

BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE

Faculty of Management

Draft of Ph.D. Coursework Syllabus w.e.f. 2023-24

	Duration	Credits	Teaching Pedagogy
Pre-Ph.D. Coursework	1 Semester	12	Through lectures, seminars, workshops, Moocs, etc

Papers	Title	Evaluation Parameters	Evaluation	Marks	Credits
I	Research Methodology	Assignments, workshops / quiz / Presentations, Written Final Examination	60 UE + 40 IE	100	4
II	Recent Advances in the subject (Management/Computer Applications)	Assignments/ quiz / Presentations, Survey Report / Term paper / Research Publications etc, Written Final Examination	60 UE + 40 IE	100	4
III	Presentation of Proposed Research work	<ul style="list-style-type: none">• Seminar I presentations Review of literature (2 credits)• Seminar II presentation - Synopsis For Topic approval (2 credits)	50 UE + 50 UE	100	2
IV	Research and Publications Ethics (RPE)	Assignments, workshops / quiz / Presentations	30 UE + 20 IE	50	2
			Total credits		12

BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE
Faculty of Management
Syllabus for Course-Work for Doctor of Philosophy (Ph.D.) Programme
under Choice Based Credit System w.e.f. 2023-24

Preamble:

The Pre-Ph.D coursework will comprise of 14 credits and span for a minimum duration of six months. Teaching pedagogy would be classroom teaching, moocs, seminars, presentations, etc. Mode of evaluation for courses will be University evaluation. The credits assigned to PhD coursework shall be as follows with one credit equals to 15 clock hours of teaching.

The Pre-Ph.D. Syllabus comprises of four papers as follows:

Papers	Title	Credits
I	Research Methodology	4
II	Recent Advances in the subject (Management/Computer Applications)	4
III	Review of Published Literature	4
IV	Research and Publications Ethics (RPE)	2
		12

Note:

1. Marking of the Paper I and II: 60 (UE): 40 (IE) pattern of evaluation.

Continuous Evaluation System (CES) for 40 marks can be as follows:

10 marks: Class Participation

10 marks: Assignments/ Presentation

20 marks: Midterm examination

Written University Examinations in the Paper I and Paper II will be of 60 marks each.

Question Paper Pattern: Total number of questions to be attempted 6 out of 8 questions of 10 marks each question.

Every answer book will be evaluated by internal and external examiner and average will be taken as final score of the student.

UGC 10-point be used for the computation of the marksheet as per UGC Guidelines.

Workshops and Seminars will be conducted for relevant topics for which attendance would be compulsory.

2. Marking For Paper III:

- a. Seminar I Presentation (50 marks) will be based upon the review of literature on the topic related to area of research. At least 100 standard sources of published work to be reviewed and presented before the internal panel of research guides. The scholar will be required to study the relevant literature on the topic and prepare a comprehensive presentation, with a copy submitted to the institute at least one week before the Seminar I.
- b. Seminar II Presentation for University Evaluation will be for 50 marks. This seminar will assess the preparation of Synopsis for Topic Approval

3. Evaluation of Paper IV: Research and Publication Ethics (RPE):

Total Marks for the Subject: 50 marks

Evaluation Pattern: 30 (UE) + 20 (IE)

Continuous Evaluation System (CES) for 20 Internal Evaluation:

10 marks: Assignments/ Quiz/ Presentation, etc.

10 marks: Paper Publication

Question Paper Pattern for University Evaluation:

Total number of questions to be attempted 3 out of 5 questions of 10 marks each question.

4. Each student in the Pre-Ph.D. Course shall be assigned to a faculty guide based upon the specialization / interest area and the teacher's consent.

5. There will be combined passing of 55% for each subject.

The detailed Syllabus is as follows:

BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE
Faculty of Management Ph.D. Coursework
Paper 01: Research Methodology (4 Credits)

Course Outcome:

1. Develop understanding about the various types of research and research designs
2. Understand sampling techniques
3. Analyze and interpret the data using statistical tools
4. Apply ICT tools for conducting research

