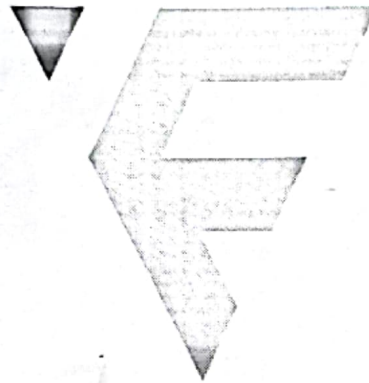


**FABTECH EDUCATION SOCIETY'S
FABTECH TECHNICAL CAMPUS
COLLEGE OF ENGINEERING & RESEARCH,
SANGOLA**

(An Autonomous Institute)

Affiliated to Dr. Babasaheb Ambedkar Technological University (BATU), Lonere



**In line with the
National Education Policy (NEP) 2020 Compliant
Curriculum
For**

**DEPARTMENT OF ARTIFICIAL INTELIGENCE & DATA
SCIENCE**

First Year B. Tech. to Fourth Year B. Tech.

(Sem. III to Sem. VIII)

(w.e.f. A.Y. 2026-27)

Signature
10/07/2026

Semester Wise Credit Distribution as per NEP

Semester/Courses		I	II	III	IV	V	VI	VII	VIII	Total
Basic Science Course	BSC/ESC	06-08	08-10	-	-	-	-	-	-	14-18
Engineering Science Course		08-10	04-06	-	-	-	-	-	-	16-12
Programme Core Course (PCC)	Program Courses	-	02	08-10	08-10	10-12	08-10	04-06	04-06	44-56
Programme Elective Course (PEC)		-	-	-	-	04	08	02	06	20
Multidisciplinary Minor (MDM)	Multidisciplinary Courses	-	-	02	02	04	02	02	02	14
Open Elective (OE) Other than a particular program		-	-	04	02	02	-	-	-	08
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	02	02	-	02	-	02	-	-	08
Ability Enhancement Course (AEC-01, AEC-02)	Humanities Social Science and Management (HSSM)	02	-	-	02	-	-	-	-	04
Entrepreneurship/Economics/Management Courses		-	-	02	02	-	-	-	-	04
Indian Knowledge System (IKS)		-	02	-	-	-	-	-	-	02
Value Education Course (VEC)		-	-	02	02	-	-	-	-	04
Research Methodology	Experiential Learning Courses	-	-	-	-	-	-	-	04	04
Comm. Engg. Project (CEP)/Field Project (FP)		-	-	02	-	-	-	-	-	
Project		-	-	-	-	-	-	-	04	04
Internship/ OJT		-	-	-	-	-	-	-	12	12
Co-curricular Courses (CC)	Liberal Learning Courses	02	02	-	-	-	-	-	-	04
Total Credits (Major)		20-22	20-22	20-22	20-22	20-22	20-22	20-22	20-22	160-176

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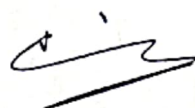


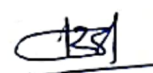
Course Category Wise Credit Distribution

Semester/Courses		I	II	III	IV	V	VI	VII	VIII	Total
Basic Science Course	BSC/ESC	08	07	-	-	-	-	-	-	15
Engineering Science Course		08	07	-	-	-	-	-	-	15
Programme Core Course (PCC)	Program Courses	-	02	10	10	12	08	12	-	54
Programme Elective Course (PEC)		-	-	-	-	04	08	02	06	20
Multidisciplinary Minor (MDM)	Multidisciplinary Courses	-	-	03	03	03	03	02	-	14
Open Elective (OE) Other than a particular program		-	-	03	03	02	-	-	-	08
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	02	02	-	02	-	02	-	-	08
Ability Enhancement Course (AEC-01, AEC-02)	Humanities Social Science and Management (HSSM)	02	-	01	01	-	-	-	-	04
Entrepreneurship/Economics/Management Courses		-	-	02	02	-	-	-	-	04
Indian Knowledge System (IKS)		-	02	-	-	-	-	-	-	02
Value Education Course (VEC)		-	-	02	02	-	-	-	-	04
Research Methodology		-	-	-	-	-	-	04	-	04
Comm. Engg. Project (CEP)/Field Project (FP)	Experiential Learning Courses	-	-	02	-	-	-	-	-	02
Project		-	-	-	-	-	02	02	-	04
Internship/ OJT		-	-	-	-	-	-	-	12	12
Co-curricular Courses (CC)	Liberal Learning Courses	02	02	-	-	-	-	-	-	04
Total Credits (Major)		22	22	23	22	21	23	22	22	176


