

# Vidiyarthi Lakshya

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## Career Counseling & Mapping

A Tool for a Better Future



✓ An Overview of Medical Studies

✓ Occupational Therapy as a Growing Profession

✓ BSc Anesthesiology & Operation Theatre Technology

✓ CSE vs Artificial Intelligence: Choosing Your Path

✓ Pursuing LLB Law Programs in IEM

✓ Cracking TOEFL & IELTS Exams

EMPOWERING YOU TOWARDS SUCCESSFUL CAREER PATH!



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# FROM CHAIRMAN'S DESK



**A**s an editor observing the evolving landscape of higher education, it is both inspiring and humbling to witness the dedication of today's medical and engineering students. These young scholars are not merely learners of theory; they are the architects of our future—designing innovations, advancing healthcare, and shaping societies in ways that previous generations could only imagine.

Medical students embark on a journey that blends rigorous science with profound human empathy. Their education demands not only mastery of anatomy, physiology, and clinical practice but also the cultivation of ethical judgment and emotional resilience.

Each lecture, lab, and patient interaction contributes to a foundation that will allow them to confront the complexities of modern healthcare—ranging from cutting-edge treatments to the socio-economic factors that influence well-being. In observing these students,

one cannot help but be struck by their relentless pursuit of knowledge and their unwavering commitment to improving human life.

Engineering students, meanwhile, inhabit a world of problem-solving and innovation. They are trained to analyze systems, design solutions, and anticipate the unforeseen consequences of technology. Whether their focus is civil, mechanical, electrical, or software engineering, their work forms the backbone of modern society—from sustainable infrastructure to artificial intelligence, from energy-efficient systems to life-saving devices. The ingenuity and precision cultivated in engineering education ensure that these students are not merely participants in the technological revolution—they are its leaders.

From an editor's standpoint, the remarkable commonality between these two fields lies in purpose. Both medical and engineering students are preparing to confront challenges that require intellect, creativity, and responsibility. Both will work at the intersection of theory and practice, transforming knowledge into tangible solutions that impact millions of lives.

In closing, as an editor chronicling the aspirations of young professionals, I am reminded that the promise of the future rests in capable hands. Medical and engineering students alike are poised to redefine what is possible—whether in saving lives, creating sustainable solutions, or inventing technologies that reshape our world. It is a privilege to witness their growth, and a responsibility to ensure their voices, achievements, and innovations are recognized, celebrated, and shared with the broader world.

Warm regards,

**Debaghya Bakshi**

Chairman, Vidiyarthi Group



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**Disclaimer:**

All information / data provided is based on our research and belief. For accuracy please cross check and verify with official Sources and Government websites before making decisions.

**COVER STORY 01**

### MEDICAL SCENARIO IN INDIA

WRITTEN BY A. SHANKAR



**N**EXT year has been all about the new NEET paper, whether it is for 11 topics starting with a new set of 300 questions starting and continuing over of 180 days or 180 days from now. There is a lot of buzz about the new NEET paper distribution in an exam center in Tamil Nadu. Reports on the internet suggest that the new NEET paper is being prepared in a secret center in Tamil Nadu. Reports on the internet suggest that the new NEET paper is being prepared in a secret center in Tamil Nadu. Reports on the internet suggest that the new NEET paper is being prepared in a secret center in Tamil Nadu.

Public outrage and protests led to a CBI investigation. Multiple allegations & investigations were launched for the NEET exam conducted by NTA during the hearing of case in September Court of India which resulted into NEET. NEET Year 2025 was not different for NEET as in the past:

disputed questions. In many months, NEET 2025 exam faced several controversies, including allegations of result discrepancies, power outage at exam centers, issues with Nominative verification, and incidents of religious discrimination.

Several students filed legal requests demanding between their initial and final results and the final examiners. NEET 2025 paper pattern got revised to 300 (100) out of 180 questions in this exam. NEET 2025 paper was more challenging than previous years, particularly the Physics section which is being compared to JEE Advanced level. Lengthy theory and memory tests, there is more rote-learned, reasoning & assertion questions.

Altogether NEET 2025 paper is considered to be the toughest paper till date since most with an average score more than 100. NEET 2025 paper (NTA) is an only limited only about 100 students received less than 100 marks in the 30,000 who achieved that score in 2024.

