



# GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Post Graduate Diploma in Hospital Management

Level: PG Diploma

Course / Subject Code: DH02077021

Course / Subject Name : Research Methodology for Healthcare Professionals

w. e. f. Academic Year:	2024 - 2025
Semester:	2
Category of the Course:	Core Course (CC)

<b>Rationale:</b>	Health professionals engaged in public health services at various institutions have experienced the gap of converting the problems faced by health institutions into research inquiry and then designing and conducting a research study. This subject tends to make these health professionals aware about research methodology that they can apply in such situations.
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## Course Outcome:

After Completion of the Course, Student will able to:

Sr. No.	Course Outcomes
CO1	To enable the students to formulate research study design for problem(s) faced by a health organization
CO2	To introduce the concept of Research, and the methods of conducting Scientific Enquiry
CO3	To apply the Statistical Tools of Data Analysis
CO4	To summarise the proceedings of a research study into a research report

\*Revised Bloom's Taxonomy (RBT)

## Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
4	0	0	4	50	0	50	0	100

## Course Content:

Unit No.	Content	No. of Hours	Weightage
1	<b>Introduction to Health Research:</b> <ul style="list-style-type: none"><li>• Definition of research, discovery, and invention?</li><li>• Objectives for research</li><li>• Types of research</li><li>• Research process</li></ul>	10	10



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	<ul style="list-style-type: none"><li>Qualities of a good research</li></ul> <b>Literature Review for Problem Identification:</b> <ul style="list-style-type: none"><li>Sources of Information: Offline &amp; Online</li><li>Use of AI tools for literature review</li><li>Generation of Problem Statement</li></ul> <b>Objectives, Research Questions &amp; Hypothesis</b> <ul style="list-style-type: none"><li>Relationship between Problem Statement, Objectives, Research Questions &amp; Hypothesis</li><li>Functions of Hypothesis, Characteristics of Good Hypothesis, Types of Hypothesis (One tailed, two tailed/ null &amp; alternate), Steps of formulating &amp; testing Hypothesis</li></ul>		
2	<b>Measurement:</b> <ul style="list-style-type: none"><li>Classification of scales of measurement: nominal, ordinal, interval, ratio</li><li>Reliability and Validity and their Relationship to Measurement, Measures of reliability, types of validity</li></ul> <b>Study Design Options in Health research:</b> <ul style="list-style-type: none"><li>Types of Study design options: Descriptive studies, Analytical studies and Experimental studies</li><li>Descriptive studies: Case study, Co relational studies, cross sectional studies,</li><li>Analytical studies : Cohort Studies,</li><li>Experimental studies: Informal &amp; Formal experimental designs</li></ul> <b>Measurements in Various Study Designs</b>	10	15
3	<b>Qualitative Research:</b> <ul style="list-style-type: none"><li>Definition of Qualitative Research,</li><li>Purposes of Qualitative Research</li><li>Classification of Qualitative Research Techniques</li></ul> <b>Quantitative Research:</b> <ul style="list-style-type: none"><li>Descriptive Statistics: Frequency distribution, measures of central tendencies- mean, median, mode, standard deviation</li><li>Inferential Statistics: Tests of Significance, Student's 't' Test, Chi-Squared Test, z test, ANOVA, Types of Correlation, Properties of Correlation</li><li><b>Application of tests in health research</b></li></ul>	10	10
4	<b>Sampling</b> <ul style="list-style-type: none"><li>Sample definition and other related nomenclatures</li><li>Sampling methods – Merits and Demerits, Types of methods</li></ul>	15	15



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	<ul style="list-style-type: none"> <li>• Sampling Errors - Type-I Error &amp; Type-II Error</li> <li>• Sample size determination</li> </ul> <p><b>Data Collection methods:</b></p> <ul style="list-style-type: none"> <li>• Focus Groups</li> <li>• Questionnaire preparation- open and close ended questions, ranking and rating questions, Likert scale questions</li> </ul> <p><b>Research Reports:</b></p> <ul style="list-style-type: none"> <li>• Structure and Components of Research Report</li> <li>• Characteristics of Good Research Report</li> </ul>		
<b>5</b>	<p><b>Practical Session:</b> In a group of not more than 3 students, identify a problem that a hospital/ health organisation is facing. Convert this problem into research question(s) and conduct a research which includes formulation of hypothesis, data collection instrument and ultimately a research report</p>	<b>15</b>	
<b>Total Hours/Marks:</b>		<b>60</b>	<b>50</b>

**Suggested Specification Table For Question Paper Design:**

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks (Assessment as per Revised Bloom's Taxonomy Level*)						Total Marks
			RM	UN	AP	AN	EL	CR	
I	Introduction to Health Research	10	00	05	05	00	00	00	10
II	Measurements in Various Study Designs	10	00	05	05	05	00	00	15
III	Application of tests in health research	10	00	05	05	00	00	00	10
IV	Sampling, Data Collection & Research Report	15	00	05	05	05	00	00	15
<b>Total</b>		<b>45</b>	<b>00</b>	<b>20</b>	<b>20</b>	<b>10</b>	<b>00</b>	<b>00</b>	<b>50</b>

**\*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create**

**Note:** This specification table provides general guidelines to assist student for their learning and to teachers to teach and question paper designers/setters to formulate test items/questions to assess the



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*attainment of the UOs. The actual distribution of marks at different taxonomy levels in the question paper may slightly vary from above table.*

### Suggested Learning Resources:

S. No.	Title of Book	Author	Publisher with edition
1	Research Methodology for Health Professionals: Including Proposal, Thesis & Article Writing, Research Funding and Plagiarism	R C Goyal	Jaypee Brothers (2023 edition)
2	Business Research Methods	Cooper & Schindler	McGraw Hill India
3	Research Methods: Text & Cases	Arunangshu Giri & Debasish Biswas	Atlantic Publishers and Distributors (P) Ltd- 2024 edition
4	Research Methodology	Panneerselvam, R	Prentice Hall of India

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