Karnatak Law Society's
VISHWANATHRAO DESHPANDE
INSTITUTE OF TECHNOLOGY, HALIYAL
(Recognized Under Section 2(f) of UGC Act, 1956)
Approved by AICTE, New Delhi, Affiliated to V. T. U., Belagavi
Udyog Vidyanagar, Dandeli Road, Haliyal - 581 329, Dist: Uttara Kannada, Karnataka
Ph: 08284 - 220861, 221409 Mob: 944945452 Fax: 08284 - 220813 www.klsvdit.edu.in | principal@klsvdit.edu.in
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ADD-ON COURSE SYLLABUS

TITLE: PCB DESIGN & CIRCUIT SIMULATION

Sem: 3rd | Total Hours:30

MODULES
MODULE1: **Introduction to PCB Designing:** Introduction to PCB Design, Introduction to Express CB, Design of Half Wave Rectifier, Design of Full Wave Rectifier, Design of monostable Multivibrator using 555 Timer, Design of Inverting and Non Inverting Amplifier using Op Amp, Design of Voltage regulator using zener diode, Design of filter using Op amp 8 Hours
MODULE2: **Design of opamp circuits using Express PCB:** Design of Adder, Integrator and Differentiator using Op Amp, Design of Voltage booster circuit, Design of Current Booster circuit, Design of Oscillators, Design of A Signal Generator, Design of A mobile charger, Testing of PCB circuits 6 Hours
MODULE3: **Introduction to Simulink:** Design and Verify Basic Gates, Design and Implement Half Adder and Full Adder, Design and Implement Half Subtractor and Full Subtractor, Design and Implement 4 bit parallel Adder and subtractor, Design and Implement BCD to excess 3 and vice versa, Design and Implement n-bit Comparator, Design and Implement a) Master-Salve JK Flip flop b) D Flip flop c) T Flip flop, Design and Implement a) SISO b) SIPO c) PISO d) PIPO e) ring and Johnson counter 6 Hours
MODULE3: **Introduction to Simulink:** Design and Implement mod n counter, Design and Implement Serial Adder with Accumulator , Design and Implement Binary Multiplier, Design and Implement binary to gray and vice versa, Design and Implement a project on Digital Systems, Design and Implement a project on Digital Systems 10 Hours

Text Book:

T1: Zvi Kohavi, "Switching and Finite Automata Theory", 2nd Edition, TMH.

R1: Parag K Lala, "Fault Tolerant And Fault Testable Hardware Design", Prentice Hall Inc. 1985.

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ADD-ON COURSE SYLLABUS

TITLE: ALGORITHMIC APPROACH TO SOLVE COMPLEX ENGINEERING PROBLEMS USING C

Sem: 5th

Total Hours:30

MODULES
MODULE1: **Introduction:** Objective, scope and validation techniques, Principal components analysis (Eigen values, Eigen vectors, Orthogonality), Distance measures Ý Different clustering methods (Distance, Density, Hierarchical 6 Hours
MODULE2: **PRELIMINARIES OF MACHINE LEARNING:** What is machine learning; varieties of machine learning, learning input/output functions, Sample application. Boolean functions and their classes, CNF, DNF, decision lists. Version spaces for learning, version graphs, learning search of a version space, candidate elimination methods. 6 Hours
MODULE3: **Statistical Learning:** Background and general method, learning belief networks, nearest neighbour. Decision-trees, supervised learning of uni-variance decision trees, network equivalent of decision trees, over fitting and evaluation Inductive Logic Programming, notation and definitions, introducing recursive programs, inductive logic programming versus decision tree induction. 6 Hours
MODULE4: **Writing Programs in C and executing the same:** Exchange the Values, Counting, Summation of set of numbers, Factorial Computation and Programs to sort by selection and insertion 12 Hours

Text Book:

T1: Introduction to Machine learning, Nils J.Nilsson

T2: Machine learning for dummies, IBM Limited ed, by Judith Hurwitz and Daniel Kirsch

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ADD-ON COURSE SYLLABUS

TITLE: INTRODUCTION TO MACHINE LEARNING USING PYTHON

Sem: 7th

Total Hours:30

MODULES
Module-1 Introduction To Machine Learning, History and Evolution, Different Forms of Machine Learning, Applications of machine learning, Machine Learning Categories, Machine Learning Python Packages 10Hrs
Module-2 **Supervised Learning:** Classification: KNN, Decision Tree, Regression 10Hrs
Module-3 **Unsupervised Learning:** Clustering, Association Rule Mining, Anomaly Detection 10Hrs

Text Book:

