhi: A Brief Insight, Delhi: Sterling Publishing Company, pp. 63-74.
  - D. Hardiman, (2003) „Narmada Bachao Andolan”, in Gandhi in his Time and Ours, Delhi: Oxford University Press, pp. 224- 234.
  - Ray, (1996) „Civil Rights Movement and Social Struggle in India”, in Economic and Political Weekly, XXI (28), pp. 1202-1205.
  - Roy, (2010) „The Women’s Movement”, in N.Jayal and P. Mehta (eds.) The Oxford Companion to Politics in India, New Delhi: Oxford University Press, pp.409-422.
  - P. Bandopadhyay, (2005) The Political Economy of Development in India, 6th impression, Delhi: Oxford University Press.
  - R. Ray and M. Katzenstein, (eds.), (2005) Social Movements in India, Delhi: Oxford University Press.
  - Dunleavy, P. and O’Leary, B. (1987) Theories of the State. London: Routledge.
  - Sen, A.(1998) Development as Freedom, New Delhi: Oxford University Press, pp. 87-110.
  - Benedict Anderson, Imagined Communities: Reflections on the Origin and Spread of Nationalism, London, Verso, 1991
  - Wolfgang Sachs (eds), The Development Dictionary, Orient Longman, Delhi, 1997
  - Ghanshyam Shah (ed.), Social Movements and the State, Sage, New Delhi, 2002.
  - Chatterjee Partha, Nationalist thought and the Colonial World: A Derivative Discourse, Zed Books for United Nations University, London, 1986.



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## Elective Paper-2nd

Name of Paper-Introduction to Contemporary Political Philosophy  
Paper Code-PDC-POL-SCIE-105

### UNIT I – Utilitarianism

Introduction to Utilitarianism, Elements and Types of Utilitarianism, Arguments for Utilitarianism, Theories of Well-being, Objections to Utilitarianism and Responses.

### UNIT II- Liberalism

What is liberalism? Forms of Liberalism: Classical and Modern, Liberalism and Libertarianism, Liberalism in Global Age.

### UNIT III- Marxism

Understanding Marxism, Dialectical Materialism, Historical Materialism, The Theory of Class Struggle, Class Revolution, Communism, Socialism and Capitalism, Critical Theory, Marxism vs Neo-Marxism.

### UNIT IV- Multiculturalism

Origin and Development, The claims of Multiculturalism, Politics of Recognition, Politics of Difference, Critique of Multiculturalism

### UNIT V- Feminism

Origin and Development, The Politics of Personal, Liberal Feminism, Socialist Feminism, Radical Feminism, Recent Developments.

### Suggested Readings:

- Knowles, Dudley. (2001) Political Philosophy, London: Routledge.
- Seaglow, Jonathan. (2003) „Multiculturalism” in Bellamy, Richard and Mason, Andrew (eds.), Political Concepts, Manchester: Manchester University Press.
- Mookherjee, Monica, „Multiculturalism”, in McKimmon, Catriona. (ed.) Issues in Political Theory. New York: Oxford University Press.
- C. Mc Cann and S. Kim (eds), The Feminist Reader: Local and Global Perspectives, New York: Routledge Shindig, Tarbati (1993)
- „Stri-Purush Tulna”, in Tharu, Susie & Lalita, K. (eds.) Women Writing in India, 600 BC to the Present. Vol. I. New York: Feminist Press.
- V Geetha, (2002) Gender, Kolkata, Stree, pp. 1- 20
- Sandel, Michael, 1982, Liberalism and the Limits of Justice,



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- Cambridge: Cambridge University Press Taylor, Charles, et al, 1994, Multiculturalism: Examining The Politics of Recognition, Princeton: Princeton University Press.
- Bina Agarwal (ed.), Structures of Patriarchy: State, Community and Household in Modernizing Asia. Kali for Women, New Delhi, 1988. Scott, Joan and Judith Butler edited.
  - Feminists Theorize the Political. London, Routledge, 1992.
  - Iris Marion Young, Polity and Group Difference: A critique of the Ideal of Universal Citizenship, Ethics 99 (2), 1989
  - Will Kymlicka, Multicultural Citizenship (Chapter 9 & Conclusion, pp. 173-95), Oxford: Clarendon Press, 1995
  - Iverson, Duncan.(2002) Postcolonial Liberalism, Cambridge, CUP.

