



GOVERNMENT OF TAMILNADU

HIGHER SECONDARY SECOND YEAR

COMPUTER SCIENCE

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Department of School Education

Untouchability is Inhuman and a Crime

Government of Tamil Nadu

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PREFACE

The tremendous effect of the computer and computing technology is in shaping the modern society for the betterment of mankind. Human civilization achieved the highest peak with the development of computer known as “**Internet Era**”.

Python being a high level language is good for beginners to learn due to its easy syntax and powerful memory management. For any internet applications, it is good to learn as python being the better choice.

The user of this textbook being acquainted with the knowledge of C++ in std XI will have no difficulty in studying python language. No substantial knowledge nor experience, is required as the examples illustrated in the book are easy to follow

HOW TO USE THE BOOK?

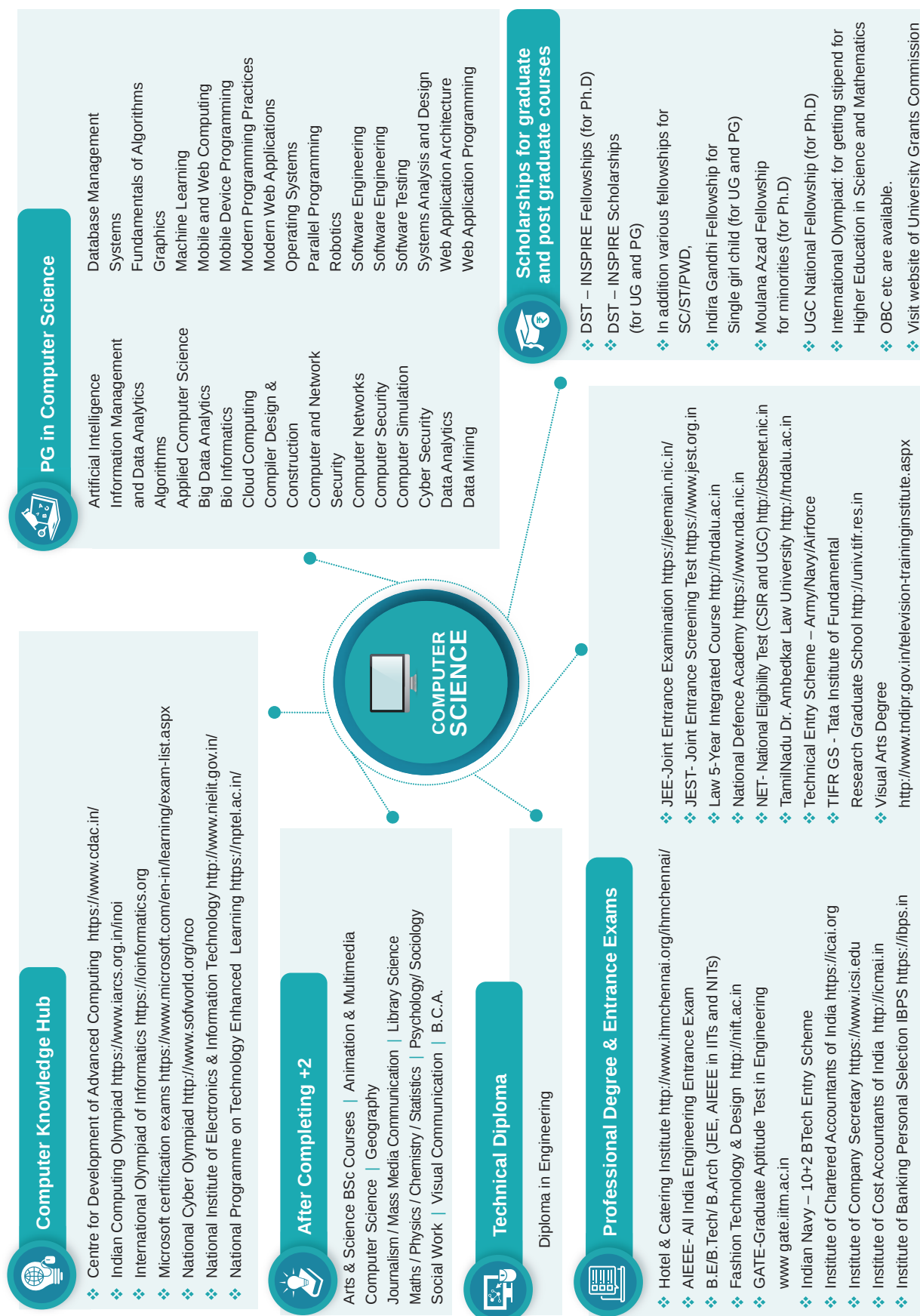
- This book does not require prior knowledge in computer Technology
- Each unit comprises of simple activities and demonstrations which can be done by the teacher and also students.
- Technical terminologies are listed in glossary for easy understanding
- The “Do you know?” boxes enrich the knowledge of reader with additional information
- Workshops are introduced to solve the exercises using software applications
- QR codes are used to link supporting additional materials in digital form

How to get connected to QR Code?

