



**Department of Adult & Continuing Education
and
Extension**

**Faculty of Social Sciences
Jamia Millia Islamia, New Delhi**

**Ph.D. COURSE WORK
in
DEVELOPMENT EXTENSION
Semester 1**

(Effective from 2021)

Ph.D. COURSE WORK in DEVELOPMENT EXTENSION

Semester 1

(Effective from 2021)

Paper No.	Title of Paper	Marks			Credit
		IA	UE	TOTAL	
I.	FUNDAMENTALS OF DEVELOPMENT EXTENSION	25	75	100	04
II.	RESEARCH METHODS IN EXTENSION EDUCATION	25	75	100	04
III.	TRANSFER OF TECHNOLOGY	25	75	100	04
IV.	TERM PAPER*	12.5	37.5	50	02
V.	RESEARCH AND PUBLICATION ETHICS	12.5	37.5	50	02

* To be evaluated by the Ph. D Supervisor

IA: Internal Assessment

UE: University Examination

PAPER-I: FUNDAMENTALS OF DEVELOPMENT EXTENSION

(04 Credits/ 100 Marks)

Objectives:

- (i) To acquaint the students with the concepts, objectives, philosophy and principles of extension.
- (ii) To enable them to understand the steps of extension teaching.
- (iii) To acquaint the students with the origin and growth of extension.
- (iv) To acquaint them with the emerging issues of Development Extension.
- (v) To make them conversant with the extension systems and approaches.

Contents:

Unit I: Introduction to Development Extension

1. Understanding Development Extension- meaning, concept, objectives, and philosophy.
2. Principles of Extension.
3. Steps of Development Extension Teaching.
4. Development Extension as a discipline and a profession; relationship of Development Extension with the other Social Sciences.

Unit II: Origin and Growth of Extension

5. Origin of extension education – a historical perspective.
6. Extension programs in Pre-Independence Era.
7. Extension programs in post-Independence Era.
8. Emerging Extension Issues- Market-led Extension, Cyber Extension, ICT in Extension, Broad Based Extension (BBE), Privatization, etc.

Unit III: Extension Systems and Approaches

9. Extension role of universities and integrated function of teaching, research and extension.
10. Extension Systems.
11. Major Extension Approaches- General Extension Approach, Participatory Approach, Cost Sharing Approach, Commodity Specialized Approach, Training and visit Approach.

Books Recommended:

1. Blackburn, Donald. J. *Foundations and Changing Practices in Extension.* Ontario, Canada: University of Guelph, 1989.
2. Dhama, O.P. & Bhatanagar, O.P. *Education and Communication for Development,* New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd., 1987.
3. Dhiman, O.P. *Foundations of Education: Philosophy and Sociology of Education,* Delhi: Atma Ram, 1987.
4. George H. Axim. *Guide on Alternative Extension Approaches.* Rome: FAO, 1988.
5. James, G.E. *Investing in Rural Extension: Strategies and Goals.* London & New York: Extension Applied Science Publishers, 1986.
6. Rolling, Niels. *Extension Science.* Cambridge: Cambridge University Press, 1988.
7. Swanson, B.E. (Ed) *Agricultural Extension – A Reference Manual (2nd Ed.)* FAO, New Delhi, Bombay, Calcutta: Pub. Oxford & IBH Publishing Co. Pvt. Ltd., 1984.
8. Van den Ban, W. and Hawkins, H.S. *Agricultural Extension.* U.K.: Longman House, 1988

PAPER-II: RESEARCH METHODS IN EXTENSION EDUCATION
(04 Credits/ 100 Marks)

Objectives:

- (i) To acquaint the students with methodology of conducting extension research
- (ii) To help them to understand the construction and proper use of various tools used for collecting data.
- (iii) To make them understand the use of various statistical techniques for the purpose of analyzing the data.
- (iv) To develop a proper understanding of how to conduct a good research

Contents:

Unit I: Fundamentals of Research Methodology

1. Research in behavioural sciences – meaning and concepts.
2. Process of scientific research – selection and formulation of a research problem and hypothesis(es). Testing hypotheses.
3. Measurement – scales of measurement, characteristics of a good instrument, objectivity, reliability, validity.
4. Sampling in research – population and sample, selection of representative and adequate sample, sampling techniques.