**Elective Paper-3rd**

**Name of Paper- Indian Government and Politics  
Paper Code-PDC-POL-SCIE-100**

**Unit I Nature of the State in India**

Emergence of Modern State in India, The Structural and Functional Evolution of State, Issues before the Indian State

**Unit II Indian Constitution**

Making of the Constitution of India, Basic Features, Debates on Fundamental Rights and Directive Principles.

**Unit III Institutional Functioning**

Union and State Legislatures, Executive, Judiciary  
Local Governance- Rural and Urban

**Unit IV Parties and Party Systems in India**

Political Parties, Party Systems, Interest Groups and Pressure Groups

**Unit V Power Structure in India**

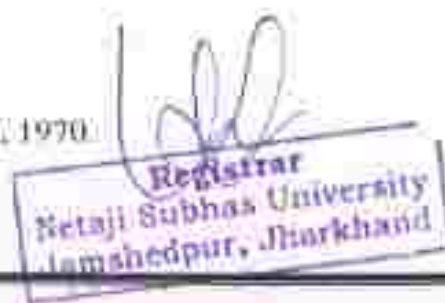
Caste, Class and Patriarchy

**Unit VI Religion and Politics**

Debates on Secularism and Communalism

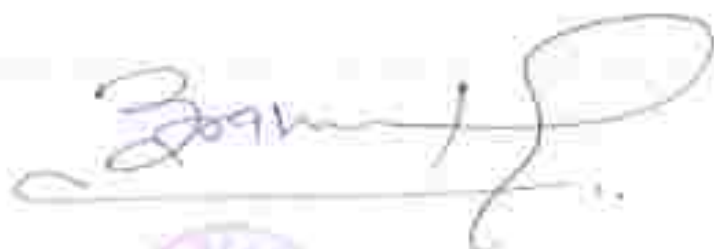
**Suggested Readings:-**

1. Rajani Kothari, Politics in India, Orient Longman, 1970.



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2. D.Basu, An Introduction to the Constitution of India, New Delhi, Prentice Hall, 1980.
3. Austin, The Indian Constitution: Corner Stone of a Nation, Oxford University Press, 1966.
4. P. Bhambhani, The Indian state, fifty years, New Delhi, Shipra, 1997.
5. V.Pylee, Constitutional Government in India, Bombay, Asia Publishing House, 1977.
6. C.Johri, Indian politics, Vishal publication Agra.
7. Weiner, Party Politics in India, Princeton University Press, 1957.
8. Niraja Gopal Jayal and Pratap Bhanu Mehta. (2011) The Oxford Companion to Politics in India, Oxford University Press, India.
9. Bidyut Chakrabarty and Rajendra Kumar Pandey. (2008) Indian Government and Politics, Sage Publication, India.
10. Himanshu Roy and Mahendra Prasad Singh. (2012) Indian Political System, 4th Edition, Pearson India.
11. Pravin Kumar Jha. (2012) Indian Politics in Comparative Perspective, Pearson Education India.
12. Abhay Prasad Singh and Krishna Murari. (2019) Political Process in Contemporary India, Pearson Education India.
13. Niraja Gopal Jayal. (2007) Democracy in India (Themes in Politics), Oxford University Press.
14. Neera Chaudhoke & Praveen Priyadarshi. (2011) Contemporary India – Economy, Society, Politics, PEARSON India.
15. Rajni Kothari. (2012) Politics in India, 2nd Edition, . Orient BlackSwan, India.
16. Granville Austin. (1966) The Indian Constitution: Cornerstone of A Nation, Oxford University Press.