Part A: For Written Exam

Units	Topics
1	<p>Introduction to Research: Definition, meaning, characteristics of Research, Types of Research, Introduction Nature of qualitative and quantitative research, Research in functional areas of management, Process of Research, Formulation of Research Design. Types of research designs</p> <p>Meaning and sources of Research problem, characteristics of good Research problem, Research process, outcomes, application of Research, Sources of Research Problems in Management, Research Avenues in Different Business Sectors – IT, Manufacturing, Agriculture, Services etc.</p> <p>Conceptual Frameworks, Literature Review Process – Role, importance, sources, methods, software tools for literature review.</p> <p>Formulation of Research Problem – Introduction, Review of Literature, Objectives, hypothesis, scope, limitations etc</p>
2	<p>Research Design – Meaning, Need, Types of research design – Exploratory, Descriptive, Causal Research Design, Subject Specific research design, model building techniques and testing methods, features of good research design. Subject Specific Experiments, surveys and case study research</p> <p>Concept of Population and Sample, Census Survey and Sample Survey; Nature and Limitations; Sampling: Sampling design: Meaning, logic and application of sampling. Sampling terminology: Universe, population, sampling frame, sample size, Determination of sample size, Methods of sampling: Probability and non-probability sampling, Criteria of choosing an appropriate sampling method.</p> <p>Introduction to Measurement: Meaning and Approaches; Types of Measurement: Measurement scales- nominal, ordinal, interval and ratio scales, Reliability and Validity of measures. Pilot study</p>
3	<p>Data Collection Methods: Types and Sources of Data, Interviews –telephonic, personal, Observation – Direct and Indirect, Questionnaires, Schedules through enumerators, Other Methods – mechanical devices, projective techniques etc. Questionnaire construction and interview schedule. Survey techniques. Designing the instrument for data collection. Processing of Data – Editing, Coding, Classification and Tabulation of Data.</p> <p>Data Analysis: Organization and presentation of data, Univariate, Bivariate and Multivariate Analysis; Tools of Descriptive statistics and their applications. Likert</p>

	Scale Data Analysis, Factor Analysis, Regression Analysis – Linear and Logistic, Analysis of variance (ANOVA), Test of Hypothesis, Parametric and Non-parametric tests - chi-square test, t-test and z-test. Nature and methods non-parametric statistical test.
4	<p>Presentation and Publication of Research: Research Proposal, Research Paper, Research Thesis, Research Report, Report Writing: Pre writing considerations, Formats of publications in Research journals, Research Proposal, Format for writing reports, bibliography, and references using Reference Management System, citing different sources</p> <p>Ethics in Research: Plagiarism - Definition, different forms, consequences, unintentional plagiarism, copyright infringement, collaborative work. Qualities of good Researcher.</p>
5	<p>ICT Tools for Research – Definition of ICT, Related Concepts and Technologies, Use of ICT Tools, Impact of ICT on Educational, Social and Economic Development, Role of computers in research, maintenance of data using software such as Mendeley, Zotero, Endnote, Tabulation and graphical presentation of research data and software tools like EViews, MATLAB, Minitab. Use of Internet in Research: Browsing the internet through standard features, Accessing and Downloading information, E-resources for research, Impact Factor: E - Information, H-Index, citation index, e-journals etc. Web search: Introduction to Internet, use of Internet and WWW, using search engines and advanced search tools.</p>
6	<p>PRACTICAL INPUTS on the following through WORKSHOPS Spreadsheet Tool: Introduction to spreadsheet application, features and functions, Using formulas and functions, Data storing, Features for Statistical data analysis, Generating charts/ graph and other features. Tools used may be Microsoft Excel, Tools for Data Analysis - SPSS for data analysis, Open Source Software for Research- R Programming for Research</p> <p>ICT for Research</p>

Bharati Vidyapeeth Deemed University
Recent Advances in the subject

Ph.D. Coursework - Paper 02: Recent Advances in Management Studies (4 credits)

This paper is aimed at imparting the knowledge and skills to the student about the Management Concepts and also the recent developments and research avenues in Management. Overview for each unit will be discussed during contact sessions and the research scholars are expected to gather insights into the topics at a deeper level.