Unit II: Research design, Data Collection and Presentation

5. Types of research and Research designs.
6. Data collection – sources of data: survey schedule and questionnaire, interview, observation, construction of psycho tests, attitude scales etc.
7. Ways of presentation of data – tabular and graphical.
8. Writing a research report.

Unit III: Nature of statistical data: A descriptive Statistics

9. Measures of central tendency, and dispersion.
10. Probability distribution – normal – properties and uses.
11. Correlation and regression.
12. Some important Parametric Tests – T-test, F-test etc.
13. Some important Non-parametric Tests – Chi square, Wilcoxon Signed rank test, Kruskal-Wallis One way analysis of variance by rank etc.

Books Recommended:

1. Bogdan, R & Taylor, S.J. *Introduction to Qualitative Research Methods*, New York: John Willy & Sons, 1975.
2. Edward. E.L. *Techniques of Attitude Scale Construction*, Bombay, Vakil Publishers, 1962.
3. Elhance. D.N. *Fundamental of Statistics*, Allahabad, Kitab Mahal, 1994.
4. Guilford, J.P. & Frutcher Bengamin *Fundamental Statistics in Psychology and Education*, New York: McGraw Hill, 1978.
5. Kerlinger, F.N. *Foundations of Behavioural Sciences*, Delhi: Surjeet Publication, 1996.
6. Mohsin. S.M. *Research Methods in Behavioural Sciences*, Calcutta: Orient Longman Ltd., 1984.
7. Mulay, S & Sabarathnam V.E. *Research Methods in Behavioural Sciences*, Delhi: Acharan Prakashan, 1980.
8. Nachmias, David & Nachmias, Chava *Resarch Methods in the Social Sciences*, New York: St. Martin's Press, 1981.
9. Siegel, S. & Castellan, Jr. N. John *Non-Parametric Methods for Behavioural Sciences*, New York: McGraw Hill, 1988.
10. Gear, C. William *Computer organization and programming* (4th Ed.) New York: McGraw Hill International Publication, 1985.
11. Rajaraman. V. *Fundamentals of Computers*, New Delhi: Prentice Hall of India, 1994.
12. Filstead, W.J. *Qualitative Methodology, First hand Involvement with the Social World*. Chicago: Markham Publishing Co., 1970.
13. Lutz, Gene M. *Understanding Social Statistics*, New York: MacMillan Publishing Co., 1983.
14. Rossi, P.H. & Freeman H.E. *Evaluation: A Systematic Approach*, New Delhi: Sage Publication, 1985

PAPER-III: TRANSFER OF TECHNOLOGY (04 Credits/ 100 Marks)

Objectives:

- i) To develop a basic understanding of diffusion and adoption process.
- ii) To make the students aware about the diffusion and transfer of technology as a means of bringing about social change.
- iii) To make them able to understand the systems of transfer of technology.

Contents:

Unit I: Diffusion and Adoption Process

1. Concept of diffusion and adoption of Innovations, Stages of adoption process.
2. Factors influencing adoption process.
3. Models of diffusion and adoption.
4. Adopter categories and their characteristics, adoption curve, rate of adoption, over adoption.
5. Communication channels by stages of adoption and communication channels by adopter categories.

Unit II: Technology Development & Innovation-Decision Process

6. Generation of Innovation – technology development process.
7. Innovation-Decision Process.
8. Types of Innovation-Decisions
9. Attributes of Innovation – relationship with rate of adoption.
10. Consequences of adoption of Innovation.

Unit III: Transfer of Technology

11. Concept and Model of Transfer of Technology (TOT)
12. Opinion leadership.
13. Change agents.
14. Strategies of transfer of technology.
15. Technological constraints.

Books Recommended:

1. Dhama, O.P. & Bhatnagar, O.P. *Education and Communication for Development.* New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd., 1985
2. Kelsey, L.D. and Hearne, C.C. *Co-operative Extension Work* 3rd Ed. New York: Comstock Publishing Associates, 1963.
3. Ray, G.L. *Extension, Communication and Management.* Calcutta: Maya Prakash, 1991.
4. Reddy, A.A. *Extension Education.* Guntur: Sree Lakshmi Press, 1987.
5. Rogers, E.M. *Diffusion of Innovations.* 4th Ed. New York: The Free Press. A Division of Macmillan Publishing Co., 1995.
6. Singh, Ranjit *Text Book of Extension Education.* Ludhiana: Sahitya Kala Prakashan, 1987.
7. Spence, W.R. *Innovation.* Champman and Hall Company. London, 1994.
8. Supe, S.V. *An Introduction to Extension Education.* New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd. 1988.
9. Supe, S.V. *A Text Book of Extension Education.* Agrotech Publishing Academy, Udaipur, 2009.
10. Waghmare, S.K. *Teaching Extension Education.* 2nd Ed. New Delhi: Metropolitan Book Co. Pvt. Ltd., 1989.

