

P.G.

Ph.D Course Work (Education)(2020-21)
Paper I: RESEARCH METHODS AND AVANCED STATISTICAL TECHNIQUES

Time of Examination: 3 Hours

Credit: 04
Max. Marks: 100

Note: (1) Attempt 5 questions in all, selecting at least one question from each of the four units and is consisting of four sub-parts i.e one from each of the four units.
(2) Question no. 1 is compulsory.
(3) All questions carry equal marks.

Objectives:

The students will be able to-

- (i) Comprehend the role of research in theory and practice of education
- (ii) Develop inquisitive mind and spirit of inquiry
- (iii) Develop competence to design, execute and report research in education
- (iv) Apply research findings in education practices
- (v) Describe and apply the advance statistical techniques in data analysis.

UNIT-I


1. Nature, Methods and steps of the following approaches for acquiring knowledge
 - Dialectical
 - Scientific
 - Developmental Research
 - Ethnographic Research
2. Areas of Educational Research with respect to
 - Content of Education
 - Instruction, Learning and Evaluation
 - Economic and Political Situations
 - Social and Cultural Needs
 - Historical Context
 - Priority areas of Educational Research
3. Ethical Issues in Educational Research



UNIT-II

4. Techniques of Data Collection and Processing
 - Attitude Scale
 - Sociometric Technique
 - Content Analysis
 - Semantic differential Techniques
5. Regression and Prediction
 - Concept, assumptions, uses, computation, and significance of following:-
 - Linear Regression Equation.
 - Multiple Regression Equation.

UNIT-III

6. Standardization of an Achievement Test.
 - Characteristics of a good Research tool.
7. Advanced Technique of Correlation


Chairperson
Department of Education
Kurukshetra University
Kurukshetra

Concept, assumptions, uses, computation and significance of following:-

- Partial Correlation
- Multiple Correlations
- Biserial Correlation
- Point Biserial Correlation
- Phi
- Tetrachoric

UNIT-IV

8. Methodological Issues in Educational Research with reference to the problems of:
 - Sampling
 - Data Collection
 - Interpretation of Results
 - Factors influencing Validity of Research and How to increase the validity of Research
9. Parametric Tests of Data Analysis
Concept, assumptions, uses, computation and significance of following:-
 - ANOVA One Way
 - ANOVA Two Way with and without Replication
10. Non-Parametric Test
 1. Median Test
 2. Chi Square Test
 3. K-S-Test

BOOKS RECOMMENDED

1. Aggarwal, Y.P. (1998), Statistical Methods, New Delhi, Sterling Publishers.
2. Aggarwal, Y.P. (1988) the Science of Educational Research: A Source Book, Kurukshetra : Nirmal Book Depot.
3. Ary, D., Jacob, L.C & Sorensen, C.(2010), Introduction to research in education : 8th and 5th International Edition: USA, Wadsworth Cenage Learning.
4. Best, J.W. & Kahn J.V. (2005). Research in Education, New Delhi: Prentice Hall.
5. Burns, R.B. (1991) Introduction to Research in Education, New Delhi: Prentice Hall.
6. Ferguson, G.A. (1976) Statistical Analysis in Psychology and Education, New Delhi, McGraw Hill.
7. Garrett, H.E (1973), Statistics in Psychology and Education, Bombay Vakils, Feffer & Simon
8. Glass, G. & Hopkins, K.D. (1996). Statistical Methods in Education and Psychology Needham Heights, A. Simon & Schuster Company.
9. Good, C.V. & Douglas, E.S. (1954). Methods in Social Research. New York, Mc Graw Hill.
10. Gravetter, F.J. & Wallnau, L.B (2009). Statistics for the behavioral science. 5th International edition: USA. Wadsworth Cenage Learning
11. Guilford, J.P. and Benjamin, F.(1973) Fundamental Statistics in Psychology and Education, McGraw Hill, New York
12. Kerlinger, F.N (1973). Foundation of Behavioral Research, New York: Holt Rinchart and Winston.
13. Koul, L. (1998). Methodology of Educational Research, New Delhi, Vikas Publications.
14. Kurtz, A.K. & Mayo, S.T. (1980), Statistical Methods in Education and Psychology, New Delhi
15. McMillan, James, H.II & Schumarcher, S. (1989). Research on Education : A Conceptual Introduction, New York: Harper and Collins.
16. Miller, D.C & Salkind, N.J. (2002). Handbook of Research Design and Social Measurement, London: Sage Publications.
17. Minium, F.W., King B.M., & Bear, G. (1995), Statistical Reasoning in Psychology & Education, Canada: John Willy & Sons
18. Mouly, A.J. (1963). The Science of Educational Research, New Delhi: Furasia.
19. Neuman. W.L. (1997) Social Research Methods: Qualitative and Quantitative Approaches, Boston: Allyn and Bacon.
20. Ruane, J.M. (2004) Essential of Research Methods to Social Science Research, Blackwell Publications.
21. Siegel, S. (1986) Non-Parametric Statistics, New York: McGraw Hill.
22. Travers, R.M.W. (1978). An Introduction to Educational Research, New York: Mcmillan
23. Van D., D.B. (1962) Understanding Educational Research, New York: McGraw Hill.
24. Cohen, L. & Lawrence, M. (1980). Research methods in education, London: Groom Helm
25. Fox. J.(1962). The Research Process in education New York: D. Van Nostrand
26. Lehmann, J.& Mearens, W.A., (1979), Educational Research: readings in forces, IBH Publishing Co.

