Vidya Vikas Education Trust's
Lords Universal College, Goregaon West, Mumbai-400104
Affiliated to University of Mumbai

Bachelors In Science (Information Technology)

Semester-III

Course Code	Course Name	COs
USIT301 & USIT3P1	Python Programming- Theory & Python Programming - Practical	*Students will be able to* 1.Aware of the variables, expressions, looping and conditions used in Python programming 2.Implement functions, strings, lists, tuples and directories. 3. Create GUI forms and add widgets. 4. Use MySQL to store data. 5. Apply the programming skills learnt here into various domains by having an advanced programming skill set of Python and usage of libraries.
USIT302 & USIT3P2	Data Structure- Theory & Data Structure - Practical	*Students will be able to* 1. Identify and distinguish data structure classification, data types, their complexities . 2. Implement array, linked list, stack and queue. 3.Implement trees, various hashing techniques and graphs for various applications. 4. Compare various sorting and searching techniques
USIT303 & USIT3P3	Computer Networks- Theory & Computer Networks- Practical	*Students will be able to* 1.Identify various data communication standards, topologies and terminologies.

		2. Describe how signals are used to transfer data and communication aspects between nodes 3. Configure IP addresses using TCP/IP protocol suite. 4. Use different application layer protocols.
USIT304 & USIT3P4	Database Management Systems- Theory & Database Management Systems- Practical	*Students will be able to* 1. Explain basics of database system and its purpose 2. Develop and Design conceptual model of a database using ER modelling for real life applications 3. Use relational algebra to construct queries and will be able to apply complex queries. 4. Build indexing mechanism for efficient retrieval of data from database systems.
USIT305	Applied Mathematics	*Students will be able to* 1. Solve the matrix operations, identify the linear dependence and independence of a vector. 2. Familiar with the various forms and operations of a complex number. 3. Find the Laplace transform of a function and Inverse Laplace transform of a function using definition also solve ordinary differential equations using Laplace transform. 4. Evaluate the multiple integrals in Cartesian, Polar coordinates, change the order of the integral. 5. Apply integration methods to calculate the areas and volumes of solids.

		6. Evaluate the Beta, Gamma, Differentiation Under integral sign and error functions.
USIT3P5	Mobile Programming Practical	*Students will be able to* 1.Install and configure Android application development tools. 2. Design and develop user Interfaces for the Android platform. 3. Save state information across important operating system events. 4. Apply Java programming concepts to Android application development.

Semester IV

Course Code	Course Name	COs
USIT401 & USIT4P1	Core Java- Theory & Core Java- Practical	*Students will be able to* 1. Learn the architecture of Java 2. Identify data types, control flow, classes, inheritance, exceptions and event handling 3. Use object-oriented concepts for problem solving real-life applications 4. Build GUI programs 5. Create event driven programs using java

USIT402 & USIT4P2	Introduction to Embedded System-Theory & Introduction to Embedded System-Practical	*Students will be able to* 1. Differentiate between general purpose and embedded systems. 2. Discuss the characteristics and quality attributes of embedded systems. 3. Use different types of sensors appropriately. 4. Design and develop embedded systems.
USIT403 & USIT4P3	Computer Oriented Statistical Technique-Theory & Computer Oriented Statistical Technique- Practical	*Students will be able to* 1. To calculate and apply measures of central tendencies and measures of dispersion -- grouped and ungrouped data cases. 2. To calculate the moments, skewness and kurtosis by various methods. 3. How to apply discrete and continuous probability distributions to various business problems. 4. Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. 5. Understand the concept of p-values Apply simple linear regression and correlation model to real life examples.
USIT404 & USIT4P4	Software Engineering-Theory & Software Engineering- Practical	*Students will be able to* 1. Understand software engineering 2. Apply software engineering principles

		3. Discuss various approaches to verification and validation of software including testing, measurements and estimation of software products 4. Create software using different software development models
USIT405 & USIT4P5	Computer Graphics and Animation- Theory & Computer Graphics and Animation- Practical	*Students will be able to* 1. Understand the basics of computer graphics, different graphics systems and applications of computer graphics 2. Compare various algorithms for scan conversion and filling of basic objects 3.Use of geometric transformations on graphics objects and their application in composite form. 4. Extract scene with different clipping methods and its transformation to graphics display device. 5. Explore projections and visible surface detection techniques for display of 3D scene on 2D screen. 6. Render projected objects to naturalize the scene in 2D view and use of illumination models 7. Understand the core concepts and mathematical foundations of computer graphics 8. Know the fundamental computer graphics algorithms and data structures 9. Understand an overview of different modeling approaches and methods 10. Apply basic shading and texture mapping techniques 11. Understand light interaction with 3D scenes

		12. Explain the applications, areas, and graphic pipeline, display and hardcopy technologies. 13. Apply and compare the algorithms for drawing 2D images also explain aliasing, anti aliasing and halftoning techniques. 14. Discuss OpenGL application programming Interface and apply it for 2D & 3D computer graphics. 15. Analyze and apply clipping algorithms and transformation on 2D images. 16. Solve the problems on viewing transformations and explain the projection and hidden surface removal algorithms. 17. Apply basic ray tracing algorithm, shading, shadows, curves and surfaces and also solve the problems of curves.