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**SCOUTING DIFFERENT**

### OCCUPATIONAL THERAPY AS A PROFESSION

WRITTEN BY S. SANKAR



(Detailed Article, Of Member in Occupational Therapy Professions) Praveen, Director, Chapter of Occupational Therapy

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**COVER STORY 02**

### CSE VS AI

By HIRANMOY BANERJEE

In an era of rapid technological advancement, Computer Science has emerged as a profoundly significant and highly sought-after field. It not only unlocks a wide array of job opportunities but also cultivates critical skills such as creative thinking and problem-solving. The Information Technology (IT) industry is experiencing an explosive growth with experts predicting an even sharper rise in demand for IT professionals. According to the US Bureau of Labor Statistics (BLS), "overall employment in Computer and Information Technology occupations is projected to grow much faster than the average for all occupations from 2023 to 2033. The median annual wage for this group was \$105,990 in May 2024, which was higher than the median annual wage for all occupations of \$49,500".

**LAW COURSE**



**WHY IEM IS PERFECT STUDY DESTINATION FOR LLB**

by Lovely De

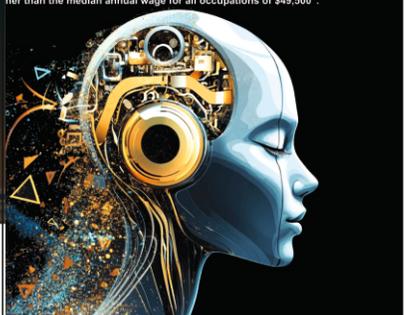
**W**hy Choose IEM's International Institute of Judicial Sciences (IIJS) to Study Law?

Choosing the right institution to pursue a law degree is a pivotal decision for any aspiring law student. The International Institute of Judicial Sciences (IIJS), a premier department under the Institute of Engineering and Management (IEM) Group, stands as an ideal destination for legal studies.

With its robust academic framework, focus on research, and a plethora of opportunities for practical exposure, IIJS is committed to nurturing legal professionals and scholars. Here are the key reasons why law students should consider IIJS:

**Affiliation and Accreditation**  
The Department of Law at IIJS is affiliated with the Bar Council of India (BCI), the apex body that regulates legal education and practice in India.

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**CAREER SCOPE**

### BRIGHT FUTURE IN PERFORMING ARTS

Priyanka Chaturvedi



**DEMANDING PARAMEDICAL FIELD**

### B.Sc Anaesthesiology & Operation Theatre Technology courses can make dream come true

DR. SUBHAS ROY

**B**achelor of Science (B.Sc) in Anaesthesiology and Operation Theatre Technology is an undergraduate degree program designed to prepare students for careers in the field of medical care, specifically focusing on the preoperative care of patients.

The 4-year B.Sc Anaesthesiology & Operation Theatre Technology is an allied health paramedical course. It aims to train students with clinical exposure in operation theatre management, identification, responsibilities in anaesthetic, and maintaining of the instruments used in the operation theatre before and after procedures.

The program's focus on advanced training in the latest technologies in anesthesia specialty is intended to ensure that graduates are up-to-date with the latest advances in the field.

After completing the course, a technologist may assist the specialized circumstances at hospitals. The main objective of this program is to equip graduates with the knowledge, skills, and ethics essential for a confident medical career in the 21st century.

At the end of the course, the students can choose the right anesthetic medications, anesthetic gases, needed surgical instruments, and anaesthetic necessities during surgery.

A wider scope of Operation Theatre Technology is quite prominent in transport teams, orthopedic

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# GENERAL FAQ FOR STUDENTS AFTER GRADE 10

SMITI BANERJEE

(BSC, MBA & 14YRS OF RICH CAREER COUNCELING EXP.)

## \*After Grade 10:\*

### 1. \*What courses can I pursue?\*

You can pursue various courses like Polytechnic, ITI, Vocational courses, or continue with 11th and 12th grade.

### 2. \*What are the eligibility criteria for different courses?\*

Eligibility criteria vary depending on the course and institution. Typically, students need to have passed Grade 10 with a minimum percentage of marks.

### 3. \*What competitive exams are required?\*

Some courses may require entrance exams like JEE (Joint Entrance Exam) for polytechnic courses or state-level entrance exams.

## General FAQ for students after Grade 12:

### \*After Grade 12:\*

### 1. \*What courses can I pursue?\*

You can pursue undergraduate courses in various fields like Engineering, Medicine, Arts, Commerce, Science, Law, etc.

