

3.4.1 The Institute ensures implementation of its stated Code of Ethics for research through the following:

1. Inclusion of research ethics in the research methodology course work

BIT, Durg is affiliated to Chhattisgarh Swami Vivekananda Technical University, Bhilai (C.G.) and the research students are engaged in course work as per the guidelines and syllabus prescribed by the Technical University of Chhattisgarh. The parent university conducts and evaluates the course work examination. The University's research methodology course work syllabus provides sufficient exposure to research ethics. The syllabus is attached herewith.



CHHATTISGARH SWAMI VIVEKANANDA TECHNICAL UNIVERSITY BHILAI (C.G.)

Detail Syllabus for Pre-PhD Course Work (Semester I)

| | |
|---|---|
| Subject: Research Methodologies & Computer Application | Branch: common to all disciplines |
| Total Theory Periods: 40 | Total Tutorial Periods: 10 |
| Total Marks in End Semester Examination: 100 | Total marks in Teacher's Assessment: 50 |
| Duration of End Semester examination: Three Hours | |

Section -A (Marks Allotted: 60)

Introduction: Concept, Meaning of Research, Objectives of Research, research approaches, Types of Research, significance; research methods/methodology; research & scientific methods-Inductive and deductive; Characteristics of Good Research.

Research Process: Research Plan, Steps, Research problem Identification, definition, Formulation, Research Objectives.

Research Designs: Concepts, features, Types-Exploratory, Descriptive and Causal Research Designs, and its methods, Research Budget.

Data for research: Collection and Preparation; Primary and Secondary Sources of data; methods for data collection, Data Tabulation, Editing and Coding; Survey and Observation methods; Motivation Research and Projective Techniques. Types of Data, Questionnaire Design: Techniques and Precautions; Summarizing the Data: Mean, Median, Mode and Standard Deviation -numerical for practice.

Sampling Fundamentals: Sampling Plan, Design; Sampling methods - Probability sampling methods - simple random sampling with replacement, simple random sampling without replacement, stratified sampling, cluster sampling. Non-probability sampling method - convenience sampling. Judgment sampling, quota sampling; Sample Size Determination, Reliability and Validity.

Measurement and Scaling Techniques: Rating Scale and Ranking Scales.

Concept of Hypotheses: Formulation of Hypotheses, Testing of hypotheses, Parametric and non-parametric tests. Testing of significance mean, proportion, variance and correlation - coefficients. (Numerical pertaining to applicability for practice: Chi Square, t -test, z-test, ANOVA)

Data Processing and Analysis Techniques: Univariate and Bivariate Analysis (Chi Square, t -test, z-test ANOVA, -numerical for practice)

Multivariate Analysis: Introduction to Discriminant Analysis, Cluster Analysis, Factor Analysis, Multiple Linear Regressions. Importance of statistics in research, descriptive vs inferential

Interpretation and Report Writing: Data Interpretation, Techniques of Interpretation, Steps in Writing Report, Generic layout of a Research Report

Application of Research in engineering, sciences, social sciences, humanities, Management etc

Use of SPSS and other statistical software's for Data Analysis

Section - B (Marks Allotted: 40)

Computer Application:

Word Processing Tool: Simple typesetting. fonts, type size, Document class, page style. page numbering. formatting lengths. word count, parts of a document, dividing a document, spell check, insertion of objects in a text. Word processing tools like MS-Word, latex, Open office or similar tool.

Spreadsheet Tool: Introduction to spreadsheet application, features and functions, Using formulas and functions. Data storing. Feature for Statistical data analysis, Generating charts/ graph and other features. Tools used may be Microsoft Excel, Open office or similar tools.

Presentation Tool: Introduction to presentation tool, features and function. Creating presentation, customizing presentation, Showing presentation. Tools used may be Microsoft Power Point. Open Office or similar tools.

Web Search: Introduction to Internet, Use of Internet and WWW, Using search engine like Google, Yahoo etc, Using advanced search techniques.

