



# The first practical AI-Learning hub in Upper Assam...!!

## Highlights of the course



ARTIFICIAL INTELLIGENCE



PYTHON PROGRAMMING



FUNDAMENTALS OF OFFICE



HTML & CSS



WEB DEVELOPMENT USING JAVASCRIPT



MYSQL



DATA STRUCTURE



CLOUD TOOLS

### COURSE DETAILS

 DURATION: <b>1 Year</b>	 No. OF SEMESTER: <b>2</b>	 COURSE FEES: <b>₹10,000/-</b>
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Visit the College Website to:

- 1.View the Course Syllabus.
- 2.Complete Online Pre-Registration.

### COLLEGE CONTACT & ADDRESS:

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P.O. Rupai Siding, Doomdooma,  
Tinsukia, Assam – 786153



**BIR RAGHAV MORAN GOVERNMENT MODEL COLLEGE, DOOMDOOMA**



**Advanced Diploma Course in Computer Application (ADCCA), approved by Dibrugarh University**



From the Desk of the Principal

At **Bir Raghav Moran Government Model College, Doomdooma**, we are committed to equipping our students with the skills required for the rapidly evolving digital world. The **Advanced Diploma Course in Computer Application (ADCCA)**, approved by **Dibrugarh University**, is designed to provide practical knowledge in programming, data structures, databases, artificial intelligence, and modern digital technologies.

This course aims to build strong technical foundations while encouraging innovation, problem-solving, and entrepreneurial thinking among learners. I warmly invite aspiring students to join this program and take a confident step toward a successful career in the digital and technology-driven era.

## SEMESTER WISE DETAILS

### SEMESTER- 1

#### 1. Computer Fundamentals (CMFD)

This course introduces the **basic concepts of computers and information technology**. Students learn about computer hardware, software, operating systems, number systems, and computer memory. The course also provides practical knowledge of **MS Word, Excel, PowerPoint, and Access**, enabling students to perform everyday digital tasks efficiently.

#### 2. Programming Languages – Python (PRLG)

This course teaches the **fundamentals of programming using Python**. Students learn algorithms, flowcharts, program structure, input/output operations, control statements, and functions. It also covers **data structures like lists, tuples, sets, and dictionaries**, along with object-oriented programming, file handling, and exception handling.

#### 3. Data Structures and Algorithms (DSAA)

This course focuses on the **organization and management of data for efficient processing**. Students study fundamental data structures such as **arrays, linked lists, stacks, queues, and trees** along with algorithm design and complexity analysis. It also introduces different programming paradigms used in modern software development.

#### 4. Computer Applications in Emerging Technologies (CMAP)

This course introduces learners to **modern digital technologies and the digital economy**. Students explore topics like **Artificial Intelligence, automation tools, cloud computing, digital business models, and entrepreneurship**. The course also emphasizes ethical and sustainable use of technology and helps students develop basic startup ideas.

#### 5. Project Work – I

Students work on a **practical project integrating programming, data structures, and digital tools**. The project helps them apply theoretical knowledge to solve real-world problems such as developing small applications, data management tools, or automation systems.

### SEMESTER- 2

#### 1. Basics of Software Engineering (SWEN)

This course explains the **principles and processes involved in software development**. Students learn about the Software Development Life Cycle (SDLC), requirement analysis, software design, coding standards, testing, documentation, and software maintenance. It also introduces project management concepts like scheduling, risk management, and quality control.

#### 2. Database Management Systems (DBMS)

This course focuses on **database design and management techniques**. Students learn the fundamentals of databases, data models, ER diagrams, relational models, normalization, and SQL. Practical sessions involve creating and managing databases using tools like **MySQL**.

#### 3. Web Development (WBDM)

This course teaches the **design and development of modern websites**. Students learn **HTML, CSS, Bootstrap, and JavaScript** to create responsive and interactive web pages. Advanced topics include **AJAX, XML, JSON, and basic web hosting concepts** for building dynamic web applications.

#### 4. IT Support and Maintenance (ITSM)

This course provides practical knowledge about **computer hardware, operating systems, networking, and troubleshooting techniques**. Students learn how to install operating systems, configure hardware, diagnose system problems, and ensure system security. It prepares learners for roles in **IT support and system maintenance**.

#### 5. Project Work – II

Students undertake a **major project integrating web development, databases, and software engineering concepts**. The project may involve developing applications such as management systems, web platforms, or digital services that solve real-world problems.

## Key Benefits of the Course

### 1. Practical and Skill-Oriented Learning

The course is designed with a strong focus on **practical training and hands-on learning**. Students will gain real-world experience through laboratory work, projects, and application-based exercises that help them develop essential computer skills required in modern workplaces.

### 2. Preparation for Competitive Examinations

The course covers many topics that are commonly asked in **computer sections of competitive examinations**. This will help students prepare for various **government recruitment exams and skill-based tests** where computer knowledge is required.

### 3. Useful for Assam Government Examinations as well as Central Government Examinations

The knowledge gained from this course will be helpful for **Assam Government recruitment examinations such as ADRE and other state-level examinations**, also for **central government examinations such as SSC, Railways, Banking, and other recruitment exams**, where candidates are required to answer computer-related questions or demonstrate basic digital skills.

### 4. Development of Programming and Problem-Solving Skills

Students will learn programming using **Python and modern computing tools**, which will enhance logical thinking, analytical ability, and problem-solving skills — important for both academic and professional growth.

### 5. Exposure to Modern Technologies

The syllabus introduces students to **Artificial Intelligence, automation tools, cloud computing, and digital business models**, helping them understand current technological trends and future opportunities.

### 6. Career and Entrepreneurship Opportunities

Students can explore career opportunities in **IT support, software development, web development, database management, and digital services**. The course also encourages **entrepreneurship and startup ideas in the digital economy**.