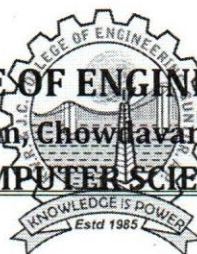


R.V.R. & J. C. COLLEGE OF ENGINEERING (Autonomous)

Chandramoulipuram, Chowdavaram, Guntur - 522019

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



18-04-2019

Following are the contents added/ modified in R16 curriculum revised in 2016.

Subject code in R16	Subject title	% of syllabus changed	Topics added
CS/IT 101	Differential Equations & Transforms	50	UNIT-II: Differential Equations of First Order, UNIT-III: Partial order differential equations, UNIT-III: Laplace transforms
CS/CE/CHE/EC/EE/IT/ME 102	Engineering Physics	20	UNIT-I: NDT UNIT IV: Principles of quantum mechanics, SCHRODINGER EQUATION and APPLICATIONS
CS/CE/EC/EE/IT/ME 103	Applied Chemistry	30	UNIT IV: CORROSION and its Control, Protection methods UNIT V : Analytical techniques
CS/IT 106	Mechanics For Engineers	5	UNIT-I : Engineering mechanics basic concepts
CS 151	Physics Lab	10	Variation of magnetic field along the axis of a circular current carrying coil
CS 152	C-Programming Lab	15	Program to perform the following using strings: a) to test the given string is palindrome or not. b) To sort string s in alphabetical order. 2. Program using recursive functions. A program to find the factorial value, Fibonacci series, GCD of two numbers.
CS 153	Communication Skills Lab	10	Interactive classroom activities, communication skills
CS/IT-107	Matrix Algebra & Numerical Analysis	50	UNIT-II : multiple integrals UNIT-IV: numerical solutions of equations and interpolation UNIT-V Numerical differentiation and integration
CS/EC/ EE/IT 108	Electronic & Electrical Engineering Materials		New Subject
CS/CE/EC/EE/IT/ME 109	Chemistry for Engineering Materials	60	UNIT-II :Plastics, Rubbers UNIT-IV: Refractories, Lubricants UNIT-V: Liquid crystals, Explosives
CS/CHE/EC/IT 110	English for Communication		New Subject
CS/IT 201	Probability-Statistics & Random Processes	40	UNIT-IV: random processes, Analytical Representation of Random processes UNIT-V: Gaussian Process, Markov Process

CS/IT 202	Basic Electrical & Electronics Engineering	10	UNIT-III :Introduction to 1-Phase and 3-phase circuits
CS/IT 205	Computer Organization	10	UNIT-V: Cache and Secondary Memory
CS 253	Professional Communication Skills Lab		New Subject
CS/IT 207	Number theory & Algebra		New Subject
CS/IT 210	Database Management Systems	10	Dangling tuples and alternative relational design
CS/IT 212*	Operating Systems	10	UNIT V: Security
CS 254	Microprocessors & Interfacing Lab	30	1. Write an 8086 assembly language program to add two sixteen bit numbers and to subtract two sixteen bit numbers. 2. Write an assembly language program to verify the following logical operations on 16 bit numbers, AND, OR, XOR and also find 1's complement and 2's complement of 16 bit number. 12. Write an 8086 Assembly language to interface an 8-bit D-A converter and convert digital to analog (generate square and triangular). 13. To write an ALP to control the stepper motor and its speed of operation.
CS 256	Java Programming Lab	10	1. Write a program to demonstrate login validation using rich GUI components.
CS/IT 301	Computer Networks	50	UNIT 1: Introduction, The physical layer UNIT II: DLL Design issues, Elementary Data Link Protocols, Sliding Window Protocols, Carrier Sense Multiple Access Protocols, Collision-Free Protocols, Limited-Contention Protocols UNIT III: Broadcast Routing, Quality of Service-Application Requirements, Traffic Shaping, Packet Scheduling, Admission Control. UNIT IV: Network layer, Transport Layer , UNIT V : Application layer
CS/IT 306*	Software Engineering	30	UNIT I :Software Engineering Practice, A Generic process model, Other Agile process models, A Tool Set for the Agile Process. UNIT II: UML Models That Supplement the Use Case UNIT III: Patterns for Requirements Modelling, Requirements Modelling for WebApps.

