B.Sc. DATA SCIENCE & ARTIFICIAL INTELLIGENCE

DURATION: 3 YEARS
SEMESTER: 6

EXPLORE THE WORLD OF DATA SCIENCE & AI

The Bachelor of Science in Data Science and Artificial Intelligence is an interdisciplinary program designed to equip students with the knowledge and practical skills necessary to analyze complex data and develop intelligent systems. The program integrates key concepts from statistics, computer science, and artificial intelligence, preparing students for a data-driven future.

Transforming the Present, Shaping the Future

bcaeducation.com

KEY ASPECTS OF THE PROGRAM

CURRICULUM
- **Foundations:** Mathematics, Statistics, Computer Programming
- **Core Subjects:** Data Structures, Algorithms, Databases, Probability
- **Specializations:** Machine Learning, Deep Learning, Natural Language, Processing, Computer Vision, Big Data Analytics

SKILL DEVELOPMENT
STUDENTS BUILD PROFICIENCY IN:
- Data analysis and visualization
- Programming languages such as
- Python and R
- Machine learning and AI model
- Development
- Neural networks and deep learning
- Data Analysis and preprocessing

REAL-WORLD APPLICATIONS
- **Finance:** Fraud detection, algorithmic trading
- **Healthcare:** Predictive diagnostics, personalized medicine
- **Manufacturing:** Predictive maintenance, automation
- **Retail and Marketing:** Customer analytics, recommendation systems

CAREER OPPORTUNITIES
- Data Scientist
- AI/ML Engineer
- Data Analyst
- Business Intelligence Analyst
- Data Engineer
- AI Research Assistance

PROGRAM HIGHLIGHTS

ELIGIBILITY CREITERIA:

- Required: Completion of 10+2 (or equivalent) from a recognized board
- Stream: Science & Commerce
- Minimum Marks: Generally, a minimum of 55% aggregate marks in HSC.
- Medium: English

PREFERRED /ADDITIONAL QUALIFICATIONS:

- Basic Programing Knowledge (optional but advantageous)
- good knowledge of mathematics

FEES STRUCTURE UNIVERSITY+PROGRAM LEARNING FEES:

FY.B.Sc.Data Science (AI)	
Online Registration Fees	200/-
Online Admission Processing Fees	500/-
University Fees	30000/-
Program Learning Fees	47000/-

FEE PAYMENT DETAILS AT THE TIME OF ADMISSION:

1. UNIVERSITY FEES
2. PROGRAM LEARNING FEES - INSTALLMENT 1
3. PROGRAM LEARNING FEES - INSTALLMENT 2 (ON OR BEFORE NOVEMBER 2025)

COURSE STRUCTURE

B. Sc. (Data Science & Artificial Intelligence)- Program Code - 799

SEMESTER I

Subject Code	Subject Name	Category	Credit Th	Credit Pr	Theory Marks EXT	Theory Marks INT	Practical Marks EXT	Practical Marks INT	Tot. Marks
79925-101	C Programming	Core	3	-	60	40	-	-	100
79925-102	Mathematics	Core	4	-	60	40	-	-	100
79925-103	Computer & Network Fundamentals	DSC	3	-	60	40	-	-	100
79925-104	Operating System	DSC	3	-	60	40	-	-	100
79925-105	English	AECC	2	-	30	20	-	-	50
79925-106	Lokmanya Bal Gangadhar Tilak-Maker of Modern India	Value Added	2	-		50	-	-	50
79925-107	Advanced Excel	SEC	2	-	30	20	-	-	50
79925-108	C Programming (PR)	Core-LAB	-	1	-	-	30	20	50
			20						600

SEMESTER II

Subject Code	Subject Name	Category	Credit Th	Credit Pr	Theory Marks EXT	Theory Marks INT	Practical Marks EXT	Practical Marks INT	Tot. Marks
79925-201	Python Programming	Core	3	-	60	40	-	-	100
79925-202	Statistics	Core	4	-	60	40	-	-	100
79925-203	Structured System Analysis and Design	DSC	3	-	60	40	-	-	100
79925-204	Data Mining	Core	3	-	60	40	-	-	100
79925-205	Communication Skills	AECC	2	-	30	20	-	-	50
VAC211	Moral Values	Value Added	2	-		50	-	-	50
IKS24	Indian Knowledge System (IKS)-Generic	IKS-Generic	2	-		50	-	-	50
79925-206	Python Programming(PR)	Core-Lab	-	1	-	-	30	20	50
			20						600

SEMESTER III

Subject Code	Subject Name	Category	Credit Th	Credit Pr	Theory Marks EXT	Theory Marks INT	Practical Marks EXT	Practical Marks INT	Tot. Marks
79925-301	Advanced Web Designing	Core	3	-	60	40	-	-	100
79925-302	Database Management System (DBMS)	Core	3	-	60	40	-	-	100
79925-303	Environmental Studies	Value Added	4	-	-	100	-	-	100
79925-304	Exploratory Data Analysis	DSC	2	-	30	20	-	-	50
79925-305	Lokmanya B.G Tilak -The Visionary	Value Added	2	-	-	50	-	-	50
79925-306	Machine Learning Foundation	SEC	2	-	30	20	-	-	50
79925-307	Data Visualisation	DSC	2	-	30	20	-	-	50
79925-308	Advanced Web Designing (PR)	Core-Lab	-	1	-	-	30	20	50
79925-309	Data Visualisation (PR)	Core-Lab	-	1	-	-	30	20	50
			20						600