- o Download the QR code scanner from the google play store/ apple app store into your smartphone
- o Open the QR code scanner application
- o Once the scanner button in the application is clicked, camera opens and then bring it closer to the QR code in the textbook.
- o Once the camera detects the QR code, a URL appears in the screen. Click the URL and go to the content page.



CAREER GUIDANCE AFTER 12TH



CAREER GUIDANCE

After PG courses

MPhil –Computer Science | PhD – Computer Science

Following are the latest topics for PhD in computer science:

Bioinformatics and Computational Biology
Capturing and Visualizing Persona Through Faces
Comprehensive analysis of RNA sequencing experiments
Designing and Evaluating Information Gathering Robots
Digital Pathology: Diagnostic Errors, Viewing Behavior and Image Characteristics
Embedded Systems | Game Theory | Graph Theory
Graphics and Visualization | Human Computer Interaction – HCI
Improving Fault Tolerance and Performance of Data Center Networks
Increasing Access to Computer Science for Blind Students
In-situ Semantic 3D Modeling
Intelligent Crowdsourcing for Natural Language Learning and Other AI Applications
Learning Robust Tractable Models for Vision
Manipulators And Manipulation In High Dimensional Spaces
New Algorithmic Tools for Distributed Similarity Search
Reproducible measurements of web security and privacy
The Security and Privacy of Web and Mobile Advertising
Towards More Practical Reinforcement Learning, with Applications to Educational Games

Topics for Research after PG in Computer Studies

Architectures, Compiler Optimization, and Embedded Systems.
Bioinformatics and Computational Biology | Cloud Computing
Data Mining, Databases, and Geographical Information Systems.
Graphics and Visualization | High Performance Computing.
Human Computer Interaction | Internet of Things
Natural Language Processing | Networks, Distributed Systems, and Security.

Competitive Exams for Govt. Jobs

Airforce Common Admission Test – AFCAT | Army Education Officer Entry- AEC
Combined Defence Services –CDS | Defence Service Staff College, Nilgiris
Indian Defence Services | Indian Military Academy
Judge Advocate General Department-JAG | NCC Entry | Railway Board Examination
SSC NAVY (Pilot/Observer) | SSC Tech Entry – Officers Training School
Staff Selection Examination | Tamil Nadu Public Service Commission
Teacher Recruitment Board | Technical Graduate Course –TGC
Territorial Army | Union Public Service Examination | Women Special Entry Scheme

Computer Related Jobs

Applications Software Developer | Big Data Analysts
Cloud Computing Programmer | College/ University Faculty
Computer Programmer | Computer Teacher
Computer Vocational Instructor | Computer Information Research Scientist
Computer Information Systems Manager | Computer Network Architect
Computer Support Specialist | Computer System Analysts
Data Mining Specialist | Database Administrator
Information Security Analysts | Market Research Analysts
Network & Computer System Administrator | Research Assistant
Systems Software Developer | User Interface Designer | Web Developer

Research Institutions in various areas of science

❖ Bhabha Atomic Research centre (BARC) Mumbai www.barc.gov.in	❖ Institute of Mathematical Sciences (IMSc) Chennai www.imsc.res.in
❖ BITS Pilani, https://www.bits-pilani.ac.in	❖ Jawaharlal Nehru University (JNU) www.jnu.ac.in
❖ Central Universities www.ugc.ac.in	❖ Mumbai University, Mumbai www.mu.ac.in
❖ Chennai Mathematical Institute (CMI) Chennai www.cmi.ac.in	❖ National Institute of Science Education and Research (NISER), www.niser.ac.in
❖ Delhi University, Delhi www.du.ac.in	❖ National Institute of Technology (NITs) www.nitt.edu
❖ Hyderabad central university, Hyderabad www.uohyd.ac.in	❖ SavitribaiPhule Pune university, Pune www.unipune.ac.in
❖ IISER Educational Institutions www.iiseradmission.in	❖ State Universities https://www.ugc.ac.in
❖ Indian Institute of Technology in various places (IIT's) www.iitm.ac.in	❖ Tata Institute of Fundamental Research (TIFR) Mumbai www.tifr.res.in

COMPUTER SCIENCE

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DIGI links