1.1.3 - Number of courses focusing on employability/entrepreneurship/ skill development offered by the Institution during the year

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS INSTITUTION UNDER UGC, NEW DELHI)

ACCREDITED BY NBA & NAAC

APPROVED BY AICTE, NEW DELHI,

AFFILIATED TO JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

SHERIGUDA(V), IBRAHIMPATNAM(M), R.R.DIST. – 501 510. TELANGANA

Department of Civil Engineering

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - CIVIL ENGINEERING
(Common to ME & CIVIL)

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20EPH1101	Engineering Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EPH11L1	Engineering Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20HAS1102	Environmental Science	3	0	0	0
8	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**13**	**3**	**10**	**18**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20MED1103	Engineering Mechanics	3	1	0	4
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills Lab	0	0	2	1
8	R20COI1101	Constitution of India	3	0	0	0
9	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**18**	**3**	**8**	**19**

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution under UGC, New Delhi)
Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. CIVIL ENGINEERING

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV2101	Surveying & Geomatics	3	0	0	3
2	R20MED2105	Hydraulics and Hydraulic Machinery	3	0	0	3
3	R20CIV2102	Strength of Materials-I	3	0	0	3
4	R20MTH2101	Probability Distributions and Statistical Methods	3	1	0	4
5	R20MED2106	Fluid Mechanics	3	0	0	3
6	R20CIV21L1	Surveying Lab	1	0	3	2
7	R20CIV21L2	Strength of Materials Lab	0	0	3	1.5
8	R20MED21L4	Hydraulics & Hydraulic Machinery Lab	0	0	3	1.5
9	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**16**	**1**	**11**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S.No	Course Code	Course Title	L	T	P	Credits
1	R20EEE2204	Basics of Electrical & Electronics Engineering	3	0	0	3
2	R20CIV2201	Building Materials, Construction and Planning	3	0	0	3
3	R20CIV2202	Strength of Materials-II	3	1	0	4
4	R20CIV2203	Structural Analysis -I	3	1	0	4
5	R20CIV2204	Engineering Geology	3	0	0	3
6	R20CIV22L1	Computer aided Civil Engineering Drawing	0	0	3	1.5
7	R20CIV22L2	Engineering Geology lab	0	0	3	1.5
8	R20EEE22L3	Electrical & Electronics Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**2**	**8**	**21**

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
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REGULATIONS – BR20

B. Tech. CIVIL ENGINEERING

III YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P/D	Credits
1	R20CIV3101	Structural Analysis-II	3	1	0	4
2	R20CIV3102	Geotechnical Engineering	3	1	0	4
3	R20CIV3103	Structural Engineering –I**(RCC)**	3	1	0	4
4	R20CIV3104	Transportation Engineering-I	3	1	0	4
		Professional Elective-I				
5	R20CIV3111	Concrete Technology	3	0	0	3
	R20MBA3112	Management Fundamentals for Engineers				
	R20CIV3113	Basics of Mechanical Engineering				
	R20MAC3100	MOOCs-I				
6	R20CIV31L1	Highway Engineering and Concrete Technology Lab	0	0	2	1
7	R20CIV31L2	Geotechnical Engineering Lab	0	0	2	1
8	R20HAS31L1	Advanced Communication Skills Lab	0	0	2	1
9	R20CSE3124	Cyber Security	3	0	0	0
		Total Credits	18	4	6	22

III YEAR II SEMESTER   **COURSE STRUCTURE**

S. No	Course Code	Course Title	L	T	P	Credits
1	R20CIV3201	Hydrology & Water Resources Engineering	3	1	0	4
2	R20CIV3202	Environmental Engineering	3	0	0	3
3	R20MBA3201	Engineering Economics & Accounting	3	0	0	3
4	R20CIV3203	Structural Engineering –II**(Steel)**	3	1	0	4
		Professional Elective –II				
5	R20CIV3221	Prestressed Concrete Structures	3	0	0	3
	R20CIV3222	Elements of Earth Quake Engineering				
	R20CIV3223	Finite Element Analysis				
	R20MAC3200	MOOCs-II				
6		**Open Elective –I**	3	0	0	3
7	R20CIV32L1	Environmental Engineering Lab	0	0	2	1
8	R20CIV32L2	Computer Aided Design Lab	0	0	2	1
		Total Credits	18	2	4	22

*MC - Environmental Science – Should be Registered by Lateral Entry Students Only.

