SOE & SYLLABI

OF

Doctor of Philosophy Course Work in Management (Ph.D.)

(Based on National Education Policy (NEP) - 2020)

WITH EFFECT FROM THE ACADEMIC SESSION 2023-24

MAHARSHI DAYANAND UNIVERSITY ROHTAK (HARYANA)

Scheme of Examinations for Ph. D. Course Work (Management) (Academic Session 2023-2024)

Program Outcomes (PO)

PO1. Scholars would be able to demonstrate the ability to acquire skills to perform independent advanced research.

PO2. Demonstrate ability to identify and seek out resources and information; apply these to guide research plan development.

PO3. Demonstrate the ability to master and/or innovate research methodologies, and techniques.

PO4. Scholars would be able to make an original and substantial contribution to the knowledge. PO5. Demonstrate independent thinking and creativity.

Program Specific Outcomes (PSO)

PSO1. To educate the students about how to select a research topic.

PSO2. To instruct the students about how to write a literature review and to inform the students about in-depth understanding of Research Methodology as well as to facilitate them to carry out research in a systematic manner.

PSO3. To educate the students about importance of quantitative and qualitative techniques used in research.

PSO4. Develop and execute original research plan(s).

PSO5. Ability to produce publishable research articles/documents/reports in the field of public policy and corporate world. Students would be successful entrepreneurs as well.

Ph.D. Course Work in Management (MGTPH)
Duration: One Semester (Six months)
Total Credit requirement: 12 credits
Program Structure (Ph.D. in Management)

SEMESTER I						
Course Code	**Nomenclature of Course**	**Theory marks (end semester examination)**	**Internal Assessment marks**	**Maximum marks**	**Hours /Week**	**Credits**
23MGTPH11C1	Research Methodology	70	30	100	4	4
23MGTPH11C2	Quantitative Techniques and Computer Applications	70	30	100	4	4
23MGTPH11C3	Time-Series and Panel Data Econometrics	35	15	50	2	2
23CCPH11C1	Research and Publications Ethics	35	15	50	2	2
Total Marks/Credits				300		12

Note:

1. The compulsory course on 'Research and Publication Ethics' shall be offered by Ch. Ranbir Singh Institute of Social and Economic Change for all UTDs/Centres/Institutes passed vide Resolution No. 27 of the 271st meeting of EC held on 29.7.2020.
2. Written examinations in the papers Research Methodology (23MGTPH11C1), Quantitative Techniques & Computer Applications (23MGTPH11C2), Time-Series and Panel Data Econometrics (23MGTPH11C3), Research and Publications Ethics (23MGTPH11C4) shall be held at the term end of the course. The question paper in each subject shall be set by an examiner to be appointed by the Chairman, P.G.B.O.S. in Management based on the syllabus prescribed.
3. Internal assessment in each of the papers Research Methodology (23MGTPH11C1), Quantitative Techniques & Computer Applications (23MGTPH11C2), Time-Series and Panel Data Econometrics (23MGTPH11C3), Research and Publications Ethics (23MPCC1) shall be awarded by the teacher concerned as prescribed under ordinance by the Maharshi Dayanand University, Rohtak for various P.G. Programmes.
4. Each student in the Ph.D. course work shall be assigned to a teacher on the basis of specialization/interest area with teacher's consent.
5. The qualifying marks in the each paper of the course shall be 50%.

Ph.D. Course Work syllabus

Name of the Program	Ph.D. Course work in Management	**Program Code**	**MGTPH**
Name of the Course	Research Methodology	**Course Code**	**23MGTPH11C1**
Hours/Week	4	**Credits**	4
Max. Marks.	70	**Time**	3 Hours

Note: The examiner has to set a total of nine questions (two from each unit and one compulsory question consisting of short answer from all units). The candidate has to attempt one question each from each unit along the compulsory question (5 x 14 = 70 marks)

Course Objectives:

1. Students would understand a general definition of research design.
2. Students would know the importance of academic research.
3. Students would be able to identify the overall process of designing a research study from its inception to its report.
4. Students would be familiar with ethical issues in academic research, including those issues that arise in using quantitative and qualitative research.
5. Students would know the primary characteristics of quantitative research and qualitative research.

Course Outcomes: Students should be able to

1. Identify and discuss the role and importance of research in different functional areas of Management.
2. Identify and discuss the complex issues inherent in selecting a research problem and hypothesis formulation.
3. Select an appropriate research design.
4. Write a research report and thesis.
5. Write a research proposal (for grants).