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## HINDI

Paper Code -PDC-HINDI-104

पी.एच.डी. पाठ्यक्रम

वैकल्पिक - 1

हिन्दी भाषा और उसकी संरचना

इकाई 1 : हिन्दी भाषा - ऐतिहासिक परिचय

- 1.1 अपभ्रंश, अवहट्ट और पुरानी हिन्दी
- 1.2 हिन्दी ध्वनियों का विकासात्मक अध्ययन
- 1.3 संयोगात्मक और वियोगात्मकता से अभिप्राय और हिन्दी भाषा की प्रकृति
- 1.4 हिन्दी भाषा की प्रमुख व्याकरणिक विशेषताएँ
- 1.5 हिन्दी भाषा की प्रयुक्तियों का सामान्य परिचय

इकाई 2 : हिन्दी भाषा की शब्द-संरचना

- 2.1 हिन्दी की शब्द-रचना: रूढ़, मौखिक, योगरूढ़
- 2.2 संधि, समास, उपसर्ग, प्रत्यय (संस्कृत, फारसी, अरबी और हिन्दी)
- 2.3 अर्ध-विकास, आगत शब्दावली और कोड-मिश्रण
- 2.4 विभिन्न प्रयुक्तियों के लिए शब्द-निर्माण : दशा और दिशा
- 2.5 शब्द और संस्कृति

इकाई 3 : हिन्दी भाषा की वाक्य-संरचना

- 3.1 पद, पदक्रम, पदान्वय
- 3.2 सरल, संयुक्त और मिश्र वाक्य
- 3.3 तान, अनुतान, लय, स्वराघात, बलाघात
- 3.4 प्रभावी वाक्य-रचना और मुहावरे
- 3.5 विविध सांस्कृतिक अभिव्यक्तियों और वाक्य-गठन

इकाई 4 : हिन्दी भाषा - व्यावहारिक प्रयोग

- 4.1 कथात्मक, वर्णात्मक, विवेचनात्मक, आलोचनात्मक, गवेषणात्मक एवं सर्जनात्मक भाषा
- 4.2 काव्य-भाषा
- 4.3 गद्य-भाषा
- 4.4 आलोचना की भाषा (व्यावहारिक प्रयोग)
- 4.5 शोध की भाषा (व्यावहारिक प्रयोग)



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वैकल्पिक - 2  
आधुनिक हिन्दी कविता

इकाई 1 : आधुनिकता की अवधारणा

- 1.1 19वीं शताब्दी का उत्तरार्ध : औद्योगिक विकास, शहरीकरण और सामाजिक ढाँचे में परिवर्तन
- 1.2 व्यक्ति, समाज और इतिहास
- 1.3 संस्कृति और सभ्यता
- 1.4 परम्परा और आधुनिकता
- 1.5 आधुनिकता और आधुनिकता-बोध

इकाई 2 : आधुनिक कविता की भाव-भूमि

- 2.1 मनुष्य केंद्रिकता, राष्ट्र भावना
- 2.2 आदर्श, रोमन और यथार्थ
- 2.3 व्यक्तिपरकता, वैयक्तिकता और व्यक्तिवाद
- 2.4 मानववाद, नव-मानववाद और मानवीय अस्मिता
- 2.5 असंतोष, मोहभंग, विद्रोह और मुक्ति की आकांक्षा

इकाई 3 : आधुनिक कविता की रूप-चेतना

- 3.1 वस्तु और रूप
- 3.2 पारम्परिक छंद-सहज, परिवर्तन और अस्वीकार; गीत के विभिन्न रूप
- 3.3 मुक्तछंद और छंदमुक्त कविता
- 3.4 प्रबंधात्मक कविता और लम्बी कविता
- 3.5 बिम्ब, प्रतिक, मिथक और फैंटेसी

इकाई 4 : काव्य-भाषा

- 4.1 काव्य-भाषा के रूप में खड़ी बोली
- 4.2 इतिवृत्तात्मकता, लक्षणीकता
- 4.3 बिम्बात्मकता, व्यंग्यात्मकता
- 4.4 काव्य-भाषा चिंतन: छायावाद, प्रगतिवाद, तार सफलक
- 4.5 सपाट बयानी, जान-भाषा, भेदसाधन



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Paper Code-PDC HINDI-106

तृतीय पेपर

इकाई 1:

हिंदी भाषा का विकास--

अपभ्रंश, अवहट्ट, प्रारंभिक हिंदी, मध्यकाल में वज और अवधि का साहित्य भाषा के रूप में विकास, हिंदी भाषा और नागरी लिपि, सिद्ध - नाथ साहित्य, खड़ी बोली का प्रारंभिक स्वरूप.