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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
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REGULATIONS – BR20

B. Tech. CIVIL ENGINEERING

IV YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4101	Estimation, Costing and Project Management	3	1	0	4
2	R20CIV4102	Transportation Engineering-II	3	1	0	4
		Professional Elective –III				
3	R20CIV4131	Remote Sensing &GIS	3	0	0	3
	R20CIV4132	Ground Improvement Techniques				
	R20CIV4133	Advance Structural Analysis				
		Professional Elective –IV				
4	R20CIV4141	Irrigation and Hydraulic Structures	3	0	0	3
	R20CIV4142	Theory of Elasticity				
	R20CIV4143	Ground water Hydrology				
5		**Open Elective –II**	3	0	0	3
6	R20CIV41P1	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
7	R20CIV41L1	Seminar	0	0	2	1
8	R20CIV41P2	Comprehensive Viva-voce	0	0	2	1
		Total Credits	15	2	4	21

* To be carried out during the summer vacation between 6th and 7th semesters.

Note: Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

IV YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
		Professional Elective -V				
1	R20CIV4251	Foundation Engineering	3	0	0	3
	R20CIV4252	Environmental Impact Assessment				
	R20CIV4253	Air pollution				
		Professional Elective –VI				
2	R20CIV4261	Airports, railways and water ways	3	0	0	3
	R20CIV4262	Intelligent Transportation Systems				
	R20CIV4263	Urban Transportation Planning				
3		**Open Elective –III**	3	0	0	3
4	R20CIV42P1	Project Work	0	0	14	7
		Total Credits	9	0	14	16

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Sri Indu College of Engineering and Technology
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LIST OF OPEN ELECTIVES

Open Elective – I

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV3271	Disaster Management & Mitigation				
2	R20CSE3272	Database Concepts				
3	R20ECE3273	Consumer Electronics				
4	R20EEE3274	Electrical Estimation & Costing				
5	R20INF3275	Information Technology Essentials	3	0	0	3
6	R20MED3276	Introduction to Robotics				
7	R20HMS3277	Fundamentals of Entrepreneurship				
8	R20HMS3278	Day to Day Biology				
9.	R20CIV3272	Building Architecture				

Open Elective –II

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4181	Green Building Engineering				
2	R20CSE4182	Cyber Security Fundamentals				
3	R20ECE4183	Principles of Modern Communication Systems				
4	R20EEE4184	Illumination Engineering				
5	R20INF4185	E-Commerce				
6	R20MED4186	Industrial Design & Ergonomics	3	0	0	3
7	R20HMS4187	Creative Writing				
8	R20HMS4188	Design Thinking				
9.	R20CIV4182	Pre Fabricated Structures				
10		MOOCs – III				

Open Elective –III

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4291	Spatial Technology Concepts				
2	R20CSE4292	Fundamentals of Soft Computing				
3	R20ECE4293	Audio & Video Engineering				
4	R20EEE4294	Non Conventional Energy Resources				
5	R20INF4295	Information Security Fundamentals	3	0	0	3
6	R20MED4296	Total Engineering Quality Management				
7	R20HMS4297	Human Values & Professional Ethics for Engineers				
8	R20HMS4298	Science Fiction				
9	R20CIV4292	Building Infrastructure Auditing				
10		MOOCs - IV				

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Department of EEE

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS –BR20

B. Tech. ELECTRICAL & ELECTRONICS ENGINEERING
Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
Total Credits			**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
Total Credits			**16**	**3**	**10**	**18**

PRINCIPAL
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Choice Based Credit System (CBCS)

REGULATIONS –BR20

B. Tech. ELECTRICAL & ELECTRONICS ENGINEERING

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MED2203	Fluid Mechanics & Hydraulic Machines	3	1	0	4
2	R20EEE2101	Electrical Circuit Analysis	3	1	0	4
3	R20ECE2105	Analog Electronics	3	0	0	3
4	R20EEE2102	Electrical Machines-I	3	1	0	4
5	R20EEE2103	Electro Magnetic Fields	3	0	0	3
6	R20EEE21L1	Electrical Machines Lab-I	0	0	2	1
7	R20ECE21L4	Analog Electronics Lab	0	0	2	1
8	R20EEE21L2	Electrical Circuits Lab	0	0	2	1
9	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**15**	**3**	**8**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S.No	Course Code	Course Title	L	T	P	Credits
1	R20MTH2201	Laplace Transforms , Numerical Methods & Complex variables	3	1	0	4
2	R20EEE2201	Electrical Machines – II	3	1	0	4
3	R20ECE2102	Digital Logic Design	3	0	0	3
4	R20EEE2202	Control Systems	3	1	0	4
5	R20EEE2203	Power System-I	3	0	0	3
6	R20ECE21L2	Digital Logic Design Lab	0	0	2	1
7	R20EEE22L1	Electrical Machines Lab-II	0	0	2	1
8	R20EEE22L2	Control Systems Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**3**	**6**	**21**

