



**OFFICE OF THE DIRECTOR RESEARCH  
MAHARAJA GANGA SINGH UNIVERSITY, BIKANER**

**Appendix-II-A**

**Scheme, Norms and outlines for the conduct of the coursework**

Every research scholar aiming at accomplishing the Degree of the Doctorate of Philosophy shall have to complete a Course Work of six months duration. For this, the candidates who have qualified the Ph.D. Entrance Test conducted by this University will be considered for the said. For this purpose each research scholar shall register himself/herself by depositing the requisite fee in the University. The Ph.D. Coursework shall comprise the following papers -

1. Research Methodology and Computer Applications
2. Research and Publication Ethics
3. Review of Literature

**Scheme of Examination**

**CW-101 : Research Methodology and Computer Applications ( 120 Hrs.)**

- |                        |   |          |
|------------------------|---|----------|
| a. Theory              | = | 60 marks |
| b. Internal Assessment | = | 40 marks |

**CW-102 : Research and Publication Ethics ( 30 Hrs.)**

- |                        |   |          |
|------------------------|---|----------|
| a. Theory              | = | 30 marks |
| b. Internal Assessment | = | 20 marks |

**CW-103 : Review of Literature ( 150 Hrs.)** = 100 marks

Grand Total = 250 marks

**Norms and outlines for the conduct of the Course Work**

- i. The qualifying marks in aggregate shall be 55%. A candidate needs to qualify in each paper separately by scoring at least 40% marks. The student shall qualify in Theory and Internal Assessment/viva voce separately. An eligible research scholar who fails to qualify the Course Work examination shall be given one more chance in the ensuing examination provided he/she deposits the requisite fees for this examination and submits the examination form. If he/she fails to qualify the Course Work examination in second chance too, his/her admission as Ph.D. scholar shall automatically stand cancelled.
- ii. The syllabus for the CW-101 i.e. Research Methodology and Computer Applications and CW-102 **Research and Publication Ethics** will be framed by the Dean's Committees of Deans of all faculties. The Director Research shall be the Member and will take initiative of calling meetings etc. for the said purpose.
- iii. 75% attendance shall be compulsory. If a research scholar fails to attain the target attendance (75%) of the classes conducted in paper (I) CW-101 and paper (II) CW-102 she/he will not be allowed to appear in the Course Work Examination.
- iv. Classes of Phase-I of the Course Work i.e. CW-101 and CW-102 shall be conducted by the University Directorate of Research. The classes for both these courses shall be conducted in the initial three months of the Course Work. The CW-101 shall be taught



## OFFICE OF THE DIRECTOR RESEARCH MAHARAJA GANGA SINGH UNIVERSITY, BIKANER

for 120 hours and CW-102 shall be taught for 30 hours. Cumulative credits for both the courses will be six (6).

- v. For the phase-II, the research scholar shall write a Review of Literature based on his/her area of interest. The candidate shall undertake the Review of Literature under the Supervisor allotted by the Directorate of Research. This review shall be evaluated by the Expert(s) nominated by the Vice Chancellor. The expert who has evaluated the scripts shall be invited for the conduction of Viva-voce except in exception circumstances. These experts shall be paid the remuneration as decided by the University. Besides, the experts involved in conduction of internal assessment shall be paid remuneration as decided by the University authorities from time to time.
- vi. The Review of Literature (CW-103) shall be conducted under the supervision of allotted research supervisor. CW-103 shall have six (6) credits and the student is required to contact his/her supervisor for atleast 150 hours over a period of three months. The supervisor shall submit a certificate of attendance to the Directorate of Research, clearly stating the number of classes conducted/contact hours, number of classes attended and percentage of attendance. The candidate is required to submit the hard/spiral bind report ( two in number ) to the Directorate of Research within 10 days after the completion of phase-II of the Course Work.
- vii. For phase-II of Course Work, the candidate may visit Libraries and undertake field visits with due permission from the Supervisor (as per the need of the subject concerned). In case of library visits, he/she will procure an attendance certificate from the Librarian concerned and that of field visits if no competent authority is there, she/he will furnish an undertaking justifying his/her field visit to the Supervisor.
- viii. The candidate qualifying the Ph.D. Course Work examination shall not be awarded grades. He/she will simply be declared as eligible. The candidate who fails to qualify shall be declared 'Not Eligible' and shall reappear in the Course Work examination as specified in clause (i).
- ix. After obtaining the competent approval, University may organize the Phase-II in online mode.
- x. If a dispute or controversy of any kind arises before, during or after conduction of the Ph.D. Course Work and its examination, the decision of the Vice Chancellor, in all cases, shall be final.