इकाई 2:

भारतीय संघ की राजभाषा हिंदी ---

हिंदी भाषा का वैज्ञानिक और तकनीकी विकास, हिंदी की प्रमुख बोलियाँ और उनका परस्पर संबंध, नागरी लिपि की प्रमुख विशेषताएँ.

इकाई 3--

हिंदी साहित्य का इतिहास

हिंदी साहित्य की प्रासंगिकता, हिंदी साहित्य का महत्व, इतिहास लेखन की परंपरा.

इकाई 4--

मानक हिंदी --

देवनागरी लिपि का मानक स्वरूप, तकनीक की भाषा के रूप में हिंदी का विकास, मानक हिंदी की विशेषताएँ


  
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**SYLLABUS**  
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**Compulsory Paper: I<sup>st</sup>**  
Name of Paper- Research Methodology  
Paper Code: PDC-101

**Unit-I:**

Introduction Meaning and Definitions Concept, Construct definitions, Operational Definition, Objectives of Research; Sources of knowledge, Research Process, Positivism, Interpretation, Ontological Consideration: Concept of process, types, approaches. Research Problem: Identification and formulation, criteria for good research problem, Preparation of research proposal, Components of Research Design, Hypotheses; Types, qualities of workable hypotheses, usefulness of hypotheses in business research

**Unit-II:**

Sampling and Data Collection Sampling Principles, Methods (Probability and Non- Probability), Characteristics, Sampling Distribution and Errors. Data Collection Sources (Primary, Secondary), techniques: Observation, Interview, Schedules, and Questionnaire.

**Unit-III:**

Data Analysis Data preparation: Editing, Coding, and preliminary arrangement. Univariate and Bi-Variate Statistical Estimation and Testing: Statistical testing - hypotheses and errors; test of attributes and variables,  $z$ -test,  $t$ -test, and  $F$ -test; Non-Parametric Tests: Chi-square test; Sign test; Wilcoxon Signed -Rank test; Wald-Wolfowitz test, Kruskal-Wallis Test, Mann Whitney U Test, Interpretation of Statistical Results.

**Unit-IV:**

Advanced Methods of Empirical Analysis: Factor Analysis; Multidimensional Scaling; Structural Equation model, Data Envelope Analysis, Panel Data Regression Model: Reasons for using Panel Data, Examples of Panel; Methods of Estimation, The Fixed Effects Approach and Random Effect Approach. Research Report Writing Meaning, Definitions and types, preparation, Context, and format, presentation, Referencing, Citation.

**Unit-V:**

Application of Computer Software in Social Sciences Research: SPSS, E-Views, STATA, MS-EXCEL.

**Suggested Readings:**

- Hair, Anderson & Others: Multivariate Data Analysis, PHI
- Koutsoyannis A: Theory of Econometrics, ELBS
- Kendal and Stuart: Advanced Theory of Statistics, PHI
- Conover W.J.: Practical Non-Parametric Statistics, John Wiley
- Gupta SC: Fundamentals of Statistics, Himalaya Publishing House

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- Box, Jenkin & Reinsel: Time Series Analysis, Pearson
- J. Johnston: Econometric methods
- D.N. Gujrati and Sangeetha: Basic Econometrics
- R. Ramanathan: An Introduction to Data Envelopment Analysis
- Kothari: Research Methodology
- Brooks-Chris: Introductory Econometrics for Finance, Cambridge University Press

## Compulsory Paper – 2<sup>nd</sup>

Name of Paper - Research & Publication Ethics  
Paper Code: PDC-102

### Unit-I:

**Philosophy and Ethics:** Introduction to philosophy: Definition, nature and scope, concept, branches. Ethics: Definition, moral philosophy, nature of moral judgments and reactions.