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. ELECTRICAL & ELECTRONICS ENGINEERING

III YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20EEE3101	Power Electronics	3	1	0	4
2	R20EEE3102	Power System-II	3	1	0	4
3	R20EEE3103	Measurements and Instrumentation	3	1	0	4
Professional Elective-I						
4	R20CSE3164	Computer Architecture	3	0	0	3
	R20EEE3111	High Voltage Engineering				
	R20EEE3112	Electric Machine Design				
	R20MAC3100	MOOCs-I				
5	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
6	R20EEE31L1	Power System Simulation Lab	0	0	2	1
7	R20EEE31L2	Power Electronics Lab	0	0	2	1
8	R20EEE31L3	Measurements and Instrumentation Lab	0	0	2	1
9	R20HAS31L1	Advanced Communication Skills Lab	0	0	2	1
		Total Credits	**15**	**3**	**8**	**22**

III YEAR II SEMESTER   **COURSE STRUCTURE**

S. No	Course Code	Course Title	L	T	P	Credits
1		Open Elective-I	3	0	0	3
Professional Elective-II						
2	R20ECE3202	Digital signal processing	3	0	0	3
	R20EEE3221	Power Semiconductor Drives				
	R20EEE3222	Wind and Solar Energy systems				
	R20MAC3200	MOOCs-II				
3	R20ECE2103	Signals and Systems	2	1	0	3
4	R20ECE3101	Microprocessors & Microcontrollers	3	0	0	3
5	R20EEE3201	Power System Protection	3	1	0	4
6	R20EEE3202	Power System Operation and Control	3	0	0	3
7	R20EEE32L1	Power System Lab	0	0	2	1
8	R20ECE31L1	Microprocessors & Microcontrollers Lab	0	0	2	1
9	R20ECE32L4	Signals and Systems Lab	0	0	2	1
		Total Credits	**17**	**2**	**6**	**22**

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. ELECTRICAL & ELECTRONICS ENGINEERING

IV YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective-II	3	0	0	3
		Professional Elective-III				
2	R20EEE4131	Digital Control systems	3	0	0	3
	R20EEE4132	Optimization Techniques				
	R20EEE4133	Electrical and Hybrid Vehicles				
		Professional Elective-IV				
3	R20EEE4141	HVDC Transmission	3	1	0	4
	R20EEE4142	Power System Reliability				
	R20EEE4143	Industrial Electrical Systems				
4	R20MBA4101	Fundamentals of Management for Engineers	3	0	0	3
5	R20EEE41L1	Electrical & Electronics Design Lab	0	0	3	1.5
6	R20EEE41L2	Technical Seminar	0	0	3	1.5
7	R20EEE41P1	Industrial Oriented Mini Project/ Summer Internship	0	0	4	2
8	R20EEE41P2	Comprehensive Viva-voce	0	0	6	3
		Total Credits	12	1	16	21

* To be carried out during the summer vacation between 6th and 7th semesters.

Note: Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

IV YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective-III	3	0	0	3
		Professional Elective-V				
2	R20EEE4251	Power Quality & FACTS	3	0	0	3
	R20EEE4252	Control System Design				
	R20CSE4265	AI Techniques in Electrical Engineering				
		Professional Elective-VI				
3	R20EEE4261	Smart Grid Technologies	3	0	0	3
	R20EEE4262	Electrical Distribution Systems				
	R20EEE4263	Advanced Control of Electric Drives				
4	R20EEE42P1	Project Work	0	0	14	7
		Total Credits	9	0	14	16

*MC – Satisfied/Unsatisfied

PRINCIPAL
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LIST OF OPEN ELECTIVES

Open Elective – I

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV3271	Disaster Management & Mitigation				
2	R20CSE3272	Database Concepts				
3	R20ECE3273	Consumer Electronics				
4	R20EEE3274	Electrical Estimation & Costing				
5	R20INF3275	Information Technology Essentials	3	0	0	3
6	R20MED3276	Introduction to Robotics				
7	R20HMS3277	Fundamentals of Entrepreneurship				
8	R20HMS3278	Day to Day Biology				
9.	R20CIV3272	Building Architecture				

Open Elective –II

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4181	Green Building Engineering				
2	R20CSE4182	Cyber Security Fundamentals				
3	R20ECE4183	Principles of Modern Communication Systems				
4	R20EEE4184	Illumination Engineering				
5	R20INF4185	E-Commerce				
6	R20MED4186	Industrial Design & Ergonomics	3	0	0	3
7	R20HMS4187	Creative Writing				
8	R20HMS4188	Design Thinking				
9.	R20CIV4182	Pre Fabricated Structures				
10		MOOCs – III				