T1: "Introduction to Mąchine Learning" by Alex Smola and S.V.N. Vishwanathan, published by the press syndicate of the university of Cambridge

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ADD-ON COURSE SYLLABUS

TITLE: ADVANCED MICROPROCESSORS

Sem: 4th

Total Hours:30

MODULES
Module-1: The Microprocessor and its Architecture: Addressing Modes, Data Movement Instructions and Data Transfer Instructions, **Arithmetic and Logic Instructions:** Addition, Subtraction, Comparison, Multiplication and Division. Flag Manipulation Instructions. Example Programs 10 Hours
Module-2: Basic Logical Instructions: Shift and Rotate, String Comparisons. **Program Control Instructions:** Controlling the Flow of the Program, Assembly Language Programming. 10 Hours
Module-3: Hardware Interface: Address Decoding, 8086 Memory Interface. Basic I/O Interface: Introduction to I/O Interface: The Programmable Peripheral Interface 82C55, Interfacing of Stepper Motor using 8255 and its programming for rotating motor in Clockwise and anti-clockwise direction for specified number of times 10 Hours

Text Book:

T1: "The Intel Microprocessors: 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, Pentium pro Processor, Pentium II, Pentium III, Pentium 4, and Core2- Architecture, Programming, and Interfacing" 8th edition by Barry B Bery

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ADD-ON COURSE SYLLABUS

TITLE: WEB DEVELOPMENT USING HTML, CSS AND JAVASCRIPT

Sem: 6th

Total Hours:30

MODULES
MODULE1: Introduction to HTMLS Basics of HTML5 how to set up your development environment, HTML5 basics like valid document structure, which elements can be included inside other elements and which cannot, meaning and usefulness of HTML5 semantic tags, and go over essential HTML5 tags development environment, setup HTML Basics, essential HTML5 tags. 8 Hours
MODULE2: Introduction to CSS3 Basics of CSS3 to some fairly advanced concepts like floating and CSS rule conflict resolution. 'box model' background property. etc. Responsive Design using CSS, introducing Twitter Bootstrap with its essential Grid System. Cascading Style Sheets Basics, CSS Rules Conflict Resolution and Text Styling The Box Model and Layout, Introduction to Responsive, Design Introduction to Twitter, Bootstrap 8 Hours
MODULE3: Coding the navigation bar Coding the navigation bar, Coding the Navigation Bar of the Site Coding the Homepage and the Footer Coding the Restaurant Menu wages 7 Hours
MODULE4: Javascript fundamentals of the Javascript language. common language constructs and Javascript types to objects, functions, arrays, closures, and scope isolation. Javascript Basics, Javascript Types and Common Language, Constructs Objects and Functions in Javascript, Arrays, Closures, and Namespaces 7 Hours

Text Book:

T1: Murach's HTMLS and CSS3 by Anne Boehm and Zak Ruvalcaba ISBN: 978-1-890774-83-7

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ADD-ON COURSE SYLLABUS

TITLE: WIRELESS SENSOR NETWORKS

Sem: 8th | Total Hours:30

MODULES
MODULE1: INTRODUCTION TO WIRELESS SENSOR NETWORKS Overview of Wireless Sensor Networks, Network Characteristics, Network Applications 6 Hours
MODULE2: NETWORK ARCHITECTURES AND PROTOCOL STACK: Introduction, Network Architectures for Wireless Sensor Networks, Classifications of Wireless Sensor Networks, Protocol Stack for Wireless Sensor Networks 6 Hours
MODULE3: BROADCASTING AND MULTICASTING: Introduction, Concepts and Major Challenges, Basic Concepts, Simple Broadcasting Mechanisms, Energy-Efficient Broadcasting Mechanisms, Multicasting Mechanisms, Tree-Based Multicasting Mechanisms, Location-Based Multicasting Mechanisms 6 Hours
MODULE4: NODE CLUSTERING: Introduction, Wireless Sensor Network Architectures, Node Clustering Structures, Node Clustering Algorithms, Cluster-Head Election Algorithms, Node Clustering Algorithms for Wireless Sensor Networks, Energy-Efficient Adaptive Clustering 6 Hours
MODULE5: FUTURE TRENDS IN WIRELESS SENSOR NETWORKS: Introduction, Wireless Multimedia Sensor Networks, Design of Wireless Multimedia Sensor Networks, Wireless Sensor and Actor Networks, Applications of Wireless Sensor and Actor Networks, Sensor and Actor Coordination 6 Hours

Text Book:

T1: Wireless Sensor Networks: Technology, Protocols, and Applications, by Kazem Sohraby

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