

Syllabus for PhD Course Work in Botany (2011-12)

There will be two papers; one each with 100 maximum marks

Paper-I Research methodology, Advance Tools & Techniques, Quantitative Data Analyses and Computer Fundamentals, Taxonomic & Ecological Data Analysis.

Paper-II Review of Literature & Seminar

Paper-I		Maximum Marks
Research methodology, Advance Tools & Techniques, Quantitative Data Analyses and Computer Fundamentals, Taxonomic & Ecological Data Analysis.		
A	Research methodology Essential steps in research: Identification, Selection of objectives, Research design:- components, importance of literature collection, citation & indexing. Research ethics, IPR, Research report Presentation-table, Figure, Formatting and typing.	25.0
B	Advanced Tools & Techniques Advanced microscopy-confocal phase contrast & electron microscopy. Electrophoresis, HPLC, PCR, DNA & Protein sequencing, spectrophotometry.	25.0
C	Quantitative Data Analysis and Computer Fundamentals Standard deviation, standard error, coefficient of variation, correlation & regression, t-test, frequency distribution. Computer Applications Softwares for biostatistics, SPSS, COSTAT, MS WORD, MS EXCEL, MS Power point	25.0
D	Taxonomic & Ecological Data Analysis Morphological basis of plant Identification, Taxonomy in relation to cytology & Biochemistry. Environmental sampling methodology. Isolation, preservation & Identification of micro organisms.	25.0
Paper –II Review of Literature & Seminar		Maximum Marks
A	Review of Literature- Writing review of literature in the area of the proposed Ph.D program.	50.0
	Seminar-Based on the review of literature	50.0

Note:

- There will be FOUR units (A, B, C &D) of 25 marks each. The pattern will include both objective (multiple-choice questions) and objective (short answer, using 50 to 100 words) questions.
- The candidate must be obtained 50% or more marks to qualify in the course work. The answer paper will be assessed independently by two examiners.

Main Exam Path
3/12/11

Final
03-12-11

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B	Advanced Tools & Techniques Advanced microscopy-confocal phase contrast & electron microscopy. Electrophoresis, HPLC, PCR, DNA & Protein sequencing, spectrophotometry.	25.0
C	Quantitative Data Analysis and Computer Fundamentals Standard deviation, standard error, coefficient of variation, correlation & regression, t-test, frequency distribution. Computer Applications Softwares for biostatistics, SPSS, COSTAT, MS WORD, MS EXCEL, MS Power point	25.0
D	Taxonomic & Ecological Data Analysis Morphological basis of plant Identification, Taxonomy in relation to cytology & Biochemistry. Environmental sampling methodology. Isolation, preservation & Identification of micro organisms.	25.0
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Alain Kumar Path
3/12/11

Final
03-12-11

SYLLABUS

PRE - Ph.D. COURSE

IN

CHEMISTRY



2017-2018

**PT. RAVISHANKAR SHUKLA UNIVERSITY
RAIPUR - 492 010, CHHATTISGARH**

PRE - Ph.D. COURSE

DURATION : SIX MONTHS

M.M. : 200

COURSES		MARKS
C O U R S E I	1. RESEARCH METHODOLOGY	20
	2. LITERATURE SEARCH TECHNIQUE	20
	3. INSTRUMENTATION TECHNIQUES	20
	4. SAMPLING & MODELING	20
	5 STATISTICAL ANALYSIS	20
C O U R S E II	6. PROJECT BASED ON REVIEW OF RESEARCH WORK	50
	7. SEMINAR	50
	TOTAL	200

PRE - Ph.D. COURSE

COURSE – I

RESEARCH METHODOLOGY IN CHEMISTRY

M.M. - 100

UNIT-I RESEARCH METHODOLOGY

Purpose of research; Research project Conceptualization, choice of methods; Elements of a research proposal, operationalization choices and illustrations. Research design: formulation, pre-testing of research instruments and procedures, units of analysis, time dimension. Experimental design and use of indicators in research. Survey Research: Guidelines for asking question and questionnaires construction, Self-administered questionnaires, Interview and other survey methods; their strength and weaknesses. Sampling: the logic of sampling , concepts and terminologies , population and Sampling frames , types of sampling design .Field studies : steps in the conducting field study ; evaluation research: how to carry out evaluation research , Patent and IPR.