Open Elective –III

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4291	Spatial Technology Concepts				
2	R20CSE4292	Fundamentals of Soft Computing				
3	R20ECE4293	Audio & Video Engineering				
4	R20EEE4294	Non Conventional Energy Resources				
5	R20INF4295	Information Security Fundamentals				
6	R20MED4296	Total Engineering Quality Management	3	0	0	3
7	R20HMS4297	Human Values & Professional Ethics for Engineers				
8	R20HMS4298	Science Fiction				
9	R20CIV4292	Building Infrastructure Auditing				
10		MOOCs - IV				

Department of

Mechanical Engineering

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. Mechanical ENGINEERING
(Common to ME & CIVIL)

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20EPH1101	Engineering Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EPH11L1	Engineering Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20HAS1102	Environmental Science	3	0	0	0
8	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**13**	**3**	**10**	**18**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20MED1103	Engineering Mechanics	3	1	0	4
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills Lab	0	0	2	1
8	R20COI1101	Constitution of India	3	0	0	0
9	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**18**	**3**	**8**	**19**

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. Mechanical ENGINEERING

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH2102	Probability Distribution & Complex Variables	3	1	0	4
2	R20MED2101	Mechanics of Solids	3	1	0	4
3	R20MED2102	Material Science & Metallurgy	3	0	0	3
4	R20MED2103	Production Technology	3	0	0	3
5	R20MED2104	Thermodynamics	3	1	0	4
6	R20MED21L1	Production Technology Lab	0	0	2	1
7	R20MED21L2	Machine Drawing Practice	0	0	2	1
8	R20MED21L3	Material Science & Mechanics of Solids Lab	0	0	2	1
9	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**15**	**3**	**8**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S.No	Course Code	Course Title	L	T	P	Credits
1	R20EEE2204	Basics of Electrical & Electronics Engineering	3	0	0	3
2	R20MED2201	Kinematics of Machinery	3	1	0	4
3	R20MED2202	Thermal Engineering-I	3	1	0	4
4	R20MED2203	Fluid Mechanics & Hydraulic Machines	3	1	0	4
5	R20MED2204	Instrumentation & Control Systems	3	0	0	3
6	R20EEE22L3	Electrical & Electronics Lab	0	0	2	1
7	R20MED22L1	Fluid Mechanics & Hydraulic Machines Lab	0	0	2	1
8	R20MED22L2	Instrumentation & Control Systems Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**3**	**6**	**21**

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. MECHANICAL ENGINEERING

III YEAR I SEMESTER　　　　　　　　　　　　　　　**COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MED3101	Dynamics of Machinery	3	1	0	4
2	R20MED3102	Design of Machine Members-I	3	0	0	3
3	R20MED3103	Metrology & Machine Tools	3	0	0	3
4	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
5	R20MED3104	Thermal Engineering-II	3	0	0	3
6	R20MTH3101	Operations Research	3	0	0	3
7	R20MED31L1	Thermal Engineering Lab	0	0	2	1
8	R20MED31L2	Metrology & Machine Tools Lab	0	0	2	1
9	R20MED31L3	Kinematics & Dynamics Lab	0	0	2	1
10	R20MAC3100	MOOCs-I	0	0	2	0
11	R20CSE3124	Cyber Security	3	0	0	0
		Total Credits	**21**	**1**	**8**	**22**

III YEAR II SEMESTER　　　　　　　　　　　　　　　**COURSE STRUCTURE**

S. No	Course Code	Course Title	L	T	P	Credits
1	R20MED3201	Design of Machine Members-II	3	0	0	3
2	R20MED3202	Heat Transfer	3	1	0	4
3	R20MED3203	CAD & CAM	3	0	0	3
Professional Elective – I						
4	R20MED3211	Unconventional Machining Processes	3	0	0	3
	R20MED3212	Machine Tool Design				
	R20MED3213	Production Planning & Control				
	R20MAC3200	MOOCs-II				
5		Open Elective – I	3	0	0	3
6	R20MED3204	Finite Element Methods	3	0	0	3
7	R20MED32L1	Heat Transfer Lab	0	0	2	1
8	R20MED32L2	CAD & CAM Lab	0	0	2	1
9	R20HAS31L1	Advanced Communication Skills lab	0	0	2	1
		Total Credits	**18**	**1**	**8**	**22**