Signature
Jayesh

Signature
Chairperson
Department of Education
Kurukshetra University
Kurukshetra

Ph.D. course work (Education) 2020-21

Paper 1 : RESEARCH METHODS AND ADVANCED STATISTICAL TECHNIQUES

REFERENCES

- Best, J. W., & Kahn, J. V. (2014). *Research in education (10th ed.)*. Prentice Hall.
- Bogdan, R., & Biklen, S. K. (2016). *Qualitative research for education: An introduction to theories and methods (5th ed.)*. Pearson Education India.
- Chawla, D., & Sondhi, N. (2016). *Research methodology: concepts and cases (2nd ed.)*. Vikas Publication House.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education (6th ed.)*. Routledge.
- Cowles, M. (2001). *Statistics in psychology: An historical perspective (2nd ed.)*. Lawrence Erlbaum Associates.
- Creswell, J. W. (2016). *Educational research (4th ed.)*. Pearson Education India.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.)*. Sage Publication.
- Creswell, J. W. (2015). *Educational research, planning conducting and evaluating quantitative and qualitative research*. Pearson Education India.
- Deming, S. N., & Morgan, S. L. (1993). *Experimental design: A chemometric approach (2nd ed.)*. Elsevier Science.
- Garrett, E. H. (1969). *Statistics in psychology and education*. Central Book Company.
- Geleman, A., Hill, J. & Veltari, A. (2020). *Regression and other stories*. Cambridge University Press. <https://doi.org/10.1017/9781139161879>
- Hatcher, L. (2013). *Advanced statistics in research: Reading, understanding, and writing up data analysis results*. Shadow Finch Media LLC.
- Kerlinger, F. N. (2019). *Research methodology: Foundation of behavioural research (4th ed.)*. Surjeet Publication.
- Khan, S. (1990). *Educational research*. Ashish Publication.
- Koli, L. N. (2017). *Research methodology*. Y. K. Publisher.
- Kothari, C. R., & Garg, G. (2019). *Research methodology: Methods and techniques (4th ed.)*. New Age International Publisher.
- Koul, L. (1988). *Methodology of educational research*. Vikas Publishing House.
- Koul, L. (2014). *Methodology of educational research (4th ed.)*. Vikas Publishing House.
- Kumar, R. (2019). *Research methodology: A step by step guide for beginners (5th ed.)*. Sage Publication.
- Mangal, S. K. (2002). *Statistics in psychology and education*. PHI Learning.
- Mertler, C. A., Vannatta, R. A., & Lavenia, K. N. (2016). *Advanced and multivariate statistical methods: Practical application and interpretation (6th ed.)*. Routledge.

Sh
Jayesh

Sh
Chairperson
Department of Education
Kurukshetra University
Kurukshetra

Ph. D (Education) Course Work

Paper-II: Subject Elective (Education)

Time of Examination: 3 hours

Credit: 4

Max Marks : 100

UNIT -I

1. Functions and major problems of Philosophy
 - (a) (i) Speculative Functions
 - (ii) Analytical Functions
 - (iii) Prescriptive Functions
 - (b) (i) Ontological Problems- Truths, Reality and Existence
 - (ii) Epistemological Problems- Sources of Knowledge and Validity of Knowledge
 - (iii) Axiological Problems- Ethical, Aesthetic, Religious and Social Values in Life
2. Idealism, Realism, Pragmatism and Naturalism with special reference to the concepts, knowledge, reality and value; their educational implications for aims, contents and methods of Education

Educational thoughts of Swami Viveknanda, Gandhi, Tagore and Aurobindo

UNIT -II

3. Concept and nature of Educational Sociology, relationship of 'Sociology' and 'Education'
Social Organization: concepts, characteristics and implications
Education and Social change
4. Social Stratification: meaning, concept and its educational implications
Social Mobility: meaning, types, constraints in mobility and its educational implications
Socio-economic factors and their impact on Education
Social Theories: Functionalist Emile Dur Kheim, Talcott Parsons, Marxism & Integral Humaism

