

Computer Science (Honours)	
Name of Course	Course Outcomes
CC1:DigitalElectronics	<p>CO1: Demonstrate concept of digital circuits and the way to design them.</p> <p>CO2: Continuous to discrete mathematical understanding is executed. What is the relation of electronic/hardware with the computational part is done with strong mathematical understanding.</p> <p>CO3: Develop a thorough concept of combinational and sequential circuits up to flipflop/register and counter.</p> <p>CO4: Develop a thorough concept of TTL, CMOS and BICMOS integrated circuitry through practical bases.</p>
CC2:CProgramming	<p>CO1: Demonstrate complete knowledge of C language.</p> <p>CO2: Display the ability to write programs.</p> <p>CO3: Demonstrate the usage of pointers, structure, function, file, string handling.</p> <p>CO4: Recognize Pprocessor directives</p>
CC3:Datastructure	<p>CO1: Demonstrate the basic concept of data structure and algorithms.</p> <p>CO2: Develop thorough knowledge of linear and non-linear data structure.</p> <p>CO3: Make able to design algorithms and choose appropriate data structure for the problems.</p> <p>CO4: Undertake complexity analysis of algorithms.</p>

<p>CC4: Concept of Difference between Digital and Analog Electronics</p>	<p>CO1: Demonstrate the concept of AC and DC circuits and their functionalities.</p> <p>CO2: To deliver the knowledge of functionality of PN junction diode, transistor, OPAMP (operational amplifier) Circuits with detailed mathematical understandings.</p>
<p>CC5: Computer Organization & Architecture</p>	<p>CO1: Learn the basic structure of computers.</p> <p>CO2: Understand the basic organization and design of</p>

	<p>computers.</p> <p>CO3: Have gathered knowledge about CPU organization, Control Unit, CPU registers, CPU instruction, designing of ALU and Memory module.</p> <p>CO4: Learn the theoretical aspects of different types of processors, peripheral devices, and input output organization.</p>
<p>CC6: Computational Mathematics</p>	<p>CO1: Recall set theory and perform different set theory operations</p> <p>CO2: Show a clear knowledge about asymptotic notation, standard notations and common function with simple examples.</p> <p>CO3: Demonstrate clearly knowledge about different types of graph and their characteristics.</p> <p>CO4: Apply algorithmic, mathematical and scientific reasoning to a variety of computational problems.</p> <p>CO5: Learn about numerical methods and understand numerical integration, differentiation, curve fitting, non-linear equations</p>
<p>CC7: Operating Systems</p>	<p>CO1: Understand the main components of an OS & their functions</p> <p>CO2: Learn the workings of an OS as a resource manager, file system manager, process manager, memory manager and I/O manager and methods used to implement the different parts of OS</p> <p>CO3: Identify use and evaluate the storage management policies with respect to different storage management technologies.</p> <p>CO4: CO1: learn about Unix operating System and Shell Programming and learn different types of shell commands and implement the non terminal.</p>
<p>SEC-A-1 : Computer Graphics</p>	<p>CO1: Learn about CRT and LED monitors and understand of how to scan convert the basic</p>

	<p>geometrical primitives, how to transform the shapes to fit them as per the picture definition.</p> <p>CO2: Understand different types of Clipping and learn basic concept of Projection Operation and its application</p>
<p>CC8: Data communication, Networking and Internet technology.</p>	<p>CO1: Learn the basic components of Data Communication and direction of data flow.</p> <p>CO2: Students learn about Network Hardware and their application and understand the basic things about analog and digital signals</p> <p>CO3: Learn about different types of Digital transmission and Analog transmission</p> <p>CO4: Demonstrate knowledge of different types of bandwidth utilization techniques and understand different Error correction, detection methods</p> <p>CO5: Learn about the different layers of OSI Model and TCP/IP Model and Logical and Physical addressing</p>
<p>CC9: Introduction to Algorithms & its Application.</p>	<p>CO1: Learn generalized definition, characteristics of algorithm</p> <p>CO2: Calculate the best case/ average case/ worst case complexity of different recursive and non-recursive well-known algorithms</p> <p>CO3: Have a clear knowledge about different algorithm design techniques (Greedy algorithm, Divide and conquer algorithm, dynamic algorithm)</p> <p>CO4: Can create, traverse, find minimal spanning tree, shortest path of graphs using different well-known algorithms.</p> <p>CO5: Demonstrate basic knowledge about NP and P Problems</p>
<p>CC10:</p>	<p>CO:1 Study of 8085 Microprocessor helps the students</p>

