



**F. Y. B. TECH. (COMMON TO ALL PROGRAMS) SEMESTER I/II (PATTERN 2020)**  
**MODULE-I**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
ES10201A	Linear Algebra	TH	3	1	-	20	30	20	30	25	125	4
CS10202A	Fundamentals of Programming	TH	2	-	2	20	30	20	30	25	125	3
ET10203A	Basic Electrical Engineering	TH	2	-	2	20	30	20	30	25	125	3
ES10204A	Engineering Physics	TH	2	-	2	20	30	20	30	25	125	3
ES10205A	Computational Science	CE	1	1	-	-	-	-	-	25	25	2
ME10206A	Engineering Graphics and Mechanical Workshop	CE	1	-	4	-	-	-	-	50	50	3
ES10207A	Energy, Water, Environment Sustainability	CE	1	1	-	-	-	-	-	25	25	2
ES10208A	Logical Reasoning	CE	1	-	-	-	-	-	-	25	25	1
M1	Induction Program	AU	-	-	-	-	-	-	-	-	-	-
M2	Foreign Language	AU	-	-	-	-	-	-	-	-	-	-
	Total		13	3	10	80	120	80	120	225	625	21

**F. Y. B. TECH. (COMMON TO ALL PROGRAMS) SEMESTER I/II (PATTERN 2020)**  
**MODULE-II**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
ES10201B	Calculus	TH	3	1	-	20	30	20	30	25	125	4
CS10202B	Python for Engineers	TH	2	-	2	20	30	20	30	25	125	3
ET10203B	Basic Electronics Engineering	TH	2	-	2	20	30	20	30	25	125	3
ES10204B	Engineering Chemistry	TH	2	-	2	20	30	20	30	25	125	3
ES10205B	Smart Sensors	CE	1	1	-	-	-	-	-	25	25	2
CV10206B	Engineering Mechanics	CE	2	1	-	-	-	-	-	50	50	3
ES10207B	Personality Development and Professional Ethics	CE	1	1	-	-	-	-	-	25	25	2
ES10208B	Quantitative Aptitude	CE	1	-	-	-	-	-	-	25	25	1
M1	Induction Program	AU	-	-	-	-	-	-	-	-	-	-
M2	Foreign Language	AU	-	-	-	-	-	-	-	-	-	-
	Total		14	4	6	80	120	80	120	225	625	21



**S.Y. B. TECH. (AI&DS), Semester III (PATTERN 2020)**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CI E	ISE	SCE	ESE	PR/OR/TW		
	Discrete Mathematics	TH	3	1	-	20	30	20	30	25	125	4
C++	Data Structure *	TH	3	-	2	20	30	20	30	25	125	4
	Microprocessor and Microcontrollers	TH	3	-	2	20	30	20	30	25	125	4
SQL	Database Management System	TH	3	-	2	20	30	20	30	25	125	4
	Operating System	TH	3	-	-	20	30	20	30	-	100	3
Python /	Data Visualization	CE	1	-	4	-	-	-	-	50	50	3
M2	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total		16	1	10	100	150	100	150	150	650	22

**S.Y. B. TECH. (AI&DS), Semester IV(PATTERN 2020)**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CI E	ISE	SCE	ESE	PR/OR/TW		
R	Probability and Statistics	TH	3	-	2	20	30	20	30	25	125	4
Java	Advance Data structure*	TH	3	-	2	20	30	20	30	25	125	4
	Data Communications and Networks	TH	3	-	2	20	30	20	30	25	125	4
UML	Software Engineering	TH	3	-	2	20	30	20	30	25	125	4
	Theory of Computation	TH	3	-	-	20	30	20	30	-	100	3
PHP	Web Technology	CE	1	-	4	-	-	-	-	50	50	3
M2	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total		16	0	12	100	150	100	150	150	650	22

M2: Mandatory Courses: Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional Knowledge.

**T.Y. B. TECH (AI&DS), Semester V (PATTERN 2020)**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
Python	Machine Learning*	TH	3	-	2	20	30	20	30	25	125	4
Weka	Data Mining and Warehousing	TH	3	-	2	20	30	20	30	25	125	4
	Data Science	TH	3	-	2	20	30	20	30	25	125	4
R	Multivariate Analysis	TH	3	-	-	20	30	20	30	-	125	3
	Professional Elective-I#	TH	3	-	2	20	30	20	30	25	125	4
	Engineering Design & Innovation 1	CE	-	-	4	-	-	-	-	25	25	2
M2	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total		15	0	12	100	150	100	150	125	650	21

**Professional Elective-I#**Cloud ComputingBusiness IntelligenceNatural Language processing**Mandatory Course:**

Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional knowledge,

Online certification course (minimum two weeks)