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. MECHANICAL ENGINEERING

IV YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MED4101	Refrigeration & Air Conditioning	3	1	0	4
		Professional Elective – II				
2	R20MED4121	Additive Manufacturing	3	0	0	3
	R20MED4122	Automation in Manufacturing				
	R20MED4123	Micro Electro Mechanical Systems (MEMS)				
		Professional Elective – III				
3	R20MED4131	Power Plant Engineering	3	1	0	4
	R20MED4132	Automobile Engineering				
	R20MED4133	Renewable Energy Sources				
		Professional Elective – IV				
4	R20MED4141	Computational Fluid Dynamics	3	0	0	3
	R20MED4142	Turbo Machinery				
	R20MED4143	Fluid Power Systems				
5		Open Elective - II	3	0	0	3
6	R20MED41L1	Technical Seminar	0	0	2	1
7	R20MED41P2	Comprehensive Viva-voce	0	0	2	1
8	R20MED41P1	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
		Total Credits	15	2	4	21

* To be carried out during the summer vacation between 6th and 7th semesters.
Note: Students should submit report of Industrial Oriented Mini Project/ Summer Internship for valuation.

IV YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
		Professional Elective – V				
1	R20MED4251	Industrial Robotics	3	0	0	3
	R20MED4252	Mechanical Vibrations				
	R20MED4253	Composite Materials				
		Professional Elective – VI				
2	R20MED4261	Industrial Management	3	0	0	3
	R20MED4262	Production Operation and Management				
	R20MED4263	Nanotechnology & Application				
3		Open Elective - III	3	0	0	3
4	R20ECE42P1	Project Work	0	0	14	7
		Total Credits	9	0	14	16

*MC – Satisfied/Unsatisfied

LIST OF OPEN ELECTIVES

Open Elective – I

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV3271	Disaster Management & Mitigation				
2	R20CSE3272	Database Concepts				
3	R20ECE3273	Consumer Electronics				
4	R20EEE3274	Electrical Estimation & Costing	3	0	0	3
5	R20INF3275	Information Technology Essentials				
6	R20MED3276	Introduction to Robotics				
7	R20HMS3277	Fundamentals of Entrepreneurship				
8	R20HMS3278	Day to Day Biology				

Open Elective –II

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4181	Green Building Engineering				
2	R20CSE4182	Cyber Security Fundamentals				
3	R20ECE4183	Principles of Modern Communication Systems				
4	R20EEE4184	Illumination Engineering				
5	R20INF4185	E-Commerce	3	0	0	3
6	R20MED4186	Industrial Design & Ergonomics				
7	R20HMS4187	Creative Writing				
8	R20HMS4188	Design Thinking				
9.		MOOC - III				

Open Elective –III

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4293	Remote Sensing Concepts				
2	R20CSE4292	Fundamentals of Soft Computing				
3	R20ECE4293	Audio & Video Engineering				
4	R20EEE4294	Non Conventional Energy Resources				
5	R20INF4295	Information Security Fundamentals	3	0	0	3
6	R20MED4296	Total Engineering Quality Management				
7	R20HMS4297	Human Values & Professional Ethics for Engineers				
8	R20HMS4298	Science Fiction				
9		MOOC - IV				

Department of

ECE

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. ELECTRONICS & COMMUNICATION ENGINEERING

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20HAS1102	Environmental Science	3	0	0	0
8	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**13**	**3**	**10**	**18**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills Lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20COI1101	Constitution of India	3	0	0	0
10	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**18**	**2**	**10**	**19**

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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. ELECTRONICS & COMMUNICATION ENGINEERING

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE2101	Electronic Devices and Circuits	3	1	0	4
2	R20EEE2104	Network Theory	3	0	0	3
3	R20ECE2102	Digital Logic Design	3	0	0	3
4	R20ECE2103	Signals and Systems	3	1	0	4
5	R20ECE2104	Probability Theory and Stochastic Processes	3	0	0	3
6	R20ECE21L1	Electronic Devices and Circuits Lab	0	0	3	1.5
7	R20ECE21L2	Digital Logic Design Lab	0	0	3	1.5
8	R20ECE21L3	Basic Simulation Lab	0	0	2	1
9	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**15**	**2**	**10**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH2201	Laplace Transforms, Numerical Methods & Complex Variables	3	1	0	4
2	R20ECE2201	Electromagnetic Theory And Transmission Lines	3	0	0	3
3	R20ECE2202	Analog and Digital Communications	3	1	0	4
4	R20ECE2203	Linear and Digital IC Applications	3	0	0	3
5	R20ECE2204	Electronic Circuit Analysis	3	0	0	3
6	R20ECE22L1	Analog and Digital Communications Lab	0	0	3	1.5
7	R20ECE22L2	IC Applications Lab	0	0	3	1.5
8	R20ECE22L3	Electronic Circuit Analysis Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**2**	**8**	**21**

