



॥ ऋते ज्ञानान्न मुक्तीः ॥

Dwarka Bahuuddeshiya Gramin Vikas Foundation's

**Rajarshi Shahu College of Engineering, Buldana**

Approved By AICTE New Delhi, NAAC Accredited, Affiliated to Sant Gadge Baba Amravati University



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### COURSE OUTCOMES OF ALL COURSES OF SEVENTH SEMESTER & EIGHTH SEMESTER BE CSE (COMPUTER SCIENCE AND ENGINEERING)

#### SEVENTH SEMESTER

##### 7KS01 SOCIAL SCIENCE & ENGINEERING ECONOMICS

On completion of the course, the students will be able to:

1. To help students to understand the importance of economics to engineers
2. To let them know about the Indian Parliament
3. To enhance their knowledge about culture and civilization
4. To help students to get an understanding of Market Trends, Economic Transformations, Changes in the Laws & equip them to have a better understanding of Market
5. To critically examine the market trends.

##### 7KS02 COMPUTER GRAPHICS

On completion of the course, the students will be able to:

1. Describe the basic concepts of Computer Graphics.
2. Demonstrate various algorithms for basic graphics primitives.
3. Apply 2-D geometric transformations on graphical objects.
4. Use various Clipping algorithms on graphical objects
5. Explore 3-D geometric transformations, curve representation techniques and projections methods
6. Explain visible surface detection techniques and Animation.

##### 7KS03 CLOUD COMPUTING

On completion of the course, the students will be able to:

1. Describe the fundamental concept, architecture and applications of Cloud Computing.
2. Discuss the problems related to cloud deployment model.
3. Examine the concept of virtualization.
4. Identify the role of network connectivity in the cloud.
5. Assess different Cloud service providers.
6. Inspect the security issues in cloud service models.

## **7KS04 ROBOTICS**

On completion of the course, the students will be able to:

1. Describe basic concept of robotics.
2. Explain Components of a Robot System & Mechanical Systems.
3. Illustrate Control of Actuators in Robotic Mechanisms.
4. Compare and contrast Robotic Sensory Devices.
5. Recommend Robotics Hardware & Software Considerations in Computer Vision
6. Design Robotic system by taking real time considerations.

## **7KS04 DATA WAREHOUSE AND MINING**

On completion of the course, the students will be able to:

1. Explain the basics of data mining techniques.
2. Identify the similarity and dissimilarity between the data sets.
3. Apply Data Preprocessing to techniques.
4. Describe Data Warehouse fundamentals, Data Mining Principles.
5. Illustrate Multidimensional Data Analysis in Cube Space.
6. Assess Mining Frequent Patterns, Associations, and Correlations.

## **7KS04 EMBEDDED SYSTEM**

On completion of the course, the students will be able to:

1. Describe the basics of embedded systems and structural core units as well as memory organization for embedded system.
2. Explain components of embedded system, characteristics and quality attributes of embedded systems.
3. Discuss role of 8051 microcontroller and its architecture in design of embedded systems.
4. Examine the different Addressing modes and Instruction Set of 8051 microcontrollers.
5. Use knowledge of C programming to do embedded programming.
6. Assess the Real-Time Operating System concepts with VxWorks RTOS.

## **7KS04 DIGITAL FORENSICS**

On completion of the course, the students will be able to:

1. Describe Digital Forensics and its related preparation
2. Outline Data Acquisition tools
3. Use knowledge to improve crime investigations.
4. Examine Digital Forensic and its validation
5. Assess role of email and social media in investigations
6. Discuss Cloud Forensics.

## **7KS05 BLOCK CHAIN FUNDAMENTALS**

On completion of the course, the students will be able to:

1. Understand the concept of decentralization of the block chain with different layers of blockchain
2. Apply basic cryptographic primitives with encryption standards.
3. Analyze & Design Consensus Algorithms.
4. Examine fundamentals of Bitcoin, how Bitcoin transactions are constructed and used with Bitcoin addresses, accounts, and mining.
5. Understand foundation, architecture, and use of the Ethereum blockchain.
6. Execute & build block chain application/ transaction.

## **7KS05 IMAGE PROCESSING**

On completion of the course, the students will be able to:

1. Explain fundamental steps in Image Processing.
2. Compare different methods for image transform with its properties.
3. Illustrate Image Enhancement in spatial domain.
4. Examine Image Enhancement in Frequency Domain.
5. Apply various methods for segmenting image and identifying image components.
6. Investigate morphological operations to improve the quality of image.

