**Syllabus to be implemented from the Academic Year 2014-15**

**Bachelor of Computer Application**

**First Year First Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theory** | | | | | | | | | |
| Sl | | | Course Code | Subject Name | Contact hrs/wk | | | | Credit |
|  | No |  | L | T | P | Total |  |
| 1 | | | BCA102 | Digital Electronics | 3 | 1 | - | 4 | 4 |
| 2 | | | BCA101 | Business Systems and Applications | 3 | 1 | - | 4 | 4 |
| 3 | | | BCA104 | Introduction to Programming | 3 | 1 | - | 4 | 4 |
| 4 | | | BCA105 | Mathematics | 3 | 1 | - | 4 | 4 |
| 5 | | | BCA103 | PC Software | 3 | 1 | - | 4 | 4 |
|  | | |  | Total of Theory |  |  |  | 20 | 20 |
| **Practical** | | | | | | | | | |
| 6 | | | BCA194 | PC Software Lab | - | - | 3 | 3 | 2 |
| 7 | | | BCA193 | Programming Lab (C/ Pascal) | - | - | 3 | 3 | 2 |
|  | | |  | Total of Practical |  |  |  | 12 | 8 |
| Total | | | | |  |  |  | 32 | 28 |

**First Year Second Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theory** | | | | | | | | | |
| Sl | | | Course Code | Subject Name | Contact hrs/wk | | | | Credit |
|  | No |  | L | T | P | Total |  |
| 1 | | | BCA201 | Computer Architecture and Systems Software | 3 | 1 | - | 4 | 4 |
| 2 | | | BCA202 | Information Systems Analysis & Design | 3 | 1 | - | 4 | 4 |
| 3 | | | BCA203 | Computer Programming | 3 | 1 | - | 4 | 4 |
| 4 | | | M201 | Mathematics | 3 | 1 | - | 4 | 4 |
| 5 | | | HU201 | English Language and Communication | 3 | 1 | - | 4 | 4 |
|  | | |  | Total of Theory |  |  |  | 20 | 20 |
| **Practical** | | | | | | | | | |
| 6 | | | BCA293 | Programming Lab (Visual Basic) | - | - | 3 | 3 | 2 |
| 7 | | | HU 291 | Business Presentation and Language Lab | - | - | 3 | 3 | 2 |
|  | | |  | Total of Practical |  |  |  | 12 | 4 |
| Total | | | | |  |  |  | 32 | 24 |

**Second Year 3rd Semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Total of Practical |  |  |  | 12 | 8 |
| Total | | |  |  |  | 32 | 28 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theory** | | | | | | | | | | |
| Sl | | | | Course Code | Subject Name | Contact hrs/wk | | | | Credit |
|  | No |  | | L | T | P | Total |  |
| 1 | | | | BCA301 | Operating Systems | 3 | 1 | - | 4 | 4 |
| 2 | | | | BCA302 | Data Structures with C | 3 | 1 | - | 4 | 4 |
| 3 | | | | BCA303 | Graphics & Internet | 3 | 1 | - | 4 | 4 |
| 4 | | | | BM301 | Mathematics for Computing | 3 | 1 | - | 4 | 4 |
| 5 | | | | BBA301 | Management & Accounting | 3 | 1 | - | 4 | 4 |
|  | | | |  | Total of Theory |  |  |  | 20 | 20 |
| **Practical** | | | | | | | | | | |
| 6 | | | BCA393 | | Internet & Computer Graphics Lab | - | - | 3 | 3 | 2 |
| 7 | | | BCA392 | | Programming Lab (Data Structure with C) | - | - | 3 | 3 | 2 |