### Unit-II:

**Scientific conduct:** Ethics with respect to science and research, Intellectual honesty and research integrity. Scientific misconducts: Fabrication, Fabrication and Plagiarism (FFP) Redundant publications: Duplicate and overlapping Publications, salami slicing, Selective reporting and misrepresentation of data.

### Unit-III:

**Publication Ethics:** Publication ethics, definition, introduction and importance, Best practice/ standards setting initiatives and guidelines: COPE, WAME, etc., Conflicts of interest, Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types, Violation of publication ethics, authorship and contributorship, Identification of publication misconduct, complaints and appeals, Predatory publishers and journals.

### Unit-IV:

**Open Access Publication -** Open Access Publication and initiatives, SHERPA/ROME online resource to check publisher copy, write and self-archiving policies, software tool to identify predatory publications develop by SPPU, journal finder/journal suggestion tools viz. JANE, ELSEVIER journal finder, springer journal suggester.

### Unit-V: Publication misconduct

**A. Group Discussion:** Subject specific ethical issues, FFP, authorship, Conflict of interest, Complaints and appeals: example and fraud from India and abroad

**B. software tools -** Use of plagiarism software like Turnitin, Urkund and other open software tools



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**Unit-VI:**

**Data Base and Research Matrix**

**A. Data base:** Indexing data base, Citation Data base: web of science, Scopus, research scholar, etc.

**B. Research matrix :** Impact of journals as per journal citation report, SNIP, SJR, IPP, Cite score, Matrix: h-index, g- index, i 10 index, altmetrics

**Suggested Readings:**

- Bird, A. (2006) Philosophy of science. Routledge.
- Macintyre, Alasdair (1967) A short history of ethics, London.
- P. Chaddah (2018) Ethics in competitive research: Do not get plagiarized, ISBN: 978-9387480863,
- National Academy of Science, National Academy of Engineering and institute of medicine (2009) On being a scientist: A guide to responsible conduct in research: third Edition. National academy press

**Compulsory Paper – 3<sup>rd</sup>**

Name of Paper - Computer Applications

Paper Code: PDC-103

JAMSHEDPUR

2020

2025

**Unit-I:**

**Basic Knowledge of Computer** – Definition of Computer, Block diagram of computer, classification of computer, role of computer in Education, Components of Computer Hardware (CPU, Monitor, Keyboard etc.), Software, Operating system(OS), Functions of OS.

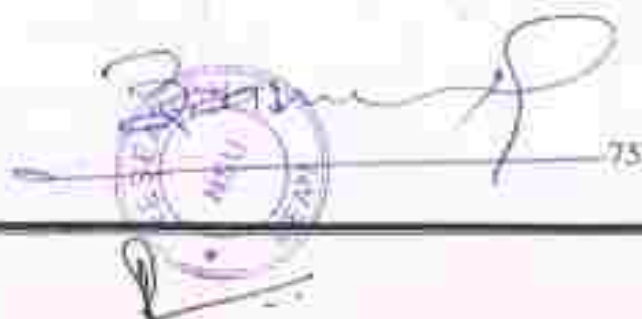
**Unit- II:**

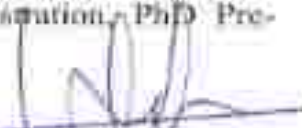
**Computer Applications for Research**

**Word Processing:** Introduction of word processor, creating & saving documents, Formatting of document, Steps in writing report, layout of research report, types, precautions, Presentation of research report.

**Data Processing:** Introduction to excel, need of spreadsheet, creating, opening & saving workbook, editing worksheet, using links, applying different views, Types of functions, Use of statistical tool and their presentation in the form of charts and graphs, Use of EXCEL in synthesizing and summarizing

**Power Point:** Introduction of Power Point for presentation-preparation of slides, Designs & Animation, Use of Power Point in preparing the presentation on Research Work (PhD Progress Report, PhD Semester Registration, PhD Pre-Submission Seminar and PhD Defence Seminar).



