

**BS**

**BACHELOR OF SCIENCE  
AI-ML- DATA SCIENCE**

**FOUR YEAR MULTIDISCIPLINARY COURSE**



# SINCE 2009, FOCUSED TO PUT YOU AHEAD

Tapasya Educational Institutes were established in 2009 to impart top-notch education in Commerce and Management. Since then, we have always been providing student-centric approach, state-of-the-infrastructure, innovative teaching, expert faculty and a fully inspiring learning environment. Our commendable placement is a testimony of our commitment to help students prosper in their career, as our alumni placed in top companies across the globe. Our programs and curricula are designed to bridge the industry-academia gap and to ensure that students are groomed into leaders.







# KEY HIGHLIGHTS



7 campuses in Hyderabad, 5 campuses in Bengaluru; strong presence in Telangana and Karnataka



Presence of a dedicated Corporate Relations Department (CRD), Entrepreneurship Development Cell (EDC), Corporate Recruitment Training Cell (CRTTC) and Industry Exposure Cell (IEC)



Expert guidance, coaching and mentoring



Integrated courses such as CA, CMA, CLAT and IPMAT



Regular educational tours and industrial visits



Talks and seminars by industry experts

If you are aspiring to be a successful business leader or an entrepreneur, join Tapasya and realize your dreams.





# OUR VISION

“To develop management leaders and entrepreneurs to meet the world challenges.”



# OUR MISSION

“To inculcate values and develop business spirit among young aspirants to transform them into business leaders”.







# BS

## BACHELOR OF SCIENCE in COMPUTER SCIENCE

FOUR YEAR MULTIDISCIPLINARY COURSE

**AI - ML - DATA SCIENCE - BIGDATA**

The Bachelor of Science (Computer Science) is a four-year multidisciplinary undergraduate computer science programme with interdisciplinary emphases in Big Data, Business Analytics, Artificial Intelligence, and Machine Learning.

in addition to interdisciplinary courses. The Course Curriculum is composed of many disciplines such as mathematics, statistics, economics, and business management.

### Duration of the course

The course shall be for a period of 4 years spread over eight semesters.

### Eligibility

Any 10+2 in CBSE / ISC / any State Board in Commerce, Science or Arts or Intermediate AP / TS with MPC, BiPC, MEC and CEC

# BS

## BACHELOR OF SCIENCE in ECONOMICS

FOUR YEAR MULTIDISCIPLINARY COURSE

**BANKING ANALYTICS BIGDATA**

The Bachelor of Science (Economics) degree is a four-year undergraduate degree in Economics that includes transdisciplinary and interdisciplinary concentrations in Mathematics, Statistics, Computer Sciences, and Business Management.

### Duration of the course

The course shall be for a period of 4 years spread over eight semesters

### Eligibility

Any 10+2 in CBSE / ISC / any State Board in Commerce, Science or Arts or Intermediate AP / TS with MPC, BiPC, MEC and CEC





## BS – MS COURSES IN INDIA

To integrate and foster multidisciplinary research, the Government of India has created Indian Institutes of Science Education and Research IISERs in Berhampur, Bhopal, Kolkata, Mohali, Pune, Thiruvananthapuram, and Tirupati as well as diverse courses.

The Telangana State Council of Higher Education has approved Tapasya College of Commerce and Management to provide Osmania University Hyderabad's Five Year Integrated Dual Degree BS-MS Computer Science and BS-MS Economics.

As a Category-I university, Osmania University has authorised the introduction of five-year integrated dual degree BS-MS courses in computer science and economics at its affiliated institution, Tapasya College of Commerce and Management Hyderabad.

The BS-MS Computer Science and BS-MS Economics programmes are fresh and creative, with national and worldwide recognition. The goal of the BS-MS Dual Degree programme is to incorporate the traditional bachelor's and master's degrees into a more comprehensive educational experience by combining Computer Science, Mathematics, Statistics, Business Management, and Economics.

### The following National Level Institutions offering BS-MS Courses in India IISER, IIT Bombay...







# BS (COMPUTER SCIENCE) FOUR YEAR MULTIDISCIPLINARY COURSE

The BS Computer Science course curriculum seeks to guarantee that students who complete the program not only understand the essential themes of computer science, but also have an equivalent understanding for humanities, management sciences, and human values. Students are also introduced to developing areas such as analytics, machine learning, cloud computing, and the internet of things to ensure that they are industry ready at the completion of four years of study.

