

SANKALCHAND PATEL UNIVERSITY**Ph.D. – COURSEWORK - EXAMINATION – SUMMER 2026****Subject Code: 1RI3000101****Date: 20/07/2026****Subject Name: Research Methodology and Statistics****Time: 3 Hrs.****Total Marks: 80****Instructions:**

1. Q-1 is Compulsory.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Question paper is prepared as per the Bloom's Taxonomy Levels 1 to 6.
5. L1- Remember, L2 -Understand, L3-Apply, L4-Analyze, L5-Evaluate, L6-Create
6. CO: Course Outcomes, BL: Bloom's Taxonomy Levels

		Marks	CO	BL
Q. 1	Answer the Following MCQs/Short/Definition questions (1 or 2 mark each)	20		
	1. State any four steps involved in the research process.		1	2
	2. Differentiate between Qualitative and Quantitative research.		1	2
	3. Define Research Design.		1	1
	4. Differentiate between primary data and secondary data.		2	2
	5. What is plagiarism?		1	1
	6. Define. Descriptive Data Analysis		2	2
	7. Differentiate between Copyright and Patent.		1	2
	8. State any two probability sampling methods.		2	2
	9. What is sampling? Define sample and population.		2	2
	10. Define hypothesis.		3	2
Q. 2	Answer the following long questions. (Any Three)	15		
	(A) Discuss the differences between Basic Research and Applied Research with examples.	5	1	3
	(B) Explain the steps involved in designing a research study.	5	1	3
	(C) Explain the meaning, objectives and characteristics of research with suitable examples.	5	1	4
	(D) Describe the research process with a neat flow chart.	5	1	3
Q. 3	Answer the following long questions. (Any Three)	15		
	(A) Differentiate qualitative and quantitative research. Discuss their advantages and limitations	5	2	3
	(B) Describe different sampling methods with suitable examples.	5	2	3
	(C) Explain One-way ANOVA and Two-way ANOVA with applications.	5	3	4
	(D) Describe the structure and components of a scientific research report.	5	3	4
Q. 4	Answer the following questions. (Any Three)	15		
	(A) Explain various types of research: Educational, Clinical, Experimental, Historical, Descriptive and Patent-oriented research.	5	4	4
	(B) Explain the structure and components of a research proposal.	5	1	3
	(C) Explain the different types of articles.	5	1	3
	(D) Enlist any five statistical tests and explain the use of each.	5	3	3
Q. 5	Answer the following questions. (Any Three)	15		
	(A) Explain the importance of selecting an appropriate journal for publication.	5	2	3
	(B) Describe the process of publishing a research paper in an indexed journal.	5	1	3
	(C) Explain the steps involved in the preparation of a scientific report.	5	1	3
	(D) Describe the process of manuscript preparation before journal submission.	5	1	4