### 2. \*What are the eligibility criteria for different courses?\*

Eligibility criteria vary depending on the course and institution. Typically, students need to have passed Grade 12 with a minimum percentage of marks in relevant subjects.

### 3. \*What competitive exams are required?\*

Some popular competitive exams include:

- JEE Main and Advanced for Engineering
- NEET for Medicine
- CLAT for Law
- CUET for various undergraduate courses
- BITSAT for Engineering
- NATA for Architecture

## \*Postgraduate Courses:\*

### 1. \*What postgraduate courses are available?\*

You can pursue Master's degrees in various fields like Engineering, Management, Science, Arts, Commerce, etc.

### 2. \*What are the eligibility criteria for postgraduate courses?\*

Typically, students need to have a relevant undergraduate degree with a minimum percentage of marks.

### 3. \*What competitive exams are required?\*

Some popular competitive exams include:

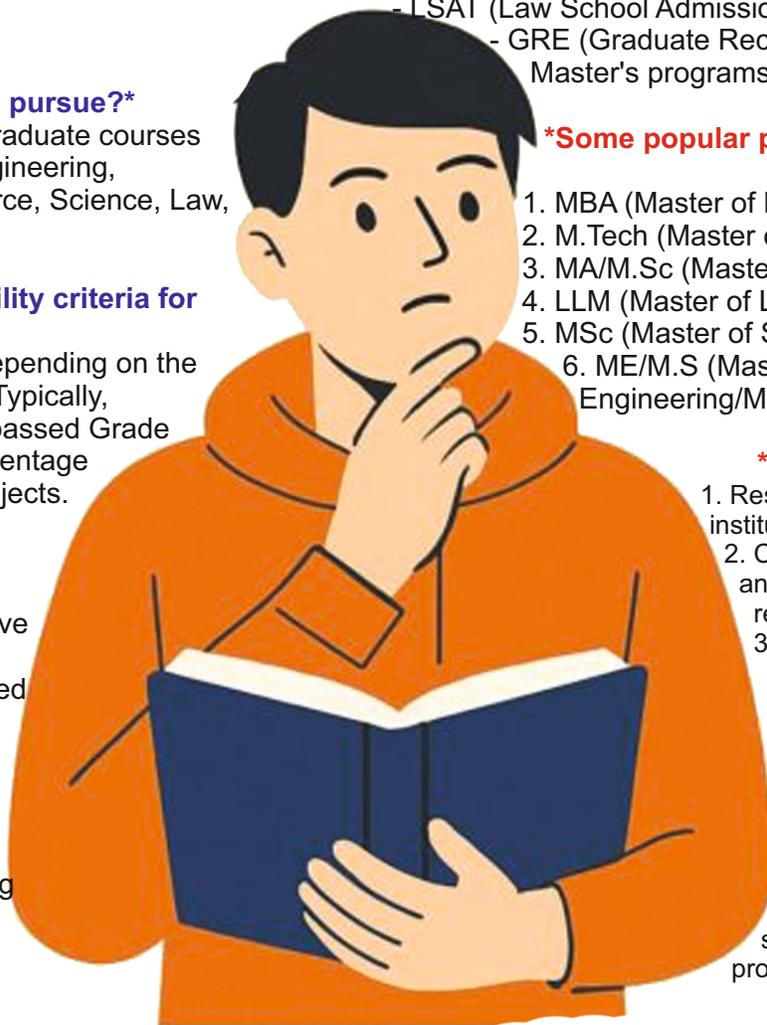
- CAT (Common Admission Test) for MBA
- GATE (Graduate Aptitude Test in Engineering) for M.Tech
- MAT (Management Aptitude Test) for MBA
- LSAT (Law School Admission Test) for LLM
- GRE (Graduate Record Examinations) for Master's programs abroad

## \*Some popular postgraduate courses:\*

1. MBA (Master of Business Administration)
2. M.Tech (Master of Technology)
3. MA/M.Sc (Master of Arts/Science)
4. LLM (Master of Laws)
5. MSc (Master of Science)
6. ME/M.S (Master of Engineering/Master of Surgery)

## \*General Tips:\*

1. Research courses and institutions thoroughly.
2. Check eligibility criteria and admission requirements.
3. Prepare for competitive exams.
4. Consider your interests and career goals.  
This is not an exhaustive list, and specific requirements may vary depending on the course and institution. It's essential to research and stay updated on admission processes and requirements.



