गुजरात केन्द्रीय विश्वविद्यालय

(भारत की संसद के अधिनियम सं. 25, 2009 के तहत स्थापित)

CENTRAL UNIVERSITY OF GUJARAT

(Established by an Act of Parliament of India, No 25 of 2009)

School of National Security studies
Syllabus for Ph.D. in Strategic Technology and National Security Entrance examination-2022-2023

Syllabus for Research Methodology:

- 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.
- Defining the Research Problem: Concept and need, Identification of Research problem, defining and delimiting Research problem.
- Inductive vs Deductive Method, Positivism, Behaviouralism, Hermeneutics, Falsification, Paradigm
- Research Questions and Hypothesis: Variables and their linkages, Research Ethics, Plagiarism, Literature Review,
- characteristics of good Hypothesis. Research question and formulation of hypotheses-directional and non-directional hypotheses, Basis for hypotheses. Research design: Meaning, Need, Features of Good Design, Concepts, Types. Basic principles of Experimental Design, various methods of Research. Survey, Philosophical, Historical, Experimental, Causal Comparative, Genetic, Case Studies.
- Tools for Data Collection: Collections of Primary Data, Collection of Data through questionnaire and Schedules, other Observation Interview Methods, Collection of Secondary Data, Selection of appropriate method for data collection, Techniques of developing research tools, Sampling: Probability and Non-Probability sampling

Subject Syllabus for Ph.D. in Strategic Technology and National Security

1. **National Security**: Meaning, Definition and Types of Security and major elements of Security in Context to national security
2. Science, Technology, and National security
3. **Constitutional law** (Indian Constitution), and other major legal act/s related to cyber security E-governance, E-commerce
4. **Cyber law:** I.T.ACT 2000 (2008), UNCITRAL Model Law , Legal Provisions related to E-Commerce and E-governance
5. Big data, Search engine optimization, Data protection
6. IoT, Artificial Intelligence,
7. Cyber Crime: Offences and contraventions and related provisions
8. International Security Standards
9. Space Security: Concept, meaning and types
10. Inner and outer space
11. Satellite and Missile development programme of India

12. Role of Space security in National security
13. Weaponization of Space, Militarization of Space, space exploration.