

**GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY (A)
CHAITANYA NAGAR, RAJAHMUNDRY**

**Course Structure of
B.Tech. Programme in Computer Science and Engineering
Regulation: GRBT-20**

I Year I Semester

S. No	Course Code	Course Type	Course Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	201HB101	BSC	Mathematics-I	3	0	0	3	30	70	100
2	201HB102	HSMC	Communicative English	3	0	0	3	30	70	100
3	201HB103a	BSC	Applied Physics	3	0	0	3	30	70	100
4	201CS104	ESC	Problem Solving & Programming in C	3	0	0	3	30	70	100
5	201CS105	ESC	Fundamentals of Digital Electronics	3	0	0	3	30	70	100
6	201HB196	MC	Environmental Science	2	0	0	0	30*	---	---
7	201HB111a	BSC	Applied Physics Laboratory	0	0	3	1.5	50	50	100
8	201CS112	ESC	Problem Solving & Programming in C Lab	0	0	3	1.5	50	50	100
9	201ME113c	ESC	Computer Engineering Workshop	2	0	2	1.5	50	50	100
Total				19	0	8	19.5	300	500	800



University Nominee
(Dr. MHM. Krishna Prasad)


Subject Expert-1
(Dr. U.S.N. Raju)


Subject Expert-2
(Mr. B. Mahesh)

Industry Expert
(Mr. Raja M.S)

Alumni
(Ms. M. Sundari Jahnavi)


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				L	T	P		Int.	Ext.	Total
1	201HB201	BSC	Mathematics-II	3	0	0	3	30	70	100
2	201HB202	BSC	Engineering Chemistry	3	0	0	3	30	70	100
3	201ME203	ESC	Engineering Graphics	1	0	4	3	30	70	100
4	201CS204	ESC	Data Structures	3	0	0	3	30	70	100
5	201CS205	ESC	Python Programming	3	0	0	3	30	70	100
6	201HB211	BSC	Engineering Chemistry Laboratory	0	0	3	1.5	50	50	100
7	201HB212	HSMC	Communicative English Lab	0	0	3	1.5	50	50	100
8	201CS213	ESC	Data Structures Lab	0	0	3	1.5	50	50	100
Total Credits				13	0	13	19.5	300	500	800



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S. No	Course Code	Course Type	Course Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	201CS301	BSC	Mathematical Foundations of Computer Science	2	1	0	3	30	70	100
2	201CS302	PCC	Design and Analysis of Algorithms	3	0	0	3	30	70	100
3	201CS303	PCC	Computer Organization	3	0	0	3	30	70	100
4	201CS304	PCC	Object Oriented Programming through JAVA	3	0	0	3	30	70	100
5	201HB305	HSMC	Managerial Economics and Financial Analysis	3	0	0	3	30	70	100
6	201CS311	PCC	Data Analysis Lab	0	0	3	1.5	50	50	100
7	201CS312	PCC	Object Oriented Programming through JAVA Lab	0	0	3	1.5	50	50	100
8	201CS313	PCC	Linux and Shell Programming Lab	0	0	3	1.5	50	50	100
9	201CS381	SC	Web Application Development Using Full Stack Module -1	0	1	2	2	---	50	50
10	201CE391	MC	Constitution of India	2	0	0	0	30	70*	100
Total				18	2	11	21.5	330	620	950



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				L	T	P		Int.	Ext.	Total
1	201CS401	BSC	Statistics with R Programming	2	1	0	3	30	70	100
2	201CS402	PCC	Formal Languages and Automata Theory	3	0	0	3	30	70	100
3	201CS403	PCC	Operating Systems	3	0	0	3	30	70	100
4	201CS404	PCC	Database Management Systems	3	0	0	3	30	70	100
5	201CS405	PCC	Software Engineering	3	0	0	3	30	70	100
6	201CS411	PCC	R Programming Lab	0	0	3	1.5	50	50	100
7	201CS412	PCC	Database Management Systems Lab	0	0	3	1.5	50	50	100
8	201CS413	PCC	Operating Systems & Software Engineering Lab	0	0	3	1.5	50	50	100
9	201CS481	SC	Web Application Development Using Full Stack Module -2	0	1	2	2	---	50	50
Total				14	2	11	21.5	300	550	850
#Honors/ Minor courses				4	0	0	4			
#After II B.Tech II Semester Summer Internship/ Mini Project-1 is mandatory. Evaluation should be III B.Tech I semester.										



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III Year I Semester

S. No	Course Code	Course Type	Course Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	201CS501	PCC	Data Mining and Data Warehousing	3	0	0	3	30	70	100
2	201CS502	PCC	Compiler Design	3	0	0	3	30	70	100
3	201CS503	PCC	Computer Networks	3	0	0	3	30	70	100
4	Professional Elective-I			3	0	0	3	30	70	100
	201CS564A	PEC	Natural Language Processing							
	201CS564B		Data Science							
	201CS564C		Artificial Intelligence							
201CS564D	Object Oriented Analysis & Design									
5	Open Electives –I/Job Oriented Elective			3	0	0	3	30	70	100
	201CE565a	OEC	Environmental Pollution & Control							
	201EE565a		Fundamentals of Utilization of Electrical Energy							
	201ME565a		Robotics							
	201EC565a		Microprocessors and Microcontrollers							
	201CS565a		Foundations of Operating Systems							
	201MM565a		Elements of Mining Technology							
	201AM565a		Basic Automobile Engineering							
	201PT565a		Fundamentals of Petroleum Engineering							
201MB565a	Principles of Management									
6	201HB591	MC	Quantitative Aptitude and Reasoning	2	0	0	0	30	70	100
7	201CS581	SC	Web Application Development Using Full Stack Module -3	0	1	2	2	--	50	50
8	201CS511	PCC	Data Mining and Data Warehousing Lab	0	0	3	1.5	50	50	100
9	201CS512	PCC	Internetworking Protocol Lab	0	0	3	1.5	50	50	100
10	201CS521	PROJ	Summer Internship/ Mini Project-1	0	0	0	1.5	100	--	100
Total				17	1	8	21.5	380	570	950
#Honors/ Minor courses				4	0	0	4			


