# Mapping of Courses to PO/PSO – BCA

## Program Outcomes

PO 1. **Critical Thinking**: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO 2. **Effective Communication**: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO 3. **Social Interaction**: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO 4. **Effective Citizenship**: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO 5. **Ethics**: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO 6. **Environment and Sustainability**: Understand the issues of environmental contexts and sustainable development.

PO 7. **Self-directed and Life-long Learning**: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

PO 8. **Innovation and Entrepreneurship:** Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

## Program Specific Outcomes – BCA

PSO 1. **Knowledge of Computing Systems:** An ability to understand the principles and working of computer systems.

PSO 2. **Project Development Skills:** An ability to understand the structure and development methodologies of software systems.

PSO 3. **Software Development Skills:** Familiarity and practical competence with a broad range of programming language and open-source platforms.

PSO 4. **Mathematical Skills:** An ability to apply mathematical methodologies to solve computation task, model real world problem using appropriate data structure and suitable algorithm.

# Courses Offered

| Type | Course Code | | Course Name | Credits |
|---|---|---|---|---|
| **Semester 1** | | | | |
| Theory | LSCE0001 | 1.1 | Communicative English I | 2 |
| | CACF0008 | 1.2 | Computer Fundamentals | 4 |
| | CACP0009 | 1.3 | Computer Programming in C Language | 3 |
| | CAIF0010 | 1.4 | Information Security Fundamentals | 4 |
| | MABM0006 | 1.5 | Basic Mathematics | 4 |
| Lab | LSCE6001 | 1.6 | Communication Practice Lab I | 1 |
| | CACF6007 | 1.7 | Computer Fundamentals Lab | 2 |
| | CACP6008 | 1.8 | Computer Programming in C Lab | 2 |
| AP | ICEAP1 | 1.9 | Extra Academic Programmes | NC |
| **Total Credits** | | | | **22** |
| **Semester 2** | | | | |
| Theory | LSCE0002 | 2.1 | Communicative English II | 2 |
| | CADS0011 | 2.2 | Data Structures Using C | 4 |
| | CANW0012 | 2.3 | Computer Network Fundamentals | 3 |
| | CAWT0013 | 2.4 | Web Technologies | 4 |
| | CALD0001 | 2.5 | Digital Logic Design | 4 |
| Lab | LSCE6002 | 2.6 | Communicative English II lab | 1 |
| | CADS609 | 2.7 | Data Structures using C Lab | 2 |
| | CANW6010 | 2.8 | Computer Networks Fundamentals Lab | 2 |
| | CAWT6011 | 2.9 | Web Technologies Lab | 2 |
| | CADL6002 | 2.10 | Digital Logic Design Lab | 2 |
| AP | ICEAP2 | 2.11 | Extra Academic Programmes | NC |
| **Total Credits** | | | | **26** |
| **Semester 3** | | | | |
| Theory | CAOA0007 | 3.1 | Computer Organization and Architecture | 4 |
| | CAOS0025 | 3.2 | Introduction to Operating Systems | 4 |
| | CASD0026 | 3.3 | System Analysis and Design | 4 |
| | MTFP0070 | 3.4 | Functional Principles of Management | 2 |
| | CAIG0027 | 3.5 | Introduction to Computer Graphics | 2 |
| | MADM0002 | 3.6 | Discrete Mathematics | 4 |
| Lab | CAOA6006 | 3.7 | Computer Organization and Architecture Lab | 2 |
| | CAOS6020 | 3.8 | Introduction to Operating Systems Lab | 2 |
| | CAIG6021 | 3.9 | Introduction to Computer Graphics Lab | 2 |
| AP | ICEAP3 | 3.10 | Extra Academic Programmes | NC |
| **Total Credits** | | | | **26** |
| **Semester 4** | | | | |
| Theory | CADB0028 | 4.1 | Relational Database Management Systems | 4 |
| | CASE0029 | 4.2 | Basic Software Engineering | 4 |
| | MAPT0008 | 4.3 | Probability theory | 3 |
| | CATC0003 | 4.4 | Theory of computation | 3 |
| | CAOP0005 | 4.5 | Object Oriented Programming and Design | 4 |
| Lab | CADB6022 | 4.6 | Relational Database Management Systems Lab | 2 |
| | CASE6023 | 4.7 | Basic Software Engineering Lab | 2 |
| | CAOP6004 | 4.8 | Object Oriented Programming and Design Lab | 2 |
| AP | ICEAP4 | 4.9 | Extra Academic Programmes | NC |
| **Total Credits** | | | | **24** |

