

# **Department of Mathematics**

## **Saurashtra University**

### **Rajkot**

**Course Work**  
**M.Phil & Ph. D. (Mathematics)**  
With effect from July-2018



(Reaccredited "A" Grade by NAAC)  
(CGPA 3.05)

# Course Work

## (Mathematics)

Credits: 08

### ❖ Unit: 1: Research Methodology

- Fundamental Principles of counting
- Fundamentals of logic
- Set theory
- Properties of integers
- Mathematical induction
- Basic concepts of graph theory / algebra.

### ❖ Unit: 2: Computer applications

- Introduction to MS Office (MS Word, MS Excel, MS Power Point)
- Introduction to Latex
- Document class, fonts and styles in Latex
- Document structure

### ❖ Unit: 3: Review of literature

Student has to review

- Titles of related research field
- Journals
- Web resources

### ❖ Unit: 4: Review of a research paper

- Student will prepare a brief review on a research paper

### References:

- J. Clark and D. A. Holton, First Look at Graph Theory, Allied Publishers Limited.
- R. P. Grimaldi, Discrete and Combinatorial Mathematics, Pearson Education Pvt. Ltd.
- J. Gross and J. Yellen, Graph Theory and its Application, CRC press.
- F. Harary, Graph Theory, Addison-Wesley, Massachusetts.
- D. B. West, Introduction to Graph Theory, Prentice-Hall of India Pvt. Ltd.
- Topics in Algebra by I. N. Herstein, Second Edition, Wiley Pub. , New York, 1975.
- Algebra by M. Artin, Prentice-Hall of India Private Ltd., New Delhi, 1994.
- Basic Abstract Algebra by P. B. Bhattacharya, S. K. Jain and S. R. Nagpaul, Second Edition, Cambridge University Press, 1995.
- G. Gratzer, Math into Latex, An introduction to LATEX and AMS-LATEX, BIRKHAUSER.