UNIT-II LITERATURE SEARCH TECHNIQUE

IUPAC rule for nomenclature –Introduction to chemical abstracts –Subject Index, Substance Index, Author Index, Formula Index and other indices-Uses of these indices with examples- current contents –organization –methods of using the titles and index –other similar abstracts for special topics related to chemistry. Use of computer browsing for literature search and downloading –basics of internet services –various sources of abstracts ,articles and papers of browsing and downloading , Techniques of conversion from one format to another Structure drawing programs and their uses –searches through structure . Use of Literature, Knowledge of National and International Journals, Impact Factor, Citation-Index, h Index,SCI Journals, Plagiarism

UNIT-III INSTRUMENTAL TECHNIQUES

Principle, instrumentation and application of electro-analytical, spectrophotometry, fluorimetry, AAS, AES, XRF and NMR techniques. Principle instrumentation and application of chromatography and MS techniques. Classical Method of Analysis

UNIT-IV SAMPLING AND MODELING

Mesearment and sampling technique of air pollutants using air monitors in selected atmospheric receptors. Statistical approach in environmental monitoring and analysis using selected parameters(correlation and regression analysis, factor analysis etc.) and graph plotting (Boxplot ,histogram etc.)

UNIT-V STATISTICAL ANALYSIS

Various types of errors – precision and accuracy- significant figures, various statistical tests on the accuracy of results, positive and negative deviation from accurate results the binomial distribution, the Gaussian distribution - the normal distribution of random errors, mean value, variance and standard deviation, reliability interval, deviations, from the Gaussian law of error distribution, student's t-distribution, and t-test- comparison of the mean with the expected value, comparison of the results of two different methods, comparison of the precision of two methods by F-test, Gross errors and elimination of outlying results, graphical methods- Linear regression line, standard deviation, correlation coefficient-Multiple linear regression (one variable with two other variables).

COURSE - II

M.M. : 100

I. PROJECT BASED ON REVIEW OF RESEARCH WORK

M.M.-50

II. SEMINARS

M.M.-50

BOOK SUGGESTED:

1. Ahuja & Jespersen, Modern Instrumental Analysis, 1st Edition, Elsevier Science, 2006.
2. Douglas A. Skoog; F. James Holler; Stanley R. Crouch, Principles of instrumental Analysis, Cole Pub Co., 2006.
3. John Creswell, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (Hardcover), 2008
4. John W. Creswell, Qualitative Research & Evaluation Methods , 2008
5. Thesis and Assignment Writing – J. Anderson, B.H. Dursten and M.Poole, Wiley Eastern (1977).
6. A Hand Book of Methodology of Research – P. rajamal and P. Devadoss, R.M.M.Vidya Press (1976).
7. instrumental Methods of Analysis – H.H. Willard, L.L.Merritt, J.a.Dean, F.A. Settle, CBS Publishers & Distributors, 1986.
8. Practical Process, Research and Development – Neal G. Anderson, Amazow

Ph.D. +

COMPULSORY COURSE FOR Ph.D. SCHOLARS

SUBJECT- DEFENCE STUDIES

RESEARCH CENTER: GOVERNMENT NAGARJUNA P.G.COLLEGE OF SCIENCE,
RAIPUR

SYLLABUS

The duration of course will be of six months. The course will be composed of a theory and a practical, each carrying 100 marks. Theory paper is divided in to five units and duration of examination will be of 3 hours, while practical examination will be conducted in 4 hours duration. The qualifying marks will be 50% independently in theory and practical. As per UGC recommendations every scholar has to qualify the course before the commencement of research.

A : SYLLABUS FOR THEORY PAPER

UNIT-I (Military History)

1. Pattern of Warfare (Ancient, Medieval & Modern)
2. Pattern of Military Systems (Ancient, Medieval & Modern)
3. Science and Technology in war in History
4. Wars after Independence

UNIT-II (Strategic Studies)

1. Geostrategic Studies of J&K and NE.
2. Effects of War by Geography.
3. Strategic Location of Seas & Islands in the Indian Ocean.
4. Strategic Policies of India (Nuclear, Space, Missile, etc.)

UNIT-III (Security Studies)

1. Internal and External Security of India.
2. Defence Mechanism of India.
3. Relation of India with other countries.
4. Terrorism, Insurgencies special reference to Naxalism

UNIT-IV (War Studies)

1. Chemicals in War.
2. Biological Warfare.
3. Modern Weapon Systems.
4. Psychological warfare.

UNIT-V (Computer And Statistical Analysis)

1. Computers: General introduction and organization of Computers.

2. Applications of computer in research: Use of MS word, MS excel, MS power point.
3. Method of NET access for literature collection.
4. Methods of statistical analysis.