			UNIT IV: Component-level Design for WebApps, Designing Traditional Components, What is Quality? Software Quality, the Software Quality Dilemma, Achieving Software Quality. UNIT V: Software Measurements, Metrics for Software Quality, Process and Project Metrics
CS 352	Design & Analysis of Algorithms Lab		New Subject
CS/IT 309	Object Oriented Analysis & Design	5	UNIT I: UML- Principles of modelling, Definition of UML, Conceptual model of UML
CS/IT 311* ELECTIVE-I	(D) Multimedia Computing	5	UNIT-I : Types of text
CS/IT 401	Distributed Systems	40	UNIT I: Architectures UNIT II: virtualization, Remote Procedure Call, Stream-Oriented Communication, Multicast Communication. UNIT III: Flat Naming, Structured Naming, Attribute-Based Naming. Synchronization: Global Positioning Of Nodes UNIT IV: Replica Management UNIT V: Distributed File Systems, Distributed Web-Based Systems
CS/IT 402	Web Services	10	UNIT I: Java Server Pages: JSP with cookies and sessions.
CS/IT 403	MOOCS*	100	New Subject
CS 405*	Wireless Networks		New Subject
CS406	(C) Cyber Security	100	Completely changed
	(D) Data Analytics	100	Completely changed
CS/IT 407	Industrial Engineering & Management	40	UNIT I: General Management: Scientific Principles of Management, Administrative Principles of Management UNIT II: Objectives of Financial Management, Economic Evaluation of Alternatives: future worth method. UNIT III: Functions of Human Resource Management – Job Analysis, Induction & Orientation, Job Evaluation, Compensation. UNIT IV: FSN Analysis, VED Analysis. UNIT V: Marketing Mix, Marketing Segmentation
CS 408	Internet of Things		New Subject
CS/IT 409* Elective-V	(A) Parallel Algorithms (CS/IT)		New Subject
	(C) ARM Processor		New Subject
	(D) Big Data Analytics / IRS*	100	Completely changed
CS/IT 410* Elective-VI	(A) Machine Learning (CS/IT)		New Subject

	(B) Semantic Web (CS/IT)		New Subject
	(C) Secure Software Engineering		New Subject
	(D) Cloud Computing / IRS*	100	Completely changed
CS 454	Internet of Things Lab		New Subject
	Average % of Syllabus content added or replaced	25.60%	Total number of subjects including labs: 41

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05-02-2020

The Following are the contents added/ modified in R18 curriculum revised in 2018.

COURSE CODE	NAME OF THE COURSE	PERCENTAGE CHANGE IN SYLLABUS	TOPICS CHANGED
CS/IT 111	Mathematics – I	100	Complete Change
CS/IT 112	Engineering Physics	100	Complete Change
CS/IT/EC 113	Basic Electrical Engineering	50	UNIT I: Batteries: Lead-acid, Nickel-iron, Nickel-Cadmium batteries UNIT II: Representation of sinusoidal waveforms, peak and RMS values, phasor representation, real-power, reactive power, apparent power, power factor. UNIT III: Transformers UNIT IV: Electrical Machines
CS V02	Introduction to Computing		New Subject
CS/IT 151	Physics Lab	40	1. Measurement Of Instruments 2. Four Probe Method For Measurement Of Resistivity And Conductivity 3. Carey Fosters Bridge
CS/IT/EC 152	Basic Electrical Engineering Lab	50	1. Familiarization of Electrical Installations and Electrical Testing Equipment 2. Basic safety precautions. 3. Verification of reciprocity theorem. 4. Verification of reciprocity theorem.
CS/IT/CH/EC 153	Engineering Graphics and Design Lab	20	UNIT IV: Perspective Projections UNIT V: Over view of Computer Aided drafting (AutoCAD)
CS/CE/IT 122	Engineering Chemistry	20	UNIT 1: critical phenomena-Andrew's isomers(Change In Subject Name)
CS/CH/IT/EC 124	English for Communication Skills	30	UNIT III: Subject- verb agreement. Noun-pronoun agreement. UNIT IV: Nature and Style of sensible Writing
MC000	Three Weeks Orientation Program		New Subject
MC 002	Environmental Science	50	Unit I . Awareness Activities - Small Group Meetings Unit II: Actual Activities
CS V01	English Competency		New Subject