Unit - I

Meaning, types and significance of research in business; characteristics of good research; identification and formulation of research problems; setting research objectives; hypothesis: Meaning, types, need and formulation; importance and format of review of literature.

Unit - II

Business research design: exploratory, descriptive & causal studies; population & sample; meaning and types of sampling; sample size; sampling error; the research proposal.

Unit - III

Measurement & scaling techniques: nominal scale, ordinal scale, interval scale, ratio scale; criteria for good measurement; attitude measurement—Likert's scale, Semantic Differential scale, Thurston-equal appearing interval scale, Multi-Dimensional scaling; meaning and types of data; data collection methods - observation, survey and interview; questionnaire design; reliability and validity of questionnaire.

Unit - IV

Editing, coding, classification and tabulation of data; Methods of data presentation; interpretation of results; report writing—purpose, steps and format of research report; final presentation of the research report; idea of referencing, bibliography, footnotes and end notes.

References:

1. Cooper, D. R., & Schindler, P. S. (2014). *Business research methods*. McGraw-Hil.
2. Churchill, G. A., & Iacobucci, D. (2006). *Marketing research: methodological foundations*. New York: Dryden Press.
3. MCBurney, D. H., & White, T. L. (2010). Research Methods Wadsworth Cengage Learning.
4. Wilkinson, T. S., & Laldas, D. K. (2010). Methodology & Techniques Of Social Research. Himalaya Publishing House.
5. Kothari, C. R. (2017). Research Methodology methods and techniques second edition.

Ph.D. Course Work syllabus

Name of the Program	Ph.D. Course work in Management	**Program Code**	**MGTPH**
Name of the Course	Quantitative Techniques and Computer Applications	**Course Code**	**23MGTPH11C2**
Hours/Week	4	**Credits**	4
Max. Marks.	70	**Time**	3 Hours

Note: The examiner has to set a total of nine questions (two from each unit and one compulsory question consisting of short answer from all units). The candidate has to attempt one question each from each unit along the compulsory question (5 x 14 = 70 marks)

Course Objectives:

1. Explain and discuss the researcher's work (model).
2. Elucidate basic statistical concepts and tests used in academic research.
3. Demonstrate their competence and confidence in using inferential statistics in general and to the use of significance testing in particular.
4. Understand and master the handling of data and employ proper analyses.
5. Use output derived from statistical procedures and converts such output to understandable statement.

Course Outcomes: Students should be able to

1. Identify and discuss the role and importance of quantitative techniques in different functional areas of management.
2. Select an appropriate statistical technique.
3. Understand bivariate and multivariate data analysis.
4. Use different statistical software like SPSS, EViews etc.
5. Analyze and interpret the results for their thesis/publications of a research article.

Unit - I

Descriptive and Inferential Statistics, Statistical tools for Data analysis-Univariate, Bi-Variate & Multivariate analysis, Hypothesis testing, parametric tests: t-test, z-test and F-test, Significance of non-parametric tests (Chi-square test, Kruskal–Wallis *H* test, Mann-Whitney U-test)

Unit - II

Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), Multivariate analysis of variance (MANOVA), Multivariate analysis of covariance (MANCOVA)

Unit - III

Correlation Analysis, Simple Linear Regression Analysis, Multiple Linear Regression Analysis, Regression with Dummy Variables, Logistic Regression

Unit - IV

Discriminant Analysis, Exploratory and Confirmatory Factor Analysis, Structural Equation Modeling , Path Analysis

Note: Students are required to use statistical software's like SPSS, AMOS, EViews, RStudio, Stata, Minitab etc. while carry out multivariate techniques.

References:

1. Malhotra, N. K., & Dash, S. (2016). *Marketing research: An applied orientation*. Pearson.
2. Gujarati, D. N. (2009). *Basic econometrics*. Tata McGraw-Hill Education.
3. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. (2006). Multivariate Data Analysis: Pearson Education. *New Jersey: Hoboken*.
4. Chandan, J. S. (2009). *Statistics for business and economics*. Vikas Publishing House.
5. Gupta, S. P., & Gupta, M. P. (2007). Business Statistics Sultan Chand and Sons. *New Delhi*.