Application of Internet in research: INFLIBNET, Use of Internet, sights (DOAJ), Use of E Journals, Use of E-library.

Research Communication:

Basics of Communication skill: need and features, English Grammar: Word Choice, Sentence Structure, paragraph structure, Types of Scientific Communication, Importance of publishing research paper, Publishing research paper: Preliminaries, Format (APA/Latex style), Choosing Journal, Title, Running Title. Authors: Single and Multi-authorship. Writing Abstract, Selecting Keywords, Introduction section. Materials and Methods Section, Result Section, Figures, Design Principles. Legends, Table components, Graphs: types, Style, Tables v/s Graph, Discussion Section: Format, Grammar Style, Content, Acknowledgements, References: Different Styles, Communication with the Editor. Handling Referee's comments. Writing Review Articles, Preparing Posters for Scientific Presentation, Preparing and Delivering of Oral Presentation, Writing Practical Reports. Avoiding Plagiarism.

References:

- Kothari C.K. (2004), 2/e, Research Methodology - Methods and Techniques (New Age International, New Delhi)
- The complete reference Office Xp - Stephan L. Nelson, Gujulia Kelly (TMH)
- Book for Open Office.
- Hans Raj (1988) Theory and Practice in Social Research, Surjeet Publication, Kolhapur.
- Krishnaswami O. R. (1988) Methodology of Research in Social Science, Himalaya Pub. House.
- Kothari, C.R. (2005) Quantitative Technique, New Delhi, Vikas Publication House.
- Gautam, N. C. (2004) Development of Research tools, New Delhi, Shree Publishers.
- Gupta, Santosh (2005) Research Methodology and Statistical Techniques, Deep and Deep Publications.
- Chandera A. and Sexena T. P. (2000) Style Manual, New Delhi, Metropolitan Book Comp. Ltd.
- Bhattacharya, D. K. (2004) Research Methodology, New Delhi, Excel Books.
- The complete reference Office Xp - Stephan L. Nelson, Gujulia Kelly (TMH)
- LATEX Tutorials, A primer by Donald knuth
- First steps in Latex - George Gratzner



**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.)**

Detail Syllabus for Pre-PhD Course Work (Semester I)

Subject: **Research Publication and Ethics**

Branch: common to all disciplines

Total Theory Periods: 30

Total Tutorial Periods: 06

Total Marks in End Semester Examination: 100

Total marks in Teacher's Assessment: 50

Duration of End Semester examination: Three Hours

THEORY

Philosophy and Ethics:

Introduction to philosophy: definition, nature and scope, concept, branches; Ethics: definition, moral philosophy, nature of moral judgements and reactions

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

Publication Ethics:

Publication ethics: definition, introduction and importance; Best practices I 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

Intellectual Property Rights:

Introduction to IPRs, Basic concepts and need for Intellectual Property – Patents, Copyrights, Trademarks, Geographical Indications; IPR in India and Abroad – Genesis and Development – the way from WTO to WIPO –TRIPS; Nature of Intellectual Property, Industrial Property, technological Research, Inventions and Innovations – Important examples of IPR. Registration of IPRs-Meaning and practical aspects of registration of Copy Rights, Trademarks, Patents, Geographical Indications, Trade Secrets and Industrial Design registration in India and Abroad. Digital Products and Law - Digital Innovations and Developments as Knowledge Assets – Cyber Law and Digital Content Protection.

PRACTICE

Open Access Publishing:

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

Publication Misconduct

A. Group Discussions

Subject specific ethical issues, FFP, authorship; Conflicts of interest; Complaints and appeals: examples and fraud from India and abroad

B. Software tools

Use of plagiarism software like Turnitin, Urkund and other open-source software tools

Databases and Research Metrics

A. Databases

Indexing databases; Citation databases: Web of Science, Scopus, etc.

