

MEWAR UNIVERSITY
Gangrar, Chittorgarh (Rajasthan)-312901.
Ph.D. Course Work Information

To:

Date:

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1. All the Ph.D. Scholars will be required to undergo one semester course work .
2 All the Ph.D. research students will be required to attend their Department regularly during the semester. They will be required to have at least 75% of attendance in the course work for paper-1 and paper II separately. Attendance of paper I will be marked by the Coordinator of the course whereas paper-II will be on self study basis in close coordination with research supervisor.

3. The course work will consist of two papers.

Paper-I: Research Methodologies & ICT (Detailed syllabus attached)

Paper-II: Review of Relevant Literature, research techniques and specific research methodology.

A semester will be of 90 working days.

Paper-I will consist following:

A. Research methodology

B. Computer and Internet related methodologies.

End semester examination for paper-I will consist one theory and one practical papers of 100 marks each. Candidates are required to pass separately in theory and practical papers by scoring 55% of the maximum marks.

4. Course work on paper-II The Paper II will cover major research techniques and methodologies relevant to the area of research of the candidate as well as review of relevant literature.

Each department/supervisor is free to design curriculum for Paper-II based on scholar's research requirement. Ph.D students are expected to carry out course work for Paper-II on self-study basis under supervision of their supervisors.

5. The candidate will be required to prepare a Assignment for End Semester Examination for paper-II based on the review of relevant literature and research techniques and methodologies. The Examination of paper-II will consist (Max. Marks 100) and Assignment (Max. Marks 50). The candidate will be required to make a multimedia presentation during Viva-Voce. A candidate will be required to score 55% of maximum marks for satisfactory completion of the course work. On the basis of marks awarded in Paper-I and Paper II by the examiners and performance in the Viva-voce, University will award grade (Poor /Satisfactory/good/very good/Excellent) for the course work. Candidates who fail in their course work will require repeating course work as and when the same is offered by the University.

Yours Sincerely,



Registrar

Detailed Syllabus:

Paper-I: Research Methodology

Section-A(Theory)

1. Introduction to Research Methodology: Meaning of Research, Objectives of Research, Motivations in Research, types of Research, Research Approaches, Significance of Research, Research Methods v/s Methodology, Research and Scientific Methods, Research Process, Criteria of Good Research.
2. Defining the Research Problem: What is Research Problem? Selecting the Problem, Necessity and Techniques in Defining the problem.
3. Research Design : Meaning, Need, Features of Good Design, Concepts, Types. Basic principles of Experimental Design, Developing a Research Plan.
4. Sample Design: Implication, Steps, Criteria for selecting a sample procedure, Characteristics of good sampling Procedure, Types of Sample Design, Selecting Random Samples, Complex Random Sampling Design.
5. Measurement and Scaling Techniques: Measurement in Research, Measurement Scales, Sources of errors in measurement, Tests of second measurement, Techniques of developing Measurement tools, Meaning of scaling, Scale Classification bases, Important Scaling Techniques, Scale Construction Techniques.
6. Methods of Data Collection: Collection of Primary Data, Observation Method, Interview method, Collection of Data through questionnaire and schedules, other Methods, Collection of Secondary Data, Selection of appropriate method for data collection, Case Study Method, Guidelines for developing questionnaire, successful interviewing. Survey v/s Experiment.
7. Processing and Analysis of Data: Processing Operations (Meaning, Problems) Data Analysis (Elements), Statistics in Research, Measures of Central Tendency, Dispersion, Asymmetry, Relationship, Regression Analysis, Multiple Correlation and Regression, Partial Correlation, Association in case of Attributes.
8. Sampling Fundamentals: Definition, Need, Important sampling Distribution, Central Limit Theorem, Sampling Theory, Sandler's A test, Concept of Standard Error, Estimating Population Mean, Proportion, Sample Size and its Determination of Sample Size based on
 - (i) Procession rate and Confidence Level
 - (ii) Bayesian Statistics.
9. Testing of Hypothesis: Meaning, Basic concepts, Flow Diagram, Power of a Hypothesis test, Important parametric tests, Hypothesis Testing of Means, Differences Between Means, Comparing two related samples, Testing of Proportion, Difference between proportions, Comparing Variance to hypothesized population variance, Equality of Variances of two normal populations, Hypothesis Testing of Correlation Coefficients, Limitations of Tests of hypothesis.

