



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURJADA VZM

VIZIANAGARAM – 535 003, Andhra Pradesh, India

B. Tech Artificial Intelligence & Data Science
(R23-COURSE STRUCTURE)

(Applicable from the academic year 2024-25 and onwards)

B.Tech.– I Year I Semester

S. No .	Course Code	Course Name	L	T	P	Credits
1.	R23BS01	Linear Algebra & Calculus	3	0	0	3
2.	R23BS03	Engineering Physics	3	0	0	3
3.	R23HS01	Communicative English	2	0	0	2
4.	R23ES01	Basic Civil & Mechanical Engineering	3	0	0	3
5.	R23ES07	Introduction to Programming	3	0	0	3
6.	R23HS01	Communicative English Lab	0	0	2	1
7.	R23BS03	Engineering Physics Lab	0	0	2	1
8.	R23ES02	Engineering Workshop	0	0	3	1.5
9.	R23ES06	IT Workshop	0	0	2	1
10.	R23ES07	Computer Programming Lab	0	0	3	1.5
11.	R23MC01	Health and Wellness, Yoga and Sports	0	0	1	0.5
		Total				20.5

B.Tech.– I Year II Semester

S. No .	Course Code	Course Name	L	T	P	Credits
1.	R23BS02	Differential Equations and Vector calculus	3	0	0	3
2.	R23BS05	Chemistry	3	0	0	3
3.	R23ES03	Engineering Graphics	1	0	4	3
4.	R23ES04	Basic Electrical & Electronics Engineering	3	0	0	3
5.	R23PC04	Data Structures	3	0	0	3
6.	R23BS05	Chemistry Lab	0	0	2	1
7.	R23ES05	Electrical & Electronics Engineering workshop	0	0	3	1.5
8.	R23PC04	Data Structures Lab	0	0	3	1.5
9.	R23MC02	NSS/NCC/Scouts & Guides/Community Service	0	0	1	0.5
		Total				19.5

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S. No.	Category	Title	L	T	P	Credits
1	Basic Science	Discrete Mathematics & Graph Theory	3	0	0	3
2	HSMC	Universal Human Values - Understanding Harmony & Ethical Human Conduct	2	1	0	3
3	Engineering Science	Database Management Systems	3	0	0	3
4	Professional Core	Advanced Data Structures Algorithms Analysis	3	0	0	3
5	Professional Core	Object Oriented Programming Through Java	3	0	0	3
6	Professional Core	Advanced Data Structures and Algorithms Analysis Lab	0	0	3	1.5
7	Professional Core	Object Oriented Programming Through Java Lab	0	0	3	1.5
8	Skill Enhancement course	Python Programming	0	1	2	2
9	Audit Course	Environmental Science	2	0	0	-
Total			16	2	8	20

B.Tech.– II Year II Semester

S. No.	Category	Title	L	T	P	Credits
1	Management Course- I	Managerial Economics & Financial Analysis	2	0	0	2
2	Engineering Science / Basic Science	Statistical Methods for Data Science	3	0	0	3
3	Professional Core	Principles of Artificial Intelligence	3	0	0	3
4	Professional Core	Introduction to Data Science	3	0	0	3
5	Professional Core	Digital Logic& Computer Organization	3	0	0	3
6	Professional Core	Artificial Intelligence Lab	0	0	3	1.5
7	Professional Core	Data Science using Python Lab	0	0	3	1.5
8	Skill Enhancement Course	Full Stack Development-1	0	1	2	2
9	Engineering Science	Design Thinking & Innovation	1	0	2	2



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Total	15	1	10	21
Mandatory Community Service Project Internship of 08weeks duration during summer vacation				

