

# Programme Outcomes and Course Outcomes Bachelor of Science (Information Technology)

(B.Sc. - IT)

# LALA LAJPATRAI COLLEGE OF COMMERCE & ECONOMICS

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# Bachelor of Science in Information Technology (B.Sc. - IT)

# **Program Outcomes**

PO1: Students will be able to think analytically, creatively and critically for developing robust, extensive and highly technological software.

PO2: They will be able to manage complex IT projects with consideration of the human, financial and environmental factors.

PO3: They will work as a part of a team to achieve a common goal.

PO4: They adhere to the highest standards of ethics, including relevant industry and organizational codes of conduct.

# **Course Outcomes**

# FYBSc. IT - SEMESTER - I

#### **COURSE TITLE: IMPERATIVE PROGRAMMING**

CO1: Students understand the basics structure of Programming Language (Clanguage).

CO2: Students learn to draw flowcharts and write Algorithms which helps them to develop logic.

#### **COURSE TITLE: DIGITAL ELECTRONICS**

CO1:-Students get knowledge of study of different types of number systems, their conversions and their use in electronics world.

CO2:-They gain knowledge of logic gates.

# **COURSE TITLE: OPERATING SYSTEMS**

CO1: Students learn about operating system and gain knowledge regarding hardware use in computer and details of virtualization and cloud concept.

CO2: Students gain knowledge of logic gates.

# **COURSE TITLE: DISCRETE MATHEMATICS**

CO1:-Students formulate the problems in language of sets and apply fundamental principle of counting.

CO2:-Students learn to read and interpret the information given, graphically

# **COURSE TITLE: COMMUNICATION SKILLS**

CO1: Students develop the skill to communicate verbally or through formal letters. Reports, memos and emails and presentations.

CO2: Students also learn to write reports, memos and emails and presentations.

# FYBSc.IT - SEMESTER - II

# **COURSE TITLE: OBJECT ORIENTED PROGRAMMING**

CO1: Students understand the basic concepts of object oriented programming, use of inheritance and functions.

CO2: They learn to read and interpret the information given, graphically.

# **COURSE TITLE: MICROPROCESSOR ARCHITECTURE**

CO1:-Students understand the concept of Assembly language and learn different types of instructions with respect to 8085 microprocessor and execute assembly language program.

CO2:- The basic programming logic is developed in students.

#### **COURSE TITLE: WEB PROGRAMMING**

CO1:-Students understand basic working of Internet and World Wide Web and develop ability to design web pages using Hyper Text Mark-up Language (HTML) and JavaScript and PHP.

CO2:- They also are made aware of the basics of PHP, databases etc.

## **COURSE TITLE: NUMERICAL AND STATISTICAL METHODS**

CO1:-Students are able to approximate the solution of differential equations, which is clearly used in almost every field of science like control systems and are able to forecast future opportunities.

CO2:- Students learn the risks which is the most prominent application of regression analysis in business.

#### **COURSE TITLE: GREEN COMPUTING**

CO1:-Students gain knowledge objective and standard for green computing and understand the importance of minimizing power use and cooling along with concept of recycling and reuse.

CO2:- Awareness regarding Environmental friendly ways is developed in students.

# SYBSc.IT - SEMESTER - III

# **COURSE TITLE: PYTHON PROGRAMMING**

CO1:-Students understand the basic structure of Python Programming Language and learn to implement object oriented concepts in Python.

CO2:- Students are able to design GUI Applications using Python widgets

#### **COURSE TITLE: DATA STRUCTURES**

CO1:-Students understand the data structure and programs related to arrays, Linked List, Stacks and Queues.

CO2:- This knowledge helps students in optimizing their programs.

#### **COURSE TITLE: COMPUTER NETWORKS**

CO1:-Students understand how data communication work and gain knowledge of wireless LAN and MAC system.

CO2:- This helps them in understanding network Security.

# **COURSE TITLE: DATABASE MANAGEMENT SYSTEMS**

CO1:-Students understand the concept of database architecture, data Models and database and also learn to develop PL/SQL programs.

CO2:- This helps them in making their projects.

#### **COURSE TITLE: APPLIED MATHEMATICS**

CO1:-Students understand the complex numbers and matrices and are able to solve the sums using integration.

CO2:- This helps in understanding the concept of Artificial Intelligence.