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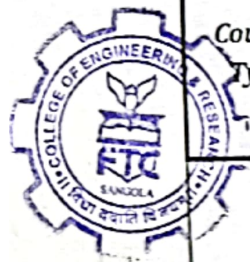
Curriculum for Second Year B. Tech. (Artificial Intelligence & Data Science) with effect from A.Y. 2026-27

Semester III

Course Type	Course Code	Name of the Course	Engagement Hours			Credits	In Semester Evaluation Scheme			End Semester Evaluation Scheme		Total Marks
			L	T	P		ISE	ICA	Total	ESE	OE/POE	
							M	M	M	M	M	
PCC	26UAI21101	Discrete Mathematics	03	-	-	03	30	10	40	60	-	100
	26UAI21102	Software Engineering and Project Management	03	-	-	03	30	10	40	60	-	100
	26UAI21103	Python Programming Laboratory	-	-	02	01		25	25		25	50
	26UAI21104	Principles of Artificial Intelligence	02	-	-	02	30	10	40	60	-	100
	26UAI21105	Principles of Artificial Intelligence Laboratory	-	-	02	01		25	25	-	25	50
MDM	-	Multidisciplinary Minor- I	03	-	-	03	30	10	40	60	-	100
OE	-	Open Elective-I	03	-	-	03	30	10	40	60	-	100
AEC	26UGS21403	Basic Quantitative Ability	01	-	-	01	-	50	50	-	-	50
EMC	26UET21806	Economics for Engineers	01			01	-	25	25	-	-	25
	26UET21807	Economics for Engineers Laboratory	-	-	02	01		25	25			25
VEC	26UGS21801	Universal Human Values	02	-	-	02	-	50	50	-	-	50
FP	26UA121741	Mini Project- I	-	-	04	02	-	50	50	-	-	50
Audit	26UCE21901	Environment Studies	01	-	-	00	-	50	50	-	-	50
Audit	26UA121901	Technical Aptitude I	-	-	02	00	-	50	50	-	-	50
		Total	19	-	12	23	150	400	550	300	50	900

Abbreviations: L= Lecture, T= Tutorial, P= Practical, M= Marks

Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores.



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Curriculum for Second Year B. Tech (Artificial Intelligence & Data Science) with effect from A.Y. 2026-27

Semester-IV

Course Type	Course Code	Name of the Course	Engagement Hours			Credits	In Semester Evaluation Scheme				End Semester Evaluation Scheme		Total Marks
			L	T	P		MSE	ICA	Total	ESE	OE/POE		
PCC	26UAI22106	Probability and Statistics	03	-	-	03	30	10	40	60	-	-	100
	26UAI22107	Data Analytics	02	-	-	02	30	10	40	60	-	-	100
	26UAI22108	Database Management System	03	-	-	03	30	10	40	60	-	-	100
	26UAI22109	Database Management System Laboratory	-	-	02	01	-	25	25	-	25	-	50
	26UAI22110	Object-Oriented Programming using JAVA	-	-	02	01	-	25	25	-	25	-	50
		Multidisciplinary Minor-II	03	-	-	03	30	10	40	60	-	-	100
MDM	-	Open Elective-II	03	-	-	03	30	10	40	60	-	-	100
OE	-	Prompt Engineering	-	-	02	01	-	50	50	-	-	-	50
VSEC	26UAI22651	Advance Quantitative Ability	01	-	-	01	-	50	50	-	-	-	50
AEC	26UGS22404	Start-up Ecosystem	01	-	-	01	-	25	25	-	-	-	25
EMC	26UET22803	Start-up Ecosystem Laboratory			02	01		25	25				25
VEC	26UET22804	Professional Ethics Laboratory	01	-	-	01	-	25	25	-	-	-	25
	26UET22805	Professional Ethics			02	01		25	25	-	-	-	25
AUDIT	26UME22901	Constitution of India	01	-	-	0	-	50	50	-	-	-	50
AUDIT	26UAI22902	Technical Aptitude-II	-	-	02	0	-	50	50	-	-	-	50
		Total	18	-	12	22	150	400	550	300	50		900

Abbreviations: L=Lecture, T=Tutorial, P=Practical, M=Marks

Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores.

Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores.

Abbreviations: L=Lecture, T=Tutorial, P=Practical, M=Marks

Note- Industrial Training will be conducted after Semester IV and evaluated in Semester V.

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Curriculum for Third Year B. Tech (Artificial Intelligence & Data Science) with effect from A.Y. 2027-28

Semester V

Course Type	Course Code	Name of the Course	Engagement Hours			Credits	In Semester Evaluation Scheme			End Semester Evaluation Scheme		Total Marks
			L	T	P		Evaluation Scheme			Evaluation Scheme		
							MSE	ICA	Total	ESE	OE/POE	
PCC	27UA131111	Machine Learning	03	-	-	03	30	10	40	60	-	100
	27UA131112	Machine Learning Laboratory	-	-	02	01		25	25	-	25	50
	27UA131113	Data Science	03	-	-	03	30	10	40	60	-	100
	27UA131114	Data Science Laboratory		-	02	01		25	25	-	25	50
	27UA131115	Software Testing and Quality Assurance	03	-	-	03	30	10	40	60	-	100
	27UA131116	Software Testing and Quality Assurance Laboratory	-	-	02	01		50	50			50
PEC	-	Program Elective Course-1	03	-	-	03	50	50	100	-	-	100
PEC	-	Program Elective Course-1 (Laboratory)	-	-	02	01	-	50	50	-	-	50
MDM	-	Multidisciplinary Minor-III	03	-	-	03	30	10	40	60	-	100
OE	-	Open Elective-III	02	-	-	02	30	10	40	60	-	100
AUDIT	27UA131903	Technical Aptitude-III	-	-	02	-	-	50	50	-	-	50
AUDIT	27UGS31901	Logical Reasoning	01	-	-	-	-	50	50	-	-	50
AUDIT	27UA131904	Industrial Training						50	50			50
		Total	18	-	10	21	200	350	550	300	50	950
Abbreviations: L=Lecture, T=Tutorial, P=Practical, M=Marks												
Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores												

Abbreviations: L=Lecture, T=Tutorial, P=Practical, M=Marks

Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores

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Curriculum for Third Year B. Tech. (Artificial Intelligence & Data Science) with effect from A.Y. 2027-28

Semester VI

Course Type	Course Code	Name of the Course	Engagement Hours			Credits	In Semester Evaluation Scheme				End Semester Evaluation Scheme			Total Marks
			L	T	P		ISE	ICA	Total	ESE	OE/PO E			
							M	M	M	M	M			
PCC	27UAI32117	Cloud Computing	02			02	30	10	40	60			100	
	27UAI32118	Deep Learning	02			02	30	10	40	60			100	
	27UAI32119	Deep Learning & Advanced Machine Learning Laboratory			02	01		50	50		50		100	
	27UAI32120	Advanced Machine Learning	03			03	30	10	40	60			100	
PEC	-	Program Elective Course- II	03	-	-	03	30	10	40	60			100	
	-	Program Elective Course- II Laboratory	-	-	02	01	-	25	25	-	-		25	
	-	Program Elective Course- III	03	-	-	03	50	50	100				100	
	-	Program Elective Course- III Laboratory	-	-	02	01	-	25	25	-	-		25	
MDM	-	Multidisciplinary Minor- IV	03	-	-	03	30	10	40	60		-	100	
VSEC	27UCE32603	Reasoning Skill- II	02	-	-	02	-	50	50	-	-		50	
Project	27UAI32751	Project Phase - I			04	02	-	50	50	-	50		100	
AUDIT	27UAI32905	Technical Aptitude -IV	-	-	02	-	-	50	50	-	-		50	
AUDIT	27UGS32902	Data Interpretation	01	-	-	-	-	50	50	-	-		50	
	Total		19	-	12	23	200	400	600	300	100		1000	

Abbreviations: L= Lecture, T= Tutorial, P= Practical, M= Marks

Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores.

