



GOVERNMENT OF TAMIL NADU

HIGHER SECONDARY FIRST YEAR

MATHEMATICS

VOLUME - I

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Department of School Education

Untouchability is Inhuman and a Crime

Government of Tamil Nadu

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HOW TO USE THE BOOK

Scope of Mathematics

- Awareness on the scope of higher educational opportunities; courses, institutions and required competitive examinations.
- Possible financial assistance to help students climb academic ladder.

Learning Objectives

- Overview of the unit
- Give clarity on the intended learning outcomes of the unit.



- Additional facts related to the topics have been included to arouse interest for searching of more information for deeper and wider learning.



- Visual representation of concepts with illustrations
- Videos, animations, and tutorials.

ICT

- To increase the span of attention of concepts
- To visualize the concepts for strengthening and understanding
- To link concepts related to one unit with other units.
- To utilize the digital skills in classroom learning and providing students experimental learning.

Summary

- Recapitulation of the salient points of each chapter for recalling the concepts learnt.

Evaluation

- Assessing student's understanding of concepts and get them acquainted with solving exercise problems.

Books for Reference

- List of relevant books for further reading.

Scope for Higher Order Thinking

- To motivate students aspiring to take up competitive examinations such as JEE, KVPY, Math olympiad, etc., the concepts and questions based on Higher Order Thinking are incorporated in the content of this book.

Glossary

- Frequently used Mathematical terms have been given with their Tamil equivalents.

Mathematics Learning

The correct way to learn is to understand the concepts thoroughly. Each chapter opens with an Introduction, Learning Objectives, Various Definitions, Theorems, Results and Illustrations. These in turn are followed by solved examples and exercise problems which have been classified into various types for quick and effective revision. One can develop the skill of solving mathematical problems only by doing them. So the teacher's role is to teach the basic concepts and problems related to it and to scaffold students to try the other problems on their own. Since the first year of Higher Secondary is considered to be the foundation for learning higher mathematics, the students must be given more attention to each and every concept mentioned in this book.

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- On successful scan, content linked to the QR code gets listed.

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Scope for students after completing Higher Secondary



EXAMS

MEDICAL RELATED COURSES:

JEE (Main & Advanced)	Bio Informatics
NEET, JIPMER, AIMS	M.B.B.S / B.D.S

ENGINEERING RELATED COURSES:

JEE (Main & Advanced)	B.E. / B. Tech. / B.Arch in IITs and NITs
B. Tech.	Avionics / Aerospace
B. Tech. & M. Tech	Dual degree programme in IIST Trivandram.
B.E	Agricultural Engineering (TamilNadu Agricultural University Entrance Exam)
CET	Common Entrance Test for Maritime Courses (www.imu.edu.in)
BITS	Birla Institute of Technology and science Admission Test (www.bits-pilani.ac.in)
NATA	National Aptitude Test in Architecture (www.nata.in)
IIT	Indian Institute of Information Technology (www.iit.ac.in)

BASIC SCIENCE COURSES:

TIFR	Tata Institute of Fundamental Research conducts Graduate School admission examination (Univ.tifr.res.in)
NEST, NISER	National Institute of Science Education and Research (www.niser.ac.in)
IISC	Indian Institute of Science (www.iisc.ac.in)
RIE	Regional Institute of Education
CEE	Common Entrance Examination (www.rii.raj.nic.in)
CUCET	Central Universities Common Entrance Test (http://Ucetexam.in)
GATE	Graduate Aptitude Test in Engineering (gate.iitg.ac.in)
NET	CSIR and UGC - National Eligibility Test (http://cbsenet.nic.in)
JAM	Joint Admission Test for M.Sc (Jam.iitb.ac.in)
ISI	Indian Statistical Institute Admission Test (www.isical.ac.in)
IISER - KVPY / IIT - JEE / NEET	Indian Institute of science Education and Research (www.iiser.ac.in) & www.iiseradmission.in



AFTER COMPLETING +2

UNDER GRADUATE COURSES:

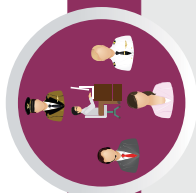
B.Sc	Mathematics / Applied Mathematics / Statistics
B.Sc	Physics, Chemistry
B.Stat.(Hons.)	Bachelor of Statistics
B.Math (Hons.)	Bachelor of Mathematics
B.S. - M.S Dual Degree	5 years programme
B.Sc. Ed.	4 years programme

POST GRADUATE COURSES:

M.Sc	Mathematics / Applied Mathematics / Statistics
M.Sc	Astronomy
M.Sc	Operational Research
M.Stat.(Hons.)	Master of Statistics
M.Math (Hons.)	Master of Mathematics
M.Sc. Ed.	6 years programme
M.Sc	Mathematics - 5 years Integrated programme

Job and Scholarship Opportunities

JOB OPPORTUNITIES



- Indian Forest Services
- Scientist Jobs in ISRO, DRDO, CSIR labs
- Union Public Service Commission
- Staff Selection Commission
- Indian Defense Services
- Public Sector Bank
- Tax Assistant
- Statistical Investigator
- Combined Graduate Level Exam
- Tamil Nadu Public Service Commission
- Teaching Profession

FINANCIAL ASSISTANCE



- Scholarship for Graduate and Post – Graduate courses
- NTSE at the end of X (from class XI to Ph.D)
- International Olympiad: for getting stipend for Higher Education in Science and Mathematics
- DST – INSPIRE Scholarships (for UG and PG)
- DST – INSPIRE Fellowships (for Ph.D)
- UGC National Fellowships (for Ph.D)
- Indira Gandhi Fellowship for Single Girl Child (for UG and PG)
- Moulana Azad Fellowship for minorities (for Ph.D)
- In addition various fellowships for SC / ST / PWD / OBC etc are available. (Visit website of University Grants Commission (UGC) and Department of Science and Technology (DST))
- University Fellowships
- Tamil Nadu Collegiate Education fellowship.

Institutes in india to pursue research in Mathematics

RESEARCH INSTITUTIONS IN VARIOUS AREAS OF SCIENCE

NAME OF THE INSTITUTION	WEBSITE
Indian Institute of Science (IISc), Bangalore	www.iisc.ac.in
Chennai Mathematical Institute (CMI), Chennai	www.cmi.ac.in
Tata Institute of Fundamental Research (TIFR), Mumbai	www.tifr.res.in
Indian Institute of Space Science and Technology (IIST), Trivandrum	www.iist.ac.in
National Institute of Science Education and Research (NISER)	www.niser.ac.in
Birla Institute of Technology and Science, Pilani	www.bits-pilani.ac.in
Indian Institute of Science Education and Research	www.iiseradmission.in
Anna University	https://www.annauniv.edu/
Indian Institute of Technology in various places (IIT's)	www.iitm.ac.in
National Institute of Technology (NIT's)	www.nitt.edu
Central Universities	www.cucet.ac.in
State Universities	www.ugc.ac.in
Tamil Nadu agricultural University (tnau.ac.in)	tnau.ac.in
International Institute of Information Technology	www.iiit.ac.in
The Institute of Mathematical Sciences (IMSC), Chennai.	www.imsc.res.in
Hyderabad Central university, Hyderabad.	www.uohyd.ac.in
Delhi University, Delhi	www.du.ac.in
Mumbai University, Mumbai	www.mu.ac.in
Savitribi Bai Phule Pune University, Pune	www.unipune.ac.in
Indian Statistical Institute	www.iisical.ac.in
Regional Institute of Education	www.rieajmer.raj.nic.in