

## **SCIENCE STREAM (B.Sc.)**

St. Xavier's College Ranked **85<sup>th</sup> among all India B.Sc. Colleges** by India Today Rankings (2023)

St. Xavier's College Science Departments awarded Government of India **DBT STAR College Scheme** (2021)

### **COURSES OFFERED IN SCIENCE STREAM 2024-2025**

- 1) B.Sc. **BOTANY** (HONOURS) SINGLE MAJOR
- 2) B.Sc. **CHEMISTRY** (HONOURS) SINGLE MAJOR
- 3) B.Sc. **COMPUTER SCIENCE** (HONOURS) SINGLE MAJOR
- 4) B.Sc. **ELECTRONICS** (HONOURS) SINGLE MAJOR
- 5) B.Sc. **MATHEMATICS** (HONOURS) SINGLE MAJOR
- 6) B.Sc. **MICROBIOLOGY** (HONOURS) SINGLE MAJOR
- 7) B.Sc. **PHYSICS** (HONOURS) SINGLE MAJOR

## **B.Sc. PROGRAMME STRUCTURE UNDER NEP 2020 (OA-XX.11)**

### **Three-year (120 Credits) UG Programmes**

#### **UG Degree Programmes with Single Major (60 Credits in Major (Core))**

Students are eligible to choose Courses from Broad Disciplines of Study for MAJOR and MINOR Courses which are as follows:

**(i) \*Natural and Physical Sciences:**

Microbiology

Botany

Chemistry

Physics

Electronics

Select any one subject as MAJOR and one other subject as MINOR from the above list\*.

# MAJOR MINOR course combination will be finalized at the time of counselling on the day of admissions.

**(ii) \*\*Mathematics, Statistics, and Computer Applications:**

Mathematics

Statistics

Computer Applications

Computer Science

Select any one subject as MAJOR and one other subject as MINOR from the above list\*\*.

# MAJOR MINOR course combination will be finalized at the time of counselling on the day of admissions.

**St. Xavier's College, Mapusa Goa**  
**F.Y.B.Sc. Course Combinations Offered for Academic Year 2024-2025**

**BROAD DISCIPLINE(I): NATURAL AND PHYSICAL SCIENCES**

| OPTION<br>(Choose any one option) |       | SEMESTER | MAJOR  | MINOR   | MC  | AEC   | SEC   | VAC  |
|-----------------------------------|-------|----------|--|---|---|---|---|--|
| Option 1                          | 1 (a) | I        | <b>Botany</b><br>BOT – 100<br>FUNDAMENTALS OF BOTANY       | <b>Chemistry</b><br>CHC – 111<br>BASIC CONCEPTS IN CHEMISTRY          | <b>Psychology</b><br>PSY – 131<br>PSYCHOLOGY OF ADJUSTMENT                  | <b>English</b><br>ENG – 151<br>COMMUNICATIVE ENGLISH:<br>SPOKEN AND WRITTEN | <b>Botany</b><br>BOT – 141<br>NURSERY AND GARDENING   | 1)VAC – 101<br>ENVIRONMENTAL STUDIES I<br><br>&<br>2)VAC – 105<br>CONSTITUTIONAL VALUES AND OBLIGATION |
|                                   | 1 (b) | I        | <b>Microbiology</b><br>MIC – 100<br>BASICS OF MICROBIOLOGY | <b>Physics</b><br>PHY – 111<br>EVERYDAY PHYSICS                       | OR<br><br><b>History</b><br>HIS – 131<br>INDIGENOUS HERITAGE OF GOA         |   | <b>Microbiology</b><br>MIC – 141<br>TECHNIQUES IN MICROBIOLOGY – STAINING AND MICROSCOPY                      |  |
| Option 2                          | 2 (a) | I        | <b>Chemistry</b><br>CHC – 100<br>FUNDAMENTALS OF CHEMISTRY | <b>Microbiology</b><br>MIC – 111<br>MICROBIAL ECOLOGY AND ENVIRONMENT | OR<br><br><b>Sociology</b><br>SOC – 131<br>GENDER STUDIES : AN INTRODUCTION |   | <b>Chemistry</b><br>CHC – 141<br>WATER AND SOIL ANALYSIS<br>Or<br>CHC 143 Chemistry of Cosmetics and Perfumes | OR<br><br>1)VAC – 111<br>AWARENESS OF CYBER CRIMES AND SECURITY  |
|                                   | 2 (b) | I        | <b>Physics</b><br>PHY – 100                                | <b>Botany</b><br>BOT – 111  |   |   | <b>Physics</b><br>PHY – 141   | &  |

