

Sri Indu Institute of Engineering & Technology
Recognized Under 2(f) of 1 (A Act 1956)
Approved by AICTE, New Delhi Affiliated to JNTUH, Hyderabad. Main Road, Sheriguda, Ibrahimpatnam, R.R. Dist. 501 510. Campus Ph: 9640590999, 9347187999, 8096951507.

https://siiet.ac.in

Program:

B.Tech-Computer Science and Engineering

Academic Year: 2020-21

Semester: 1811

C N	Year	Course	Course	Course Outcomes
S.No	/Sem	Code	Name	(After completion of the course student can able to:)
1	II/I	CS301ES	Analog and Digital Electronics	CO1: Acquire knowledge of electrical characteristics of ideal and practical diodes under forward and reverse bias to analyze and design diode application circuits such as rectifiers. CO2: Utilize operational principles of bipolar to derive appropriate small-signal models and use them for the analysis of basic circuits. CO3: Understand the basic concept of number systems. Boolean algebra principles. CO4: Understand minimization techniques for Boolean algebra. CO5: Analyze Combination logic circuit such as multiplexers, adders, decoders. CO6: Understand about synchronous and asynchronous
				sequential logic circuits.
2	II/I	CS302PC	Data Structures	CO1: Choose appropriate data structures to represent data items. CO2: Analyze the time and space complexities of algorithms. CO3: Design programs using a variety of data structure such as stacks, queues, hash tables, binary trees, search trees heaps, graphs and B-trees. CO4: Analyze and implement various kinds of searching and sorting methods. CO5: Describe how arrays, linked structures, stacks, queues trees, and graphs are represented in memory. CO6: Design programs using c language.
3	II/I	MA303BS	Computer Oriented Statistical Methods	CO1: Describe the conditional probability and state the Baye's theorem and solve its applications. CO2: Solve the problems on random variables and compare the difference between probability distributions. CO3: Construct the area of normal curve and distinguish binominal, gamma and exponential distributions. CO4: Formulate the sampling distribution of means and sampling distribution of variances. CO5: Classify the methods of estimations and errors of estimations.

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	PAHIMPATH		Campus Ph: 96405	90999, 934718 999, 8096951507.
				CO6: Identify the test of hypothesis for single mean, proportion and difference between the means, proportions and learn the concept of Markov process and different types of states. CO1: Describe basics of computer organization and
4	II/I	CS304PC	Computer Organization and Architecture	register transfer languages and micro operations such as arithmetic, logic, shift micro operations. CO2: Explain about computer instructions, computer registers and instruction cycle and interrupt cycle. CO3: Describe the design of control unit with address sequencing and microprogramming concept and CPU with instruction formats, addressing modes and types of instructions such as data transfer, manipulation and program control. CO4: Describe various data representations and explain how arithmetic operations are performed by computer. CO5: Illustrate the concepts of Input-Output Organization and Memory Organization. CO6: Describe the parallel processing and multiprocessors concept.
5	II/I	CS305PC	Object Oriented Programming using C++	CO1: Develop application for a range of problem using object oriented programming concepts. CO2: Construct programs on various methodology using class and object. CO3: Illustrate the different forms of inheritance. CO4: Construct and develop programs with reusability using polymorphism and virtual function. CO5: Develop programs for file handling. CO6: Identify and can handle exceptions in programming.
6	II/I	CS306ES	Analog & Digital Electronics Lab	CO1: Know the characteristics of various components. CO2: Understand the utilization of components. CO3: Design and analyze small signal amplifier circuits. CO4: Postulates of Boolean algebra and to minimize combinational functions. CO5: Design and analyze combinational and sequential circuits. CO6: Known about the logic families and realization of logic gates.
7	II/I	CS307PC	Data Structures Lab	CO1: Summarize different categories of data Structures. CO2: Analyze the performance of an algorithm. CO3: Develop C programs for computing control statements. CO4: Understand C programs for computing arrays functions, pointers, strings. CO5: Understand stacks, queues and linked lists.

