

## B.Sc. (Computer Science)

Bachelor of Science (Computer Science)

**Duration :** 3 Years, Semester Pattern

**Eligibility:**

Passed 12<sup>th</sup> Std. Examination (H.S.C. 10+2) in Science with Mathematics or Three Year Diploma Course (after S.S.C., i.e. 10th Standard) of Board of Technical Education Conducted by Government of Maharashtra

### Programme Structure CBCS 2019 PATTERN

#### SECOND YEAR

**Electronics : Semester III**

- 1) Microcontroller Architecture & Prog.
- 2) Digital Comm. & Networking
- 3) Practical Course I

**Semester IV**

- 1) Embedded System Design
- 2) Wireless Comm. & IoT
- 3) Practical Course II

#### THIRD YEAR

**Semester V**

- 1) Operating Systems – I
- 3) Practical course
- 5) Foundations of Data Science
- 7) Object Oriented Programming - I (Core Java)
- 9) Practical Course
- 11) Open Elective

- 2) Computer Networks – II
- 4) Web Technologies – I
- 6) Practical course
- 8) Theoretical Computer Science and Compiler Construction – I
- 10) Python Programming / RProg.

**Semester VI**

- 1) Operating Systems – II
- 3) Practical course
- 5) Data Analytics
- 7) Object Oriented Programming – II (Advanced Java)
- 9) Practical Course
- 11) Project Open Elective

- 2) Software Testing
- 4) Web Technologies – II
- 6) Practical course
- 8) Theoretical Computer Science and Compiler Construction – II
- 10) Mobile App Development Software Testing Tools



## M.Sc (Computer Science)

Master of Science (Computer Science)

**Duration :** 2 Years, Semester Pattern

**Eligibility:** B.Sc. (Computer Science)

### Programme Structure CBCS 2019 PATTERN

#### FIRST YEAR

**Semester I**

- 1) Paradigm of Programming Language
- 2) Design and Analysis of Algorithms
- 3) Database Technologies
- 4) Cloud computing  
Cloud computing Practical  
Or
- 4) Artificial Intelligence  
Artificial Intelligence Practical  
Or
- 4) Web Services Web Services Practical
- 5) Practical on PPL and Database Technologies

**Semester II**

- 1) Advanced Operating System
- 2) Mobile Technologies
- 3) Software Project Management
- 4) Project  
Project related Assignments  
Or
- 4) Human Computer Interaction  
Human Computer Interaction Practical  
Or
- 4) Soft Computing  
Soft Computing Practical
- 5) Practical on Advance Operating system and Mobile Technologies

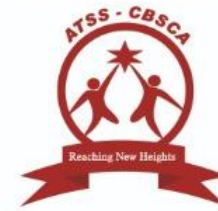
#### SECOND YEAR

**Semester III**

- 1) Software Architecture and Design Patterns
- 2) Machine Learning
- 3) Web Frameworks
- 4) Big Data Analytics  
Big Data Analytics practical  
Or
- 4) Web Analytics  
Web Analytics Practical  
Or
- 4) Project  
Project related Assignments
- 5) Practical on Software Architecture and Design Patterns, Machine Learning and Web Frameworks

**Semester IV**

- Industrial Training /Institutional project



Audyogik Tantra Shikshan Sanstha  
**ATSS College of Business Studies and  
Computer Application**

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**ATSS CBSCA, Chinchwad**

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Email: [atssito@yahoo.co.in](mailto:atssito@yahoo.co.in)



## BBA (CA)

(Bachelor of Business Administration in Computer Application)

**Duration :** 3 Years, Semester Pattern

### Eligibility:

Passed 12th Std. (H.S.C. 10+2) from any stream with English and has secured 40% marks in 12 Std. **OR** 35 % Reserved Category **OR** 2 years Diploma in Pharmacy after H.S.C., Board of Technical Education conducted by Govt. of Maharashtra or its equivalent. **OR** 3 Year Diploma Course (after S.S.C., i.e. 10th Standard) of Board of Technical Education Conducted by Govt. of Maharashtra or its equivalent. **OR** MCVC