|  |       |   |  |   |   |  |  |  |
|--|-------|---|--|---|---|--|--|--|
|  |       |   | FOUNDATIONS OF PHYSICS   | PLANTS IN EVERYDAY LIFE   | OR  |  | BASIC EXPERIMENTAL TECHNIQUES  | 2)VAC – 115 HEALTH AND WELLNESS  |
| Option 3   | 3(a)  | I | <b>Chemistry</b><br>CHC – 100<br>FUNDAMENTALS OF CHEMISTRY                   | <b>Microbiology</b><br>MIC – 111<br>MICROBIAL ECOLOGY AND ENVIRONMENT | <b>Political science</b><br>POL – 131<br>CONTEMPORARY ISSUES IN INDIA |  | <b>Chemistry</b><br>CHC – 141<br>WATER AND SOIL ANALYSIS<br><br>Or<br>CHC143<br>CHEMISTRY OF COSMETICS AND PERFUMES                                |  |
|  | 3 (b) | I | <b>Electronics</b><br>ELE – 100<br>ELECTRONIC DEVICES AND CIRCUITS           | <b>Botany</b><br>BOT – 111<br>PLANTS IN EVERYDAY LIFE                 | OR<br><b>Commerce</b><br>COM – 132<br>FUNDAMENTALS OF STOCK MARKETs   |  | <b>Electronics</b><br>ELE – 141<br>ELECTRONICS FOR BEGINNERS   |  |
| <b>BROAD DISCIPLINE(ii): MATHEMATICS, STATISTICS AND COMPUTER APPLICATIONS</b> |       |   |  |   |   |  |  |  |
| Option 4   | 4(a)  | I | <b>Computer applications</b><br>CSA – 100<br>PROBLEM SOLVING AND PROGRAMMING | <b>Statistics</b><br>MAT – 112<br>ELEMENTARY STATISTICS               | <b>Commerce</b><br>COM – 131<br>ACCOUNTING FOR NON ACCOUNTANTS        | <b>English</b><br>ENG – 151<br>COMMUNICATIVE ENGLISH: SPOKEN AND WRITTEN | <u>Semester I</u><br><b>Mathematics</b><br>MAT – 141<br>NUMERICAL ANALYSIS USING PYTHON/<br>SAGEMATH<br>OR<br><b>Computer Science</b><br>CSC – 142 | 1)VAC – 101 ENVIRONMENTAL STUDIES 1<br><br>&<br>2)VAC – 109 INTRODUCTION TO FOLKTALES OF INDIA |
|  | 4(b)  | I | <b>Mathematics</b><br>MAT – 100<br>FOUNDATIONAL MATHEMATICS                  | <b>Computer Science</b><br>CSC 112<br>COMPUTER SOFTWARE               |   |  |  |  |

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|  |  |  |  | FUNDAMENTALS<br>(Sem I)<br><br>CSC 114 SOCIAL<br>MEDIA<br>MARKETING (Sem<br>II) |  |  | MULTIMEDIA AND<br>WEB DESIGN<br><br><u>Semester II</u><br><b>Mathematics</b><br>MAT- 142<br>STATISTICAL<br>METHODS USING<br>R/ SPSS/ PSPP<br>OR<br><b>Computer Science</b><br>CSC – 146<br>BASICS OF PYTHON<br>PROGRAMMING |  |
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