| Semester 5 | | | | |
|---|---|---|---|---|
| Theory | MTOB0001 | 5.1 | Organizational Behavior | 4 |
| | MTAF0002 | 5.2 | Accounting and Financial management | 4 |
| | CADC0037 | 5.3 | Data Communication | 4 |
| | CAIJ0038 | 5.4 | Introduction to Java Programming | 4 |
| Lab | CADC6028 | 5.5 | Data Communication Lab | 2 |
| | CAIJ6029 | 5.6 | Introduction to Java Programming Lab | 2 |
| Project | CAMI6030 | 5.7 | Mini Project - BCA | 4 |
| **Total Credits** | | | | **24** |
| **Semester 6** | | | | |
| Theory | CAPM0042 | 6.1 | Python and Machine Learning | 4 |
| | CHES0002 | 6.2 | Environmental Studies | 2 |
| | **Electives: One elective to be opted for** | | | |
| | CACL0039 | 6.3 | Cloud Computing | 4 |
| | CANS0040 | 6.4 | Network Security | |
| | CAMC0041 | 6.5 | Mobile Communication | |
| Lab | CAPM60032 | 6.6 | Python and Machine Learning Lab | 2 |
| Project | CAMP6031 | 6.7 | Major Project - BCA | 10 |
| **Total Credits** | | | | **22** |
| **Total Programme Credits** | | | | **144** |

## Mapping of Courses to PO/PSO

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PSO1 | PSO2 | PSO3 | PSO4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.1** | | H | | M | | | | L | | M | | |
| **1.2** | M | | | | | | | | H | | | |
| **1.3** | H | | | | | | | L | | M | H | |
| **1.4** | L | | | | | | | | H | | | |
| **1.5** | M | | | | | | | | | M | | H |
| **1.6** | | H | | M | | | | L | | M | | |
| **1.7** | M | | | | | | | | H | | | |
| **1.8** | H | | | | | | | L | | M | H | |
| **1.9** | | H | H | L | H | | | | | | | |
| **2.1** | | H | | M | | | | L | | M | | |
| **2.2** | H | | | | | | | L | | M | M | |
| **2.3** | L | | | | | | | L | H | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.4** | | M | | M | | | | H | | M | M | |
| **2.5** | M | | | | | | | | H | | | |
| **2.6** | | H | | M | | | | L | | M | | |
| **2.7** | H | | | | | | | L | | M | M | |
| **2.8** | L | | | | | | | L | H | | | |
| **2.9** | | M | | M | | | | H | | M | M | |
| **2.10** | M | | | | | | | | H | | | |
| **2.11** | | H | H | L | H | | | | | | | |
| **3.1** | L | | | | | | | | H | L | | |
| **3.2** | L | | | | | | | | H | L | M | |
| **3.3** | H | L | | | | | | | | H | H | |
| **3.4** | | H | H | | | | | L | | | | |
| **3.5** | | | | | | | | | | | H | M |
| **3.6** | | | | | | | | | | M | | H |
| **3.7** | L | | | | | | | | H | L | | |
| **3.8** | L | | | | | | | | H | L | M | |
| **3.9** | | | | | | | | | | | H | M |
| **3.10** | | H | H | L | H | | | | | | | |
| **4.1** | L | | | | | | | L | | H | M | |
| **4.2** | M | | | | | | | | | H | M | |
| **4.3** | L | | | | | | | | | | | H |
| **4.4** | M | | | | | | | | | | | H |
| **4.5** | M | | | | | | | | | M | H | |
| **4.6** | L | | | | | | | L | | H | M | |
| **4.7** | M | | | | | | | | | H | M | |
| **4.8** | M | | | | | | | | | M | H | |
| **4.9** | | H | H | L | H | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **5.1** | | H | M | | | | | L | | | | |
| **5.2** | | | | | | | | H | | | | |
| **5.3** | M | | | | | | | | H | L | | |
| **5.4** | H | | | | | | | M | | M | H | |
| **5.5** | M | | | | | | | | H | L | | |
| **5.6** | H | | | | | | | M | | M | H | |
| **5.7** | H | M | L | | | | M | H | | H | H | L |
| **6.1** | M | | | | | | | H | | H | H | M |
| **6.2** | | | | | | H | | | | | | |
| **6.3** | | | | | | | | | H | H | M | |
| **6.4** | | | | | | | | M | H | M | H | M |
| **6.5** | | | | | | | | | H | M | | M |
| **6.6** | M | | | | | | | H | | H | H | M |
| **6.7** | H | M | L | | | | M | H | | H | H | L |