  
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**Unit-III:**

**Use of Different Software for Research-** Statistical Package for the Social Sciences (SPSS) and other statistical software for data analysis.

**Unit-IV:**

**Use of Internet in Research-** Introduction, Evaluating internet resources: Authority, Accuracy and objectivity, Brief note on ebooks and virtual library, UGC info net, INFLIBNET and ERNET, What is Plagiarism and how to avoid it?

**Suggested Readings:**

- Simlers D. H., Computer Today, McGraw Hill, New York.
- Rajaram V., Fundamentals of computers, Prentice Hall of India, New Delhi



**Unit I:**

Accounting as an information system, the users of financial accounting information and their needs. Qualitative Characteristics of Accounting, Functions, Advantages and Limitations of Accounting, Branches of Accounting, Bases of accounting; Nature of financial accounting principles –Concepts and Conventions, Financial Accounting standards; Concept, benefits, procedure for issuing accounting standards in India.

**Unit II:**

Recent Trends in Accounting: International Financial Reporting Standards (IFRS)- Need and procedures, Convergence to IFRS, Distinction between Indian Accounting Standards (Ind ASs) and Accounting Standards (ASs), Accounting for intangibles, Environmental Accounting and auditing, Forensic Accounting, Balanced scorecard.

**Unit III:**

Handwritten signature and a purple circular stamp that reads 'RESEARCH CELL NSU DEAN 76'. To the right is a rectangular stamp with a signature and the text: 'Registrar, Netaji Subhas University, Jamshedpur, Jharkhand'.



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Management: History, approaches- development of various schools of thought, from scientific management to post-modern management (current). Shortcomings, pitfalls, strengths and threats of various management approaches. The trend during and after the post-liberalization era.

### Unit IV:

Strategy leads to structure: Types of organizational structures. Organizational Design, Chart and Departmentalization. Span of control, Authority-responsibility, centralization-decentralization, delegation, Theories of organizations, Boundary less and structure less organization. Empowering and authority-responsibility functions.

### Unit V:

Management Today: Ethical issues in Management, Competitive Advantage, SWOT analysis- Compliance & quality audit, Core competence and Business Process Outsourcing (BPO), Re-Engineering, Internationalization of business, TQM and employee work culture, Boundary less organization, Performance of outsourcing, Future trends.

### Suggested Readings:

- Koontz, Harold Weeruchi, H. Management, 10<sup>th</sup> ed., New York, McGraw Hill.
- Luthans, F. Organizational Behaviour, 7<sup>th</sup> ed., New York, McGraw Hill.
- Robbins, S. P. Management, 5<sup>th</sup> ed., New Jersey, Englewood Cliffs, prentice Hall of Inc.
- Robbins, S. P. Organizational Behaviour, 7<sup>th</sup> ed., New Delhi, Prentice Hall of India.
- Singh, Dalip Emotional Intelligence at work, Response Books, Sage Publications, Delhi.
- Peter F. Drucker, Principles and Practice of Management Practice Hall Ltd., New Delhi.
- L.M. Prasad (2008). Management Principles and Practice, Himalayas Publishing House, New Delhi.
- Christopher Lovelock, Services Marketing, Pearson Education, Delhi.
- Jawahar Lal, Accounting Theory and profile, Taxmann Publication, New Delhi.
- I. M. Pandey, Financial Management, Vikas Publishing House, New Delhi.



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## Elective Paper- 2nd (Marketing)

Name of Paper-Advanced Marketing

Paper Code-PDC-MNGT-105

### Unit-I:

Marketing- Basics, Present day importance of marketing in national and global context; Consumer Behaviour- Decision Making Perspectives, Improving the judgement process, Models of consumer behaviour; Marketing Information System- Marketing Research System and Marketing Decision Support System.

### Unit-II:

Research Methods in Marketing- Quantitative and Qualitative Research in Marketing, Attitude Measurement and Scaling Techniques, Product Research, Test Marketing, Advertising Research, Media Research, Motivation Research.