B; Paper II (Practical)

Part I : Review of Related Literature

20 Marks

The candidate shall review minimum 5 research articles of a broad research area from journals or books of the subject. After reviewing the research articles/books the candidate shall submit a summary chronologically developing the arguments within two months from the beginning of the Course. On the basis of the review of literature the candidate shall prepare a Synopsis including.

- i. Research Topic
- ii. Importance of the problem.
- iii. Objectives
- iv. Review of Literature
- v. Gaps in Earlier Studies
- vi. Hypotheses
- vii. Methodology
- viii. Plan of the Study
- ix. Chapterisation
- x. Bibliography

Practical :

1. Demonstration of Method of Research paper writing in MS word.
2. Demonstration of Data tabulation and graph preparation by using MS Excel.
3. Demonstration of Media preparation.

Part-II : Seminar

20 Marks

The candidate shall present a seminar on the synopsis. On the basis of the suggestions made in the seminar, the candidate shall prepare a project report/dissertation. Final examination will be conducted with the help of an external examiner in the presence of the internal examiners.

Practical :

1. Demonstration of Preparation of Power point presentation.
2. Demonstration of oral / poster presentation.

Part III : Project Report/Dissertation in any Topic

60 Marks

Practical :

1. Demonstration of NET access method for literature collection.
2. Demonstration of Method of Reference writing.
3. Demonstration of Method of Synopsis writing.

4. Questionnaire preparation for socio economic study.

REFERENCES

1. Microsoft Word The basic and beyond by Osborne, Tata Mcgrawhill.
2. International Relation, Palmer and Parkins.
3. Defence Machenism of Modern State, Dr. L. J. Singh.
4. National Security, Dr. Harveer Sharma.
5. Psychology in Armed Forces, E. G. Boring.
6. Science and Technology in War, Dr. G. K. Pandey.
7. Indian Military History, Babu Ram Pandey.
8. Military Geography, Dr. Parshu Ram Gupta.

School of Studies in Geology & WRM
Pt. Ravishankar Shukla University, Raipur, C. G.

Syllabus for Ph. D. Course Work in
Geology Examination 2017-18

The Ph. D. Course in Geology shall be of six months. This course shall have Two Papers. Paper- I is theory paper and Paper -II is project course work. Each paper is of 100 marks. Theory paper will be of three hours duration. In Paper –II, 40 % marks will be assigned to seminar which will be evaluated by Departmental Research Committee and 60 % marks will be assigned to project work which will be evaluated by external and internal examiners jointly.

Scheme of Examination

Paper	Title of the Paper	Marks allotted
Paper-I	Research Methodology, Quantitative Methods and Computer applications	100 Marks
Paper-II	Review of Literature concerning the topic of research and Seminar/Project Report. (a) Seminar (b) Project work and Viva-voce	100 Marks 40 marks 60 Marks

Paper – I: Research Methodology, Quantitative Methods and Computer applications

Research methodology – An overview. Scientific hypothesis. Theory and philosophy of Research Methodology in context to Earth Sciences. Facts and Laws Formulating Hypothesis. Selection and formulation of research problem. Meaning and need of Research design.

Theory of Sampling / field methods, Parametric Analysis and Quantitative and qualitative methods in Geosciences. Methods of data collection. Primary and Secondary data. Observations and tests.

Precision and accuracy in geological data generation. Statistical techniques for processing and analysis of data: Probability, Normal distribution, Binomial and Poisson distribution. Sampling estimates – central tendency parameters. Null hypothesis – student t test and chi square test.

Computer applications in numerical data processing. Microscopic techniques. Staining techniques for distinguishing Calcite-Dolomite, K- Feldspar-

Plagioclase-Cordierite. Techniques in photomicrography. . NORM calculation and interpretation of ACF, AKF diagrams.
Hydrogeology, Theory and Methods.

Paper - II Review of Literature concerning the topic of research and Seminar/Project Report.

Literature Review/Project/Assignment work on any current topic of demand in the stream decided by the Supervisor(s) and or DRC. Presentation of report and work.