B.Tech. – III Year I Semester

S.No.	Category	Title	L	T	P	Credits
1	Professional Core	Automata Theory & Compiler Design	3	0	0	3
2	Professional Core	Machine Learning	3	0	0	3
3	Professional Core	Operating System	3	0	0	3
4	Professional Elective-I	1. Software Engineering 2. Object Oriented Analysis and Design 3. DevOps 4. Predictive Analytics	3	0	0	3
5	Open Elective- I	Open Electives offered by other departments	3	0	0	3
6	Professional Core	Machine Learning lab	0	0	3	1.5
7	Professional Core	Operating System & Compiler design Lab	0	0	3	1.5
8	Skill Enhancement course	Nodejs	0	1	2	2
9	ES	Tinkering Lab	0	0	2	1
10	Evaluation of Community Service Internship		-	-	-	2
Total			15	1	10	23

Minors: -



B. Tech CSE (Artificial Intelligence & Data Science)

(R23-COURSE STRUCTURE)

(Applicable from the academic year 2024-25 and onwards)

B.Tech.– III Year II Semester

S.No.	Category	Title	L	T	P	Credits
1	Professional Core	Computer Networks	3	0	0	3
2	Professional Core	Deep Learning	3	0	0	3
3	Professional Core	Natural Language Processing	3	0	0	3
4	Professional Elective-II	1. Software Testing Methodology 2. Cryptography & Network Security 3. Internet of Things 4. Data Ethics and Privacy 5. 12-week MOOC Swayam/NPTEL course recommended by the BoS	3	0	0	3
5	Professional Elective-III	1. Computer Vision 2. Quantum Computing 3. Software Project Management 4. AI Ethics 5. 12-week MOOC Swayam/NPTEL course recommended by the BoS	3	0	0	3
6	Open Elective – II	Open elective offered by other department	3	0	0	3
7	Professional Core	Deep Learning Lab	0	0	3	1.5
8	Professional Core	Natural Language Processing Lab	0	0	3	1.5
9	Skill Enhancement course	Soft skills OR IELTS	0	1	2	2
10	Audit Course	Technical Paper Writing & IPR	2	0	0	-
Total			19	1	06	23
Mandatory Industry Internship of 08 weeks duration during summer vacation						



(Applicable from the academic year 2024-25 and onwards)

B.Tech. – IV Year I Semester

S. No.	Category	Title	L	T	P	Credits
1	Professional Core	Data visualization	3	0	0	3
2	Management Course- II	Entrepreneurship & Incubation	2	0	0	2
3	Professional Elective-IV	1. AI Chatbot 2. Blockchain Technology 3. Generative AI 4. NoSQL databases 5. 12-week MOOC Swayam/NPTEL course recommended by the BoS	3	0	0	3
4	Professional Elective-V	1. Agile methodologies 2. Cloud Computing 3. Reinforcement Learning 4. High-Performance Computing 5. 12-week MOOC Swayam/NPTEL course recommended by the BoS	3	0	0	3
5	Open Elective-III	Open elective offered by other department	3	0	0	3
6	Open Elective-IV	Open elective offered by other department	3	0	0	3
7	Skill Enhancement Course	Prompt Engineering	0	1	2	2
8	Audit Course	Gender Sensitization	2	0	0	-
9	Internship	Evaluation of Industry Internship	-	-	-	2
Total			19	1	02	21



(Applicable from the academic year 2024-25 and onwards)

B.Tech.– IV Year II Semester

S. No.	Category	Title	L	T	P	Credits
1	Internship & Project Work	Full semester Internship & Project Work	0	0	24	12

OPEN ELECTIVES OFFERED BY AI & DS TO OTHER BRANCHES:

OPEN ELECTIVE -I	OPEN ELECTIVE -II
<ol style="list-style-type: none">1. Introduction to Artificial Intelligence2. Exploratory Data Analysis with Python3. Social Media Analytics	<ol style="list-style-type: none">1. Fundamentals of Data Base Management System2. JAVA Programming3. Fundamentals of Cloud Computing
OPEN ELECTIVE -III	OPEN ELECTIVE -IV
<ol style="list-style-type: none">1. Introduction to Machine Learning2. AI Chabot3. Data Wrangling and Pre-processing	<ol style="list-style-type: none">1. Internet of Things2. Cyber Security3. Block Chain Technologies