Units	Topics
1	<p>General Management:</p> <ul style="list-style-type: none"> o Introduction to Management and organizations, functions and responsibilities of manager. Organizational Structure, Leadership Styles, Manpower planning. Change Management, Conflict management o Ethical Issues in Management, Value based organizations; personal framework for ethical choices; Ethical pressure on individual in organizations; Gender issues; Ecological consciousness, Environmental ethics; Social responsibilities of business; Corporate governance, An Overview of Consumer Protection Law and Cyber Laws o Use of Information Technology in managerial applications; Technology issues and Data processing in organizations; MIS and Decision making; Cyber Security – Nature and Scope and legislation, Basics of Software Project Management o Production and Operations Management – TQM, Kaizen, Six Sigma, World Class Manufacturing.
2	<p>Economics – Concepts of Optimization , Demand and Supply Equation, and Price Determination, International Business- Nature and Scope of IB, International Trade Theories, Strategy of IB, Balance of Payments, Derivatives</p> <ul style="list-style-type: none"> o Concept of Corporate Strategy, Strategy Formulation, Types of strategies, BCG Model, Porter’s Generic Strategies, Competitor Analysis, Industry analysis and evaluation, Competitive strategy and corporate strategy, Managing cultural diversity, global entry strategy, Types of policies, principles of formulation of policies, decision making models. o Innovation and Entrepreneurship, Concept of Innovation, Barriers to innovation, Innovations in Management, Small Business, Government policy for promotion of small and tiny enterprises, process of business opportunity identification, Challenges Faced by Entrepreneurs, Start-ups, Turnaround Strategies, Franchising, Intrapreneurship.
3	<p>Human Resource Management (HRM)</p> <ul style="list-style-type: none"> o Human Resource Management (HRM) – Significance, Objectives, Functions, Concepts and Perspectives in HRM, HRM in changing environment, External and Internal environment, Forces and Influences, Organizing HRM function. Human Resource Planning – Objectives, Process and Techniques. o Recruitment and Selection, Recurring methods; Selection procedure; Selection tests; Placements and Follow Up. o Performance Management Systems, Career Planning and Training and Development – Concept of career, Career Planning and Development Methods, Induction, Training and Development Programmes, EDP and MDP.

	<ul style="list-style-type: none"> ○ Compensation and Benefits – Job evaluation techniques, Wage and salary administration; Fringe Benefits, Human resource records and audit. ○ Grievance Management, Collective Bargaining – Concept; Process; New trends in collective bargaining, Industrial Democracy and Employee Participation. Objectives and Forms of employee participation. ○ Change management, Stress management, Workforce Diversity Management, Talent Management, HRIS, HR Analytics, Retention Strategies, Strategic HRM, O.D and Interventions.
4	<p>Marketing</p> <ul style="list-style-type: none"> ○ Marketing – Concept; Nature and Scope; Different environments and their influences on marketing; Understanding the customer and competition; Static and Dynamic understanding of BCG matrix and Product Life Cycle; Brands – Meaning and Role; Brand building strategies; Share increasing strategies. ○ Pricing objectives; Pricing concepts; Pricing methods, ○ Product – Basic and Augmented stages in New Product Developments, Test marketing concepts ○ Promotion mix – Role and Relevance of advertising, Sales Promotion – media planning and management, Advertising – Planning, execution and evaluation, Different tools used in sales promotion and their specific advantage and limitations ○ Distribution channel hierarchy; Role of each member in the channel; Analysis of business potential and evaluation of performance of the channel members ○ Wholesaling and Retailing – Different types and the strengths of each one; Emerging issues in different kinds of retailing in India ○ Marketing research – Sources of information; Data collection; Basic tools used in data analysis; Structuring a research report ○ Marketing to Organizations – Segmentation models; Buyer behavior models; Organizational buying process. Consumer Behaviour theories and models and their specific relevance to marketing managers. Sales Function – Role of technology in automation of sales function ○ Customer Relationship Management including the concept of Relationship Marketing, Structuring and managing marketing organizations ○ Export marketing, Social Marketing, Digital Marketing.
5	<p>Financial management and International Business</p> <ul style="list-style-type: none"> ○ Nature and scope of financial management; Valuation concepts – Risk and Return; Valuation of securities; Pricing theories – Capital assets pricing model and arbitrage pricing theory, Understanding financial statements and analysis thereof, ○ Capital budgeting decisions; Risk analysis in capital budgeting and long term sources of finance, Capital Structure – Theories and factors; Cost of capital, Dividend Policies – Theories and Determinants, Working Capital Management; Receivables Management ○ Sources of Finance – Domestic and International, Elements of derivatives, Corporate risk management ○ International Financial Management, Developments in International Monetary Scene, Foreign Exchange Markets; Economic Theories of Exchange Rate Determination, Currency Convertibility , Strategy and the Firm, Value Creation and Firm as a value chain, Pricing Strategy in Global Markets, Management of Forex Risk.