### Unit-III:

Strategic Marketing- Customer, Competitor and Environmental Analysis; SWOT Analysis, BCG Framework model, Porter's Model, GE Model, McKinsey Model, Market Leader, Challenger, Follower and Niche Strategies; Market Entry/Exit Decision; Marketing Mix Strategies, Sustaining Competitive Advantage and Core Competence.

### Unit-IV:

Logistics and Supply Chain Management; Retail Merchandising-Retailers' Marketing Mix, Product Merchandising and Display, Vendor Relations, Pricing and Mark Downs, e-retailing, Customer Relationship Management - Customer Life Time Value Customer Acquisition Development and Retention, Brand and Customer Equity.

### Unit-V:

Entrepreneurial Marketing - New Venture Initiation, Low budget or no budget Market Research, Alternatives to high cost advertising, Multinational Marketing- Overseas Market Research, Legal Dimensions of Multinational Marketing, New Techniques, The Social Impact of Marketing - Social Impact Analysis.

### Suggested Readings:

- Kotler, P., Marketing Management: Analysis, Planning, Implementation and Control. New Delhi, MacMillan
- Schiffman, L. G. and Kanuk, L. L., Consumer Behaviour, New Delhi, PHI.
- Belch, E. & Belch, G. A., Introduction to Advertising and Promotion.



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Chicago, Irwin

- Porter, M. E., Competitive Advantage: Creating Sustaining Superior Performance, New York, Free Press.
- Keegan, W., Global Marketing Management, Englewood Cliffs, New Jersey, PHL.
- Levy, M & Barton, A. W., Retailing Management, Irwin, London

## Elective Paper- 2nd (Finance)

Name of Paper-Advanced Accounting and Finance

Paper Code-PDC-MNGT-105

### Unit I:

Fundamentals of Investment management- Basics of Investment, Introduction, need for Investment, investment versus speculation, Financial Markets, Investment alternatives and their comparison on various parameters as safety, liquidity and growth, the investment triangle. Introduction to asset classes debt, equity, mutual fund schemes, and derivatives, types of Risk and Measurement of risk & return i.e. Sharpe, Treynor, Jensen CAPM etc.

### Unit II:

Capital Structure Theories - Capital Structure Designing, Financial Leverage, Operating Leverage, Combined Leverage, Approaches of Financial Management, Modigliani Millar Approach, Modern Approach to Corporate Finance in an Improvement on the Traditional, Dividend Decisions, Relevance vs Irrelevance of Dividends.

### Unit III:

Cost of Capital- Cost of Capital, Cost of Debt, Irredeemable Debenture (Perpetual Debenture), Redeemable Debenture, Common Stock, Preferred Stock or Preference Shares, Weighted Average Cost of Capital, Limitations of WACC, Considerations in Calculating WACC.

### Unit IV:

International Financial system - An overview, Exchange Rate Determination, International parity theorems and fisher effect, Management of Foreign Exchange Exposure through forwards, money market instruments and options.

### Unit V:

International Accounting and Reporting, International Accounting-Importance and Scope, foreign transactions- recording and translations, consolidation of foreign financial statements, Foreign



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**Suggested Readings:**

- M. Pandey, Financial Management, Vikas Publishing House Pvt. Ltd., New Delhi.
- V.K. Bhatta, Financial Management and Policy, Anmol Publications Pvt. Ltd., New Delhi.
- Brealey, Richard A. and Myers Stewart C., Principles of Corporate finance, Tata McGraw Publishing Company Ltd., New Delhi.
- Van Horne, James C., Financial Management and Policy, Prentice Hall of India Ltd., New Delhi.
- Prasanna Chandra, Financial Management: Theory and Practice, Tata McGraw Hill Publishing Company Ltd., New Delhi.
- Introduction to Financial Accountings: Charles T. Horngren, Gary L. Sundem & John A. Elliott, Pearson Education, Asia.
- Advance Accountancy- R. L. Gupta & M. Radhaswami, Sultan Chand & sons, New Delhi.
- Needles, Belverd, etc. Financial and Management Accounting, Boston, Houghton, Mifflin Company.
- International Accounting-A. K. Das Malapatra., Prentice Hall

**Elective Paper- 2nd (HR)**

**Name of Paper-Advanced Human Resource Management and Organizational Behaviour**

**Paper Code-PDC-MNGT-105**

**Unit- I:**

An overview of Human Resource Management: Framework of HRM in the present-day corporate sector, environmental scanning, HRM in the Global Context, Challenges of HRM, Strategic HRM, Talent Management- The Changing dynamics of talent acquisition, talent development and talent retention.