# SYBSc.IT - SEMESTER - IV

# **COURSE TITLE: CORE JAVA**

CO1:-Students gain knowledge of Java platform and language, followed by instructions for setting up a development environment consisting of a Java Development Kit (JDK). Students are able to design windows-based application using AWT (Abstract Windows Toolkit).

CO2:-This gives them knowledge of actual software being used in market.

# **COURSE TITLE: INTRODUCTION TO EMBEDDED SYSTEMS**

CO1:-Students gain knowledge about embedded system and are able to design program for embedded system.

CO2:-Students understand to develop the real time embedded system.

# **COURSE TITLE: COMPUTER ORIENTED STATISTICAL TECHNIQUES**

CO1:-Students are able to analyze numerical data using different types of averages and measures of dispersion and learn to use sampling theory to establish relationship existing between population and samples. Also they become aware of hypothesis testing.

CO2:- This course helps them in Data Analysis.

#### **COURSE TITLE: SOFTWARE ENGINEERING**

- CO1:-Students understand the basics of Software design, SDLC and become aware of quality standards.
- CO2:- They get an idea of actual project management and software development environment.

# **COURSE TITLE: COMPUTER GRAPHICS AND ANIMATION**

CO1 -Students understand Working of a Cathode Ray Tube Monitor and learn to implement Line Drawing Algorithms and are able to apply transformations on 2D and 3D objects in real world. And understand how animation works using graphics.

CO2: They get an idea on how to develop animations.

# TYBSc.IT - SEMESTER - V

### **COURSE TITLE: SOFTWARE PROJECT MANAGEMENT**

- CO1:-Students get an idea of project management and project planning.
- CO2:- They come to know about various risks and understand the importance of software quality.

# **COURSE TITLE: INTERNET OF THINGS**

- CO1:-Students understand Internet of Things, Arduino and Raspberry Pi and learn to develop IOT based applications.
- CO2:- This technology helps students learn how advanced embedded systems work.

# **COURSE TITLE: ADVANCED WEB PROGRAMMING**

- CO1:-Students learn to use the principles of object oriented programming techniques using C# and to create a Web Application with Visual Studio.NET. Students learn to develop web application using Ajax.
- CO2:- This technology helps them develop their own standard website applications.

# **COURSE TITLE: ENTERPRISE JAVA**

- CO1:-This helps them get an idea of actual real life java systems developed.
- CO2:- Students learn to develop large-scale, multi-tiered, scalable, reliable, and secure network applications. A shorthand name for such applications is "enterprise applications," so called because these applications are designed to solve the problems encountered by large enterprises.

# **COURSE TITLE: LINUX SYSTEM ADMINISTRATION**

CO1:-Linux is superior to other Unix-like operating systems in several respects. It is free both in a monetary sense (i.e., that it can be obtained by anybody at no cost) and in the sense that anyone is permitted to use it for any purpose.

CO2:-Another advantage of Linux is that it can operate on a much wider range of hardware than most other operating systems.

# TYBSc. IT - SEMESTER - VI

#### **COURSE TITLE: SOFTWARE QUALITY ASSURANCE**

CO1:-Students understand basic concepts of software quality and essentials of testing and skills required by a tester

CO2:- This course content helps them

# **COURSE TITLE: SECURITY IN COMPUTING**

CO1:-Students learn the best practices for network defence and the process of Encryption/Decryption. Students also learn to use of intrusion detection systems.

CO2:- This helps in understanding algorithms related to Network Security.

# **COURSE TITLE: BUSINESS INTELLIGENCE**

CO1:-Students learn the working of Decision Support System and are able to demonstrate Mathematical models for decision making. They also learn Data Mining techniques.

CO2:- This course gives students an idea on how Artificial Intelligence in Business analytics.

# **COURSE TITLE: GEOGRAPHICAL INFORMATION SYSTEM**

CO1:-Students learn the concept of GPS (Global Positioning System).

CO2:-After this, students can develop maps to show geographical location of a particular address.

#### **COURSE TITLE: CYBER LAWS**

CO1:-Students learn the "Information Technology Act, 2000" in detail.

CO2:-Sections under the Act, how they are applicable in real world, learn about its adjudication and penalties. Students gain knowledge of Case Studies on how do various cyber-crimes happen like Hacking, Cyber Fraud.

# **COURSE TITLE: ADVANCED MOBILE PROGRAMMING**

CO1:- Students gain knowledge of Android Studio IDE and features available on android which enable them to develop android app.

CO2:- Using this, student can develop applications using Ar