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Recent Advances:

- Digitization
- Demonetization
- Make In India
- Swachh Bharat

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BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE
Faculty of Management: Course work for Ph.D. Coursework

Paper II: Recent Advances in Computer Application - (4 Credits)

Units	Topics
1	<p>Unit I: Algorithm design Pattern Introduction, Fundamentals of the analysis of algorithm efficiency, Brute force, Divide-and - conquer, Decrease - and - conquer, Transform- and - conquer, Space and time tradeoff's, Dynamic programming, Greedy Technique, Iterative improvement</p>
2	<p>Unit II : Soft Computing : Knowledge representation, graph search algorithm ,fuzzy logic ,Rough set Theory ,neural networks, semantic algorithm ,decision tree ,clustering methods ,Genetic algorithm</p>
3	<p>Unit III:- Cloud computing Introduction to Cloud Computing including benefits, challenges, and risks, Cloud Computing Models including Infrastructure/Platform/Software – as-a-service, Public cloud, private cloud and hybrid clouds</p>
4	<p>Unit IV:- INTRODUCTION TO BIG DATA Introduction to Big Data Platform – Challenges of Conventional Systems - Intelligent data analysis – Nature of Data - Analytic Processes and Tools - Analysis vs Reporting - Modern Data Analytic Tools - Statistical Concepts: Sampling Distributions - Re-Sampling - Statistical Inference - Prediction Error</p>
5	<p>Unit V Web Usage Mining Process and Techniques Data collection and sources of data, Data preparation for usage mining, Mining navigational patterns, Integrating e-commerce data, Leveraging site content and structure ,User tracking and profiling, E-Metrics: measuring success in e-commerce, Privacy issues, Web Mining Applications and Other Topics</p>
6	<p>Unit VI: Machine Learning using R: Exploratory Data Analysis, : Data Visualization using R, Data Exploration, Understanding the Business Problem, Preprocessing the Data, Using Modeling Techniques and Algorithms, Evaluating the Model, Presenting a Management Report and Review, Deploying the Model</p>

Reference Books:

1. "Introduction to the design and analysis of algorithms" - Anaay Levitin (pearson Education Publication)
2. Pattern Recognition Technique s and Applications- Rajjan Shinghal (Oxford University Press)

Ph.D. Coursework
Paper 03: Review of Published Research Work

Objectives:

- To train the students towards the essentials involved in carrying out review of literature for a research study.
- To impart the necessary skills to students to identify and critically evaluate relevant past-work for research.
- To orient the students to mini research problems, and practically conduct the study and prepare research report. The topic must be related to the doctoral research topic and selected in consultation with the guide.

It is expected at the end of study for this paper the student should be able to write a good research proposal for his/her PhD work.

For this paper, student will choose a topic of research for his/her PhD work in consultation with his guide. The student is expected to collect research papers on the topic published in leading journals. He/she should critically and creatively read the papers, prepare a review of the papers, identify the gaps in research on the topic, formulate the research problem, and establish the relevance of the research. The final outcome of this paper is a research proposal.

At the end of the term, a literature review and the research proposal will be presented before an external examiner who will evaluate the same for 50 marks.

	Evaluation Pattern	Marks
Seminar I	Seminar I presentations Review of literature	50
Seminar II	Seminar II presentation - Synopsis For Topic approval	50
		100

Ph.D. Coursework
Paper 04: Research and Publications Ethics (RPE)

Course Title:

Research and Publications Ethics (RPE) – Course for awareness about the publication ethics and publication misconducts.

Credits: 2

Marks: Total Marks 50: (20 IE+30 UE)

Overview:

This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands –on- sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (Citation, h – index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

Class room teaching, guest lectures, group discussions, and practical sessions.

Total Marks for the Subject: 50 marks

Evaluation Pattern: 30 (UE) + 20 (IE)

Continuous Evaluation System (CES) for 20 Internal Evaluation:

10 marks: Assignments/ Quiz/ Presentation, etc.

10 marks: Paper Publication

Question Paper Pattern for University Evaluation:

Total number of questions to be attempted 3 out of 5 questions of 10 marks each question.