# OFFICE OF THE DIRECTOR RESEARCH MAHARAJA GANGA SINGH UNIVERSITY, BIKANER

## Pattern of Question Paper

### **CW-101 : Research Methodology and Computer Applications**

**a. THEORY = 60 MARKS ( 3Hrs.)**

**Question paper will be divided into two Parts: PART 1 and PART 2**

#### **PART 1**

Their shall be three sections in the question paper:

1. The section – A will contain Five questions covering the whole syllabus. All questions are compulsory carrying one mark each with a limit of 50 words.
2. The section – B will have Six questions covering the whole syllabus. Candidate has to attempt any Three. Each question will carry five marks with a limit of 200 words.
3. The section-C will have Four question covering the whole syllabus. Candidate has to attempt any Two. Each question will carry ten marks with a limit of 500 words.

#### **PART 2**

Their shall be three sections in the question paper:

1. The section – A will contain Five questions covering the whole syllabus. All questions are compulsory carrying one mark each with a limit of 50 words.
2. The section – B will have Two questions covering the whole syllabus. Candidate has to attempt any One. Each question will carry five marks with a limit of 200 words.
3. The section-C will have Two question covering the whole syllabus. Candidate has to attempt any One. Each question will carry ten marks with a limit of 500 words.

**b. INTERNAL ASSESSMENT = 40 MARKS**

The assignments shall be given to the candidates and these assignment will be evaluated by an examiner appointed by the University. The course work committee may design any other mode of assessment after taking permission from the competent authority.

### **CW-102 : Research and Publication Ethics**

**a. THEORY = 30 MARKS ( 1.5 Hrs.)**

Their shall be three sections in the question paper:

1. The section – A will contain five questions covering the whole syllabus. All questions are compulsory carrying one mark each with a limit of 50 words.
2. The section – B will have four questions covering the whole syllabus. Candidate has to attempt any two. Each question will carry five marks with a limit of 200 words.
3. The section-C will have four question covering the whole syllabus. Candidate has to attempt any two. Each question will carry 7.5 marks with a limit of 400 words.

**b. INTERNAL ASSESSMENT = 20 MARKS**

The assignments shall be given to the candidates and these assignment will be evaluated by an examiner appointed by the University. The course work committee may design any other mode of assessment after taking permission from the competent authority.

**CW-103 : Review of Literature ( 150 Hrs.) = 60 marks**

The candidate has to submit review of literature in consultation with the Allotted Research Supervisor. The ROL shall be sent to the external examiner(s) who will evaluate the report.

## **Ph.D. COURSE WORK SYLLABUS**

The Ph.D. Coursework shall comprise the following papers -

1. Research Methodology and Computer Applications
2. Research and Publication Ethics
3. Review of Literature

### **Scheme of Examination**

#### **CW-101 : Research Methodology and Computer Applications ( 120 Hrs.)**

- |                        |   |          |
|------------------------|---|----------|
| a. Theory              | = | 60 marks |
| b. Internal Assessment | = | 40 marks |

#### **CW-102 : Research and Publication Ethics ( 30 Hrs.)**

- |                        |   |          |
|------------------------|---|----------|
| a. Theory              | = | 30 marks |
| b. Internal Assessment | = | 20 marks |

#### **CW-103 : Review of Literature ( 150 Hrs.)** = 100 marks

**Grand Total = 250 marks**

### **CW-101 Research Methodology and Computer Application**

**The syllabus consists of:**

**Part A - based on Research Methodology**

**Part B-based of Computer Application**

#### **PART A**

#### **UNIT I**

Research: Definition, Meaning, Objectives, Types, Significance, Approaches. Research Methods vs Methodology. Scientific Methods in Research. Stages of Research Process. Criterion of Good Research.

Research Problem: Identification and Formulation: Definition and Formulation of the Research Problem, Necessity of defining the Problem, Importance of Literature Review in defining a Problem. Analysis of Literature Review : Primary and Secondary Sources, Web Sources, Critical Literature Review.