## Programme Structure CBCS 2019 PATTERN

### FIRST YEAR

#### Semester I

- |                           |   |
|---------------------------|---|
| 1) Business Communication | 2) Principles of Management               |
| 3) C Language             | 4) Database Management System             |
| 5) Statistics             | 6) Computer Laboratory based on 103 & 104 |

\* ADD ON (PPA)

#### Semester II

- |                                  |   |
|----------------------------------|---|
| 1) Organizational Behavior & HRM | 2) Financial Accounting                   |
| 3) Business Mathematics          | 4) Relational Database Management System  |
| 5) Web Technology HTML-JS-CSS    | 6) Computer Laboratory based on 204 & 205 |

\* ADD ON (Adv. C.)

### SECOND YEAR

#### Semester III

- |  |  |
|--|--|
| 1) Digital Marketing /Consumer Affairs | 2) Data Structure                              |
| 3) Software Engineering                | 4) Angular JS OR PHP                           |
| 5) Big data OR Block Chain             | 6) Computer Laboratory based on 302, 304 & 305 |

\*ADD ON ENVIRONMENTAL AWARENESS

#### Semester IV

- |   |   |
|---|---|
| 1) Networking                                       | 2) Object Oriented Concepts Through CPP |
| 3) Operating System                                 | 4) NODE JS OR Advance PHP               |
| 5) Project 6) Computer Laboratory based on 402, 404 |   |

\*ADD ON JQUERY

### THIRD YEAR

#### Semester V

- |   |                       |
|---|-----------------------|
| 1) Cyber Security                                   | 2) OOSE               |
| 3) Core Java  | 4) Mongo DB OR Python |
| 5) Project Computer Laboratory based on 503 and 504 | *ADD ON IOT           |

#### Semester VI

- |  |   |
|--|---|
| 1) Recent Trends in IT (Tutorial / Assig.) | 2) Software Testing                         |
| 3) Advanced Java                           | 4) Android Programming OR Dot Net framework |
| 5) Project                                 | 6) Computer Laboratory Based on 603 and 604 |

\*ADD ON IOT- SOFT SKILL TRAINING

## BBA

(Bachelor of Business Administration)

**Duration :** 3 Years, Semester Pattern

### Eligibility:

Passed 12th Std. (H.S.C. 10+2) from any stream with English and has secured 40% marks in 12 Std. **OR** 35 % Reserved Category **OR** 2 years Diploma in Pharmacy after H.S.C., Board of Technical Education conducted by Govt. of Maharashtra or its equivalent. **OR** 3 Year Diploma Course (after S.S.C., i.e. 10th Standard) of Board of Technical Education Conducted by Govt. of Maharashtra or its equivalent. **OR** MCVC

## Programme Structure CBCS 2019 PATTERN

### FIRST YEAR

#### Semester I

- 1) Principles of Management
- 2) Business Communication Skills
- 3) Business Accounting
- 4) Business Economics - Micro
- 5) Business Mathematics
- 6) Business Demography

#### Semester II

- 1) Business Organization and System
- 2) Principles of Marketing
- 3) Principles of Finance
- 4) Basics of Cost Accounting
- 5) Business Statistics
- 6) Fundamentals of Computers

### SECOND YEAR

#### Semester III

- |  |                                      |
|--|--------------------------------------|
| 1) Principles of Human Resource Management       | 2) Supply Chain Management           |
| 3) Global Competencies & Personality Development | 4) Fundamentals of Rural Development |

#### Specialization :

- |  |  |
|--|--|
| <i>Marketing</i> - 5 : Consumer Behaviour & Sales Management + Tutorial<br>6 : Retail Management + Project |  |
| <i>Finance</i> - 5 : Management Accounting + Tutorial<br>6 : Banking & Finance + Project                   |  |
| <i>HRM</i> - 5 : Organisational Behaviour + Tutorial<br>6 : Legal Aspects In HR + Project                  |  |