Particulars	No of Hours
Syllabus in detail (Theory)	
RPE 01: Philosophy and Ethics: 1. Introduction to philosophy: Definition, nature and scope, concept, branches 2. Ethics: Definition, moral philosophy, nature of moral judgment and reactions.	4 hours
RPE 02: Scientific Conduct: 1. Ethics with respect to science and research, Unethical Practices Nearly Identical to research misconduct 2. Intellectual honesty and research integrity 3. Scientific misconducts: Falsification, Fabrication and Plagiarism (FFP), idea, data, method and text plagiarism 4. Redundant publications: duplicate and overlapping publications, salami slicing 5. Selective reporting and misrepresentation of data.	4 hours
RPE 03: Publication Ethics:	7 hours

<ol style="list-style-type: none"> 1. Publication Ethics: Definition, introduction and importance, citations styles, objectivity, relevance, and transparency of the paper 2. Best Practices/ standards settings initiatives and guidelines: COPE, WAME, etc 3. Conflicts of interest with copyrights and patents 4. Publication misconduct: Definition, concept, problems that lead to unethical behavior and vice versa, types 5. Violation of publication ethics, authorship and contributorship 6. Dominant laws regarding research ethics 7. Infringement and enforcement of Copyright and Patents 	
Practical	
RPE 04: Open Access Publishing: <ol style="list-style-type: none"> 1. Open Access Publications and Initiatives 2. SHERPA/ RoMEO online resource to check publisher copyright and self – archiving policies 3. Software tool to identify predatory publications developed by SPPU 4. Journal finder/ journal suggestions tools viz JANE, Elsevier Journal Finder, Spriger Journal Suggester, etc. 	4 hours
RPE 05: Publication Misconduct: <p>A. Group Discussions (2 hrs.)</p> <ol style="list-style-type: none"> 1. Subject specific ethical issues, FFP, authorship 2. Conflicts of interest 3. Complaints and appeals: examples and fraud from India and abroad 4. Peer review process <p>B. Software Tools (2 hrs.)</p> <p>Use of plagiarism software like Turnitin, Urkund, cross check, plagscan, Crossref and other open source software tools.</p>	4 hours
RPE 06: Database and Research Metrics: <p>A. Databases (4 hrs.)</p> <ol style="list-style-type: none"> 1. Indexing databases 2. Citation Databases: Web of Science, Scopus, etc. 3. Open databases <p>B. Research Metrics (3 hrs.)</p> <ol style="list-style-type: none"> 1. Impact factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score 2. Metrics: h – index, g index, i 10 index, altmetrics. 	7 hours

References:

- 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 scooped; 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 Academies Press.
- Resnik, D.B. (2011). What is ethics in research and why it is important. National Institute of Environmental Health Sciences, 1-10. Retrieved from <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>
- Beall, J. (2012). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179-179. <https://doi.org/10.1038/489179a>

Indian National Science Academy (INSA), Ethics in Science Education, Research and Governance (2019), ISBN: 978-81-939482-1-7.

https://www.insaindia.res.in/pdf/Ethics_Book.pdf

Suggested Readings;

1. Resnik, Shamoo : Responsible conduct of Research : Oxford University Press
2. Comstock : Research ethics : Cambridge university Press
3. Robin : Research ethics : Indiana University press
4. Tony Mayer : Promoting Research Integrity in a Global Environment : World Scientific Publishing
5. Paul Oliver : The Student's Guide to Research Ethics : Open University Press
6. Kambadur Muralidhar, Amit Ghosh Ashok Kumar Singhvi.: Ethics in Science Education, Research and Governance : Indian National Science Academy
7. David V Thiel : Research methods for Engineers : Cambridge Press

Note: Latest references with relevant research papers and articles from reputed journals will be added by the teaching faculty during the class

**CERTIFICATE OF ADHERENCE TO UGC
(MINIMUM STANDARD FOR AWARD OF PH.D DEGREE) 2009**

This is to certify that XXXXXXXXX's Ph.D Degree is in accordance with UGC (Minimum Standard for award of Ph.D Degree) 2009. He /She has fulfilled the below mentioned criteria. This certificate has been given as the resolution No XX of Academic council dtd XXXX & Syndicate resolution No xx Dated XXXX.