Research Question: Investigating Question, Measurement Issues. Hypothesis : Qualities of a good Hypothesis, Null Hypothesis and alternative Hypothesis. Hypothesis Testing : Logic and Importance.

## **UNIT II**

Research Design: Features of a good Research Design, Exploratory Research Design : Concept, Types and Uses; Descriptive Research Design : Concept, Types and Uses; Experimental Design : Concept of Independent and Dependent Variables.

Sampling: Concept of Statistical Population, Sample, Sampling Frame, Sampling and Non Sampling Error. Sample size, Characteristics of a good Sample. Probability Sample, Simple Random Sample, Systematic Sample, Stratified Random Sample and Multi-stage Sampling. Determining size of the Sample; Practical considerations in Sampling and Sample size.

Data Collection: Types of Data - Primary, Secondary and Tertiary, Categorical, Nominal and Ordinal. Methods of Collecting Data: Observation, Field Investigations. Direct studies– Reports, Records or Experimental Observations.

Use of Statistical Tools: Measures of Central Tendency, Standard Error, Standard Deviations, Tests of Significance - T test and F test, Correlation, Regression, Sampling Selection, Sample Size, Type of Sampling. ANOVA.

## **UNIT III**

Interpretation: Meaning, Techniques and Precautions.

Types of Report: Technical Reports and Thesis, Steps in the preparation of Reports. Layout and Language of Reports.

Illustrations and Tables. Citation, Bibliography, Referencing and Foot Notes.

Publication: Preparing Research Papers for Seminars, Conferences and Journals; Design of Paper using Template. Impact factor of a Journal, Citation Index, ISBN & ISSN.

Preparation of Project Proposal: Title, Abstract, Introduction: Rationale, Objectives; Methodology: Time Frame and Work Plan. Budget and Justification. Documentation: Result and Conclusion. Writing Synopsis, Thesis and Report: Structure and Components

## **PART B**

### **UNIT IV**

The Internet: What is Internet, major internet services, working of Internet, E-Mail, searching keywords using Search Engines and advance search options.

Introduction to Word Processing Package: Creating and Editing word Document. Performing Text Formatting, Paragraph Formatting, Page Formatting and Document Formatting. Creation of a Document with Title Page, Tables, Charts and Watermarking. Performing mail merge.

### **UNIT V**

Spreadsheet Package: Features and Functions of the Spreadsheet, Creating Spreadsheet and Enter data, Format Worksheets, Adding Charts in Spreadsheets, Print Spreadsheet. Introduction to Presentation tools: Features and Functions, Creating Presentation, Adding Master page, Adding Animation, Customize Presentation, Showing Presentation, Printing Handouts.

## **Recommended Reading:**

1. Agrawal, H., and Rathore, A. (2019). *Research Methodology*. 1<sup>st</sup> Edition. Literary Circle, Jaipur.
2. Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K. (2002). *An introduction to Research Methodology*, RBSA Publishers.
3. Gupta S.P. (2008). *Statistical Methods*. 37<sup>th</sup> Edition. (Rev) Sultan Chand and Sons. New Delhi.
4. James, K.L. (2010) *The Internet : A Users Guide*. 2<sup>nd</sup> Edition, PHI Learning Private Limited, New Delhi.
5. Kothari, C.R. (2008). *Research Methodology, Methods and Techniques*. 2<sup>nd</sup> Edition. New Age International Publishers, New Delhi.
6. Kothari, C.R., and Garg, G. (2019). *Research Methodology, Methods and Techniques*. 4<sup>th</sup> Edition. New Age International Publishers, New Delhi.
7. Leon & Leon (2012). *Internet for Everyone*, 2<sup>nd</sup> Edition, Vikas Publishing House, India.
8. Sinha, P. K. and Sinha Preeti, (2004). *Computer Fundamentals*. 4<sup>th</sup> Edition, BPB Publication, New Delhi.
9. Sinha, S.C., and Dhiman, A.K. (2002). *Research Methodology*, 1<sup>st</sup> Edition Ess Ess Publications, New Delhi.
10. Wadehra, B.L. (2004). *Law Relating to Patents, Trade Marks, Copyright Designs and Geographical Indications*. Universal Law Publishing.

