

**GLS UNIVERSITY**  
**Faculty of Computer Applications & Information Technology**

**INTEGRATED MSc(IT)**

**Course Structure**

**SEMESTER I**

- **CORE COURSES**
  - INTRODUCTION TO INFORMATION TECHNOLOGY
  - PROBLEM SOLVING THROUGH PROGRAMMING
  - MATHEMATICS FOR COMPUTER SCIENCE – I
  - WEB DESIGNING USING HTML5
- **SKILL ENHANCEMENT COURSES**
  - PRACTICALS ON C
  - PRACTICALS ON WEB DESIGNING USING HTML5
  - PUBLISHING & MULTIMEDIA TOOLS
- **ABILITY ENHANCEMENT COURSE**
- **ELECTIVE COURSE**

**SEMESTER II**

- **CORE COURSES**
  - FUNDAMENTALS OF COMPUTER ORGANIZATION
  - ADVANCE C
  - MATHEMATICS FOR COMPUTER SCIENCE – II
  - DATABASE SYSTEMS – I
- **SKILL ENHANCEMENT COURSES**
  - PRACTICALS ON ADVANCE C
  - PRACTICALS ON DATABASE SYSTEMS – I
  - PRACTICALS ON DHTML
- **ABILITY ENHANCEMENT COURSE**
- **ELECTIVE COURSE**

**SEMESTER III**

- **CORE COURSES**
  - INTRODUCTION TO OBJECT ORIENTED PROGRAMMING
  - FUNDAMENTALS OF OPERATING SYSTEM
  - INTRODUCTION TO XML
  - DATA STRUCTURES
- **SKILL ENHANCEMENT COURSES**
  - PRACTICALS ON OBJECT ORIENTED PROGRAMMING
  - PRACTICALS ON XML
  - PRACTICALS ON DATA STRUCTURES
- **ABILITY ENHANCEMENT COURSE**
- **ELECTIVE COURSE**

**SEMESTER IV**

- **CORE COURSES**
  - ADVANCED OBJECT ORIENTED PROGRAMMING
  - CORE JAVA
  - MICROPROCESSOR & ASSEMBLY LANGUAGE
  - STATISTICAL COMPUTING
- **SKILL ENHANCEMENT COURSES**
  - PRACTICALS ON ADVANCED OBJECT ORIENTED PROGRAMMING

- PRACTICALS ON CORE JAVA
- PRACTICALS ON OPERATING SYSTEM
- **ABILITY ENHANCEMENT COURSE**
- **ELECTIVE COURSE**

#### SEMESTER V

- **CORE COURSES**
  - INTRODUCTION TO DATA COMMUNICATION
  - SYSTEM ANALYSIS & DESIGN
  - MULTIMEDIA SYSTEMS
  - PROGRAMMING WITH PHP
- **SKILL ENHANCEMENT COURSES**
  - PRACTICALS ON MULTIMEDIA
  - PRACTICALS ON PHP
  - DATABASE SYSTEMS - II
- **ABILITY ENHANCEMENT COURSE**
- **CORE ELECTIVE COURSE**

#### SEMESTER VI

- **CORE COURSES**
  - INTRODUCTION TO PYTHON
  - ARTIFICIAL INTELLIGENCE
  - SOFTWARE ENGINEERING
  - INFORMATION SECURITY
- **SKILL ENHANCEMENT COURSES**
  - PRACTICALS ON PYTHON
  - DISSERTATION / MINI PROJECT
- **ABILITY ENHANCEMENT COURSE**
- **CORE ELECTIVE COURSE**

#### **CORE ELECTIVE COURSES**

- MACHINE LEARNING
- PARALLEL PROCESSING
- COMPUTER GRAPHICS
- OPERATIONS RESEARCH
- DIGITAL IMAGE PROCESSING
- SYSTEM SOFTWARE

#### **ABILITY ENHANCEMENT COURSES**

- DESIGN THINKING
- FOREIGN LANGUAGE – I
- EMBEDDED SYSTEMS – I
- EMBEDDED SYSTEMS – II
- WEBSITE FRAMEWORKS – I
- WEBSITE FRAMEWORKS – II
- COMMUNICATION SKILLS
- INTRODUCTION TO ELECTRONICS, DIGITAL LOGIC & CIRCUITS
- NUMERICAL METHODS

#### **ELECTIVE COURSES**

- RENOWNED SCIENTISTS OF THE WORLD
- IT IN HEALTHCARE
- TOOLS & TECHNIQUES FOR DIGITAL MARKETING
- SOFT SKILLS DEVELOPMENT

- GREEN COMPUTING
- FOREIGN LANGUAGE – II
- INDIAN CONSTITUTION
- GANDHIAN MOVEMENT
- ENVIRONMENTAL STUDIES
- HISTORY OF GUJARAT & ITS CULTURE

#### **SEMESTER VII**

- ENTERPRISE COMPUTING WITH CLOUD
- DESIGN AND ANALYSIS OF ALGORITHMS
- DISTRIBUTED OPERATING SYSTEM
- DATA WAREHOUSING AND DATA MINING
- CRYPTOGRAPHY AND NETWORK SECURITY
- WEB PROGRAMMING USING PYTHON
- WEB PROGRAMMING USING JAVA

#### **SEMESTER VIII**

- WEB SERVICES
- ADVANCED NETWORKING
- HIGH PERFORMANCE COMPUTING USING PYTHON
- DATA SCIENCE
- NETWORK PROGRAMMING
- MACHINE LEARNING WITH PYTHON
- ELECTIVE I
  - APP DEVELOPMENT USING ANDROID
  - APP DEVELOPMENT USING IOS
  - APP DEVELOPMENT USING ANGULAR
- SUMMER ASSIGNMENT

#### **SEMESTER IX**

- FUNDAMENTALS OF BLOCKCHAIN
- AI AND ROBOTICS
- WIRELESS SENSOR NETWORKS
- BIG DATA ANALYTICS
- LINUX INTERNALS
- PROGRAMMING OF LINUX INTERNALS
- PROGRAMMING WITH NOSQL

#### **SEMESTER X**

- OPPORTUNITIES IN EMERGING TECHNOLOGIES
- INDUSTRY INTERNSHIP