**Unit- II:**

Performance Management and Development Performance management, Balanced score card, Competency mapping, Succession planning, Compensation and Reward management, Training and Development and Organizational Outcomes, Career planning and development, Leadership development, Human Resources Development.

**Unit-III:**

Organizational Behaviour Personality, Emerging HR practices and Employee perception, Motivation, Employee job satisfaction, commitment and intention to stay, Work life balance, Employee Engagement, Employee Empowerment.



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Employee welfare, Employee value proposition, Emotional intelligence, Work stress, Employee flexibility.

**Unit -IV:**

Organizational Dynamics and Challenges of HRM & IR Organizational Culture, HRIS, Change management, Global HRM, Current Challenges of HRM, Cross Cultural Management, Work-force diversity, Employer branding, Team and organizational effectiveness, Trade union, Worker's participation in Management, Collective Bargaining, Discipline, Grievance Redressal.

**Unit -V:**

Ethical Issues in Human Resource Management: Need and Implications of Ethics for Human Resource Management, Corporate Social Responsibility, Indian Ethos, Values, Human Values in HRM, HRD: HRD Practices, HRD Audit, HRD Culture & Climate, Strategic HRD.

**Suggested Readings:**

- Robbins, S. P., Sanghi, S. & Judge, T. A. (2015). *Organizational Behavior*. New Delhi: Pearson Education.
- P. SUBBA Rao (2018). *Essential of human resource management and industrial relations*, Himalaya publications.
- Luthans, F. (2010). *Organizational Behaviour*. New Delhi: Tata McGraw-Hill.
- Dessler, G. (2015). *Human Resource Management*. New Delhi: Pearson Education.
- Rao, N. S. (2017). *Compensation System and Performance Management*: New Delhi: Himalaya Publishing House.
- Mead, R. (2015). *International Management Crosscultural Dimension*. UK: Blackwell.
- Henry, L. Maznevski, J. and Dietz. (2009). *International Management Behavior: Leading with a Global Mindset*, Chichester, UK: Wiley.
- NOTE: Student can choose any one subject from elective two according to their specialization.

**Elective Paper 3rd**

**Name of the Paper: Principles and Practices of Management**

**Paper Code-PDC-MNGT-106**

**Unit I: Introduction to Management:**

The Emergence of American Management thought, Historical background, Contribution of F.W. Taylor and Henry Fayol (including Scientific Management & 14



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Principles); the emergence of Human Relation and Behavioural Science and its relationship with scientific Management.

**Unit 2:**

**Management Function:** Planning, Organising, Staffing, Decision Making, Direction, Communication, and Control. Management by Objectives (MBO).

**Unit 3:**

**Organizational Structure and Modern Management Theories:** Structures (Functional, Matrix, Network, Divisional, Project, Organic), Formal and Informal Organization, Line and Staff Function, Delegation of Authority and Responsibility, Japanese Style of Management.

**Unit 4**

**Management in the Indian Context:** Quality of work life and Work Ethics-their foundation in the theory and method of work in the Indian Context, Stress Management.

**Unit 5:**

**Corporate Governance:** Concept of Corporate Governance & Stakeholders, Mechanism, Principles including 4 P's of Corporate Governance, Expectation of Stakeholders, Rules of Corporate Governance, Corporate Social Responsibility of Business.

**Recommended Books:**

- Management by Robbins S.P., Coulter Mary and Niharika Vohra, Pearson Education (10th edition), 2010.
- Ethics in Management by S.A. Sherlekar, Himalayan Publishing.