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				CO6: Ability to Implement searching and sorting
				algorithms.
				CO1: Identify the parts of CPU and able to learn
				knowledge for computer assembling and disassembling.
				CO2: Resolve the Software installation.
			777 YV 1 1	CO3: Ability to solve the trouble shooting problems.
8	II/I	CS308PC	IT Workshop	CO4: Apply the techniques and netiquettes while using
			Lab	internet.
				CO5: Model a web page by using HTML
				CO6: Apply the tools for preparation of PPT,
				Documentation and budget sheet etc.
				CO1: Identify and able to develop applications for a
				range of problems on operators such as scope resolution
				and new delete memory allocation.
				CO2: Write a basic concepts on initializing and
				displaying contents of class member and structure of
			C++	class.
9	II/I	CS309PC	Programming	CO3: Develop basic programs on inheritance.
			Lab	CO4: Identify and able to do programs to use pointe
				for both base and derived classes and call the membe
				function by using Virtual keyword.
				CO5: Develop basic programs on console i/
				operations.
				CO6: Develop programs on arrays and inline functions.
				CO1: Develop sensibility with regard to issues of
				gender in contemporary India.
				CO2: Provide a critical perspective on the socialization
		MC309	Gender	of men and women.
				CO3: Determine information about some key biologica
	II/I			aspects of genders.
10			Sensitization	CO4: Debate on the politics and economics of work.
			Lab	CO5: Reflect critically on gender violence.
				COS: Reflect critically off gender violence.
				CO6: Expose more egalitarian interactions between
				men and women.
				CO1: Understand and construct precise mathematica
		I CS401PC		proofs.
			D.	CO2: Use logic and set theory to formulate precis
				statements.
11	II/II		Discrete	CO3: Analyze and solve counting problems on fini
			Mathematics	and discrete structures.
		A 1		CO4: Describe and manipulate sequences.
				CO5: Apply graph theory in solving computing
				problems.
				CO1: The students will understand various forms
				Business and the impact of economic variables on the
				Luciano
				CO2: Understand the significance of elasticity
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	RAHIMPATN		Campus Paragran	
12	II/II	SM402MS	Business Economics & Financial Analysis	demand and its forecasting, law of demand and its exceptions and supply analysis. CO3: Understand production analysis function with different variables and cost analysis functions. CO4: To adopt the principles of accounting to record, classify and summarize various transactions in books of accounts for preparation of final accounts. CO5: Understand the Ratio analysis to give an idea about financial forecasting, financial planning, controlling and decision making. CO6: Understand the implementation of different structures of markets covering how price-output is
13	II/II	CS403PC	Operating Systems	CO1: Describe operating system goals and functions. CO2: Get the knowledge of process, various CPU scheduling algorithms and synchronization. CO3: Analyze the methods for handling deadlocks. CO4: Understand the memory management and several page replacement algorithms. CO5: Classify the storage management and file system implementation. CO6: Express the various system protection methods.
14	II/II	CS404PC	Database Management Systems	CO1: Identify and understand the underlying concepts of database techniques and query a database using DML/DDL commands and able to design entity relationship diagrams. CO2: Explain the concepts of relational data model, entity-relationship model and relational database design. CO3: Apply relational algebra and calculus understands the use of sql and learns sql syntax. CO4: Develop and improve database design by normalization. CO5: Define transaction and understand its properties Learns techniques for controlling the consequences of concurrent data access. CO6: Describe basic database storage structures and access techniques: file and page organisations, independent of the consequences of the
15	II/II	CS405PC	Java Programming	CO1: Analyze Object Oriented Programming Concepts CO2: Develop the Abstract Classes and know th importance of the Inheritance, Encapsulation and Polymorphism. CO3: Implementing interfaces and creating package and create files and directories using g Java I/O Streams CO4: Get the importance of Exception handling an

