Mahavir Education Trust's

SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE
Affiliated to University of Mumbai, Approved by D.T.E. & A.I.C.T.E.| Awarded 'A' Grade by D.T.E., M.S. | Electronics Enginering Program Accreditated by N.B.A.,
New Delhi for 2 years w.e.f. 6th Aug.,2014 | Computer Engineering Program Re-Accreditated by N.B.A.,New Delhi for 3 yeas w.e.f. 1st July 2019 | Information Technology
Program Accreditated by N.B.A.,New Delhi for 3 years w.e.f. 1st July 2019

RINA
ISO 9001
Certified Quality System

Member of CISQ Federation

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DEPARTMENT OF COMPUTER ENGINEERING
Semester – VII

Unique Course Number: CSC701   Course Name: Digital Signal & Image Processing

Unique CO Number	Course Outcome (CO) Statement
CSC7011	Describe the concept of discrete time signal and systems and use signal processing techniques.
CSC7012	Implement Digital Signal Transform techniques DFT and FFT.
CSC7013	Explain process of image digitization and different image file types and formats.
CSC7014	Use the enhancement techniques for digital Image Processing.
CSC7015	Differentiate between the advantages and disadvantages of different edge detection techniques.
CSC7016	Explore research trends in the area of digital signal and image processing or Compare and apply different digital signal and image processing techniques.

Unique Course Number: CSC702   Course Name: Mobile Communication & Computing

Unique CO Number	Course Outcome (CO) Statement
CSC7021	Identify basic concepts and principles in mobile communication & computing, cellular architecture
CSC7022	Describe the components and functioning of mobile networking
CSC7023	Classify variety of security techniques in mobile network.
CSC7024	Analyze the concepts of WLAN
CSC7025	Describe and apply the concepts of mobility management
CSC7026	Describe Long Term Evolution (LTE) architecture and its interfaces.

Unique Course Number: CSC703   Course Name: Artificial Intelligence & Soft Computing

Unique CO Number	Course Outcome (CO) Statement
CSC7031	Identify the various characteristics of AI and SC techniques
CSC7032	Identify and apply the most suitable search strategy to design problem solving agent
CSC7033	Represent a natural language description as statements in logic and apply the inference rules to design knowledge-based agent and planning agent
CSC7034	Construct supervised and unsupervised ANN for real world applications
CSC7035	Design fuzzy controller system
CSC7036	Apply Hybrid approach for expert system design

Unique Course Number: CSDLO7031 Course Name: Advance System Security & Digital Forensics

Unique CO Number	Course Outcome (CO) Statement
CSDLO70311	Classify Cyber-attacks and vulnerabilities
CSDLO70312	Describe operating systems and programs vulnerabilities and protection mechanism
CSDLO70313	Describe Web application and WIFI vulnerabilities and protection mechanism
CSDLO70314	Discuss legal and ethical issues associated with cyber crime
CSDLO70315	Illustrate Access control policies and control mechanism
CSDLO70316	Use different forensics tools to acquire and analyze compromised data.

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Unique Course Number: CSDLO7032   **Course Name: Big Data & Analytics**

Unique CO Number	Course Outcome (CO) Statement
CSDLO70321	Identify the key issues in big data management and its associated applications for business decisions and strategy.
CSDLO70322	Develop problem solving and critical thinking skills in fundamental enabling techniques like Hadoop, MapReduce
CSDLO70323	Apply NoSQL architectural patterns in big data analytics to create, manage, store, query various forms of Big Data
CSDLO70324	Analyze and apply data mining techniques in various applications of Big Data.
CSDLO70325	Adapt adequate perspectives of big data analytics in various applications
CSDLO70326	Design business models and solve complex real-world problems in various applications like recommender systems, social media applications, health and medical systems, etc.

Unique Course Number: ILO7015   **Course Name: Operation Research**

Unique CO Number	Course Outcome (CO) Statement
ILO70151	Describe the theoretical working of simplex method
ILO70152	Distinguish between linear programming and its dual
ILO70153	Perform sensitivity analysis to determine the direction and magnitude of change of a model's optimal solution as the data change.
ILO70154	Solve the transportation, assignment and Game theory problems using linear programming.
ILO70155	Solve the problems using network models like the shortest path, minimum spanning tree, and maximum flow problems
ILO70156	Explain the applications of integer programming, queuing model, inventory models and Simulation to compute important performance measures

Unique Course Number: ILO7016   **Course Name: Cyber Security and Laws**

Unique CO Number	Course Outcome (CO) Statement
ILO70161	Understand the concept of cybercrime and cyber offences.
ILO70162	Identify and classify cybercrimes to estimate their impact on society and mitigate the risks involved.
ILO70163	Understand the various tools used by cyber criminals.
ILO70164	Identify and interpret the various aspects of Cyber laws.
ILO70165	Apply and Interpret the Indian IT Act 2008 and its latest amendments.
ILO70166	Apply Information Security Standards compliance during software design and development.

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Unique Course Number: CSL701   Course Name: Digital Signal & Image Processing Lab

Unique CO Number	Course Outcome (CO) Statement
CSL7011	Demonstrate process of signal conversion.
CSL7012	Implement Discrete Convolution and Discrete Correlation.
CSL7013	Implement the Discrete Fourier Transform and the Fast Fourier Transform.
CSL7014	Demonstrate point operations in digital image processing.
CSL7015	Illustrate and implement image Enhancement techniques.
CSL7016	Demonstrate Image Segmentation techniques.

Unique Course Number: CSL702   Course Name: Mobile App. Development. Tech. Lab

Unique CO Number	Course Outcome (CO) Statement
CSL7021	To develop and demonstrate mobile application using various tools
CSL7022	Students will articulate the knowledge of GSM, CDMA & Bluetooth technologies and demonstrate it.
CSL7023	Students will able to carry out simulation of frequency reuse, hidden terminal problem.
CSL7024	To develop security algorithm for mobile communication network.
CSL7025	To demonstrate simulation and compare the performance of wireless LAN
CSL7026	To implement and demonstrate mobile node discovery and route maintains.

Unique Course Number: CSL703   Course Name: Artificial Intelligence & Soft Computing Lab

Unique CO Number	Course Outcome (CO) Statement
CSL7031	Formulate PEAS description for the given intelligent agent.
CSL7032	Write a program in PROLOG to represent natural language description as statements in Logic and apply inference rules to it
CSL7033	Apply suitable search techniques to design a problem-solving agent.
CSL7034	Implement Supervised and unsupervised neural network learning rules.
CSL7035	Design a fuzzy controller system.
CSL7036	Design an application using AISC techniques

Unique Course Number: CSL704   Course Name: Computational Lab-I

Unique CO Number	Course Outcome (CO) Statement
CSL7041	Demonstrate program and operating system vulnerabilities
CSL7042	Implement network security
CSL7043	Use and analyze different security tools to detect web application and browser vulnerabilities
CSL7044	Use and explore forensics tools for data acquisition, duplication and analysis
CSL7045	Use different tools to secure mobile device
CSL7046	Use and explore Authentication and access control mechanism