**T.Y. B. TECH (AI&DS), Semester VI (PATTERN 2020)**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
Python	Advanced Machine Learning*	TH	3	0	2	20	30	20	30	25	125	4
	Design and Analysis of Algorithm	TH	3	-	2	20	30	20	30	25	125	4
Python	Artificial Intelligence	TH	3	-	2	20	30	20	30	25	125	4
R/python	Machine Vision	TH	3	-	2	20	30	20	30	25	125	4
	Open Elective I #	TH	3	-	-	20	30	20	30	-	100	3
	Engineering Design & Innovation 2	CE	-	-	4	-	-	-	-	25	25	2
M2	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total	-	15	0	12	100	150	100	150	125	625	21

**Open Elective I:**

IOT & Embedded Systems

Business Intelligence

**Mandatory Course:**

Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional knowledge, Online certification course (minimum two weeks)



**FINAL YEAR B. TECH (AI&DS), Semester VII (PATTERN 2020) MODULE I**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
Python	Deep Learning	TH	3	-	2	20	30	20	30	25	125	4
Dev/python/University	Professional Elective II	TH	3	-	2	20	30	20	30	25	125	4
	Open Elective II	TH	3	-	-	20	30	20	30	-	100	3
Java/python/GPU	Open Elective III	TH	3	-	-	20	30	20	30	-	100	3
	Intellectual Property Rights (IPR)	CE	2	-	-	-	-	-	-	50	50	2
	Project Work	CE-PR/OR	-	-	8	100	-	-	-	50	150	4
M4	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total	-	14	0	12	180	120	80	120	150	600	20

**Professional Elective-II#**

Big Data Analytics  
Cyber Security and Data protection  
Information storage and Retrieval

**Open Elective II (Non Circuit Branches)**

Industry 4.0  
Robotics  
Soft Computing

**Open Elective III (Circuit Branches)**

Optimization Techniques  
High Performance Computing  
Augmented Reality /Virtual Reality



**FINAL YEAR B. TECH (AI&DS), Semester VII (PATTERN 2020) MODULE II**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
	Semester Internship	CE-PR/OR	-	-	20	100	-	-	-	50	150	10
M4	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	20	100	-	-	-	50	150	10



**FINAL YEAR B. TECH (AI&DS), Semester VIII (PATTERN 2020) MODULE III**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/ OR/ TW		
	Block chain Technology	TH	3	-	2	20	30	20	30	25	125	4
	Open Elective III	TH	3	-	-	20	30	20	30	25	125	3
	Open Elective IV	TH	3	-	-	20	30	20	30	25	125	3
M4	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total	-	8/10	-	2	60	90	60	90	75	375	10

**Open Elective III**

Intelligent model Design & Thinking  
Drone applications, components and assemble

**Open Elective IV**

Human Computer Interface  
Social Media and Analytics



**FINAL YEAR B. TECH (AI&DS), Semester VIII (PATTERN 2020) MODULE IV**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
	Semester Internship	CE-PR/OR	-	-	20	100	-	-	-	50	150	10
M4	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	20	100	-	-	-	50	150	10





**FINAL YEAR B. TECH (COMMON TO ALL PROGRAMS), SEMESTER VIII  
(PATTERN 2020) MODULE V**

Course Code	Course Title	Course Type	Teaching Scheme			Examination Scheme					Total	Credits
			L	T	P	CE	ISE	SCE	ESE	PR/OR/TW		
	Reinforcement learning/ AI applications/ Parallel and Distributed Computing	TH	3	-	2	20	30	20	30	25	125	4
	Video analytics/ Mobile &IoT Analytics	TH	3	-	2	20	30	20	30	25	125	4
	Financial Technology/Smart City	TH	3	-	-	20	30	20	30	-	100	3
	Humanities and Social Science	TH	3	-	-	20	30	20	30	-	100	3
	Intellectual Property Rights (IPR)	CE	2	-	-	-	-	-	-	50	50	2
	Project Work	CE-PR/OR	-	-	8	100	-	-	-	50	150	4
M4	Mandatory Course	AU	-	-	-	-	-	-	-	-	-	-
	Total	-	14	0	12	180	120	80	120	150	650	20

NOTE: Students who will register for Module-I in Semester VII have to register either of Module-III or Module IV in Semester VIII. Students who will register for Module-II in Semester VII have to register for Module-V in Semester VIII.

**List of Mandatory Courses:**

List of Audit Courses: Professional Ethics; Cyber Security; Value Engineering and Human Rights; Legislative Procedures; Technical Writing/Documentation; Sports/Yoga; Performing Art such as music, dance, and drama etc.; Languages; Online certification course (minimum two weeks); Participation in intercollegiate co-curricular and extra-curricular activities.