- (a) Seminar presentation
- (b) Project work and Viva-voce

Pt. Ravishankar Shukla University, Raipur
Ph.D. Course Work (Mathematics)
2011-12 & Onward

Scheme of Examination

There shall two papers, one theory paper and one project work. Each of 100 marks.

S.No.	Particulars		Max. Marks	
1	Theory Paper	Research Methodology, Quantitative techniques and Computers	100	100
2	Project Work	Dissertation/Project Script	50	100
		Seminar	20	
		Viva Voce	30	
Grand Total				200



Details of Syllabus Paper I

Research Methodology, Quantitative techniques and Computers

M.M. 100

Unit I – Research Methodology:

Introduction to research methodology, Meaning, objectives, types, significance of Research. Identification, Selection of Research problem, Formulation of research objectives, Research design, components, importance and typology, Quantitative and qualitative methodology, hypotheses. Research ethics.

Unit II - Scientific Writing : Importance of Science Writing , Meaning and nature of Scientific Style , Writing effective scientific prose, Effective word selection in Science writing, Common mathematical functions and their abbreviations, Symbols, Operators Commonly used in Mathematics, Greek, Roman letters used in mathematics, Mathematical Theorems and properties, Mathematics Journals and their abbreviations.

Unit III - Style and Usage for Mathematics :

Review : Mathematics Subject Classifications (MSC). Mathematical Review, MathSciNet and other E-Resources.

Manuscript Preparation :

Structure of a Standard Mathematics Paper (in brief), Other Forms of Mathematics Manuscripts.

Usage : Mathematical Expressions, Alphabets used in Mathematical Expressions, Bracketing, Limits, Fractions, Multiplication, Vectors, Tensors, and n-forms, Summations, Products, Unions, and Integrals.

Unit IV - Typesetting Mathematical Text with LATEX :

Sample Document, Type Style, Environments, Lists, Centering, Tables, Verbatim, Vertical and Horizontal Spacing. Equation Environments, Fonts, Hats, and Underlining, Braces, Arrays and Matrices, Customized Commands, Theorem-like Environments, Math Styles, Document Classes and the Overall Structure, Titles for Documents, Sectioning Commands, Packages, Inputting Files, Inputting Pictures, Making a Bibliography, Making an Index, Slides.

Unit V - MATLAB :

Arithmetic Operations, built-in-MATH functions, scalar variables, Creating Arrays, built-in-functions for handling arrays, Mathematical Operations with Arrays, Script Files, Two dimensional plots, programming in MATLAB, Polynomial, curve fitting, and interpolation, Three-dimensional plots.

Books recommended :

1. C.R.Kothari, Research Methodology, New Age International Publishers (2004)
2. Michael Davis : Ethics and the University. Routledge (1999)
3. Harold Rabinowitz, Suzanne Vogel : The Manual of Scientific Style. Academic Press (2009)
4. Laslie Lamport : LATEX. Addison Wesley Publication Company (1994)
5. David F. Griffiths, Desmond J. Higham : Learning LATEX. Society for Industrial and Applied Mathematics, Philadelphia (1997)
6. Amos Gilat : MATLAB : An Introduction with Applications. John Wiley & Sons, INC (2004)

Paper II
Project Work

M.M. 100

This paper will consist of three components

- | | | |
|-------|---|----|
| (i) | Dissertation/Project work leading to Ph.D. Work | 50 |
| (ii) | Seminars (two) | 20 |
| (iii) | Viva-Voce on Dissertation | 30 |

**SCHEME OF EXAMINATION
&
SYLLABUS OF
Course Work for Ph.D. (PHYSICS)
UNDER
FACULTY OF SCIENCE
Approved by Board of Studies in Physics
EFFECTIVE FROM JULY 2017**



**School of Studies in Physics & Astrophysics
Pt. Ravishankar Shukla University
Raipur (C.G.) 492010
PH: - 0771-2262864
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Approved by Board of Studies in Physics on 10, February 2017
PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR

SCHEME OF EXAMINATION & SYLLABUS PRESCRIBED FOR THE EXAMINATION OF Ph.D. Course Work (Physics)

EFFECTIVE FROM JULY 2017

Scheme of Examination

The Course Work for Ph.D degree in Physics is a six month course after completion of P.G. degree in the subject. There shall be two compulsory papers based on the research areas of Physics. The structure of the course is given below:

S.No.	Theory Paper	Marks
1.	Research Methodology, Quantitative Methods & Computer Applications	100
2.	Review of Literature in Concerned Subject, Seminar/ Project Report	100
Total		200

Paper – I

Research Methodology & Quantitative Methods and Computer Applications

UNIT- I

Techniques for Structural, Microscopic, and Spectroscopic Characterization

X-ray diffraction: coherent scattering of X-rays, reflected intensities, experimental methods of crystallography, particle size determination.