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III Year II Semester

S. No	Course Code	Course Type	Course Title	Periods per week			C	Scheme of Examination Maximum Marks		
				L	T	P		Int.	Ext.	Total
1	201CS601	PCC	Cryptography & Network Security	3	0	0	3	30	70	100
2	201CS602	PCC	Big Data Analytics	3	0	0	3	30	70	100
3	201CS603	PCC	Machine Learning	3	0	0	3	30	70	100
4	Open Electives –II / Job Oriented Elective			3	0	0	3	30	70	100
	201CE665a	OEC	Solid Waste Management							
	201EE665a		Concepts of Power System Engineering							
	201ME665a		Introduction to MEMS							
	201EC665a		Internet of Things and its Applications							
	201CS665a		Fundamentals of Databases							
	201MM665a		Open Pit Slope Analysis and Design							
	201AM665a		Hybrid and Electric Vehicles							
	201PT665a		Basic Concepts in Petroleum Drilling Engineering							
	201HB665a		Operations Management							
5	Professional Elective-II			3	0	0	3	30	70	100
	201CS664A	PEC	Software Testing Methodologies							
	201CS664B		E-Commerce							
	201CS664C		Mean Stack Technologies							
201CS664D	Advanced Data Structures									
6	201MB691	MC	IPR and Patents	2	0	0	0	30	70	100
7	201HB681	SC	English for Career	0	1	2	2	--	50	50
8	201CS611	PCC	Cryptography & Network Security Lab	0	0	3	1.5	50	50	100
9	201CS612	PCC	Big Data Analytics Lab	0	0	3	1.5	50	50	100
10	201CS613	PCC	Machine Learning using Python Lab	0	0	3	1.5	50	50	100
Total				17	1	11	21.5	330	620	950
Honors/Minor courses				4	0	0	4			
Industrial/ Research Internship/ Mini Project-2(Mandatory) after third year to be evaluated during VII semester										


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IV Year I Semester

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				L	T	P		Int.	Ext.	Total
1	201CS761A 201CS761B 201CS761C 201CS761D	PEC	Professional Elective-III A) Distributed Systems B) Cloud Computing C) Mobile Computing D) Ad-hoc and Sensor Networks	3	0	0	3	30	70	100
2	201CS762A 201CS762B 201CS762C 201CS762D	PEC	Professional Elective-IV A) Software Project Management B) Software Quality Management C) Cyber Security & Forensics D) MOOCS-NPTEL/SWAYAM	3	0	0	3	30	70	100
3	201CS763A 201CS763B 201CS763C 201CS763D	PEC	Professional Elective-V A) Deep Learning Techniques B) Soft Computing C) Block Chain Technologies and its Applications D) MOOCS-NPTEL/SWAYAM	3	0	0	3	30	70	100
4	Open Electives-III / Job Oriented Elective			3	0	0	3	30	70	100
	201CE764a	OEC	Building Technology							
	201EE764a		Fundamentals of Smart Grid Technologies							
	201ME764a		Nano Technology and its Applications							
	201EC764a		Embedded Systems							
	201CS764a		Information Security							
	201MM764a		Mining and its Importance							
	201AM764a		Modern Vehicle Technology							
	201PT764a		Introduction to Petroleum Production Engineering							
201MB764a	Entrepreneurship for Engineers									


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Open Electives –IV/ Job Oriented Elective										
5	201CE765a	OEC	Safety Engineering	3	0	0	3	30	70	100
	201EE765a		Basics of Electrical Measurements and Instrumentation							
	201ME765a		Introduction to Operations Research							
	201EC765a		Digital Image Processing							
	201CS765a		Human Computer Interaction							
	201MM765a		Remote Sensing & GIS in Mining							
	201AM765a		Alternative Energy Resources for Automotives							
	201PT765a		Basic Concepts in Reservoir Engineering							
	201MB765a		Digital Marketing							
6	201MB796	HSMC	UHV 2 - Understanding Harmony	3	0	0	3	30	70	100
7	201CS781	SC	Deep Learning using Python	0	1	2	2	---	50	50
8	201CS721	PROJ	Industrial/ Research Internship/ Mini Project-2	0	0	0	3	100	---	100
Total				18	1	2	23	280	470	750
Honors/Minor courses				4	0	0	4			


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				L	T	P		Int.	Ext.	Total
1	201CS841	PROJ	Project Project work, Seminar, Internship	0	0	0	12	60	140	200
Total				0	0	0	12	60	140	200



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