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				CO6: Recognize event handling concepts in java.
				CO1: Develop programs on CPU scheduling algorithms.
				CO2: Construct the programs on file organisation and file allocation techniques. CO3: Solve deadlock avoidance and deadlock
16	II/II	CS406PC	Operating Systems Lab	prevention using Bankers' algorithm. CO4: Classify and construct programs on memory
				management techniques.
				CO5: Develop application programs using system calls. CO6: Describe inter processes communication between the processes using semaphores and named pipes.
				CO1: Identify and understand the underlying relational data model, entity-relationship model and relational
				database design.
			Database Management Systems Lab	CO2: Develop and improve database design by normalization.
				CO3: Identify and understand the underlying concepts of database techniques and query a database using
17	II/II	CS406PC		DML/DDL commands.
				CO4: Identify and understands the use of sql and learns sql syntax of set difference operators and joins.
				CO5: Write basic database query using Aggregate
				operators. CO6: Write basic database on Triggers and procedures.
				CO1: Construct the programs for Abstract classes,
	II/II	CS408PC	Java Programming Lab	Inheritance and Interface. CO2: Write the program for Multithreading and Files
				cO3: Prepare the programs for applets.
18				
10	11/11			components.
				CO5: Construct the programs for collection Framework. CO6: Recognize the concept of Event Listeners and
				implements the Event components.
				CO1: Understand meaning, features, characteristics of constitution law and constitutionalism.
				CO2: Describe fundamental rights, fundamental duties
				and its legal status. CO3: Describe The constitution powers and status of
10	11/11		Constitution of India	the President of India.
19	П/П	MC409	or maia	CO4: Understand Emergency Provisions: National
				Emergency. President Rule, And Financial Emergency. CO5: Understand Fundamental Right to Equality.
				Fundamental Right to certain Freedom under Article 19.
				CO6: Describe the Scope of the degraph to Life and
				CIPAL DE MENTO

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1000				Personal Liberty under Article 21.
				CO1: Understand the basic properties of formal languages
				and grammars.
				CO2: Differentiate regular, context-free and recursively
			Formal	enumerable languages.
20	III/I	CS501PC	Languages &	CO3: Make grammars to produce strings from a specific
			Automata	language.
			Theory	CO4: Acquire concepts relating to the theory of computation
				and computational models including decidability and
				intractability.
				CO1: Analyze various data base techniques for data
				warehouse and able to perform OLAP Operations.
				CO2: Ability to perform the Pre-processing of data and
				apply mining techniques on data.
				CO3: Understand frequent set and apply association
				Rule on Data Set.
21	III/I		Software	CO4: Evaluate the data mining ask like Classification.
21	111/1	CS502PC	Engineering	Regression Clustering on large data set.
				CO5: Ability to solve real world Problems in business
				and scientific information using data mining.
				CO6: Ability to understand clustering Concepts in the
				real world and apply Various clustering techniques.
				CO1: Gain the knowledge of the basic compute
		CS503PC	Computer Networks	network technology.
				CO2: Gain the knowledge of the functions of each layer
				in the OSI and TCP/IP reference model.
				CO3: Obtain the skills of subnetting and routing
22	III/I			mechanisms.
			Networks	CO4: Familiarity with the essential protocols of
				computer networks, and how they can be applied in
				network design and implementation.
				CO5: Analyze Application Layer.
				CO6: Analyze transport Layer.
- 4 1				CO1: Construct the web applications using HTMI
			Web	language.
				CO2: Explain server side scripting with PHP language.
22	777 /Y			CO3: Identify well formed/valid XML documents.
23	III/I	CS504PC	Technologies	CO4: Develop server side applications using servlets.
				CO5: Get the knowledge on Java Server Pages.
				CO6: Evaluate the validation of forms using Java Scrip
	1 4 7			and Explain AJAX.
				CO1: Explain the basics of PPL.
				CO2: Analyze different types of data types in PPL.
			Principles of	CO3: Familiarity with subprograms and blocks.
24	III/I	CS515PE	Programming	CO4: Explain about abstract data types.
24	111/1		Languages	CO5: Understand the process of concurrency.
			Dangaages	CO6: Differentiate Functional Programming languages
				Logical Programming language and scripting language.
				Logical Programming language and scripting language.

