



VIVEK COLLEGE OF COMMERCE

B.Sc.I.T. (INFORMATION TECHNOLOGY)

PROGRAMME OUTCOME
PROGRAMME SPECIFIC OUTCOME
COURSE OUTCOME



B.Sc.I.T. (INFORMATION TECHNOLOGY)

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B.Sc. PROGRAMME OUTCOME

PO1: Associate and use logical and analytical thinking to solve conceptual and real-world problems.

PO2: Demonstrate the programming skills to improvise/re-engineer applications.

PO3: Develop industry-focused skills to lead a successful career

PO5: Apply the knowledge obtained and emerge as a Developer, Designer, Tester, Security Analyst, Technical Analyst, Networking related modules.

PO6: Identify the needs of various vertical markets and provide better IT and ITes solutions.

PO7: Create a niche for themselves and become an entrepreneur in contributing to the society.



B.Sc.I.T. PROGRAMME SPECIFIC OUTCOME

PSO1: Information Technology learner will be able to understand and apply the subjects learned at basic level, intermediate level and advanced level as they progress from first year to third year.

PSO2: The learner shall be recruited by companies enabled with IT and IT enabled services.



COURSE OUTCOME

F.Y.B.Sc.I.T. SEMESTER I

COURSE CODE - USIT101

COURSE NAME - IMPERATIVE PROGRAMMING (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Define various basic programming languages.

CO2: Implement programming logic in basic problems

CO3: Interpret and logically visualize the problem domain through flowchart

CO4: Understand the working of looping, structures and pointers

CO5: Apply basic programming skills strongly to enhance and hone programming skills

COURSE CODE - USIT102

COURSE NAME - DIGITAL ELECTRONICS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Explain various concepts of digital logic

CO2: Recognize various integrated components for better understanding of the subject

CO3: Examine and solve Karnaugh maps, Boolean expression

CO4: Differentiate between the working of various flip-flops, counters, shift-registers and its applications

COURSE CODE - USIT103

COURSE NAME - OPERATING SYSTEMS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Describe the importance and working of Operating system.

CO2: Compare and analyze use of different scheduling algorithms and understand memory management systems.

CO3: Distinguish between various file systems of Windows and Unix

CO4: Associate with case studies about different operating systems, virtualization and its related concepts.



COURSE CODE - USIT104

COURSE NAME - DISCRETE MATHEMATICS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Define set theory and its relations

CO2: Infer the basics of mathematical induction, graphs and trees that are applied in various domains of Information technology and are widely applied in Data Structures and areas of Artificial Intelligence.

COURSE CODE - USIT105

COURSE NAME - COMMUNICATION SKILLS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Apply business communication techniques to construct effective communication mechanism.

CO2: Identify and Assess ethical, legal, cultural aspects affecting business communication

CO3: Collaborate skills with respect to technical writing effectively.

CO4: Demonstrate verbal and non-verbal ability for effective communication.

F.Y.B.Sc.I.T. SEMESTER II

COURSE CODE - USIT201

COURSE NAME - OBJECT ORIENTED PROGRAMMING (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Differentiate between procedural and object-oriented programming languages

CO2: Explain classes, objects, constructors, inheritance, polymorphism and files

CO3: Apply object-oriented programming skills for all advanced programming languages

COURSE CODE - USIT202



COURSE NAME - MICROPROCESSOR ARCHITECTURE (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Describe about the working of the basic 8085 microprocessor

CO2: Apply various instructions and operations on microprocessor

CO3: Compare about the various processor like SPARC, Pentium, Intel i3, i5 and i7

COURSE CODE - USIT203

COURSE NAME - WEB PROGRAMMING (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Study and interpret basic html tags under HTML5

CO2: Implement php and java script programming

CO3: Develop web technologies skillset for creating static and dynamic websites.

