

Department of Computer Science and Engineering

Approved Course Structure

Program: B.Tech.-COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)

Regulations: SVEC-20

Mandatory Induction Program	03 weeks duration
Induction program offered before commencement of the I-Semester coursework	Physical activity
	Creative Arts
	Universal Human Values
	Literary
	Proficiency Modules
	Lectures by Eminent People
	Visits to local Areas
	Familiarization to Department/Branch and Innovations

I B.Tech I-Semester

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT1BS01	Differential Equations and Multivariable Calculus	3	-	-	3	3	30	70	100
2.	20BT1BS03	Engineering Physics	3	-	-	3	3	30	70	100
3.	20BT1HS01	Communicative English	3	-	-	3	3	30	70	100
4.	20BT11201	Programming for Problem Solving	3	-	-	3	3	30	70	100
5.	20BT10201	Basic Electrical and Electronics Engineering	3	-	-	3	3	30	70	100
6.	20BT1BS32	Engineering Physics Lab	-	-	3	3	1.5	30	70	100
7.	20BT1HS31	Communicative English Lab	-	-	3	3	1.5	30	70	100
8.	20BT11231	Programming for Problem Solving Lab	-	-	3	3	1.5	30	70	100
9.	20BT1MC01	Universal Human Values (Mandatory Course)	2	-	-	2	-	30	-	30
Total:			17	-	09	26	19.5	270	560	830

I B.Tech II–Semester

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT2BS01	Transformation Techniques and Linear Algebra	3	-	-	3	3	30	70	100
2.	20BT1BS02	Engineering Chemistry	3	-	-	3	3	30	70	100
3.	20BT20501	Digital Logic Design	3	-	-	3	3	30	70	100
4.	20BT21501	Object Oriented Programming through Java	3	-	-	3	3	30	70	100
5.	20BT1BS31	Engineering Chemistry Lab	-	1	4	5	3	30	70	100
6.	20BT10331	Computer Aided Engineering Drawing	-	-	3	3	1.5	30	70	100
7.	20BT10332	Engineering Workshop	-	-	3	3	1.5	30	70	100
8.	20BT21531	Object Oriented Programming through Java Lab	-	-	3	3	1.5	30	70	100
9.	20BT1HSAC	Spoken English (Audit Course)	2	-	-	2	-	-	-	-
Total:			14	01	13	28	19.5	240	560	800

II B. Tech. – I Semester

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT3BS01	Numerical Methods, Probability and Statistics	3	-	-	3	3	30	70	100
2.	20BT12901	Discrete Mathematical Structures	3	-	-	3	3	30	70	100
3.	20BT30501	Computer Organization	3	-	-	3	3	30	70	100
4.	20BT30502	Data Structures	3	-	-	3	3	30	70	100
5.	20BT30503	Python Programming	3	-	-	3	3	30	70	100
6.	20BT30531	Data Structures Lab	-	-	3	3	1.5	30	70	100
7.	20BT30532	Python Programming Lab	-	-	3	3	1.5	30	70	100
8.	20BT30533	Workshop in Computer Science	-	-	3	3	1.5	30	70	100
9.	20BT30534	Programming through C++ Lab	-	1	2	3	2	30	70	100
10.	20BT315AC	Design Thinking	2	-	-	2	-	-	-	-
Total:			17	01	11	29	21.5	270	630	900

	20BT60504	Cryptography and Network Security									
6.	20BT31231	Software Engineering Lab	-	-	3	3	1.5	30	70	100	
7.	20BT53231	Web Programming Lab	-	-	3	3	1.5	30	70	100	
8.	20BT53131	Algorithm Analysis Lab	-	1	2	3	2	30	70	100	
9.	20BT53232	Summer Internship-1	-	-	-	-	1.5	-	100	100	
10.	20BT5MC01	Professional Ethics	2	-	-	2	-	30	-	30	
Total:			17	01	08	26	21.5	270	660	930	

III B. Tech. – II Semester

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT5HS02	Principles of Business Economics and Accountancy	3	-	-	3	3	30	70	100
2.	20BT60501	Machine Learning	3	-	-	3	3	30	70	100
3.	20BT51201	Data Warehousing and Data Mining	3	-	-	3	3	30	70	100
Professional Elective-2										
4.	20BT51204	Linux Programming	3	-	-	3	3	30	70	100
	20BT63201	Pattern Mining								
	20BT63202	Data Visualization								
	20BT60503	Soft Computing								
	20BT63203	Machine Learning for Cyber Security								
Professional Elective-3										
5.	20BT60502	Compiler Design	3	-	-	3	3	30	70	100
	20BT63204	Graph Algorithms								
	20BT63205	Data Preparation and Analysis								
	20BT51503	Natural Language Processing								
	20BT61241	IoT Architecture and Protocols								
Interdisciplinary Elective-1										
6.	20BT60314	Optimization Techniques	3	-	-	3	3	30	70	100

	20BT70315	Industrial Internet of Things								
	20BT71501	System Simulation and Modeling								
6.	20BT61231	Cloud Computing Lab	-	-	3	3	1.5	30	70	100
7.	20BT63231	Big Data Technologies Lab	-	-	3	3	1.5	30	70	100
8.	20BT73232	NoSQL Databases Lab	-	1	2	3	2	30	70	100
9.	20BT73233	Summer Internship-2	-	-	-	-	1.5	-	100	100
10.	20BT705AC	Free and Open Source Software	2	-	-	2	-	-	-	-
Total:			17	01	08	26	21.5	240	660	900

IV B.Tech II–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT83231	Project Work	-	-	-	-	12	100	100	200
2.	20BT83232	Internship	-	-	-	-	-	-	-	-
Total			-	-	-	-	12	100	100	200

LIST OF COURSES FOR
OPEN ELECTIVE-1 and OPEN ELECTIVE-2

Course Code	Open Elective -1	Course Code	Open Elective -2
20BT4BS01	Material Science	20BT4HS01	Banking and Insurance
20BT4HS02	Business Communication and Career Skills	20BT4HS03	Cost Accounting and Financial Management
20BT4HS04	Entrepreneurship for Micro, Small and Medium Enterprises	20BT4HS05	Gender and Environment
20BT4HS06	German Language	20BT4HS07	Indian Economy
20BT4HS08	Indian History	20BT4HS09	Life Skills
20BT4HS10	Personality Development	20BT4HS11	Indian Tradition and Culture
20BT4HS12	Women Empowerment	20BT4HS13	Constitution of India
20BT40205	Reliability and Safety Engineering	20BT50106	Disaster Mitigation and Management
20BT40105	Environmental Pollution and Control	20BT50107	Sustainable Engineering
20BT40106	Planning for Sustainable Development	20BT50108	Contract Laws and Regulations
20BT40107	Rural Technology	20BT50310	Global Strategy and Technology
20BT40305	Human Resource Management	20BT50311	Management Science
20BT50506	Ethical Hacking	20BT40502	Cyber Laws and Security
20BT51205	AI in Healthcare	20BT50206	Intellectual Property Rights
20BT51501	Bioinformatics	20BT50406	Green Technologies



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