Unit- III

5. Educational Psychology: Concept, Nature & Methods of Educational Psychology (Experimental Method, Differential Method, Clinical Method, Psychoanalysis Method)
Contribution of schools of Psychology to Education: Hormic School, Psychoanalysis School, Behaviours School and Gestalt School
Individual Differences: Concept, Areas, Causes & Educational Implications
6. Intelligence: Concept & Theories (Guilford's , Gardner's)
Learning: Concept, Factors & Theories (Skinner's Operant conditioning, theory of insightful learning, Gagne's theory of learning)
Personality: Concept, Determinants & Theories (Type & Trait)

Unit- IV

7. Educational Administration in India at Central and State Level



Chairperson
Department of Education
Kurukshetra University

Technological interventions in teaching - learning: online teaching, MOOCs, SWAYAM, flipped classroom

8. Act and Policies in Education: RPwD Act, (2016), NEP, 2020
Role of organisation like NCERT, UGC, NCTE, SCERT
Comparative & International system of Education with special reference to UK, USA & India
Distance Education & Open Learning System: Need, Importance and Services

BOOKS RECOMMENDED ;

1. Aggarwal, J. C. (2009). Essentials of Educational Psychology. Vikas publishing, New Delhi.
- Ausubel, D.P. (1967). The Psychology of Meaningful verbal Learning: An Introduction to School Learning, Grune and Stratton, New York.
2. Bohner, G.Wanke, M. (2008). Attitudes and Attitude Change. Prentice Hall, New York.
3. Brain, C. (2002). Advanced Psychology: Application, Issues and Perspective, Nelson Theories, U.K. Chatterjee, S.K. (2000). Advanced Educational Psychology. Arunabhasen Books & Allied (P) Ltd. Shelly, E. Tayler et.al. (2000). Social Psychology Prentice Hall, Ohi
4. Broudy, H.S. (1977) Building a Philosophy of Education, New York: Kriager.
5. Brubacher, J.S. ; Modern Philosophies of Education, Mc-Graw Hill Company, New York
6. Brubacher, John S.(1969) Modern Philosophies of Education, New Delhi:Tata McGraw Hill.
7. Bereday G.Z.F. (1967). Comparative Methods in Education, New Delhi: Oxford and IBH Publishing Co.
8. Chandra, S.S; Sharma, R.K (2004) Principles of Education, New Delhi: Atlantic Publishers and Distributors.
9. Chaube. S.P. & Chaube. A. (2007). Comparative Education. Noida: Vikas Publishing House.
10. Edmund J. King (1968). Comparative Studies and Educational Decisions. London: Mathuen Educational Ltd.
11. Gore, M.S. Education and Modernization in India, Rawat Publication, Jaipur, 1984.
12. Havighurst, Robert et al. Society and Education. Allyn and Bacon, Boston, 1995.
13. Kamat, A.R. Education and Social Change In India. Samaiya Publishing co., Bombay, 1985.
14. Kukkarni, S.S. (1986), Introduction to Educational Technology, New Delhi: Oxford & IBH Publishing Company.
15. Kumar, K.L. (1996), Educational Technology, New Delhi: New Age International Publishers.
16. Kirk, S. A., & Gallagher, J.J. (2000). Education of Exceptional Children. Boston : Houghton Mifflin.
17. Maunheim, K. et al. An Introduction to Sociology of Education Routledge and Kegan Paul , London, 1962.
18. M.H.R.D. Towards an Enlightened and Human Society, Department of Education, New Delhi, 1990.
19. Mavi, N.S., (1984) Programmed Learning – an Empirical approach, Kurukshetra Vishal Publishers.
20. Pandey, K.P. (1983) Dynamics of Teaching Behavior, Ghaziabad : Amitash Prakashan.
21. Pandey, K.P. Perspectives in Social Foundations of Education. Amitash Prakashan, Ghaziabad. 1983.


Chairperson
Department of Education
Kurukshetra University
Kurukshetra



Ph. D (Education) Course Work

22. Singh, J.P. & Dash, M.K. (2005) , Disability Development in India, New Delhi: RCI.
23. Taneja, V.R. (2002) Foundations of Education, Chandigarh: Mohindra Capital Publishers
24. WHO (2001). ICF : International Classification of Functioning , Disability and Health.
Geneva : WHO.

Sh

Sampat

Sh

Chairperson
Department of Education
Kurukshetra University
Kurukshetra

Course structure

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

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	30

Syllabus in detail

THEORY

- RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**

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

- RPE 02: SCIENTIFIC CONDUCT (5hrs.)**

- 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

- RPE 03: PUBLICATION ETHICS (7 hrs.)**

- Publication ethics: definition, introduction and importance
- Best practices / 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

- RPE 04: OPEN ACCESS PUBLISHING(4 hrs.)**

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.

• **RPE 05: PUBLICATION MISCONDUCT (4hrs.)**

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 (2 hrs.)

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

• **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

A. Databases (4 hrs.)

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

B. Research Metrics (3 hrs.)

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

- 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 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.
- Resnik, D. B. (2011). What is ethics in research & why is it 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. http://www.insaindia.res.in/pdf/Ethics_Book.pdf