# CAREER MAPPING AND COUNSELING

## A GAME-CHANGER FOR 10+2 STUDENTS IN INDIA

As students in India navigate the pivotal phase of their academic journey after completing their 10th standard, they often find themselves at a crossroads, unsure about which stream to choose or which career path to pursue. This is where career mapping and counseling come into play, serving as a guiding light for students to make informed decisions about their future. In this article, we will explore the importance of career mapping and counseling for 10+2 students in India, the tools and techniques involved, and the benefits of seeking professional guidance.

### The Importance of Career Mapping and Counseling

Career mapping and counseling are essential for students as they provide a structured approach to career exploration and decision-making. By understanding their strengths, weaknesses, interests, and values, students can make informed choices about their academic and professional paths. Career counseling helps students:

- \*Identify Career Goals\*:** Career counseling enables students to set realistic and achievable career goals, providing a clear direction for their future.
- \*Explore Career Options\*:** Career counseling exposes students to various career options, helping them discover new and emerging fields that they may not have considered otherwise.
- \*Develop a Career Plan\*:** Career mapping helps students create a personalized career plan, outlining the steps they need to take to achieve their career goals.
- \*Build Confidence\*:** Career counseling empowers students with the knowledge and confidence to make decisions about their future, reducing anxiety and uncertainty.

### Tools and Techniques Used in Career Counseling

Career counselors use a range of tools and techniques to help students explore their career options and create a personalized career plan. Some of the most commonly used tools include:

- \*Psychometric Tests\*:** Psychometric tests, such as aptitude tests and interest inventories, help students identify their strengths, weaknesses, and interests.
- \*Career Assessments\*:** Career assessments, such as career interest surveys and skills assessments, provide students with insights into their career preferences and aptitudes.
- \*Personality Tests\*:** Personality tests, such as the Myers-Briggs Type Indicator (MBTI), help students understand their personality traits and how they relate to different career paths.
- \*Career Exploration Exercises\*:** Career exploration exercises, such as career research and job shadowing, provide students with hands-on experience and insights into different career paths.

### The Career Counseling Process

The career counseling process typically involves several stages, including:

- \*Initial Consultation\*:** The initial consultation provides an opportunity for students to discuss their career aspirations and goals with a career counselor.
- \*Career Assessment\*:** Career assessments and psychometric tests are used to identify the student's strengths, weaknesses, and interests.
- \*Career Exploration\*:** Career exploration exercises, such as career research and job shadowing, provide students with insights into different career paths.

- \*Career Planning\*:** Career planning involves creating a personalized career plan, outlining the steps the student needs to take to achieve their career goals.

### Benefits of Career Mapping and Counseling

The benefits of career mapping and counseling are numerous, including:







• COVER STORY 01

## MEDICAL SCENARIO IN INDIA

WRITTEN BY A. SHARMA  
(B.TECH, NIT, PGDM-IIM)

**N**EEET exam has been all over the news for past 2 years. Whether it is for 67 toppers scoring a perfect score of 720 out of 720 or students scoring an unrealistic score of 718/719 or allegation of paper leaks from many exam centres like Hazaribagh, Jharkhand or wrong paper distribution in an exam centre in Sawai Madopur, Rajasthan or concentration of toppers at selected exam centres in many states including Haryana, Gujrat, Rajasthan, Jharkhand & Bihar or sudden declaration of NEET result on 4<sup>th</sup> June 2024 (same day when Lok Sabha Election results were declared) well ahead of the originally scheduled date of 14<sup>th</sup> June 2024. As many as 13 arrests were made in the 2<sup>nd</sup> week of June'24 in Patna, Bihar with suspicion of involvement of several organized gangs.

Public outrage and protests led to a CBI investigation. Multiple discrepancies & irregularities were observed for the NEET exam conducted by NTA during the hearing of case in Supreme Court of India which resulted into RE-NEET.

Year 2025 was not so different for NEET as it once again dominated headlines for many weeks. NEET 2025 exam faced several controversies, including allegations of result discrepancies, power outages at exam centres, issues with biometric verification, and incidents of religious discriminations.