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25	III/I	Computer Graphics	CS521PE	CO1: Understand output primitives, polygon filling. CO2: Explain about 2-D geometrical transforms and 2-D viewing. CO3: Analyze 3-D object representation. CO4: Understand basic Illumination methods. CO5: Explain about 3-D geometrical transforms and 3-D viewing. CO6: Design computer animations.
26	III/I	CS505PC	Software Engineering Lab	CO1: Understand the software engineering methodologies involved in the phases for project development. CO2: Gain knowledge about open source tools used for implementing software engineering methods. CO3: Exercise developing product-start-ups implementing software engineering methods. CO4: Study the problem and identify the project scope, Objectives and Infrastructure. CO5: Identify the modules of the project and differentiate the functional and non-functional requirements. CO6: Create prototypes for the projects.
27	III/I	CS506PC	Computer Networks & Web Technologies Lab	 CO1: Implement data link layer farming methods. CO2: Analyze error detection and error correction codes. CO3: Implement and analyze routing and congestion issues in network design. CO4: Implement Encoding and Decoding techniques used in presentation layer. CO5: To be able to work with different network tools.
28	III/I	EN508HS	Advanced Communicati on Skills Lab	CO1: Speak effectively. CO2: Express and communicate fluently and appropriately in social professional contexts. CO3: Develop the comprehensive ability through English language enables the students in understanding and assimilating other engineering subjects. CO4: The awareness of English lab enriches their communication and soft skills contributing to their overall development and success. CO5: Draft various letters and reports for all official purpose. CO6: Take part in social and professional communication.
29	III/I	MC510	Intellectual Property Rights	CO1: Analyze different types of intellectual property. CO2: Express function of trademarks. CO3: Understand law of copy rights. CO4: Understand law of patents. CO5: Explain trade secrets.



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			1	CO6: Understand the development of intellectual property.
30	III/II	CS601PC	Machine Learning	CO1: Understand perspectives and issues in machine learning and decision tree learning. CO2: Understand artificial neural network problem and evaluation hypotheses. CO3: Explain Baysean learning. CO4: Differentiate computational learning and instance based learning. CO5: Describe Genetic algorithms. CO6: Analyze different analytical learning approaches.
31	III/II	CS602PC	Compiler Design	CO1: Describe structure of a compiler and basics of programming languages. CO2: Design Lexical analyzer generator by using regular expressions and finite automata. CO3: Design and implement LL and LR parsers and use YACC Tool for developing a parser. CO4: Explain the applications of SDT and different types of intermediate-code generation. CO5: Identify the storage organization used to support the run-time environment of a program and effectively generate machine codes. CO6: Apply the several algorithms for collecting and optimizing the information using data flow analysis.
32	III/II	CS603PC	Design and Analysis of Algorithms	CO1: Analyze the Performance of an Algorithm. CO2: Solve the problems using divide and conquer approach. CO3: Develop constraint satisfied solutions using backtracking. CO4: Evaluate feasible solutions using Greedy method. CO5: Developing solutions to problems using dynamic programming. CO6: Define np hard and no complete problems.
33	III/II	CS613PE	Scripting Languages	CO1: Describe execution of Ruby programs, packages in Ruby. CO2: Explain about Ruby objects, Memory allocation, Embedding Ruby. CO3: Understand Perl basics, scripting language basics. CO4: Analyze Perl Names and values, control structures and arrays. CO5: Explain the advancements in Perl. CO6: Describe TCL structure, data structures. CO1: Understand complexity of Machine Learning
				algorithms and their limitations. CO2: Understand modern notions in data analysis oriented computing.