PRINCIPAL
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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. ELECTRONICS & COMMUNICATION ENGINEERING

III YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
2	R20ECE3101	Microprocessors & Microcontrollers	3	1	0	4
3	R20INF3103	Data Communications and Networks	3	1	0	4
4	R20EEE2202	Control Systems	3	1	0	4
		Professional Elective – I				
5	R20CSE3114	Computer Organization & Operating Systems	3	0	0	3
	R20ECE3112	Coding Theory & Techniques				
	R20ECE3113	Electronic Measurements & Instrumentation				
	R20MAC3100	MOOCs-I				
6	R20ECE31L1	Microprocessors & Microcontrollers Lab	0	0	3	1.5
7	R20INF31L2	Data Communications and Networks Lab	0	0	3	1.5
8	R20HAS31L1	Advanced Communication Skills Lab	0	0	2	1
		Total Credits	**15**	**3**	**8**	**22**

III YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE3201	Antennas and Wave Propagation	3	1	0	4
2	R20ECE3202	Digital Signal Processing	3	1	0	4
3	R20ECE3203	VLSI Design	3	1	0	4
		Professional Elective - II				
4	R20ECE3221	Embedded System Design	3	0	0	3
	R20CSE4152	Internet of Things (IOT)				
	R20CSE3201	Machine Learning				
	R20MAC3200	MOOCs-II				
5		Open Elective - I	3	0	0	3
6	R20ECE32L1	Digital Signal Processing Lab	0	0	3	1.5
7	R20ECE32L2	VLSI & e-CAD Design Lab	0	0	3	1.5
8	R20ECE32L3	Technical Seminar	0	0	2	1
		Total Credits	**15**	**3**	**8**	**22**

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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. ELECTRONICS & COMMUNICATION ENGINEERING

IV YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE4101	Microwave and Optical Communication	3	1	0	4
2	R20HAS4101	Professional Practice, Law & Ethics	2	0	0	2
		Professional Elective – III				
3	R20ECE4131	Digital Image Processing	3	1	0	4
	R20CSE4101	Cryptography and Network Security				
	R20CSE3122	Artificial Intelligence (AI)				
		Professional Elective – IV				
4	R20ECE4141	Cellular & Mobile Communications	3	1	0	4
	R20ECE4142	Digital Signal Processors & Architectures				
	R20ECE4143	System on Chip Architecture				
5		Open Elective - II	3	0	0	3
6	R20ECE41L1	Microwave & Optical Communications Lab	0	0	2	1
7	R20ECE41P2	Comprehensive Viva Voce	0	0	2	1
8	R20ECE41P1	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
		Total Credits	**14**	**3**	**4**	**21**

* To be carried out during the summer vacation between 6th and 7th semesters.

Note: Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

IV YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
		Professional Elective – V				
1	R20ECE4251	Satellite Communications	3	0	0	3
	R20ECE4252	Low Power VLSI				
	R20ECE4253	Wireless Sensor Networks				
		Professional Elective – VI				
2	R20ECE4261	Wireless Communication & Networks	3	0	0	3
	R20ECE4262	Electronic Product Design & Packaging				
	R20ECE4263	Radar Systems				
3		Open Elective - III	3	0	0	3
4	R20ECE42P1	Project Work	0	0	14	7
		Total Credits	**9**	**0**	**14**	**16**

*MC – Satisfied/Unsatisfied

LIST OF OPEN ELECTIVES

Open Elective – I

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV3271	Disaster Management & Mitigation				
2	R20CSE3272	Database Concepts				
3	R20ECE3273	Consumer Electronics				
4	R20EEE3274	Electrical Estimation & Costing	3	0	0	3
5	R20INF3275	Information Technology Essentials				
6	R20MED3276	Introduction to Robotics				
7	R20HMS3277	Fundamentals of Entrepreneurship				
8	R20HMS3278	Day to Day Biology				

Open Elective –II

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4181	Green Building Engineering				
2	R20CSE4182	Cyber Security Fundamentals				
3	R20ECE4183	Principles of Modern Communication Systems				
4	R20EEE4184	Illumination Engineering				
5	R20INF4185	E-Commerce	3	0	0	3
6	R20MED4186	Industrial Design & Ergonomics				
7	R20HMS4187	Creative Writing				
8	R20HMS4188	Design Thinking				
9.		MOOC - III				

Open Elective –III

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CIV4293	Remote Sensing Concepts				
2	R20CSE4292	Fundamentals of Soft Computing				
3	R20ECE4293	Audio & Video Engineering				
4	R20EEE4294	Non Conventional Energy Resources				
5	R20INF4295	Information Security Fundamentals	3	0	0	3
6	R20MED4296	Total Engineering Quality Management				
7	R20HMS4297	Human Values & Professional Ethics for Engineers				
8	R20HMS4298	Science Fiction				
9		MOOC - IV				