PAPER-IV: TERM PAPER

(02 Credits/ 50 Marks)

Objectives:

- i) To help students learn to conceptualize an academic theme and build an argument around it.
- ii) To help students look for relevant literature and review the same.
- iii) To orient the students to the domain of professional writing.
- iv) To help the students write a term paper and present and defend the same at the students' seminar.

Expected Outcomes:

The learner will be able to formulate a theme for the term paper which may be based on a primary research or review of the literature and other researches around the theme selected. The term paper is envisaged to help the student in finalizing her/his topic of proposed research, its design and methodology etc.

COMPONENT I: TERM PAPER (37.5 marks)

The term paper should be prepared and submitted by the student as per further detailed guidelines to be provided by the concerned supervisor. The broad structure will be in the following form:

- i. Abstract of around 250 to 300 words
- ii. Key words: 5 to 8 keywords
- iii. Introduction
- iv. Literature review
- v. Research methodology (if based on primary research)
- vi. Research findings
- vii. Conclusions

The term paper should normally be of around 5000 to 6000 words. The referencing of the term paper should be as per APA 6th edition format. Term paper will be evaluated by the Ph.D. Supervisor.

COMPONENT II: SEMINAR PRESENTATION (12.5 marks)

- i. The Seminar presentation should be prepared and presented by the student under the guidance of the supervisor.
- ii. The presentation should be around 20 minutes, followed by discussion.

- iii. The presentation will be evaluated by the Ph.D. Supervisor.
- iv. The seminar presentation will be open to research scholars and faculty members of the department.

EVALUATION

Term Paper Writing and Seminar Presentation: To be evaluated by the Ph.D. Supervisor.

**PAPER-V: RESEARCH AND PUBLICATION ETHICS (RPE)
(COMPULSORY PAPER) (02 Credits/ 50 Marks)**

Objectives:

To help students gain awareness about the publication ethics and publication misconducts.

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 (Citations. H-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

Classroom teaching, guest lectures, group discussions, and practical sessions.

Course Structure: The course comprises of six modules listed in the table below. Each module has 4-5 units.

Modules	Unit Titles
RPE-01	Philosophy and Ethics
RPE-02	Scientific Conduct
RPE-03	Publication Ethics
RPE-04	Open Access Publishing
RPE-05	Publication Misconduct
RPE-06	Databases and Research Metrics

COURSE OUTLINE:

THEORY

Unit I: PHILOSOPHY AND ETHICS

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

Unit II: SCIENTIFIC CONDUCT

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

Unit III: PUBLICATION ETHICS

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

PRACTICE

Unit IV: OPEN ACCESS PUBLISHING

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

Unit V: PUBLICATION MISCONDUCT

A. Group Discussions (2 hrs.)

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

B. Software tools

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

Unit VI: DATABASES AND RESEARCH METRICS

A. Databases

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

B. Research Metrics

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

References

1. Beall, J. (2012). Predatory publishers are corrupting open access, *Nature*, 489 (7415), 179-179 <http://doi.org/10.1038/489179a>
2. Bird, A. (2006). *Philosophy of Science*. Routledge.
3. Indian National Science Academy (INSA). (2019). *Ethics in Science Education, Research and Governance*, ISBN:978-81-939482-1-7. http://www.insaindia.res.in/pdf/Ethics_Book.pdf
4. MacIntyre, Alasdair (1967). *A Short History of Ethics*. London.
5. National Academy of Sciences, 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.
6. P. Chaddah, (2018). *Ethics in Competitive Research: Do not get scooped; do not get plagiarized*, ISBN:978-9387480865
7. Resnik, D. B. (2011). *What is ethics in research & why is it important*. National Institute of Environmental Health Sciences, \-10. Retrieved from <https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>