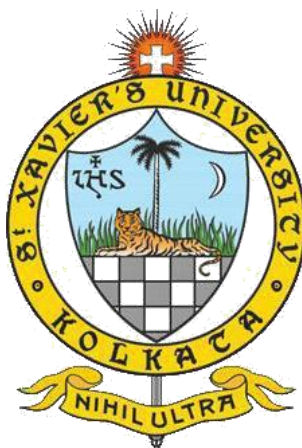


St. Xavier's University, Kolkata



**Curriculum for  
B. Tech. in Information Technology (IT)**

| Semester I   |             |                                 |                |   |   |         |
|--------------|-------------|---------------------------------|----------------|---|---|---------|
| S.No         | Course Type | Course Title                    | Hours per Week |   |   | Credits |
|              |             |                                 | L              | T | P |         |
| 1.           | BSC         | Physics                         | 3              | 1 | 2 | 5       |
| 2.           | BSC         | Mathematics-I                   | 3              | 1 | 0 | 4       |
| 3.           | ESC         | Basic Electrical Engineering    | 2              | 0 | 4 | 4       |
| 4.           | ESC         | Engineering Graphics & Design   | 1              | 0 | 4 | 3       |
| 5.           | ESC         | Programming for Problem Solving | 3              | 0 | 2 | 4       |
| 6.           | HSMC        | Communicative English           | 2              | 0 | 2 | 3       |
| <b>Total</b> |             |                                 | 30             |   |   | 23      |

| Semester II |             |                                                                         |                |   |   |         |
|-------------|-------------|-------------------------------------------------------------------------|----------------|---|---|---------|
| S.No        | Course Type | Course Title                                                            | Hours per Week |   |   | Credits |
|             |             |                                                                         | L              | T | P |         |
| 1.          | BSC         | Chemistry                                                               | 3              | 1 | 2 | 5       |
| 2.          | BSC         | Mathematics-II                                                          | 3              | 1 | 0 | 4       |
| 3.          | ESC         | Workshop                                                                | 1              | 0 | 4 | 3       |
| 4.          | PCC         | Data Structure and Algorithms                                           | 3              | 0 | 4 | 5       |
| 5.          | HSMC        | Universal Human Values: Understanding Harmony and Ethical Human Conduct | 2              | 1 | 0 | 3       |

|              |      |                 |    |   |   |    |
|--------------|------|-----------------|----|---|---|----|
| 6.           | HSMC | Design Thinking | 0  | 0 | 2 | 1  |
| <b>Total</b> |      |                 | 27 |   |   | 21 |

| <b>Semester III</b> |                    |                                      |                       |          |          |                |
|---------------------|--------------------|--------------------------------------|-----------------------|----------|----------|----------------|
| <b>S.No</b>         | <b>Course Type</b> | <b>Course Title</b>                  | <b>Hours Per Week</b> |          |          | <b>Credits</b> |
|                     |                    |                                      | <b>L</b>              | <b>T</b> | <b>P</b> |                |
| 1.                  | BSC                | Mathematics-III                      | 2                     | 0        | 0        | 2              |
| 2.                  | PCC                | Computer Organization & Architecture | 3                     | 0        | 2        | 4              |
| 3.                  | PCC                | Design & Analysis of Algorithms      | 3                     | 0        | 2        | 4              |
| 4.                  | PCC                | IT Workshop: Sci Lab                 | 1                     | 0        | 4        | 3              |
| 5.                  | HSMC               | Organizational Behavior              | 3                     | 0        | 0        | 3              |
| 6.                  | HSMC               | Humanities-I                         | 3                     | 0        | 0        | 3              |
| <b>Total</b>        |                    |                                      | 23                    |          |          | 19             |

| <b>Semester IV</b> |                    |                                        |                       |          |          |                |
|--------------------|--------------------|----------------------------------------|-----------------------|----------|----------|----------------|
| <b>S.No</b>        | <b>Course Type</b> | <b>Course Title</b>                    | <b>Hours Per Week</b> |          |          | <b>Credits</b> |
|                    |                    |                                        | <b>L</b>              | <b>T</b> | <b>P</b> |                |
| 1.                 | ESC                | Analog Electronic Circuits             | 3                     | 1        | 2        | 5              |
| 2.                 | ESC                | Digital Electronics                    | 3                     | 0        | 4        | 5              |
| 3.                 | PCC                | Object Oriented Programming using Java | 3                     | 0        | 4        | 5              |
| 4.                 | PCC                | Web Technology                         | 3                     | 0        | 4        | 5              |
| 5.                 | HSMC               | Humanities II                          | 3                     | 0        | 0        | 3              |
| 6.                 | MC                 | Environmental Sciences                 | -                     | -        | -        | 0              |
| <b>Total</b>       |                    |                                        | 30                    |          |          | 23             |