**Second Year 4th Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theory** | | | | | | | | | |
| Sl | | | Course Code | Subject Name | Contact hrs/wk | | | | Credit |
|  | No |  | L | T | P | Total |  |
| 1 | | | BCA401 | Data Base Management System | 3 | 1 | - | 4 | 4 |
| 2 | | | BCA402 | Object-Oriented Programming with C++ | 3 | 1 | - | 4 | 4 |
| 3 | | | BCA403 | Software Project Management and Quality Assurance | 3 | 1 | - | 4 | 4 |
| 4 | | | BM401 | Statistics, Numerical Methods & Algorithms | 3 | 1 | - | 4 | 4 |
| 5 | | | HU401 | Environment and Ecology | 3 | - | - | 3 | 3 |
|  | | |  | Total of Theory |  |  |  | 19 | 19 |
| **Practical** | | | | | | | | | |
| 6 | | | BCA491 | Database Lab (Oracle) | - | - | 3 | 3 | 2 |
| 7 | | | BM491 | Computing Lab | - | - | 3 | 3 | 2 |
|  | | |  | Total of Practical |  |  |  | 12 | 8 |
|  | | | | |  |  |  | 31 | 27 |

**Third Year 5th Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theory** | | | | | | | | | |
| Sl | | | Course Code | Subject Name | Contact hrs/wk | | | | Credit |
|  | No |  | L | T | P | Total |  |
| 1 | | | BCA501 | Data Communication & Computer Networks | 3 | 1 | - | 4 | 4 |
| 2 | | | BCA502 | Unix and Shell Programming | 3 | 1 | - | 4 | 4 |
| 3 | | | BCA503 | Windows Programming | 3 | 1 | - | 4 | 4 |
| 4 | | | BCA  E501/A/B/C | Elective 1 | 3 | 1 | - | 4 | 4 |
| 5 | | | HU501 | Values and Ethics of Profession | 3 | - | - | 3 | 3 |
|  | | |  | Total of Theory |  |  |  | 19 | 19 |
| **Practica**l | | | | | | | | | |
| 6 | | | BCA591 | Unix & Networking | - | - | 3 | 3 | 2 |
| 7 | | | BCA592 | Minor Project | - | - | 9 | 9 | 6 |
|  | | |  | Total of Practical |  |  |  | 13 | 9 |
| Sessionals | | | | | | | | | |
| 8 | | | BCA 593 | Industrial Training | - | - |  |  | 3 |
| Total | | | | |  |  |  | 32 | 31 |

6 to 8 weeks Industrial Training

**Third Year 6th Semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Total of Theory |  |  |  | 8 | 8 |
| **Sessionals** | | | | | | | |
| 3 | BCA693 | Major project | - | - | 21 | 21 | 16 |
| 4 | BCA694 | Seminar | - | - |  | 3 | 2 |
| 5 | BCA 695 | Comprehensive Viva-Voce | - | - |  |  | 4 |
|  |  | Total of Sessionals |  |  |  | 24 | 22 |
| Total | | |  |  |  | 32 | 30 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theory** | | | | | | | | | |
| Sl | | | Course Code | Subject Name | Contact hrs/wk | | | | Credit |
|  | No |  | L | T | P | Total |  |
| 1 | | | BCA  E601/A/B/C | Elective 2 | 3 | 1 | - | 4 | 4 |
| 2 | | | BCA  E602/A/B/C | Elective 3 | 3 | 1 | - | 4 | 4 |

**Electives for semesters 5 and 6**

|  |  |  |  |
| --- | --- | --- | --- |
| Elective No. | Elective Code | Course Code | Topic |
| 1. | BCA E501 | BCA E501A | Advanced Unix and Shell Programming |
| BCA E501B | Human Computer Interaction |
| BCA E501C | Multimedia & E-Commerce |
| 2. | BCA E601 | BCA E601A | Advanced networking and Communication |
| BCA E601B | Intelligent Systems |
| BCA E601C | Image Processing |
| 3. | BCA E602 | BCA E602A | Software Engineering |
| BCA E602B | Object Oriented Programming with Java |
| BCA E602C | Advanced Database Management |

Summary

|  |  |  |
| --- | --- | --- |
| Semester No | Contact hr/wk | Credit |
| 1 | 32 | 28 |
| 2 | 32 | 28 |
| 3 | 32 | 28 |
| 4 | 31 | 27 |
| 5 | 32 | 31 |
| 6 | 32 | 30 |
| Total | | 172 |

Semester duration: 15 weeks

Each lesson will consist of: 3 hours Lectures + 1 hour tutorial per week

Total lab: 12 hours per week