Department of
Computer Science & Engineering

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. COMPUTER SCIENCE & ENGINEERING

Common to EEE, CSE, CSIT, CSE(DS), CSE(CS), CSE(AIML), CSE(IOT) & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
Total Credits			**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
Total Credits			**16**	**3**	**10**	**18**

PRINCIPAL
Sri Indu College of Engineering and Technology
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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

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Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. COMPUTER SCIENCE & ENGINEERING

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE2105	Analog Electronics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2103	Probability & Statistical Methods	4	0	0	4
4	R20CSE2102	Computer Organization & Architecture	3	0	0	3
5	R20CSE2103	Object Oriented Programming using C++	3	0	0	3
6	R20ECE21L4	Analog Electronics Lab	0	0	2	1
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L2	IT Workshop Lab	0	0	3	1.5
9	R20CSE21L3	C++ Programming Lab	0	0	2	1
10	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	15	1	12	21

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2201	Discrete Mathematics	3	0	0	3
2	R20ECE2102	Digital Logic Design	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2203	Database Management Systems	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L2	Database Management Systems Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	18	2	8	21

Department of

Information Technology

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

> REGULATIONS – BR20

B. Tech. - INFORMATION TECHNOLOGY

Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**16**	**3**	**10**	**18**

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SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution under UGC, New Delhi)
Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - INFORMATION TECHNOLOGY

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE2105	Analog Electronics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2103	Probability & Statistical Methods	4	0	0	4
4	R20CSE2102	Computer Organization & Architecture	3	0	0	3
5	R20CSE2103	Object Oriented Programming using C++	3	0	0	3
6	R20ECE21L4	Analog Electronics Lab	0	0	2	1
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L2	IT Workshop Lab	0	0	3	1.5
9	R20CSE21L3	C++ Programming Lab	0	0	2	1
10	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**15**	**1**	**12**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2201	Discrete Mathematics	3	0	0	3
2	R20ECE2102	Digital Logic Design	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2203	Database Management Systems	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L2	Database Management Systems Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**2**	**8**	**21**

Department of

Computer Science & Information Technology

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - COMPUTER SCIENCE & INFORMATION TECHNOLOGY
Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**16**	**3**	**10**	**18**

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution under UGC, New Delhi)
Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - COMPUTER SCIENCE & INFORMATION TECHNOLOGY

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE2105	Analog Electronics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2103	Probability & Statistical Methods	4	0	0	4
4	R20CSE2102	Computer Organization & Architecture	3	0	0	3
5	R20CSE2103	Object Oriented Programming using C++	3	0	0	3
6	R20ECE21L4	Analog Electronics Lab	0	0	2	1
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L2	IT Workshop Lab	0	0	3	1.5
9	R20CSE21L3	C++ Programming Lab	0	0	2	1
10	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**15**	**1**	**12**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2201	Discrete Mathematics	3	0	0	3
2	R20ECE2102	Digital Logic Design	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2203	Database Management Systems	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L2	Database Management Systems Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**2**	**8**	**21**

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

Department of

Data Science

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - CSE (DATA SCIENCE)

Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**16**	**3**	**10**	**18**

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - CSE (DATA SCIENCE)

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2201	Discrete Mathematics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2104	Mathematical and Statistical Foundations	3	1	0	4
4	R20CSE2102	Computer Organization & Architecture	3	0	0	3
5	R20CSE2104	Python Programming	2	0	0	2
6	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L4	Python Programming Lab	0	0	3	1.5
9	R20MAC2100	Gender Sensitization Lab **(**An Activity-based Course)	0	0	2	0
		Total Credits	17	1	8	21

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2206	Formal Language and Automata Theory	3	0	0	3
2	R20CSE2207	Software Engineering	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2203	Database Management Systems	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L2	Database Management Systems Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	18	2	8	21

Department of

Cyber Security

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - CSE (CYBER SECURITY)

Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**16**	**3**	**10**	**18**

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - CSE (CYBER SECURITY)

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE2106	Analog and Digital Electronics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2104	Mathematical and Statistical Foundations	3	1	0	4
4	R20CSE2102	Computer Organization & Architecture	3	0	0	3
5	R20CSE2104	Python Programming	2	0	0	2
6	R20ECE21L5	Analog and Digital Electronics Lab	0	0	3	1.5
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L2	IT Workshop Lab	0	0	3	1.5
9	R20CSE21L4	Python Programming Lab	0	0	3	1.5
10	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	14	1	14	21