10. Chi-square test: Applications, Steps, Characteristics, Limitations. Analysis of Variance and Covariance: Basic Principles, techniques applications, Assumptions, Limitations.
11. Logic: Logical form, deductive and inductive reasoning, consistency, validity, soundness and completeness, western and oriental conception of logic.
12. Analysis of Non-parametric or distribution-free tests: Sign test, Fisher-Irwin Test, McNemer Test, Wilcoxon Matched Pair Test (Signed Rank Test), Rank.
13. Sum Tests : a) Wilcoxon-Mann-Whitney test b) Kruskal Wallis Test, one Sample Run Test, Spearman's Rank Correlation, Kendall's coefficient of Concordance, Multivariate Analysis Techniques: Characteristics, Application, Classification, Variables, Techniques, Factor Analysis, (Methods, Rotation) , Path Analysis.

Reference Books:

- a) Best and Kahn, Research Methodology, PHI Limited.
- b) Kothari, C.R. Research Methodology (Methods and Techniques), New Age Publisher.
- c) Fundamentals of modern statistical methods by Rand R. Wilcoxon
- d) Power Analysis for Experimental research A Practical Guide for the Biological, Medical and social Sciences by R. Barker Bausell, Yu-Fang Li Cambridge University Press.
- e) Design of Experiments: Statistical Principles of Research Design and Analysis, by Robert O. Kuehl Brooks/Cole.

Section B-(Practical):

Word Processing: Word features, Creating, Saving and Opening Documents in Word, Interface, Toolbars, Ruler, Menus, Keyboard shortcut, Editing, Previewing, Printing and Formatting a document, Advanced Features of MS Word, Find and replace, using thesaurus, Using Auto-Multiple Functions, Mail Merge, Handling Graphics, tables and Charts, Covering a word Document into various Formats like –Text, Rich Text format, WordPerfect, HTML, PDF etc.

Worksheet: Excel: Worksheet Basics, Working with single and multiple workbook, working with formula & cell referencing, Auto sum, Copying formulae, Absolute & relative addressing, Worksheet with ranges, Formatting of worksheet, Previewing and printing Worksheet, Graphs and charts, Database, Creating and using Macros, Multiple Worksheets-concepts, creating and using, Data analysis and display.

Presentation: PowerPoint: Creating Slide show with animations. Auto Wizard, Creating a blank presentation, auto layout, Screen layout and views, insert a new slide, applying design template, changing slide layout, reordering and hiding a slides, slide show and editing custom slide, resizing a text box, Text Box Properties, Delete a text Box, Bulleted Lists, numbered lists, adding notes, video and audio, Adding text editing options, Formatting text, Replace fonts, Line spacing, change case spelling check, color schemes, Adding clip art, Adding an image from a file, Editing graphic, Auto Shapes, Word Art, backgrounds, Action Buttons, Slide Animation, Preview Slide transitions, Slide Show options, Slide Master, Header and Footer, Slide Numbers, Date and Time.

Educational And Research Resources on Net: Encyclopedia, Wikipedia, On-line Tutorials and lectures, Virtual labs, Open Course-ware, Electronic Journals, E-Books, digital Libraries, Searching research Information.

Professional Written Communication: Students prepare E-mails, Letters, memos, proposals, formal and informal reports, work plans, and progress reports.

Oral Communication: Impromptu and Extemporaneous methods of delivery. Oral Presentations using visual aids such as handouts, overhead transparencies and presentation software such as Power Point.

A handwritten signature in blue ink, appearing to read "R. K. Ray", is written over a horizontal line.

(Registrar)

Assignment related to Paper-II : Cover Research Techniques and Methodology relevant to the area of research work

Q.1 Every research activity is guided by a goal and is undertaken to meet certain requirement. What is the goal of your research project? Discuss the importance of your research project and the requirements expected to be met on completion.

Q.2 Every research problem has a genesis and is supposed to be unique. What was the base of choosing your research area and how can you satisfy that it is unique? Discuss with details of initial work and basis of claiming its uniqueness, with details examined.

Q.3 What do you understand by research methodology? Discuss various types of research and justify categorization of your project into the specific type of research. What could be the possible problems and limitations of your work.

Q.4 How would you prove your point of view ? Explain the design of research and approach to proving or disproving your assessment and statement of problem.

Q.5 What type of data you need to collect for your research work? Describe your approach to the following,

- a. Research design
- b. Questionnaire / experiment design
- c. Date type and approach to data collection

Q.6 What do you understand by data analysis and inference? Explain your approach to analysis of data and making inferences.

Q.7 How references and bibliography are appended in the text and report? Discuss use of references in various documents like research paper, Report, Presentation etc. Give examples of each.

Q.8 Write a short note on the following,

- a. Hypothesis making and proving
- b. Sampling design and data collection
- c. Tools for data analysis and report writing