Several students in Gujarat reported discrepancies between their initial online results and the final scorecards. NEET 2025 paper pattern got reversed to pre-COVID era of 180 questions in 180 mins. NEET 2025 paper was more challenging than previous years, particularly the Physics section which is being compared to JEE Advance level. Lengthy Biology and Chemistry section due to more statement based, reasoning & assertion questions.

Altogether NEET UG 2025 paper is considered to be the toughest paper till date since 2016 with no student scoring more than 700. NEET 2025 topper (AIR 1) got only 686 and only about 1,500 students scored over 600—a stark contrast to the 78,000 who achieved that score in 2024.

Despite these high voltage dramas, the NEET (National Eligibility cum Entrance Test) remains the only way to a medical career in India. In this article, we'll explore the current state of medical education infrastructure in the country, analyze the cut-throat competition, and provide a detailed look at the counselling process and the financial implications of pursuing an MBBS in India.

**Indian Medical Scenario:** During the British Era in the mid-19th century, some of the oldest medical colleges in India were established, a significant milestone in Indian medical education. Among these establishments, Madras Medical College, Chennai, founded in 1835, was the first of its kind.

Following Madras Medical College, three more medical colleges were established in major cities of India - Medical College, Kolkata (1838), Stanley Medical College, Chennai (1838), and Grant Medical College, Mumbai

(1845). As the 20th century approached, several more medical colleges were established, such as King George Medical University in Lucknow (1911), Lady Hardinge Medical College in New Delhi (1916), and RG Kar Medical College in Kolkata (1916), among others. The establishment of these colleges represented a significant step forward in medical education in India.

Christian Medical College, the first ever private medical college, was established in 1942 in Vellore by a trust. At the time of India's Independence, there were merely 20 medical colleges in the country offering medical programs.

Following India's independence, two prestigious medical colleges were established in Kolkata: the Calcutta National Medical College and the Nilratan Sircar Medical College, both in 1948. These institutions are widely regarded as among the best medical colleges

in India to this day, offering comprehensive undergraduate and postgraduate programs. The All India Institute of Medical Sciences (AIIMS) Delhi was established in 1956 under the All India Institute of Medical Sciences Act, 1956. It has been recognized as an Institute of National Importance (INI). Currently, there are 20 AIIMS across the country, offering medical programs.

In addition to AIIMS, other important medical institutes like Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER) Puducherry, Institute of Medical Sciences, BHU Varanasi, and Armed Forces Medical College (AFMC) Pune were also established in 1956, 1960, and 1962 respectively.





**Calcutta Medical College**

**AIIMS Kalyani, West Bengal**





In the era following India's independence, the establishment of two additional private medical colleges, namely Kasturba Medical College in Manipal in 1953 and Kasturba Medical College in Mangalore in 1955, has been recognized as a significant milestone in the country's medical education.

These institutions have since been regarded as among the best private medical colleges in India. However, due to the great investment required and the stringent rules and regulations governing their establishment, only a few private entities were willing to take the risk of entering the medical education sector.

In the early 1980s, the Era of Private Medical Colleges in India started with the establishment of many private medical colleges in Karnataka and Maharashtra. By the figures published in various reports by the end of July'2025, total no of colleges (Govt & Private both) offering MBBS programme are numbered below:



	Number Of Colleges	Total Number of Seats
Government Colleges	434	60760
Private Colleges	287	46265
Deemed Universities	55	10800
<b>Total</b>	<b>776</b>	<b>117825</b>

## Top 10 states

S No	State	Number of Colleges	Total Num. of Seats
1.	Uttar Pradesh	84	12125
2.	Maharashtra	80	11845
3.	Tamil Nadu	77	12050
4.	Karnataka	72	12545
5.	Telangana	65	9065
6.	Rajasthan	43	6505
7.	Gujarat	41	7250
8.	Andhra Pradesh	38	6785
9.	West Bengal	37	5650
10.	West Bengal	34	4905

## WHAT IS NEET

The National Eligibility-cum-Entrance Test (Undergraduate) or NEET-UG is an all India pre-medical entrance test designed for students who aspire to pursue undergraduate medical (MBBS), dental (BDS), and AYUSH (BAMS, BUMS, BHMS, etc.) courses in both government and private institutions in India. This entrance exam also serves as a gateway for those who wish to obtain primary medical education abroad. The National Testing Agency (NTA) is responsible for conducting the NEET

exam and provides results to the Directorate General of Health Services under the Ministry of Health and Family Welfare, as well as State Counselling Authorities. It should be noted that the responsibility of NTA is limited to inviting online applications, conducting the exam, and providing scores and All India Rank. NTA is not involved in the counselling or seat allotment process.