B. Research Metrics

Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score; Metrics: h-index, g index, i10 index, altmetrics

References:

2. Presence of Ethics Committee:

The Institute has Ethics committee to ensures implementation of its stated Code of Ethics for research as prescribed by the state technical university (CSVТУ), Bhilai.

3. Plagiarism check through software:

BIT, Durg and Chhattisgarh Swami Vivekananda Technical University, Bhilai (C.G.) follows the notification regarding plagiarism issued by University Grants Commission (UGC) regarding promotion of academic integrity and prevention of plagiarism in Higher Educational Institutes.

In this regard, BIT, Durg has purchased plagiarism software and uses iThenticate to check the plagiarism content of the submissions of research thesis/papers and projects submitted by students.

Apart from this Chhattisgarh Swami Vivekananda Technical University, Bhilai (C.G.) also checks plagiarism upon final submission of the thesis using Turtin software.

Website of the software: - <https://www.ithenticate.com/>

4. Research Advisory Committee:

As the institute is affiliated to the Chhattisgarh Swami Vivekananda Technical University, Bhilai (C.G.), all the research proposals of the Ph.D. programs are screened through the University. However as per the ordinance of the University, the institute has constituted Departmental Research Committee (DRC) for different disciplines. All academic matters related to Ph.D. are processed by DRC.

Departmental Research Committee (DRC) consists of following:

1. Chairman - Head of the Institute.
2. Member - Head of the concerned department.
3. Members - Two faculty members from the concerned department
4. Member - An External member nominated by the Vice-Chancellor of the University.

Apart from this the institute also constitutes internal R&D committee every year. Committee list is attached herewith.

OFFICE OF THE PRINCIPAL

BHILAI INSTITUTE OF TECHNOLOGY

BHILAI HOUSE, DURG (CHHATTISGARH)

No. BIT/2020/ 110

Date: 07.11.2020

NOTIFICATION

In order to ensure that various activities of the Institute are carried out in a smooth manner during academic sessions 2020-21 and 2021-22, the following Committees are hereby constituted:

14. RESEARCH & DEVELOPMENT COMMITTEE

| | | |
|-----------|---|---------------------|
| Prof. I/c | : | Dr. M. Padmavati |
| Member | : | Dr. Manoj Kumar Pal |
| Member | : | Mr. Vikas Pandey |

15. MOOCs COMMITTEE

| | | |
|-----------|---|------------------------|
| Prof. I/c | : | Dr. Arpana Rawal |
| Member | : | Mr. Rajiv Pathak |
| Member | : | Mr. Jay Singh Gaharwar |
| Member | : | Mr. Abhishek Agrawal |
| Member | : | Mr. Duddu Reynolds |
| Member | : | Mr. Gaurav Saxena |
| Member | : | Ms. Jyotsana Kaiwart |

16. FIRST YEAR COMMITTEE

| | | |
|----------------------------|---|-----------------|
| Prof. I/c (Administration) | : | Dr. S. K. Sar |
| Prof. I/c (Academics) | : | Dr. R. Banchhor |

17. NCC

| | | |
|------------|---|--------------------|
| Boys Wing | : | Dr. Santosh Mishra |
| Girls Wing | : | Ms. Uma P Balaraju |

18. NSS

Dr. Shabhana Naz Siddique
Mr. Yogesh Sahu

Brief description about the role and responsibilities of the above Committees will be issued separately.

This notification will come into force with effect from 1st November, 2020 and will remain valid till 30th June, 2022.

This supersedes all previous notifications/orders/circulars on this subject.


7/11/20
PRINCIPAL

Copy to :

1. All HODs/Deans
2. Individuals concerned – through respective HODs
3. Prof. I/c (Library)/Chief Warden/ TPO
4. Accounts Section/ Students Section/ Establishment Section/ Reception
5. Registrar
6. Vice Principal
7. Director/Member Secretary, BITT – for kind information

Note:

1. *Respective Prof. I/c and staff members will be accountable for the progress in their assigned area of responsibility.*
2. *Help of non-teaching staff will be made available as and when required.*