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2201	Discrete Mathematics	3	0	0	3
2	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2205	Computer Networks	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L4	Computer Networks Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

Department of
Internet of Things

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. - CSE (INTERNET OF THINGS (IoT))

Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
		Total Credits	**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
		Total Credits	**16**	**3**	**10**	**18**

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

B. Tech. - CSE (INTERNET OF THINGS (IoT))

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20ECE2106	Analog and Digital Electronics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2103	Probability & Statistical Methods	4	0	0	4
4	R20CSE2201	Discrete Mathematics	3	0	0	3
5	R20CSE2104	Python Programming	2	0	0	2
6	R20ECE21L5	Analog and Digital Electronics Lab	0	0	3	1.5
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L2	IT Workshop Lab	0	0	3	1.5
9	R20CSE21L4	Python Programming Lab	0	0	3	1.5
10	R20MAC2100	Gender Sensitization Lab **(**An Activity-based Course)	0	0	2	0
		Total Credits	**15**	**0**	**14**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2102	Computer Organization & Architecture	3	0	0	3
2	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2205	Computer Networks	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L4	Computer Networks Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill: SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

Department of

Artificial Intelligence & Machine Learning

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. CSE (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

Common to EEE, CSE & IT

I YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1101	Mathematics – I (Linear Algebra and Calculus)	3	1	0	4
2	R20ECH1101	Chemistry	3	1	0	4
3	R20EEE1101	Basic Electrical Engineering	3	0	0	3
4	R20MED1101	Engineering Workshop	1	0	3	2.5
5	R20HAS1101	English	2	0	0	2
6	R20ECH11L1	Engineering Chemistry Lab	0	0	3	1.5
7	R20HAS11L2	English Language and Communication Skills lab	0	0	2	1
8	R20EEE11L3	Basic Electrical Engineering Lab	0	0	2	1
9	R20HAS1102	Environmental Science	3	0	0	0
10	R20IPG1101	Induction Programme for Three Weeks	0	0	0	0
Total Credits			**15**	**2**	**10**	**19**

I YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20MTH1201	Mathematics – II (Advanced Calculus)	3	1	0	4
2	R20EAP1201	Applied Physics	3	1	0	4
3	R20CSE1101	Programming for Problem Solving	3	1	0	4
4	R20MED1102	Engineering Graphics	1	0	4	3
5	R20EAP12L1	Applied Physics Lab	0	0	3	1.5
6	R20CSE11L2	Programming for Problem Solving Lab	0	0	3	1.5
7	R20COI1101	Constitution of India	3	0	0	0
8	R20ITK1101	Essence of Indian Traditional Knowledge	3	0	0	0
Total Credits			**16**	**3**	**10**	**18**

PRINCIPAL
Sri Indu College of Engineering and Technology
(Vill): SHERIGUDA-501 510,
Ibrahimpatnam(M), R.R.Dist.

SRI INDU COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution under UGC, New Delhi)

Choice Based Credit System (CBCS)

REGULATIONS – BR20

B. Tech. CSE (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

II YEAR I SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2201	Discrete Mathematics	3	0	0	3
2	R20CSE2101	Data Structures	3	0	0	3
3	R20MTH2104	Mathematical and Statistical Foundations	3	1	0	4
4	R20CSE2102	Computer Organization & Architecture	3	0	0	3
5	R20CSE2104	Python Programming	2	0	0	2
6	R20MBA2201	Business Economics & Financial Analysis	3	0	0	3
7	R20CSE21L1	Data Structures Lab	0	0	3	1.5
8	R20CSE21L4	Python Programming Lab	0	0	3	1.5
9	R20MAC2100	Gender Sensitization Lab (An Activity-based Course)	0	0	2	0
		Total Credits	**17**	**1**	**8**	**21**

II YEAR II SEMESTER   **COURSE STRUCTURE**

S. No.	Course Code	Course Title	L	T	P	Credits
1	R20CSE2206	Formal Language and Automata Theory	3	0	0	3
2	R20CSE2207	Software Engineering	3	0	0	3
3	R20CSE2202	Operating Systems	3	0	0	3
4	R20CSE2203	Database Management Systems	3	1	0	4
5	R20CSE2204	Java Programming	3	1	0	4
6	R20CSE22L1	Operating Systems Lab	0	0	3	1.5
7	R20CSE22L2	Database Management Systems Lab	0	0	3	1.5
8	R20CSE22L3	Java Programming Lab	0	0	2	1
9	R20MAC2200	Intellectual Property Rights	3	0	0	0
		Total Credits	**18**	**2**	**8**	**21**

PRINCIPAL
Sri Indu College of Engineering and Technology
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