



**University of
Technology**

Serving Education Since 1976

Established by Rajasthan State Legislature Act No. 28 of 2017
Empowered under section 2(f) of UGC Act 1956 to award Degrees, Diplomas and Certificates
Sponsoring Body Deepshikha Kala Sansthan Reg. No. 307 / 76-77

**Pre-PhD course work
SYLLABUS**

Paper-I	Research Methodology	Credits – 04	Marks -100	Examination Duration: 3 hrs
----------------	---------------------------------	---------------------	-------------------	------------------------------------

UNIT – I INTRODUCTION

(14 hrs.)

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, interdisciplinary approach and its implications in various research area. What is research problem? selecting the problem, necessity of and techniques in defining the problem

UNIT-II DATA COLLECTION

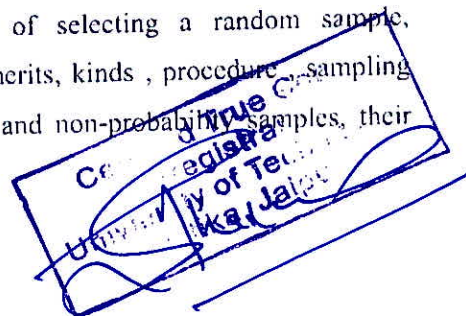
(14 hrs.)

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 (quantitative methods & qualitative methods), case study method, experimental methods, guidelines for developing questionnaire, successful interviewing. Survey v/s experiment, laboratory experimental studies, content analysis, tools of data collections: their types, attributes and uses.

UNIT-III SAMPLE DESIGN

(10 hrs.)

Characteristics and types of sample design, concept of sampling and other concepts related to sampling, sampling merits and demerits, techniques of selecting a random sample, experiments, procedure, control observation: merits, demerits, kinds, procedure, sampling errors: Type - i error and Type - ii error. Probability and non-probability samples, their characteristics and implications



University of Technology
Fatehpura Road, Post Kumhariyawas,
Vatika, Jaipur, Rajasthan - 303903
Phone: +91-141-4098900
Email: info@uot.edu.in

Regional College for Education Research & Technology
ISI-17, RIICO Institutional Area Sitapura,
Jaipur, Rajasthan - 302022
Ph: 0988 776 8098

Deepshikha College of Technical Education
Sector - 3, Varun Path, Mansarovar,
Jaipur, Rajasthan - 302020
Ph: 09351 111 097



**University of
Technology**

Serving Education Since 1976

Established by Rajasthan State Legislature Act No. 28 of 2017
Empowered under section 2(f) of UGC Act 1956 to award Degrees, Diplomas and Certificates
Sponsoring Body Deepshikha Kala Sansthan Reg. No. 307 / 76-77

UNIT-IV HYPOTHESIS

(10 hrs.)

Meaning, basic concepts, flow diagram, power of a hypothesis test, important parametric tests, hypothesis testing of means, hypothesis testing of correlation coefficients, limitations of tests of hypothesis.

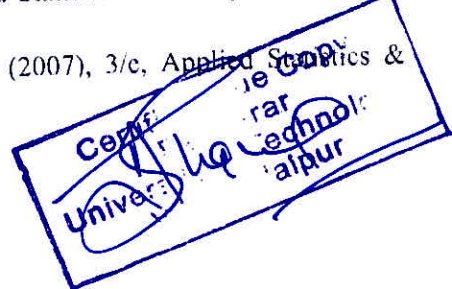
UNIT -V PROCESSING AND ANALYSIS OF DATA:

(12 hrs.)

Measures of central tendency, dispersion, correlation and regression, one sample test , two sample tests , chi-square test, t-test , f-test, z-test, standard deviation: applications, steps, characteristics, limitations, analysis of variance and co-variance, discriminate analysis, cluster analysis, factor analysis, analysis of qualitative data based on various tools. Analysis of quantitative data and its presentation with tables, graphs etc, estimates of means and proportions. Decision tree- decision making with hypothesis testing through parametric and non parametric tests

REFERENCES

1. Wilkinson & Bhandarkar : Methodology and Techniques of Social Research.
2. Pauline Vyoung: Scientific Social Surveys and Research.
3. Panneerselvam, R., Research Methodology, Prentice Hall Of India, New Delhi, 2004.
4. Kothari: Research Methodology.
5. Festinger. L & D. Katz: Research Methods in Behavioral Science.
6. Sellitz, Et Al: Research Methods in Social Relations
7. Kothari, C. R. (2005) Quantitative Technique, New Delhi, Vikas Publication House.
8. Gautam, N. C. (2004) Development of Research tools, New Delhi, Shree Publishers.
9. Gupta, Santosh (2005) Research Methodology and Statistical Techniques, Deep and Deep Publications.
10. Montgomery, Douglas C. & Runger, George C. (2007), 3/e, Applied Statistics & Probability for Engineers (Wiley India)



University of Technology
Fatehpura Road, Post Kumharlyawas,
Vatika, Jaipur, Rajasthan - 303903
Phone: +91-141- 4098900
Email: info@uot.edu.in

Regional College for Education Research & Technology
151-17, RIICO Institutional Area Sitapura,
Jaipur, Rajasthan - 302022
Ph: 0988 776 8098

Deepshikha College of Technical Education
Sector - 3, Varun Path, Mansarovar,
Jaipur, Rajasthan - 302020
Ph: 09351 111 097