### **Pattern of Question Paper**

#### **CW-101 : Research Methodology and Computer Applications**

**a. THEORY = 60 MARKS ( 3Hrs.)**

**Question paper will be divided into two Parts: PART 1 and PART 2**

#### **PART 1**

**(From Part-A Unit I, II & III of the syllabus based on Research Methodology)**

Their shall be three sections in the question paper:

1. The section – A will contain Five questions covering the whole syllabus of Part-A. All questions are compulsory carrying one mark each with a limit of 50 words.
2. The section – B will have Six questions covering the whole syllabus of Part-A. Candidate has to attempt any Three. Each question will carry five marks with a limit of 200 words.
3. The section-C will have Four question covering the whole syllabus of Part-A. Candidate has to attempt any Two. Each question will carry ten marks with a limit of 500 words.

## **PART 2**

**(From Part-B Unit IV & V of the syllabus based on Computer Application)**

Their shall be three sections in the question paper:

1. The section – A will contain Five questions covering the whole syllabus of Part-B. All questions are compulsory carrying one mark each with a limit of 50 words.
2. The section – B will have Two questions covering the whole syllabus of Part-B. Candidate has to attempt any One. Each question will carry five marks with a limit of 200 words.
3. The section-C will have Two question covering the whole syllabus of Part-B. Candidate has to attempt any One. Each question will carry ten marks with a limit of 500 words.

**b. INTERNAL ASSESSMENT = 40 MARKS**

The assignments shall be given to the candidates and these assignment will be evaluated by an examiner appointed by the University. The course work committee may design any other mode of assessment after taking permission from the competent authority.

## **CW-102 : Research and Publication Ethics**

**(Adopted from UGC D.O. No. F.1- 1/2018(Journal/CARE) 2019)**

### **Course Title:**

- **Research and Publication Ethics (RPE)**-Course for awareness about the publication ethics and publication misconducts.

### **Course Level:**

- 2. Credit course (30 hrs.)

### **Eligibility:**

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

### **Fees:**

- As per University Rules

### **Faculty:**

- Interdisciplinary Studies

### **Qualifications of faculty members of the course:**

- Ph.D. in relevant subject areas having more than 10 years' of teaching experience

### **About the course**

**Course Code: CW - 102**

### **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:**

- Class room teaching, guest lectures, group discussions, and practical sessions.

### **Evaluation**



- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

#### **Course Structure:**

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

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

### **Syllabus in detail**

#### **THEORY**

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

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

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

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

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

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**

- **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

### **Suggested Readings:**

1. Academic Integrity and Research Quality (2021). University Grants Commission, New Delhi [https://www.ugc.gov.in/ebook/Academic%20and%20Research%20Book\\_WEB.pdf](https://www.ugc.gov.in/ebook/Academic%20and%20Research%20Book_WEB.pdf).
2. Kishor S.B., Kushwa A.S (2023). Research & Publication Ethics. 1st Edition. DAS GANU PRAKASHAN. 978-9384336714
3. Agrawal, M. and Agrawal, S. (2021). Research and Publication Ethics. Redshine Publication. India. ISBN 13-9789358095302.

4. Goyal, V. and Batra G. S. (2022). Research and Publication Ethics, 1ST Edition. DPS Publishing House, India. ISBN: 9789390157211
5. P. Chaddah, (2018) Ethics in Competitive research. Do not get scooped, do not get plagiarized, 1<sup>st</sup> Edition. ISBN:978- 9387480865.

### **Pattern of Question Paper**

#### **CW-102 : Research and Publication Ethics**

**a. THEORY = 30 MARKS ( 1.5 Hrs.)**

Their shall be three sections in the question paper:

1. The section – A will contain five questions covering the whole syllabus. All questions are compulsory carrying one mark each with a limit of 50 words.
2. The section – B will have four questions covering the whole syllabus. Candidate has to attempt any two. Each question will carry five marks with a limit of 200 words.
3. The section-C will have four question covering the whole syllabus. Candidate has to attempt any two. Each question will carry 7.5 marks with a limit of 400 words.

**b. INTERNAL ASSESSMENT = 20 MARKS**

The assignments shall be given to the candidates and these assignment will be evaluated by an examiner appointed by the University. The course work committee may design any other mode of assessment after taking permission from the competent authority.

**CW-103 : Review of Literature ( 150 Hrs.) = 60 marks**

The candidate has to submit review of literature in consultation with the Allotted Research Supervisor. The ROL shall be sent to the external examiner(s) who will evaluate the report.