The four-year BS Degree is an internationally recognised Degree Nomenclature, allowing Indian students to transfer credits and participate in twinning program at universities in the United States and Europe.

## **Eligibility:**

Any 10+2 in CBSE / ISC / any State Board in Commerce, Science or Arts or Intermediate AP / TS with MPC, BiPC, MEC and CEC.

## **Admission Criteria**

- The candidate must meet the stipulated eligibility criteria.
- The applicant must score at least 50% in the Selection Criteria
- Aptitude Test & Personal Interview. Candidates with a valid score in JEE Mains, NEET, CLAT, IPM, TSEAMCET, APEAPCET, MHCET, UGAT, or SAT are favored.





## COURSE STRUCTURE

SEMESTER 1	SEMESTER 2	SEMESTER 3	SEMESTER 4
English - I	English - II	English - III	English - IV
Second language-I	Second language-II	Second language - III	Second Language IV
Principles of Micro Economics	Operating System	Principles of Marketing	Human Resource Management
Mathematical Foundations of Computer Science	Data Structures and Algorithm	E-Commerce	Software Engineering
Fundamentals of Computer Science & Language	Web Programming	Core Java Programming	Unix Programming
Indian Heritage & Culture - I	Principles of Financial Accounting	Relational Database Management System	Software Design with UML
Human values and Ethics - I	Indian Heritage & Culture – II	Environmental Studies - I	Environmental Studies - II
C++ , Language Lab	Human values and Ethics – II	Core Java Programming - Lab	Unix Lab
IT lab(MS-Office)	Web Programming Lab	RDBMS - Lab	Software Design with UML
---	Data Structures Using c++ Lab	---	Technical Seminar (Mini- Project)
SEMESTER 5	SEMESTER 6	SEMESTER 7	SEMESTER 8
Computer Networks	Organizational Behavioral and Development	Strategic Management	Consumer Behavior
Probability and Statistics	Advanced Machine Learning	Research Methodology	Data Visualization
Data Security	Big Data Platforms	Cloud Computing	Ethical Data Science
Artificial intelligence	Operations Research	Pitfalls of Data Science	Deep Learning
Machine learning	Data Mining	Internet of Things	AI and its Scientific Application
Big Data Environment	Software Project management	Statistical Analysis using R programming	Deep Learning lab
Science & Civilization - I	Science & Civilization – II	Cloud Computing Lab	Ethical Data Science Lab
Machine Learning Lab	Big Data Platforms – Python – Lab	Statistical Analysis using R programming – Lab	Project-1
Artificial intelligence Lab	Data Mining Lab	---	---



## Difference Between BS (CS), B.Tech (CSE) & B. Pharmacy

Factor	BS Computer Science	B.Tech - CSE	B. Pharmacy
<b>Full Name</b>	Bachelor of Science	Bachelor of Technology	Bachelor of Pharmacy
<b>Stream</b>	Computers, Economics and Management	Computers	Pharmaceutical Science
<b>Duration</b>	4 Years	4 Years	4 Years
<b>Specilization</b>	Multidisciplinary	Computers Only	Pharmacy only
<b>Discipline</b>	Interdisciplinary - Big Data, AI and ML	Traditional CS	Pharmacy
<b>Eligibility</b>	CBSE / ICSE / MPC / BIPC / MEC or Any Equivalent to 10 +2	MPC	BPC / MPC
<b>Course Type</b>	Techno Managerial	Technical	Scientific
<b>Focus</b>	Technology and Management	Purely Technical	Scientific
<b>Orientation</b>	Scientific and Techno-Managerial	Technical	Scientific
<b>Employability</b>	High	Average	Average
<b>Eligibility for Govt..Jobs</b>	Yes	Yes	Yes
<b>Approved By</b>	TSCHE	AICTE	PCI
<b>Affiliated to</b>	Osmania University	JNTU	Technical University





## BS (ECONOMICS) FOUR YEAR MULTIDISCIPLINARY COURSE

The Bachelor of Science (Economics) is a four-year undergraduate degree that combines the study of economics with inter-disciplinary and cross-disciplinary specialisations in business management, mathematics, statistics, and computer science.