Microscopy: Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Scanning Transmission Electron Microscopy (STEM), Scanning Tunneling Microscopy (STM), Atomic Force Microscopy (AFM).

Spectroscopy: Fourier Transform Infrared (FTIR) and Raman spectroscopy, Nuclear Magnetic Resonance (NMR), Electron Spin Resonance (ESR).

UNIT – II

Techniques for Characterization of Solid State Ionic and Luminescent Materials

Solid State Ionic Materials: Characterization of ion transport properties; AC Impedance Spectroscopy (IS) for conductivity (σ) measurements; DC polarization methods viz, Tubandt's method, Wagner's method, Transient Ionic Current (TIC) method for ionic mobility (μ), ionic transference number (t_{ion}), mobile ion concentration (n) and ionic drift velocity (v_d) measurements. Temperature dependent studies on σ , μ , n , v_d etc. and computation of respective energies.

Techniques for ML measurement and TL measurements. Measurement techniques to study Photoluminescence response, UV-visible spectrometry.

Thermal analysis: Differential Thermal Analysis (DTA), Differential Scanning Calorimetry (DSC), Thermal Gravimetric Analysis (TGA).

UNIT – III

Astrophysical Techniques for Astronomical Observations

Photometry: Instrumental magnitudes and colors, seeing and atmospheric effects, extinction correction. Standard photometric systems: UBV and other systems. Transformation to a standard photometric systems. Absolute and differential photometry.

Spectroscopy: Basics of prism and grating spectroscopes.

Basics of CCD data reduction: Plate scale, readout noise and gain, signal-to-noise ratio. correction for bias, dark and flat fielding, fringing and cosmetic effects.

UNIT – IV

(I) Programming in C

Getting Started: Elementary idea about C Language, Getting Started with C, the First C Program, Compilation and Execution, Receiving Input; C Instructions: Type Declaration Instruction, Assignment Instruction, Integer and Float Conversions, Type Conversion in Assignments, Hierarchy of Operations, Associativity of Operators. Control Instructions in C.

Control Structures: The Decision Control Structures, If Statement, If-else Statement, Use of Logical Operators, The Conditional Operators. **The Loop Control Structure:** Loops, the while Loop, the for Loop, the Odd Loop, the break Statement, the Continue Statement, the do-while Loop. **The Case Control Structure:** Decisions Using switch, switch Versus if-else Ladder The goto Keyword.

UNIT – V

(II) Programming in C

Functions & Pointers : What is a Function, Passing Values between Functions, Scope Rule of Functions calling Convention, Advanced Features of Functions; Function Declaration and Prototypes Call by Value and Call by Reference , An Introduction to pointers, Pointer Notation, Back to Function Calls, Conclusions.

Storage Classes in C: Automatic Storage Class, Register Storage Classes, Static Storage Classes, External Storage Classes, Which to Use When.

The C Preprocessor: Features of C Preprocessor, Macro Expansion, File Inclusion, Conditional Compilation, #if and #elif Directives, Miscellaneous Directives.

Arrays: What are Arrays; A Simple Program using Array. More on Arrays; Array Initialization, Bounds Checking, Passing Array Elements to a Function. Pointers and Arrays; Passing an Entire Array to a Function.

Recommended Text and Reference books:

1. Characterization of Materials: Wachtman J B (Butterworth-Heinemann)
2. Introduction to Nanotechnology by Charles P. Poole Jr. and Frank J. Owens (Wiley Inter. Science Pub. 2003)
3. Condensed Matter Physics by Michal P. Marder (Wiley Inter. Science Pub., 2000)
4. Superionic Solids- Principle and applications by S. Chandra (NH Pub., 1980)
5. Luminescence of Solids : R Vij (Plenum Press)
6. Digital Image processing: Gonzalez R. C. and Woods R. E. (Addison-Wesley)
7. Astronomical Photometry: Henden A. A. and Kaitchuck R H (Willmann-Bell)
8. Astrophysical techniques: Kitchin C R , third edition (IOP publishing)
9. Optical Astronomical Spectroscopy: Kitchin C R (IOP Publishing).
10. Let us C by Yaswant Kanitkar
11. C Programming by Dennis Riche and Brian Kernighan
12. C Programming by Schaum Series