COURSE CODE - USIT204

COURSE NAME - NUMERICAL AND STATISTICAL METHODS

After completing the course, the learner will be able to:

CO1: State various mathematical models and numerical methods

CO2: Apply various methods like interpolation, iterative methods for analysis

CO3: Assess various regression methods, linear programming and distribution methods which are applied in subjects like Business Intelligence in the third year.

COURSE CODE - USIT205

COURSE NAME - GREEN COMPUTING (THEORY AND PROJECT)

After completing the course, the learner will be able to:

CO1: Discuss current issues like carbon footprint, power consumption, disposal of e-waste.

CO2: Analyze methods for reducing power consumption, effective usage is discussed and taught

CO3: Assess methods to go paperless and know various initiatives and standards for green computing

CO4: Mini project should be submitted by the learner incorporating the theoretical concepts related to green computing



S.Y.B.Sc.I.T. SEMESTER III

COURSE CODE - USIT301

COURSE NAME - PYTHON PROGRAMMING (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Aware of the variables, expressions, looping and conditions used in Python programming.

CO2: Implement functions, strings, lists, tuples and directories

CO3: Create GUI forms and add widgets.

CO4: Use MySQL to store data.

CO5: Apply the programming skillset learnt here into various domains by having advance programming skillset of Python and usage of libraries.

COURSE CODE - USIT302

COURSE NAME - DATA STRUCTURES (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Identify and distinguish data structure classification, data types, their complexities

CO2: Implement array, linked list, stack and queue.

CO3: Implement trees, various hashing techniques and graph for various applications

CO4: Compare various sorting and searching techniques used in data structures

COURSE CODE - USIT303

COURSE NAME - COMPUTER NETWORKS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Identify various data communication standards, topologies and terminologies

CO2: Describe how signals are used to transfer data and communication aspects between nodes

CO3: Demonstrate the TCP/IP protocol suite

COURSE CODE - USIT304



COURSE NAME - DATABASE MANAGEMENT SYSTEMS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Explain basics of database system and its purpose

CO2: Develop and Design conceptual model of a database using ER modelling for real life applications

CO3: Use relational algebra to construct queries and will be able to apply complex queries.

CO4: Build indexing mechanism for efficient retrieval of data from database systems

COURSE CODE - USIT305

COURSE NAME - APPLIED MATHEMATICS (THEORY)

After completing the course, the learner will be able to:

CO1: Use matrices and complex numbers

CO2: Apply Laplace and Inverse Laplace transforms to various applications

CO3: Apply integral, double integral to various applications

CO4: Use functions to find errors

S.Y.B.Sc.I.T. SEMESTER IV

COURSE CODE - USIT401

COURSE NAME - CORE JAVA (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Explain the history and architecture of Java

CO2: Identify data types, control flow, classes, inheritance, exceptions and event handling

CO3: Use object-oriented concepts for problem solving real-life applications

CO4: Use IDE to test java programs

COURSE CODE - USIT402

COURSE NAME - INTRODUCTION TO EMBEDDED SYSTEMS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:



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- CO1: Differentiate between general purpose and embedded systems
 - CO2: Discuss the characteristics and quality attributes of embedded systems
 - CO3: Apply 8051 programming concepts to implement in hardware
 - CO4: Design and develop embedded systems

COURSE CODE - USIT403

**COURSE NAME - COMPUTER ORIENTED STATISTICAL TECHNIQUES
(THEORY AND PRACTICAL)**

After completing the course, the learner will be able to:

- CO1: Use various statistical techniques like mean, median, mode, skewness, kurtosis for data analysis
- CO2: Apply R programming language for various statistical findings
- CO3: Experiment with statistical theory, least square methods and correlation theory

COURSE CODE - USIT404

**COURSE NAME - SOFTWARE ENGINEERING (THEORY AND
PRACTICAL)**

After completing the course, the learner will be able to:

- CO1: Define software engineering
- CO2: Apply software engineering principles and be aware of software models.
- CO3: Discuss various approaches to verification and validation of software including testing, measurements and estimation of software products.