Through some of the best economists in India, it seeks to develop some of the most brilliant young minds in our nation. Students are also encouraged to participate in research projects, creating a symbiotic environment for learning and discovery.

The goal of the BS in Economics is to produce highly qualified professionals with cross- and multi-disciplinary skills for applied economic analysis. The goal of the BS in Economics is to educate students to become better analysts and decision-makers in the fields of business, public policy, and development management. Graduates with these kinds of skills and abilities are increasingly in demand from industrial companies, banks, government and semi-government organisations, and research institutions.

### Eligibility:

Any 10+2 in CBSE / ISC / any State Board in Commerce, Science or Arts or Intermediate AP / TS with MPC, BiPC, MEC and CEC.

### Admission Criteria

- The applicant must meet the requirements for eligibility.
- The applicant must receive a score of at least 50% on the aptitude test and the personal interview.
- Candidates with valid scores in the following exams are preferred: JEE Mains, NEET, CLAT, IPM, TSEAMCET, APEAPCET, MHCET, UGAT, and SAT.





## COURSE STRUCTURE

SEMESTER 1	SEMESTER 2	SEMESTER 3	SEMESTER 4
English - I	English – II	English - III	English - IV
Second language - I	Second language-II	Second Language - III	Second Language - IV
Micro Economics - I	Micro Economics – II	Econometrics - I (Theory +lab)	Fundamentals of Business Economics
Macro Economics - I	Macro Economics – II	Economics of Environment	Econometrics - II (theory + lab)
Mathematical Economics - I	Statistical Methods for Economics	Principles of Marketing	Money & Banking
Introduction to Management	Fundamentals of Financial Accounting	Mathematical Economics - II	Fundamentals of IT (Theory & Lab)
Indian Heritage & Culture - I	Indian Heritage & Culture – II	Environmental Studies - I	Environmental Studies - II
Human values and Ethics - I	Human values and Ethics – II	---	---

SEMESTER 5	SEMESTER 6	SEMESTER 7	SEMESTER 8
International Economics - I	International Economics – II	Game Theory and Economic Analysis	International Organizations and Regional Cooperation
Developmental Economics - I	Developmental Economics – II	Theory of Pricing and Distribution	Economics of Growth and Development
Public Finance	Telangana Economy	Economics Electives I	Economics Elective II
Indian Economy	Data Analytics (Theory & Lab – SPSS)	4.A. Labor Economics	4.A. Economics of Infrastructure
Business Research Methods	Organizational Behaviour & Development	4.B. Health Economics	4.B. Economics of Natural Resources
E-Commerce	Financial Institutions & Markets	E - Views	Mini Project + Viva
Science & Civilization – I	Science & Civilization – II	Strategic Management	Consumer Behavior
---	---	Big Data Analytics for Business Analysts T&P	Data Analysis with "R" (T + P)





# CAREER OPPORTUNITIES FOR BS COMPUTER SCIENCE & BS ECONOMICS



Flipkart is a key participant in India's e-commerce market, providing anything from fashion and lifestyle items to consumer electronics. It employs data scientists in a variety of jobs, paying them an annual salary of Rs 17,00,000.



Walmart operates sophisticated wholesale outlets in 8 locations across India. It employs for a variety of data science professions, with an average annual salary of Rs 22,75,000. The annual salary typically varies between Rs 17,00,000 and Rs 28,00,000 in India.



Amazon, as one of the world's largest e-commerce firms, need data science skills for a variety of fundamental activities. Supply chain optimization, identification of frauds and bogus reviews, inventory and sales forecasts are just a few examples. Amazon has multiple offices in India where data scientists are hired. The wage range, according to Glassdoor, is Rs 578,000 - Rs 19,98,000, depending on the position.





HPE IT solutions are designed to help clients manage and evaluate their data. Data scientists at HPE may earn between Rs 8,00,000 and Rs 22,00,000.