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Curriculum for Fourth Year B. Tech. (Artificial Intelligence & Data Science) with effect from A.Y. 2028-29

Semester VII

Course Type	Course Code	Name of the Course	Engagement Hours			Credits	In Semester Evaluation Scheme				End Semester Evaluation Scheme		Total Marks
			L	T	P		ISE	ICA	Total	ESE	OE/POE		
PCC	28UA141122	Advanced Computer Vision	03			03	30	10	40	60		100	
	28UA141123	Block Chain Technology	03			03	30	10	40	60		100	
	28UA141124	Information and Cyber Security	02			02	30	10	40	60		100	
	28UA141125	Natural Language Processing	03			03	30	10	40	60		100	
	28UA141126	Natural Language Processing Laboratory			02	01	30	10	25		25	50	
PEC	-	Program Elective Course- IV	02	-	-	02	30	10	40	60	-	100	
MDM	-	Multidisciplinary Minor- V	02	-	-	02	30	10	40	60	-	100	
RM	28UA141752	Research Methodology	03	01	-	04	-	50	50	-	-	50	
Project	28UA141752	Project Phase-II	-	-	04	02	-	50	50	-	50	100	
AUDIT	28UA141906	Technical Aptitude -V	-	-	02	00	-	50	50	-	-	50	
	Total		18	01	08	22	180	260	440	360	75	850	

Abbreviations: L= Lecture, T= Tutorial, P= Practical, M= Marks

Abbreviations: L= Lecture, T= Tutorial, P= Practical, M= Marks

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Curriculum for Fourth Year B. Tech. (Artificial Intelligence & Data Science) with effect from A.Y. 2028-29

Semester VIII

Course Type	Course Code	Name of the Course	Engagement Hours			In Semester Evaluation Scheme			End Semester Evaluation Scheme			Total Marks
			L	T	P	Credits	ISE	ICA	Total	ESE	OE/POE	
							M	M	M	M	M	
PEC	-	Program Elective Course- IV -Self-Learning 1#	-	-	-	03	-	-	-	60	40	100
	-	Program Elective Course- VI-Self-Learning 2#	-	-	-	03	-	-	-	60	40	100
Internship/OJT	28UA142761	Internship \$	-	-	24	12	-	100@	100@	-	100	200
Total			-	-	24	18		100	100	120	180	400

Note: A minimum of 40% marks is required to pass in the 'In Semester Evaluation Scheme Total', which is the sum of MSE and ICA scores.

Abbreviations: L= Lecture, T= Tutorial, P= Practical, M= Marks

These subjects are to be studied using SWAYAM/NPTEL (8 weeks) (The list may alter and modify as per the availability of the subjects on the NPTEL/SWAYAM platform and usefulness, every year). Students who fail to satisfy the passing criteria of the course shall be required to appear for an offline examination for the same course and secure the minimum passing marks/grade as prescribed by the Institute.

\$ Twelve weeks of Internship in the industry.

@ Student has to submit monthly internship activity report as per prescribed format to department internship coordinator.

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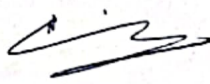


List of Program Core Course (PCC)

Course Type	Course Code	Name of the Course
PCC	26UAI21101	Discrete Mathematics
	26UAI21102	Prompt Engineering
	26UAI21103	Python Programming Lab
	26UAI21104	Principles of Artificial Intelligence
	26UAI21105	Principles of Artificial Intelligence Lab
	26UAI22106	Probability and Statistics
	26UAI22107	Data Analytics
	26UAI22108	Programming in JAVA Lab
	26UAI22109	Database Management System
	26UAI22110	Database Management System Lab
	27UAI31111	Machine Learning
	27UAI31112	Machine Learning Lab
	27UAI31113	Data Science
	27UAI31114	Data Science Lab
	27UAI31115	Software Testing and Quality Assurance
	27UAI31116	Software Testing and Quality Assurance Lab
	27UAI32117	Cloud Computing
	27UAI32118	Deep Learning
	27UAI32119	Deep Learning Lab
	27UAI32120	Advanced Machine Learning
	27UAI32121	Advanced Machine Learning Lab
	28UAI41122	Advanced Computer Vision
	28UAI41123	Block Chain Technology
	28UAI41124	Information and Cyber Security
	28UAI41125	Natural Language Processing
	28UAI41126	Natural Language Processing Lab