	Development Program		
CS/CE/IT 161	Chemistry Lab	70	New Experiments: 1. Determination Of Surface Tension. 2. Determination Of Viscosity. 3. Determination Of Saponification / Acid Value Of Oil. 4. Preparation Of P-Bromo Acetanilide. 5. Preparation Of Phenol Formaldehyde Resin. 6. Determination Of Partition Co-Efficient Of I ₂ In Water. 7. Determination Of R _f Value Using Tlc. 8. Verification Of Freundlich Isotherm Using Adsorption Of Acetic Acid On Activated Charcoal
CS/CE/CH/IT/EE/EC/ME 162	Programming for Problem Solving Lab		New Subject
CS/CH/IT/EC 163	Workshop Practices Lab		New Subject
CS/IT 211	Mathematics – III	20	UNIT III: Correlation and regression
CS/IT 212	Life Science for Engineers		NEW SUBJECT
CS/IT 213	Digital Electronics	20	UNIT IV:A/D and D/A Converters
CS/IT 214	Discrete Mathematics	10	UNIT III: Advanced Counting Techniques
CS/IT 216	Object Oriented Programming	10	UNIT III: Generic Method, Generic Class
MC 001	Constitution of India		New Subject
MC 004	Design Thinking and Product innovation		New Subject
CS/IT 251	Digital Electronics Lab		New Subject
CS/IT 225	Humanities Elective-I		New Subject
CS/IT 222	Operating Systems	10	UNIT II: Synchronization UNIT IV: Mass-Storage Structure
CS/IT 223	Data Base Management Systems	5	UNIT IV: Introduction to Database Security
CS/IT 226	Open Elective - I		New Subject
CS V04	Programming with Python		New Subject
MC 003	Essence of Indian Traditional Knowledge		New Subject
CS 261	Operating Systems Lab		New Subject
CS/IT 313	Web Technologies	10	Unit IV:JSP , Actions of JSP
CS/IT 315	Professional Elective-I		New Subject
CS/IT 316	Open Elective-II		New Subject
MC 005	Statistics with R Tool		New Subject
CS/IT 352	Web Technologies Lab	10	1. Write a program on simple JSP. 2. Write a program on JSP action tags.
CS/IT 321	Compiler Design	10	UNIT III: Syntax Directed Translation
CS/IT 322	Data Engineering	10	UNIT IV: Data Mining Trends

CS/IT 323	Artificial Intelligence	100	Complete Change(R16 Elective)
CS/IT 325	Professional Elective-II		New Subject
CS/IT 326	Open Elective-III		New Subject
CS/IT 361	Artificial Intelligence Lab		New Subject
CS/IT 362	PROJECT-1		New Subject
CS/IT 411	Machine Learning		New Subject
CS/IT 412	Neural Networks	50	UNIT III; Inductive and Analytical Learning Analytical Learning UNIT IV: Reinforcement Learning
CS/IT 413	Professional Elective-III		New Subject
CS/IT 414	Professional Elective-IV		New Subject
CS/IT 415	Humanities Elective-II		New Subject
CS/IT 451	Machine Learning Lab		New Subject
CS/IT 452	PROJECT-II		New Subject
CS/IT 421	PROFESSIONAL ELECTIVE-V(MOOCs)	100	New Subject
CS/IT 422	OPEN ELECTIVE-IV(MOOCs)	100	New Subject
CS/IT 461	Project-III		New Subject
CSEL02	Interactive Computer Graphics		New Subject
CSEL03	Big Data Analytics	100	Complete Change
CSEL05	Open Source systems	30	Database Connectivity with MySQL
CSEL08	Mobile Application Development		New Subject
CSEL09	Internet of Things	100	Complete Change
CSEL11	Distributed Computing		New Subject
CSEL12	Principles of Programming Languages	40	UNIT II: Semantic Analysis, Control Flow . UNIT III: Data Abstraction and Object Orientation Functional Languages. UNIT IV: Logic Languages, Scripting Languages
CSEL13	*Industry Recommended Subject		New Subject
CSEL14	Advanced Computer Architecture	100	Complete Change
CSEL15	Design and Analysis of Parallel Algorithms		New Subject
CSEL17	Sematic Web	80	Unit I: The Sematic Web, Structured Web Documents Unit II: Describing Web Resources Unit IV: Applications Unit V: Ontology Engineering, Using Semiautomatic Methods
CSEL20	Quantum Computing		New Subject
CSEL21	Natural Language Processing		New Subject
CSEL22	Virtual Reality		New Subject

CSEL23	Cyber Security	50	UNIT II: Information Security Performance Metrics, Log Correlation and Management UNIT IV: Data Backup, Information Security Audit, Vulnerability Analysis
CSEL24	Block Chain Technology		New Subject
CSEL25	Multi Core Technologies		New Subject
CSEL26	* Industry Recommended Subject		New Subject
CSOL03	Programming with Python		New Subject
CSOL04	INTERNET THINGS	70	Unit I:Seven Generations Of IOT Sensors To Appear Unit IV: Preparing IOT Projects
Average % of Syllabus content added or replaced		21.43%	Total no.of subjects including labs: 73



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