#### Semester IV

- 1) Entrepreneurship and Small Business Management
- 2) Productions and Operation Management
- 3) Decision Making and Risk Management
- 4) International Business Management

#### Specialization :

- |   |  |
|---|--|
| <i>Marketing</i> -5 : Advertising & Promotion Mgmt + Tutorial<br>6 : Digital Marketing + Project          |  |
| <i>Finance</i> - 5 : Business Taxation + Tutorial<br>6 : Financial Services + Project                     |  |
| <i>HRM</i> - 5 : HRM Functions & Practices + Tutorial<br>6 : Employee Recruitment & Record Mgmt + Project |  |

### THIRD YEAR

#### Semester V

- |                         |  |
|-------------------------|--|
| 1) Research Methodology | 2) Database Administration and Data Mining       |
| 3) Business Ethics      | 4) Management of Corporate Social Responsibility |

#### Specialization :

- |   |  |
|---|--|
| <i>Marketing</i> - 5 : Marketing Environment Analysis & Strategies + Tutorial<br>6 : Legal Aspects in Marketing Mgmt + Project Viva |  |
| <i>Finance</i> - 5 : Analysis of Financial Statements + Tutorial<br>6 : Legal Aspects of Financial & Security Laws + Project Viva   |  |
| <i>HRM</i> - 5 : Cultural HR & Industrial Relations + Tutorial<br>6 : Cases in HRM + Project Viva                                   |  |

#### Semester VI

- |                                |   |
|--------------------------------|---|
| 1) Essentials of E-commerce    | 2) Management of Information System           |
| 3) Business Project Management | 4) Management of Innovations & Sustainability |

#### Specialization :

- |  |  |
|--|--|
| <i>Marketing</i> -5: International Brand Mgmt + Tutorial<br>6 : Cases in Marketing Mgmt + Project Viva |  |
| <i>Finance</i> - 5 : Financial Management + Tutorial<br>6 : Cases in Finance + Project Viva            |  |
| <i>HRM</i> - 5 : Global HRM + Tutorial<br>6 : Recent Trends & HR Accounting + Project Viva             |  |

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## Programme Structure CBCS 2019 PATTERN

### FIRST YEAR

#### Computer Science Semester I

- 1) Problem Solving using Computer and 'C' Programming
- 2) Database Management Systems
- 3) Computer Practical Course

#### Statistics : Semester I

- 1) Descriptive Statistics I
- 2) Mathematical Statistics
- 3) Statistics Practical Paper I

#### Mathematics : Semester I

- 1) Matrix Algebra
- 2) Discrete Mathematics
- 3) Mathematics Practical

#### Electronics: Semester I

- 1) Semiconductor Devices and Basic Electronic Systems
- 2) Principles of Digital Electronics
- 3) Electronics Lab IA

#### Semester II

- 1) Advanced 'C' Programming
- 2) Relational Database Management System
- 3) Computer Practical Course

#### Semester II

- 1) Methods of Applied Statistics
- 2) Continuous Probability Distributions and Testing of Hypothesis
- 3) Statistics Practical Paper II

#### Semester II

- 1) Linear Algebra
- 2) Graph Theory
- 3) Mathematics Practical

#### Semester II

- 1) Instrumentation System
- 2) Basics of Computer Organization
- 3) Electronics Lab IB

### SECOND YEAR

#### Computer Science: Semester III

- 1) Data Structures and Algorithms – I
- 2) Software Engineering
- 3) Computer Practical Course

#### Mathematics: Semester III

- 1) Group Theory
- 2) Numerical Analysis
- 3) Mathematics Practical

#### Semester IV

- 1) Data Structures and Algorithms – II
- 2) Computer Networks - I
- 3) Computer Practical Course

#### Semester IV

- 1) Calculus
- 2) Operations Research
- 3) Mathematics Practical

**Skill Enhancement Course & Ability Enhancement Compulsory Courses every Semester**