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List of Program Elective Course (PEC)

Semester	Sem-V	Sem-VI	Sem-VI	Sem-VII	Sem-VIII	Sem-VIII
PEC	PEC-I	PEC-II	PEC-III	PEC-IV	PEC-V	PEC-VI
Credits	Credit-4 (Th=03, Lab=01)	Credit-4 (Th=03, Lab=01)	Credit-4 (Th=03, Lab=01)	Th=02	Th=02	Th=02
Choice 1	Generative AI (27UA131201-A) Generative AI Lab (27UA131202-A)	Intelligent Learning Systems (27UA132203-A) Intelligent Learning Systems Lab (27UA132204-A)	Vision-Based AI Systems (27UA132205-A) Vision-Based AI Systems Lab (27UA132206-A)	Reinforcement Learning (28UA141207-A)	MOOC- NPTEL Course of 4 Week (28UA142208-A)	MOOC-NPTEL Course of 4 Week (28UA142209-A)
Choice 2	Data Visualization with Python (27UA131201-B) Data Visualization with Python (27UA131202-B)	Time Series Forecasting (27UA132203-B) Time Series Forecasting Lab (27UA132204-B)	Data Mining & Warehousing (27UA132205-B) Data Mining & Warehousing Lab (27UA132206-B)	Reinforcement Learning (28UA141207-B)	MOOC- NPTEL Course of 4 Week (28UA142208-B)	MOOC-NPTEL Course of 4 Week (28UA142209-B)
Choice 2	Cloud Computing for AI (27UA131201-C) Cloud Computing for AI (27UA131202-C)	Big Data Analytics (27UA132203-C) Big Data Analytics Lab (27UA132204-C)	MLOps (27UA132205-C) MLOps Lab (27UA132206-C)	Reinforcement Learning (28UA141207-C)	MOOC- NPTEL Course of 4 Week (28UA142208-C)	MOOC-NPTEL Course of 4 Week (228UA142209-C)

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LIST OF MULTIDISCIPLINARY MINOR COURSES:

Offered by AI&DS Department

Sr No.	Name of Minor Domain	Courses Offered	Course Code
1	Web Engineering	Fundamentals of Web Technologies	26UAI21401
		Frontend Development using HTML, CSS & JS	26UAI22402
		Backend Web Development using Node.js / Django	27UAI31403
		Full Stack Development with MERN/MEAN Stack	27UAI32404
		UI/UX Design & Web Deployment (Cloud + DevOps)	28UAI41405
2	IT & Security Professional	Fundamentals of Computer Networks & Protocols	26UAI21401
		Linux Essentials & System Administration	26UAI22402
		Cyber Security Principles & Best Practices	27UAI31403
		Ethical Hacking & Penetration Testing	27UAI32404
		Network & Web Security using Tools (Wireshark, Metasploit)	28UAI41405

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LIST OF OPEN ELECTIVE COURSES

Sr. No	Elective Type	OE-I with 3 Credit Sem-III	OE-II with 3 Credit Sem-IV	OE-III with 2 Credit Sem-V	Course offered by Department
1	Health & Management	Emotional Intelligence (26UOE21501-A)	Leadership Skills (26UOE22502-A)	Stress Management (27UOE31503-A)	AI&DS
2	Environment & Sustainability	Climate Change & Mitigation (26UOE21501-B)	Waste Management & Recycling (26UOE22502-B)	Green Technology (27UOE31503-B)	Civil
3	Sustainable Development	Agriculture Systems and Digital Enablers (26UOE21501-C)	Data-Driven Decision Making in Agriculture (26UOE22502-C)	AI Applications for Sustainable Food Systems (27UOE31503-C)	CSE
4	Humanities & Arts	Fundamental of IPR (26UOE21501-D)	Legal Aspects of Innovation & Intellectual Property Rights (26UOE22502-D)	Patent search and Analytics (27UOE31503-D)	Electrical
5	Management & Commerce	Behavioral Economics (26UOE21501-E)	Financial Management for Engineers (26UOE22502-E)	Business Ethics (27UOE31503-E)	E&TC
6	Arts & Design	Design Thinking (26UOE21501-F)	Management Innovation & Entrepreneurship (26UOE22502-F)	Product Development (27UOE31503-F)	Mechanical

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