IBM is a market leader in offering essential collaboration tools to data scientists, application developers, and other subject matter experts. IBM's data scientists make it easier to work with organised and unstructured data and train models on a large scale. In India, they earn an average income of Rs 13,50,000.



Deloitte employs advanced statistical approaches to provide end-to-end business solutions to data science practitioners. This Big Four organisation employs specialists in various roles with annual salaries ranging between Rs 12 and 13 lakh.



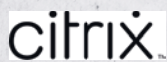
This well-known worldwide professional services organisation develops and implements plans leveraging integrated data resources. Accenture's average remuneration for data scientists is Rs. 10,50,000 per year.



[24] 7.ai is a market leader in customer-driven solutions that use artificial intelligence to help businesses communicate with customers. This firm's data scientist jobs pay an average of Rs 16,00,000 per year.



LinkedIn provides employment-related services to millions of individuals worldwide via online and mobile apps. Data scientist salaries range from Rs 13,00,000 per year to Rs 22,00,000 per year for high-level professions.



In India, this multinational firm located in the United States provides networking, cloud computing, and SaaS. Citrix's analytics and research teams perform data science initiatives to gain a competitive advantage in the market and forecast results in order to connect its activities with the purpose. Annual pay for data science and related jobs starts from Rs 6,00,000 and can go up to Rs 27,00,000 p.a.



It is India's second-largest analytics business. Fractal recruits data scientists with yearly salaries of roughly Rs 15,00,000.



This Bangalore software development company mostly works in the financial sector. At Two Roads Tech, the typical compensation range for data scientists is Rs 23,00,000 p.a. to Rs 35,00,000 p.a.





# FAQs

Frequently Asked Questions



**01 When I was in intermediate or twelve, I studied BiPC. How well will I be able to handle?**

Both BiPC students and students from other groups are unfamiliar with the topics covered in the BS courses. This course aims to remove the constraint of conventional rigid mindset and give students more options. Each subject's teaching will start with the fundamentals, and care will be taken to ensure that the students are learning effectively.

**02 In intermediate and 12th grade, I studied MEC and CEC. Which program, BS-Computer Science or BS-Economics, is better for me?**

Depending on the course you want to take with your career. Both are open to you.

**03 What are the prospects for those with a BS in computer science?**

In contrast to other comparable courses, which are one-dimensional, the BS in Computer Science offers you a 360-degree learning opportunity in the field. For instance, you may be given the chance to work in a bank's analytics department given your qualifications for the position.

**04 What are the prospects for a career in BS-Economics?**

With a BS in Economics, you can learn about mathematical economics, econometrics, statistics, management, data analysis, and analytics.

You develop into a total package with essential skills that are highly valued in the industry.

Many public and private sector organisations will be able to use you as a resource.





## FAQ'S

### 05 Who confers the BS (4-year) or BS-MS (5-year) Dual Degree?

Osmania University in Hyderabad awards BS (4 years) and BS-MS (5 years) degrees.

### 06 Which is preferable: a BS or a B.Tech in Computer Science?

Both the BS and B.Tech in Computer Science programmes equip students well for graduate school or professional careers in the domains of computing and information technology. The key distinction is that the BS degree combines computer science with Economics, Mathematics, Statistics, and Business Management, whereas the B.Tech programme concentrates solely on computer science and IT. BS and MS degrees are globally recognised, however B.Tech is solely available in India.

### 07 How can I apply, and how much are the application fees?

You can apply online on our website <https://www.tapasyaedu.com> or visit Tapasya college of Commerce and Management, 11-5-449, Opp Shah Function Hall Near FAPCCI, Red Hills Lakdi-ka-pul, Hyderabad - 500004  
Phone: +91 950 5900 100 / +91 950 5900 200  
Application Fee is Rs. 1000/-

### 08 What exactly is the admissions procedure?

Admission is based on merit and 12th grade marks as determined by TSCHE and Osmania University. Those with a good score/rank in JEE Mains / TSEAMCET / APEAPCET / CLAT / LawCET / IPMAT / NEET will be given preference. After shortlisting, each candidate is given an online aptitude test and career counselling to learn about their career options.

### 09 Does Admission have a reservation policy?

Yes, reservation is enforced in accordance with Telangana government policies for SC, ST, BC, OBC, EWS, and others.