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34	III/II	CS604PC	Machine Learning Lab	CO3: Applying common Machine Learning algorithms in practice and implementing their own. CO4: Perform experiments in Machine Learning using
				real-world data. CO1: Develop client-server application using web
				technologies. CO2: Introduce server-side programming with Java
				servlets and JSP.
35	III/II	CS605PC	Compiler Design Lab	CO3: Understand the various phases in the design of a compiler.
				CO4: Understand the design of top-down and bottom- up parsers.
				CO5: Understand syntax directed translation schemes.
				CO6: Introduce lex and yacc tools.
			C - ''	CO1: Understand the differences between Scripting languages and programming languages.
26	111/11		Scripting	CO2: Gain fluency in Ruby.
36	III/II	CS623PE	Languages Lab	CO3: Gain fluency in Perl.
		C30231 L	Lau	CO4: Gain fluency in TCL.
				CO1: Analyze various data base techniques for data
				warehouse and able to perform OLAP Operations.
		12x		CO2: Ability to perform the Pre-processing of data and
	IV/I	CS701PC	Data Mining	apply mining techniques on data.
				CO3: Understand frequent set and apply association
				Rule on Data Set.
37				CO4: Evaluate the data mining ask like Classification,
				Regression Clustering on large data set.
				CO5: Ability to solve real world Problems in business
				and scientific information using data mining. CO6: Ability to understand clustering Concepts in the
				real world and apply Various clustering techniques.
				CO1: Express the important features of the
				Programming Languages.
				CO2: Develop the skills for expressing syntax and
				semantics in formal notation.
				CO3: Compare different Programming Domains.
			Principles of	CO4: Choose Specific Programming Language for the
			Programming	Development of Specific Applications.
38	IV/I	CS702PC	Languages	CO5: Analyze the Importance of Implementation
				Process.
				CO6: Apply a suitable programming paradigm for a
				given computing application. CO1: Examine Python syntax and semantics and be
				fluent in the use of Python flow control and functions.
20	TX 7 /T	CS721PE	Python	CO2: Demonstrate proficiency in handling Strings and
39	IV/I	CS/ZIFE	Programming	File Systems.
				CO3: Create, run and manipulate Python Programs
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				using core data structures like Lists, Dictionaries and use Regular Expressions.
				CO4: Interpret the concepts of Object-Oriented Programming as used in Python.
				CO5: Implement exemplary applications related to Network Programming, Web Services and Databases in Python.
				CO1: Understand perspectives and issues in machine learning and decision tree learning.
				CO2: Understand artificial neural network problem and evaluation hypotheses.
40	IV/I	CS733PE	Machine	CO3: Explain Baysean learning.
10	11/1		Learning	CO4: Differentiate computational learning and instance based learning.
				CO5: Describe Genetic algorithms.
				CO6: Analyze different analytical learning approaches.
				CO1: Understand various service delivery models of cloud computing architecture.
			Cloud	CO2: understand the ways in which the cloud can be programmed and deployed.
41	IV/I	CS742PE	Computing	CO3: Understand cloud service providers.
		CS/42PE	Computing	CO4: Describe cloud computing architecture an
				management.
				CO5: Describe cloud computing fundamentals.
				CO1: Add mining algorithms as a component to the
				exiting tools.
				CO2: Apply mining techniques for realistic data.
				CO3: Perform the Pre-processing of data and app
	IV/I	CS703PC	Data Mining	mining techniques on data.
				CO4: Understand frequent set and apply association
42			Lab	Rule on Data Set.
			Lau	CO5: Evaluate the data mining ask like Classification
				Regression Clustering on large data set.
				CO6: Solve real world Problems in business ar
				scientific information using data mining.
				CO1: Apply fundamental concepts and methods of the
			Industry	engineering field.
40	IV/I	CS705PC	Oriented	CO2: Use effectively oral, written and visu
43		2370310	Mini Project	communication.
				CO3: Understand working with teams.
				CO1: Understand advanced research methodologies
				the field of computer science engineering.
				CO2: Demonstrate their understanding of discussions
44	IV/I	CS706PC	Seminar	and spark further discussion.
				CO3: Identify understand and discuss current issues
				the engineering field.
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45	IV/II	CS712PE	Scripting Languages	CO1: Describe execution of Ruby programs, packages in Ruby. CO2: Explain about Ruby objects, Memory allocation, Embedding Ruby. CO3: Understand Perl basics, scripting language basics. CO4: Analyze Perl Names and values, control structures and arrays. CO5: Explain the advancements in Perl. CO6: Describe TCL structure, data structures.
46	IV/II	CS715PE	Design and Analysis of Algorithms	CO1: Analyze the Performance of an Algorithm. CO2: Solve the problems using divide and conquer approach. CO3: Develop constraint satisfied solutions using backtracking. CO4: Evaluate feasible solutions using Greedy method. CO5: Developing solutions to problems using dynamic programming. CO6: Define np hard and no complete problems.
47	IV/II	CS801PC	Major Project	 CO1: Analyze engineering problems, identify ar appropriate solution, implement the methodology and propose a meaningful solution. CO2: Develop confidence for self-education and ability for lifelong learning. CO3: Learn to work as a team and to focus on getting a working project done within a stipulated period of time.

HOD/CSE

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Computer Science & Engg. Dept.
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