Paper – II

Review of Literature in Concerned Subject, Seminar/ Project Report

Approved by Board of Studies in Physics on 20th September 2013

Pt. Ravishankar Shukla University, Raipur

Ph.D. Course Work Syllabi of Life Science (Academic Session: 2019-2020)

Syllabus for Ph.D. Course Work in Bioscience/Microbiology/Biochemistry/Zoology (2019-2020) (Approved by Board of studies of the concerned subject)			
One Semester			
There are Two papers; each with 100 maximum marks. The candidate must obtain 50% or more marks in each paper independently to qualify in the course work. The answer papers will be assessed independently by two examiners.			
No.	Name of paper	Lectures	Marks
Paper-I	Research Methodology, Advanced Tools & Techniques, Quantitative Data Analyses and Computer Fundamentals	--	100
	A Research Methodology:	26	30
	Introduction and Scope	2L	
	Research problem: Identification, Selection, Formulation of research objectives		
	Research design: Components, Importance, Types	3L	
	Types of data, Data collection - Methods and Tools	2L	
	Research ethics, Institutional ethics committee	2L	
	Plagiarism – Pitfall, Regulation [UGC, ICMR, ICAR, DBT]	2L	
	Patents and IPR: Patent laws, process of patenting a research finding, Copy right, Cyber laws	3L	
	Bibliometrics: Measurement of academic output- Citation Index: Science Citation Index (SCI), h-index, i-10-index. Journal Impact Factor (JIF); Style of Bibliography, Project, research paper and review writing Literature search technique using SCOPUS, Google Scholar, PUBMED, Web of Science	12L	
	B Advanced Tools & Techniques: Principle, protocol and application	20	25
	Microscopic , Microtomy and Histological techniques	5L	
	Chromatography – GLC & HPLC, Electrophoresis	5L	
	DNA laddering, DNA methylation, Comet Assay	5L	
	PCR, Real time PCR, DNA microarray, DNA sequencing, Protein sequencing	5L	
	C Quantitative Data Analyses	20	25
	Hypothesis testing	2L	
	Normal and Binomial distributions and their property	3L	
	Tests of significance: Student <i>t</i> -test, <i>F</i> -test, <i>Chi-square</i> test	5L	
	Correlation and Regression	4L	
	ANOVA – One-way and Two-way, Multiple-range test	6L	
	D Computer Fundamentals	14	20
	Introduction to MS-Office software: MS-Word (Track change)	2L	
	MS-Excel, Power Point and Access	6L	
	Features for Statistical data analysis using computers and software, Microsoft Excel Data Analysis ToolPak, SPSS	6L	
Paper-II	Review of Literature & Seminar	--	100
	A Review of Literature – Writing review of literature in the area of the proposed Ph.D. work		50
	B Seminar – Based on the review of literature		50

Pt. Ravishankar Shukla University, Raipur

Ph.D. Course Work Syllabi of Life Science (Academic Session: 2019-2020)

Recommended Books:

AI Vogel	Analytical chemistry
Buranen L and Roy AM	Perspectives on Plagiarism and Intellectual Property in a Post-Modern World
Campbell RC	Statistics for biologists
Cassel P <i>et al.</i>	Inside Microsoft Office Professional
Chatwal and Chatwal	Instrumentation
Coleman P and Dyson P	Mastering Internets
CR Kothari	Research Methodology: Methods & techniques, 2008
Gilmore B	Plagiarism: Why it happens, How to prevent it?
Gralla P	How the Internet Works
Habraken J	Microsoft® Office 2003 All in One, Microsoft® Office 2010 In Depth
Kumar Anupa P	Cyber Law
R Panneerselvam	Research Methodology
Shelly GB, Vermaat ME, Cashman TJ	Microsoft® 2007: Introductory Concepts and Techniques
Snedecor GW & Cochran WG	Statistical Methods
Sokal RR & Rohlf FJ	Introduction to Biostatistics
Sood V	Cyber Law Simplified
Sumner M	Computers: Concepts & Uses
Upadhyaya and Upadhyaya	Instrumentation
Wardlaw AC	Practical Statistics for Experimental Biologists
White R	How Computers Work
Zar JH	Biostatistical Analysis