COURSE CODE - USIT405

**COURSE NAME - COMPUTER GRAPHICS AND ANIMATION (THEORY
AND PRACTICAL)**

After completing the course, the learner will be able to:

- CO1: Explain and understand the various basic concepts in graphics like viewing, projection, transformation, scan conversion
- CO2: Build simple animation projects by implementing various color models, concepts of planar surfaces and animation



CO3: Apply image processing basics and its methods like filtering and smoothing as its applications

T.Y.B.Sc.I.T. SEMESTER V

COURSE CODE - USIT501

COURSE NAME - SOFTWARE PROJECT MANAGEMENT (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Discuss various types of projects

CO2: Evaluate software project development mechanism

CO3: Assess the metrics and measures while designing and developing the project

CO4: Develop and prototype a project model and perform complete project evaluation

CO5: Create a software-based solution to the problem definition with project planning and execution.

COURSE CODE - USIT502

COURSE NAME - INTERNET OF THINGS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Describe the design and architecture of IoT

CO2: Interpret and analyze various IoT enabled and connected devices

CO3: Discuss the ethical factors with respect to IoT devices

COURSE CODE - USIT503

COURSE NAME - ADVANCED WEB PROGRAMMING (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Explain the .NET framework.

CO2: Apply form fundamentals and controls to design web pages

CO3: Build web pages using various styling mechanism, avoiding common errors

CO4: Use data binding techniques and apply AJAX controls in web pages.

CO5: Build a website as a whole using the skillset



COURSE CODE - USIT505

COURSE NAME - LINUX SYSTEM ADMINISTRATION (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Discuss RHEL 6 Server Administration concepts and ways

CO2: Demonstrate various shells and commands used in CLI as well as GUI

CO3: Configure various servers like DHCP, NFS, FTP, APACHE WEBSERVER etc. in real life applications and domains

CO4: Develop small shell scripts, set up installation servers and know about high availability clusters.

COURSE CODE - USIT506

COURSE NAME - ENTERPRISE JAVA (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Apply servlets, sessions, cookies, beans and Java Server Pages to design server-side applications.

CO2: Design and develop JPA applications and build hibernate applications for real problems

T.Y.B.Sc.I.T. SEMESTER VI

COURSE CODE - USIT601

COURSE NAME - SOFTWARE QUALITY ASSURANCE(THEORY)

After completing the course, the learner will be able to:

CO1: Apply the concepts of quality at building a software

CO2: Use benchmarking metrics to measure quality in software products.

CO3: Apply verification and validation methods to ensure continuous quality improvement

COURSE CODE - USIT602

COURSE NAME - SECURITY IN COMPUTING (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:



CO1: Discuss network security at different levels of implementation

CO2: Apply design principles for security in storage, database etc.

CO3: Design and build secure networks

CO4: Evaluate wireless security, physical security and Cloud security

COURSE CODE - USIT603

COURSE NAME - BUSINESS INTELLIGENCE (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Discuss various business intelligence mathematical models

CO2: Develop an interest towards data and its purpose

CO3: Implement classification and clustering algorithms

CO4: Apply knowledge management approaches and develop an intelligent system to facilitate better decision-making business intelligence systems.

COURSE CODE - USIT604

COURSE NAME - PRINCIPLES OF GEOGRAPHIC INFORMATION SYSTEMS (THEORY AND PRACTICAL)

After completing the course, the learner will be able to:

CO1: Describe and explain fundamentals of Geographic information systems

CO2: Interpret spatial data and query handling techniques

CO3: Apply visualization tools and techniques for better spatial analysis

COURSE CODE - USIT606

COURSE NAME - IT SERVICES MANAGEMENT(THEORY)

After completing the course, the learner will be able to:

CO1: Discuss and interpret services, principles, strategies and risk involved

CO2: Compile knowledge about ITIL foundation and secondary level strategies in knowing the complete background of service management in IT and its applications.