<p>Microprocessor and its Applications</p>	<p>to understand the design of personal computers.</p> <p>CO2: Study a number of other embedded products.</p> <p>CO3: Understanding the detailed ALP, Firmware through theoretical and practical based work.</p> <p>CO4: Understand and devise techniques for faster execution of instructions, improves speed of operations and enhance performance of microprocessors.</p>
<p>SEC-B-1: Information Security</p>	<p>CO1: Learn about information security parameters, assumptions and Trust–Security assurance</p> <p>CO2: Learn why authentication is required and how to achieve it using different authentication tools such as MAC, Hash function, Hash algorithm: MD5</p> <p>CO3: Have an overview of Internet security, Web Security, IP Security and Email Security as well as Firewall Design techniques and types.</p> <p>CO4: Recognize cyber laws to be covered as per IT2008 and Digital Signature and Electronic Signature.</p> <p>CO5: Learn about different mathematical tools needed in different process in Cryptography</p>
<p>CC11: Database Management system (DBMS)</p>	<p>CO1: Develop a sense of the drawbacks of file management systems.</p> <p>CO2: Learn about Entity Relationship model and can draw ER diagram for different organization.</p> <p>CO3: Have a clear knowledge about different keys, integrity constraints; functional dependency. They can normalize a relational table upto 5th normal form.</p> <p>CO4: Write DDL and DML through SQL</p> <p>CO5: Write complex queries, aggregate function, nested queries using PHP and MySQL</p>

<p>DSE-A-1: DigitalImageProcessing</p>	<p>CO1: Design abstract, synthetic objects such as mathematical surface in 3D, animations, motion dynamics and updated dynamics.</p> <p>CO2: Learn different types of Image enhancement techniques, Filter in go image, Noise removing.</p>
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	CO3:Learn about Image Segmentation, Pixels, Matlab application of Image Processing
CC12:ObjectOriented ProgrammingSystem(OOPs)	<p>CO1: Understand how to design, implement, test, debug, and document programs that use basic data types and computation, simple I/O,conditional and control structures, string and lingand functions.</p> <p>CO2: Identify classes, objects, members of a class andthe relationships among them needed for a finding thesolution to specificproblem .</p> <p>CO3:Learn the principle so finheritance, interface and packages and demonstrate though problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages.</p> <p>CO4:Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading forrobust, faster and Efficient application development.</p>
DSE-A-2 Data Mining & its application	<p>CO1: To be preprocess and analyze various type of data</p> <p>CO2: Extraction of knowledge from massive amount unstructured data.</p> <p>CO3: Design and handling of data warehouses.</p>
DSE-B-2: ProgrammingusingPython	<p>CO1:Study the difference between interpreted and compiled language</p> <p>CO2: Learn about the string, list, tuple, conditional loops, file handling and uses of functions in writingcodes</p> <p>CO3:To build multi-device, multi-platform app, GUI applications to 3D graphics for games to real-time mathematical simulations.</p>
DSE-B--3-TH Introduction to Computational Intelligence	<p>CO1:Rule-based system, Semantic Nets, Frames, Scripts, ConceptualDependency, Introduction to PROLOG.</p> <p>CO2: To understand the basics of Artificial Neural Network, Characteristics and Comparison with biological neural network.</p> <p>CO3:Tounderstandrough sets.</p> <p>CO4: Fuzzy Logic and Application</p>

<p>CC-13 Software Engineering</p>	<p>CO1: To learn Software Life Cycle CO2: To learn Software Requirement and Specification Analysis CO3:To learn Software Testing CO4:To learn Software Quality Assurances</p>
<p>CC-14 Theory of Computation</p>	<p>CO1: To learn Finite Automata CO2: To learn Formal Languages and Grammar CO3:To learn Regular Expression CO4:To learn Turing Machine</p>
<p>CC-14 Project</p>	<p>CO1: To develop innermost knowledge of the subject CO2: Orienting students for company work by making accompanied with industrial project basis. CO3: Research orientations are created by involving high end technologies through the project work</p>
<p>DSE-A-3 Embedded Systems</p>	<p>CO1: To learn the basic processor design. CO2: Abled them in Various platform of 8051 ALP/firmware through computing and trainer kit design. CO3: Abled them for work in advanced processing laboratory with all kind of interfacing with the processor/microcontroller of 8051. CO4: Designing of IC through VLSI thereby VHDL programming.</p>