## **7KS05 OPTIMIZATION TECHNIQUES**

On completion of the course, the students will be able to:

1. Describe statement of an optimization problem
2. Examine linear programming procedures to solve optimization problems.
3. Compare different nonlinear programming methods of optimization
4. Discuss Geometric Programming with different constraint
5. Identify the appropriate optimization technique for the given problem
6. Synthesize algorithms to solve real time optimization problems.

## **7KS06 COMPUTER GRAPHICS LAB**

On completion of the course, the students will be able to:

1. Describe the basic concepts of Computer Graphics.
2. Demonstrate various algorithms for basic graphics primitives.
3. Apply 2-D geometric transformations on graphical objects.
4. Use various Clipping algorithms on graphical objects
5. Explore 3-D geometric transformations, curve representation techniques and projections methods
6. Explain visible surface detection techniques and Animation.

## **EIGHTH SEMESTER**

### **8KS01 OBJECT ORIENTED ANALYSIS AND DESIGN**

On completion of the course, the students will be able to:

1. Describe Object Oriented principles, for performing object-oriented analysis and design.
2. Explain the basic concepts of UML, Software Development Processes and Design pattern.
3. Illustrate requirements for developing a software.
4. Create initial domain model & system sequence diagram for use case scenario.
5. Design static and dynamic objects for modeling.
6. Construct UML and Design Patterns for developing object-oriented software.

### **8KS02 PROFESSIONAL ETHICS AND MANAGEMENT**

On completion of the course, the students will be able to:

1. Relate ethical and non-ethical situations
2. Outline ethics in the society & environment
3. Examine the moral judgment & correlate the concepts in addressing the ethical dilemmas
4. Identify risk and safety measures in various engineering fields
5. Justify ethical issues related to engineering responsibilities and rights
6. Synthesize cognitive skills in solving social problems

### **8KS03 VIRTUAL AND AUGMENTED REALITY**

On completion of the course, the students will be able to:

1. Describe Virtual reality & its applications.
2. Discuss virtual reality world and types.
3. Examine geometry of virtual world and the physiology of human vision
4. Investigate Visual Perception, Motion and Tracking
5. Inspect Physics of Sound and the Physiology of Human Hearing.
6. Explain Augmented reality & examples based on Augmented reality

### **8KS03 MACHINE LEARNING AND AI**

On completion of the course, the students will be able to:

1. Describe Machine learning and its types.
2. Discuss Bayesian Decision Theory and Parametric Methods
3. Illustrate Multivariate and Dimensionality Reduction methods.
4. Categorize Non-Parametric methods
5. Justify discrimination techniques in Machine learning
6. Synthesize Neural network using Multilayer Perceptron

### **8KS03 WIRELESS SENSOR NETWORKS**

On completion of the course, the students will be able to:

1. Describe Network of Wireless Sensor Nodes
2. Explain Node Architecture and Physical Layer.
3. Discuss Medium Access Control and its related properties.
4. Analyze the protocols and algorithms used at different network protocollayers in sensor systems.
5. Compare different power management techniques and clocks and the Synchronization problems.
6. Explain time synchronization and its problems.

### **8KS03 SYSTEM & SOFTWARE SECURITY**

On completion of the course, the students will be able to:

1. Relate malicious and non-malicious attacks.
2. Outline web common vulnerabilities, attack mechanisms and methods against computer and informationsystems.
3. Apply relevant methods for security modeling and analysis of Operating System.
4. Investigate a secure network by monitoring and analyzing the nature of attacks.
5. Explain cryptography, intrusion detection and firewall system
6. Implement different security solutions at various levels such as operating systems, databases and clouds.

### **8KS04 DISTRIBUTED LEDGER TECHNOLOGY**

On completion of the course, the students will be able to:

1. Describe basic knowledge of Distributed Ledger Technologies
2. Outline Analytical Framework for Distributed ledger technology
3. Use Cryptographic method for ledgers.
4. Explain knowledge of Bit coin
5. Inspect Bit coin crypto currency mechanisms
6. Synthesize bit coin mining process

### **8KS04 MULTIMEDIA COMPUTING**

On completion of the course, the students will be able to:

1. Describe technical aspect of Multimedia Computing.
2. Compare various file formats for audio, video and text media.
3. Examine lossless data compression techniques in real time.
4. Illustrate lossy data compression techniques in real time scenario
5. Investigate video compression technique
6. Construct various networking protocols for multimedia applications.

### **8KS04 MODELLING & SIMULATION**

On completion of the course, the students will be able to:

1. Describe System models & system modeling.
2. Explain continuous system methods of obtaining solutions.
3. Illustrate the need of simulation and mathematical modeling
4. Examine simulation of Queuing System and PERT network.
5. Inspect experimentation of Simulation.
6. List different special purpose languages use for continuous and discrete systems