COURSE STRUCTURE

SEMESTER IV

Subject Code	Subject Name	Category	Credit Th	Credit Pr	Theory Marks EXT	Theory Marks INT	Practical Marks	Practical Marks	Tot. Marks
79925-401	Advanced Database Management System	Core	3	-	60	40	-	-	100
79925-402	Java Programming	Core	3	-	60	40	-	-	100
79925-403	Power Bi	Skill Enhancement	2	-	60	40	-	-	100
79925-404	Unified Modeling Language (UML)	DSC	3	-	60	40	-	-	100
79925-405	Soft Skills	AECC	2	-	30	20	-	-	50
79925-406	Bigdata Technologies	Interdisciplinary	3	-	60	40	-	-	100
79925-407	Java Programming (PR)	Core-LAB	-	1	-	-	30	20	50
79925-408	Advanced Database Management System (PR)	Core-LAB	-	1	-	-	30	20	50
79925-409	Indian Knowledge System-Computer Science- Discipline Specific	IKS - DS	2	-	-	50			50
			20						700

SEMESTER V

Subject Code	Subject Name	Category	Credit Th	Credit Pr	Theory Marks EXT	Theory Marks INT	Practical Marks EXT	Practical Marks INT	Tot. Marks
79925-501	Machine Learning - I	Core	3	-	60	40	-	-	100
79925-502	Natural Language Processing	Core	3	-	60	40	-	-	100
79925-503	Internet of Things- IoT	DSC	3	-	60	40	-	-	100
79925-504	Introduction to Artificial Intelligence	DSC	3	-	60	40	-	-	100
79925-505	Business Communication	Interdisciplinary	3	-	60	40	-	-	100
79925-506 / 79925-507	Business Forcasting OR Digital Marketing with Data Analytics	Multidisciplinary	3	-	60	40	-	-	100
79925-508	Machine Learning - I (PR)	Core-LAB	-	1	-	-	30	20	50
79925-509	Natural Language Processing(PR)	Core-LAB	-	1	-	-	30	20	50
			20						700

SEMESTER VI

Subject Code	Subject Name	Category	Credit Th	Credit Pr	Theory Marks EXT	Theory Marks INT	Practical Marks EXT	Practical Marks INT	Tot. Marks
79925-601	Machine Learning - II	Core	3	-	60	40	-	-	100
79925-602	Deep Learning	Core	3	-	60	40	-	-	100
79925-603	Cloud Technology & Security	DSC	2	-	60	40	-	-	100
79925-604	Project	Core	6	-	60	40	-	-	100
79925-605	Internship	Internship	4	-	-	100	-	-	100
79925-606	Machine Learning - II (PR)	DSC-LAB	-	1	-	-	30	20	50
79925-607	Deep Learning (PR)	DSC-LAB	-	1	-	-	30	20	50
			20						600

EXAM PATTERN

- Credit Choice-Based Internal (Online/Assignment) & External (Theory/Practical).
- 40% passing required for each Internal & External Exam.
- ATKT pattern is applicable in B.Sc. DS&AI.
- A student can be promoted to S.Y.B.Sc. DS&AI even if they have ATKT in all subjects of F.Y.B.Sc. DS&AI.
- To be eligible for admission to T.Y.B.Sc. DS&AI, the student must have cleared all F.Y.B.Sc. DS&AI subjects.

ADMISSION PROCESS

LIST OF REQUIRED DOCUMENTS

- Passport size photo
- SSC & HSC Mark sheet
- Leaving Certificate
- Aadhar Card
- University and Collage fee's transaction slip
- ABCID

Admission process of B.Sc.DS &AI degree program is online

GENERAL INFORMATION

- B.Sc. in Data Science & Artificial Intelligence (DS & AI) degree program is affiliated to Tilak Maharashtra Vidyapeeth, Pune – a reputed and UGC-recognized university.

- Mathematics for Science stream students and Accounts for Commerce stream students are compulsory.

- No Entrance Exam.

- Reserved Candidates will get 3% benefit of their University Tuition Fees (student has to do all coordination with the University).

- Textbooks for all subjects will be provided by the University.

- No hostel facility and travelling concession (Railways/Bus).

- Laptop is compulsory.

- Dual Degree is possible.

- No facility for physically challenged students.

- No gap admissions during the degree.

- Refund of fee for the cancellation of admission as per UGC norms will be considered after submission of a written application only, within 15 days from the date of admission. No request for refund of fees will be considered later. (Rs. 1000/- will be deducted by the University for admission

Tilak Maharashtra Vidyapeeth Pune

A rich legacy of 100 years in the field of education

INDIA'S STRUGGLE for freedom was a dynamic process in which a nation was punctuating, became conscious of new aspirations any` realized its best self. Among the individuals who initiated and accelerated this process, the late Lokmanya Tilak was one of the foremost. He does not, however, belong to the past. His words and deeds are a part of the personality of India even.