| Semester V |             |                                                                 |                |   |   |         |
|------------|-------------|-----------------------------------------------------------------|----------------|---|---|---------|
| S.No       | Course Type | Course Title                                                    | Hours Per Week |   |   | Credits |
|            |             |                                                                 | L              | T | P |         |
| 1.         | ESC         | Digital Signal Processing                                       | 3              | 1 | 2 | 5       |
| 2.         | PCC         | Discrete Mathematics                                            | 3              | 1 | 0 | 4       |
| 3.         | PCC         | Software Engineering                                            | 3              | 0 | 2 | 4       |
| 4.         | PCC         | Computer Networks                                               | 3              | 0 | 2 | 4       |
| 5.         | PCC         | Operating Systems                                               | 3              | 0 | 2 | 4       |
| 6.         | PCC         | Microcontroller and Embedded System                             | 2              | 0 | 2 | 3       |
| 7.         | MC          | Constitution of India / Introduction to Indian Knowledge System | 0              | 0 | 0 | 0       |
| Total      |             |                                                                 | 29             |   |   | 24      |

| Semester VI |             |                                                    |                |   |   |         |
|-------------|-------------|----------------------------------------------------|----------------|---|---|---------|
| S.No        | Course Type | Course Title                                       | Hours Per Week |   |   | Credits |
|             |             |                                                    | L              | T | P |         |
| 1.          | PCC         | Automata & Compiler Design                         | 3              | 1 | 0 | 4       |
| 2.          | PCC         | Introduction to Database Systems                   | 3              | 0 | 4 | 5       |
| 3.          | PEC         | Artificial Intelligence / Robotics                 | 3              | 0 | 4 | 5       |
| 4.          | PEC         | Cloud Computing / Multimedia                       | 2              | 0 | 2 | 3       |
| 5.          | OEC         | Statistical Analysis using Python / Bioinformatics | 1              | 0 | 4 | 3       |
| Total       |             |                                                    | 27             |   |   | 20      |

| Semester VII |             |                                            |                |   |    |         |
|--------------|-------------|--------------------------------------------|----------------|---|----|---------|
| S.No         | Course Type | Course Title                               | Hours Per Week |   |    | Credits |
|              |             |                                            | L              | T | P  |         |
| 1.           | BSC         | Biology                                    | 2              | 1 | 0  | 3       |
| 2.           | PCC         | Information Security                       | 3              | 1 | 2  | 5       |
| 3.           | OEC         | Machine Learning / Basic Quantum Computing | 3              | 0 | 2  | 4       |
| 4.           | PROJ        | Project-I                                  | 0              | 0 | 12 | 6       |
| 5.           | PROJ        | *Internship/*NPTEL MOOC Course             | 0              | 0 | 0  | 4       |
| Total        |             |                                            | 26             |   |    | 22      |

| Semester VIII |             |                                                                                    |                |   |    |         |
|---------------|-------------|------------------------------------------------------------------------------------|----------------|---|----|---------|
| S.No          | Course Type | Course Title                                                                       | Hours Per Week |   |    | Credits |
|               |             |                                                                                    | L              | T | P  |         |
| 1.            | PEC         | Dataware Housing and Data Mining/Internet of Things/Deep Learning                  | 3              | 0 | 2  | 4       |
| 2.            | OEC         | Numerical Analysis and Optimization Technique / Advanced Computational Mathematics | 2              | 1 | 2  | 4       |
| 3.            | PROJ        | Project-II                                                                         | 0              | 0 | 12 | 6       |
| 4.            | PROJ        | Technical Seminar                                                                  | 0              | 0 | 0  | 2       |
| 5.            | PROJ        | General Viva Voce                                                                  | 0              | 0 | 0  | 2       |
| Total         |             |                                                                                    | 22             |   |    | 18      |