Name Of Candidate	
Name Of Subject/Faculty	
Title Of Ph.d Thesis	
Name Of Guide	
Notification No & Date	
Year Of Award Of Ph.D Degree	

This certificate is based on the following criteria fulfilled by the candidate

	Criteria	Criteria Fulfilled Yes /No
1	Administered by entrance test or interview/presentation or both	
2	Maximum Nos, M.Phil : 5; Ph.D : 8 / Supervisor	
3	Reservation Policy	
4	Course work / research methodology theory	
5	Research advisory committee – Review or Progress	
6	Methodology Exam	
7	Pre Ph.D Presentation Before Ph.D Thesis Submission	
8	Publication Of Research Papers in refereed journal	
9	Presentation of Papers In Conference / Seminar	
10	Evaluation of Thesis by 2 Experts other than supervisor, one out of state	
11	Submission of Soft Copy of Ph.D Thesis At University	
	Total criteria being fulfilled	

No : Xx / PH>D/ XXXX/2017

REGISTRAR

Seal of university

RECOMMENDED BOOKS

- Arya P.P. & Yesh Pal, “Research Methodology in Management – Theory and Case Studies” , Deep and Deep Publications
- Becker, “Publishing Your Research Work” , Sage Publications, India
- Burns, Robert B. (2000) *Introduction to Research Methods*, Sage Publications, N. Delhi.
- Cooper, Donald R. and Schindler, Pamela R. (1999) *Business Research Methods*, Tata Mcgraw Hill.
- Easterly Smith, Mark Thorpe, Richard, Hill and Lowe, Andy (2002) *Management Research – An Introduction*, Sage Publications, N. Delhi.
- Emory, W.G.: Business Research Methods, Richard D. Irwin. *Experiments in Statistical Sampling*, ISI, Calcutta.
- Goode, W. J. and Paul K. Hart: *Methods in Social Research*, London: McGraw-Hill, 1981
- Gordon, W. (1999). *Goodthinking - A Guide to Qualitative Research*. NTC Publications Ltd.
- Gummesson, E. (1991). *Qualitative Methods in Management Research*. London: Sage.
- Kinnear, T.C., and Taylore J.R.: *Marketing Research Applied Approach*, McGraw Hill..
- Kothari C.R. (2004), 2/e, *Research Methodology- Methods and Techniques* (New Age
- Krishnaswami, O.R. *Methodolgy of Research in Social Sciences* Mumbai; Himalaya
- Krishnaswamy, K.N., Sivakumar, Appa Iyer and Mathiranjana M. (2006), *Management*
- Mukherji P. N. (Ed.) " *Methodology in Social Research*", Sage Publications, New Delhi, 2000.
- Murthy – “Effective Proposal Writing” , Sage Publications India
- Oates B J – *Researching Information Systems and Computing*, Sage Publications
- Ranjit Kumar, “Research Methodology” SAGE PUBLICATIONS India
- Somekh – “Study and Methods in Social Research” – Sage Publications India
- Swanborn – “Case Study Research” Sage Publications India
- Yin, R.K. (1994). *Case study research. Design and methods*. London: Sage.
- Young, Pauline V. : *Scientific Social Surveys and Research*. New York: Prentice-Hall. 1949.
- *Thesis & Assignment Writing*–J Anderson, B.H.Dursten & M.Poole, Wiley Eastern, 1977
- *A Hand Book of Methodology of Research* – P. Rajammal and P. Devadoss, R. M. M. Vidya Press, 1976.
- *The Craft of Scientific Writing* by Michael Alley, (Springer).
- *Research Methodology* by R. Panneerselvam, PHI, New Delhi 2005
- *Practical Research Methods*, by Dawson, Catherine, 2002, UBS Publishers’ Distributors New Delhi.
- *Research Methodology- A step by step Guide for Beginners*, (2nd ed.) Kumar Ranjit, 2005, Pearson Education.
- *How to write and Publish* by Robert A. Day and Barbara Gastel, (Cambridge University Press).
- *Survival skills for Scientists* by Federico Rosei and Tudor Johnson, (Imperial College Press).
- *How to Research* by Loraine Blaxter, Christina Hughes and Malcum Tight, (Viva Books).
- *The Craft of Scientific Writing* by Michael Alley, (Springer).
- *A Student’s Guide to Methodology* by Peter Clough and Cathy Nutbrown, (Sage Publications).
- *Probability and Statistics for Engineers and Scientists*” by Sheldon Ross, (Elsevier Academic Press).
- *Research methodology techniques and methods* by C R Kothari, New age International publishers.