Education

Tilak established New English School in 1880 & Fergusson College in 1885 along with his friends. Education according to them was a very good platform for implementing their ideas of national education and to mould generation which will help build modern and strongIndia.

The origin of the Vidyapeeth dates back to pre-independence period - 1921 when immediately after the demise of Lokmanya Bal Gangadhar Tilak, his follower Mahatma Gandhi mooted the idea of establishing an universityin his memory.

Vision

To impart national education, through fine blend of traditional and modern knowledge as well as to democratize quality higher education by empowering the masses and reaching the unreached.

MISSION

- ❖ To create analyzing creative and practical intelligence.
- ❖ To equip and update with skills and knowledge for employability and entrepreneurship.
- ❖ To instill social accountability, serving community and civil ethics

UGC Recognition

NAAC Reaccredited
(Third Cycle) with
'B++' grade
Legacy of 100 years
in the field of
education

Though late, i.e. after 66 years of establishment of Vidyapeeth, it was only in the year 1987 that the UGC (University Grants Commission) took cognizance of significant work of TMV in the fields of Sanskrit, Ayurveda, Social Sciences and Distance Education and thereby on its recommendations, the Government of India conferred the "Deemed to be a University" status upon Tilak Maharashtra Vidyapeeth. With this conferment of "Deemed to be a University" status, the Vidyapeeth gained recognition at the national level. The Vidyapeeth at present offers post graduate education through MBA, MSW, MJ, B.Lib.I.Sc., M.Lib.I.Sc., M.A.orM.A.-(SocialSciences, Marathi,Hindi,English, Japanese,Sanskrit, Indology), M.A.inClassical Dance, M.SC

Nutrition & Ayurveda, M.A.M.C., Mass Communication and M.Com. along with ,B.Sc.Computer Applications, BCA, BBA, B.A. - Animation, VFX, Game Designing, BHMCT, BBA (Hotel Management), BPT, B.Sc. Nursing, B.Com, B.A. department under Mass Communication & Journalism. There are programme like B.A.J.M.C., B.A. - Sound, Film Making, Photography. B.A. or B.A. - Journalism and Mass Communication and Ph.D. in Management, Sanskrit, Indology, Ayurveda, Journalism and Mass Communication, Social Work, Social Science,Interdisciplinary. As per the guidelines of UGC, the Choice Based Credit System has been adapted and Under graduate courses.

MESSAGE FROM THE CHANCELLOR

Since inception. The Vidyapeeth has focused on imparting national education that would equip students to contribute productively towards the development of the nation. During the long period of 100 years the Vidyapeeth has constantly created to the changing needs of the society and nation without compromising on quality and its prime focus.

The last five years have witnessed an expansion in the infrastructure, technology, courses and research activities. Alternative up gradation of the resources, conduct of National and International Conferences, Se, Workshops. Research Publication are demonstration of our fortified resolve to perform better.

Our works have attained international recognition and accolades in the fields of Sanskrit and Indology, Ayurveda, Mass Media, Journalism and Japanese. Research in Ayurveda has been applauded national level. Establishment of Japanese department in the collaboration with Japanese government.

TMV prepares the students for upcoming challenges; and enables them to contribute towards national development which will ultimately lead to the fulfilment of Lokmanya's dream of building a strong and modern India. welcome you to TMV family to create your autonomous. Creative, analyzing intelligence as well as learn some additional skills and development your career to face global challenges.

Dr. Deepak J. Tilak

Chancellor.

INFORMATION CENTRE DETAILS

LOCATION

DES Mumbai Campus, Kriti College Road, Off, SVSRD, Dadar (W), Mumbai 400028, Maharashtra (India).

LECTURE TIME

B.Sc.DS & AI lectures are scheduled from Monday to Saturday in Afternoon Session. Only 60 students in one division

PRACTICALS CONDUCTED

Practicals Conducted: In the Computer Lab, each lab has 60 Desktops and one student per computer.

LIBRARY

A Learning Management System is provided to students with individual student login.

EXTRA CURRICULAR ACTIVITY

Internal Group Software Projects. Guidance on Masters MCA/MMS/M.Sc/PGDFM

LECTURE MODE   OFFLINE

PLACEMENT ASSISTANCE PROGRAMS

Mock Group Discussions
- Leadership
- Teamwork

Presentation Skills
- Visual Aids
- Delivery

Communication Skills
- Verbal Communication
- Written Communication

Interview Skills
- Behavioral Questions
- Technical Questions

Expert Lectures
- Industry Trends
- Career Advice

Resume Building
- Formatting
- Content

Aptitude Test
- Logical Reasoning
- Quantitative Aptitude

Mock Interview Experience
- One-on-One Interviews
- Panel Interviews

MOCK GROUP DISCUSSION

INTERVIEW SKILLS

APTITUDE TEST

EXPERT LECTURES

PRESENTATION & COMMUNICATION SKILLS