Name of the Program	Ph.D. Course work in Management	**Program Code**	**MGTPH**
Name of the Course	Time-Series and Panel Data Econometrics	**Course Code**	**23MGTPH11C3**
Hours/Week	2	**Credits**	2
Max. Marks.	35	**Time**	3 Hours

Note: The examiner has to set a total of nine questions (two from each unit and one compulsory question consisting of short answer from all units). The candidate has to attempt one question each from each unit along the compulsory question (5 x 7 = 35 Marks)

Course Objectives:

1. To learn the basic characteristics of time series data
2. To learn the basic characteristics of panel data
3. Provides a comprehensive knowledge to do empirical work with financial data and measuring volatility in financial time series
4. To learn econometric techniques for time series and panel data
5. To learn econometric modeling with real world data and do economic forecasting

Course Outcomes: Students should be able to

1. Understand basics of econometric modeling.
2. Understand Time Series Econometrics.
3. Understand about the Panel data.
4. Conduct empirical applications of financial and economic theory based on real financial data using statistical/econometric techniques.
5. Use Panel data for financial modeling.

Unit - I

Stochastic Processes, Non-stationary time series, Tests of Stationarity, Unit Root Test, Transforming Nonstationary Time Series, Structural Breaks in Time Series

Unit - II

Vector Autoregressive Model, Vector Error Correction Model, Autoregressive Distributed Lag (ARDL) Model

Unit - III

Cointegration: Engle–Granger two-step method and Johansen test, ARMA model, ARIMA model

Unit - IV

Introduction to Panel Data Models: Pooled OLS, Fixed Effects Model, Random Effects Model, Unbalanced Panel Data Models

References:

1. Gujarati, D. N. (2009). *Basic econometrics*. Tata McGraw-Hill Education.
2. Brooks, C. (2019). *Introductory econometrics for finance*. Cambridge university press.
3. Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.
4. Arellano, M. (2003). *Panel data econometrics*. Oxford university press.
5. Pesaran, M. H. (2015). *Time series and panel data econometrics*. Oxford University Press.

Name of the Program	Ph.D. Course work in Management	**Program Code**	**MGTPH**
Name of the Course	**Research And Publications Ethics**	**Course Code**	24CCPH11C1
Hours/Week	2	**Credits**	2
Max. Marks.	35	**Time**	3 Hours

Note: The examiner has to set a total of nine questions (two from each unit and one compulsory question consisting of short answer from all units). The candidate has to attempt one question each from each unit along the compulsory question (5 x 7 = 35 marks)

Course Objectives:

1. To aware the students about basics of philosophy of science and ethics
2. To educate the students about research integrity and publication ethics.
3. To vigilant the students about research misconduct and predatory publications.
4. To inform the students about indexing and citation databases, open access publications
5. To inform the students about research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools.

Course Outcomes: Students should be able to

1. Understand about the publication ethics and publication misconducts.
2. Aware about falsification, fabrication, and plagiarism.
3. Use Citation databases and understand about impact factor of journal.
4. Use plagiarism software like Turnitin.
5. Identify Predatory publishers and journals.

Unit - I

Introduction to philosophy: definition, nature and scope, concept, Branches; Ethics: definition, moral philosophy, nature of moral judgments and reactions; Ethics with respect to science and research.

Unit - II

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.

Unit - III

Citation databases: Web of Science, Scopus; Open access publications and initiatives; Publication ethics: definition, introduction and importance; Best practices/standards setting initiatives and guidelines: COPE, WAME, etc.

Unit - IV

Conflicts of interest ; Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa ; Violation of publication ethics, authorship and contributorship ; Identification of publication misconduct, complaints and appeals ; Predatory publishers and journals.

Note: The internal assessment will be based on the discussion/presentation/class participation/ quizzes/assignments from the topics: Open Access Publishing, SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies, Journal finder (like JANE, Elsevier Journal Finder), Publication Misconduct, Databases (Web of Science, Scopus etc.), Impact Factor of journal as per Journal Citation Report, SNIP, SIR, IPP, Cite Score , Metrics: h- index, g index, i10 index, altmetrics, Use of plagiarism software like Turnitin, Urkund and other open source software tools etc.

References:

1. Graf, C., Wager, E., Bowman, A., Fiack, S., Scott-Lichter, D., & Robinson, A. (2007). Best practice guidelines on publication ethics: a publisher's perspective. *International journal of clinical practice*, *61*, 1-26.
2. Wager, E. (2012). The Committee on Publication Ethics (COPE): objectives and achievements 1997–2012. *La Presse Medicale*, *41*(9), 861-866.
3. Shamoo, A. E., & Resnik, D. B. (2009). *Responsible conduct of research*. Oxford University Press.
4. Resnik, D. B., Patrone, D., & Peddada, S. (2010). Research misconduct policies of social science journals and impact factor. *Accountability in research*, *17*(2), 79-84.
5. Resnik, D. B. (2011). What is ethics in research & why is it important. *National Institute of Environmental health sciences*, *1*(10), 49-70.