## HOW TO BECOME A DOCTOR

The National Eligibility cum Entrance Test, NEET, is the sole gateway for Indian students aspiring to become doctors. Prior to 2016, there were various national and state-level exams, including AIPMT, AIIMS, MANIPAL, JIPMER, COMEDK, and pre-medical tests (PMT) conducted individually by states to gain admission into the MBBS program.

However, with the introduction of NEET in 2016, along with separate entrance exams for AIIMS and JIPMER, the former exams were phased out. In 2020, NEET became the only entrance exam for medical aspirants seeking admission in AIIMS and JIPMER as well.



# NEET EXAM ANALYSIS



(National Eligibility-cum-Entrance Test (Postgraduate) or NEET-PG is conducted for admission into Post Graduate Programmes like MD/MS/MDS etc. But this article is limited to NEET-UG only.)

NEET-UG is a pen-and-paper based exam with a time duration of 3 hours. It consists of a total of 180 questions that cover Physics, Chemistry, Biology (Botany & Zoology).

Each correct answer carries 4 marks and each incorrect answer carries 1 negative marking. The NEET question paper is available in 13 different languages, providing students with ample opportunity to choose the language they are most comfortable with.

However, during the COVID-19 era (2021 to 2024), NTA changed the NEET exam pattern to 200 questions and time duration of 200 mins (3 hours and 20 minutes). A student must answer 180 Multiple Choice Questions (MCQs) in order



to pass. This pattern has been reversed back to pre-COVID pattern from 2025 onwards.

**NEET QUALIFYING CUT-OFF** Every year, lakhs of medical aspirants appear across the country for the NEET UG Exam. Only 50% of the aspirants qualify for the Exam and become eligible to participate in the admission counselling process.

The qualifying criteria have been set at 50 percentile for UR/EWS candidates, 40 percentile for OBC/SC/ST candidates, 45 percentile for UR/EWS PwD candidates, and 40 percentile for OBC/SC/ST PwD candidates.

Category	2025	2024	2023	2022	2021	2020	Qualifying Criteria
UR/EWS	686-144	720-162	720-137	715-117	720-138	720-147	50th Percentile
OBC/SC/ST	143-113	161-127	136-107	116-93	137-108	146-113	40th Percentile
UR / EWS & PH	143-127	161-144	136-121	116-105	137-122	146-129	45th Percentile
OBC/SC/ST	126-113	143-127	120-107	104-93	121-108	128-113	40th Percentile

**Is obtaining qualifying marks enough to secure a seat in a medical college?**  
**In the realm of medical admissions, the level of competition is intense, and it is noteworthy that over 22 Lakh students in 2025 and over 23Lakh students in 2024 appeared for NEET-UG, as compared to 8 Lakh students in 2016. Below is the trend analysis:**

Year	Number of Applications
2016	8 Lakhs+
2017	11 Lakhs+
2018	13 Lakhs+
2019	15 Lakhs+
2020	16 Lakhs+
2021	16 Lakhs+
2022	19 Lakhs+
2023	21 Lakhs+
2024	23 Lakhs+
2025	22 Lakhs+

**In recent years, there has been a significant increase in the number of applicants aspiring to become doctors in India. The figure now stands at almost 2.5 million. However, the availability of MBBS seats, including those in private colleges, is limited to only 1.18 Lakhs. This means that for every 25 students vying for admission through entrance exams, only one MBBS seat is available.**

**Marks vs All India Rank**

**In view of competitive examinations, the increasing number of applicants is not the only factor responsible for the rising**



**competition. The level of preparation of the candidates also plays a vital role. In recent years, it is observed that students have attained a perfect score of 720 out of 720. Therefore, if you aim to top the exam, there is no margin for error. Even a minor mistake could result in a lower All India Ranking. Presently, obtaining 600 marks does not guarantee a seat in a government college. Allow me to illustrate this with an example. In 2018, a score of 500 marks would have fetched an All-India Rank of around 20K, which would have been deemed a decent rank to secure a seat in a government college. However, in the NEET-UG 2024, a score of 500 marks led to an All-India Rank of around 205K, which is not adequate to secure a seat even in a good private medical college.**



Please find below the mark's vs AIR comparison for past few years:

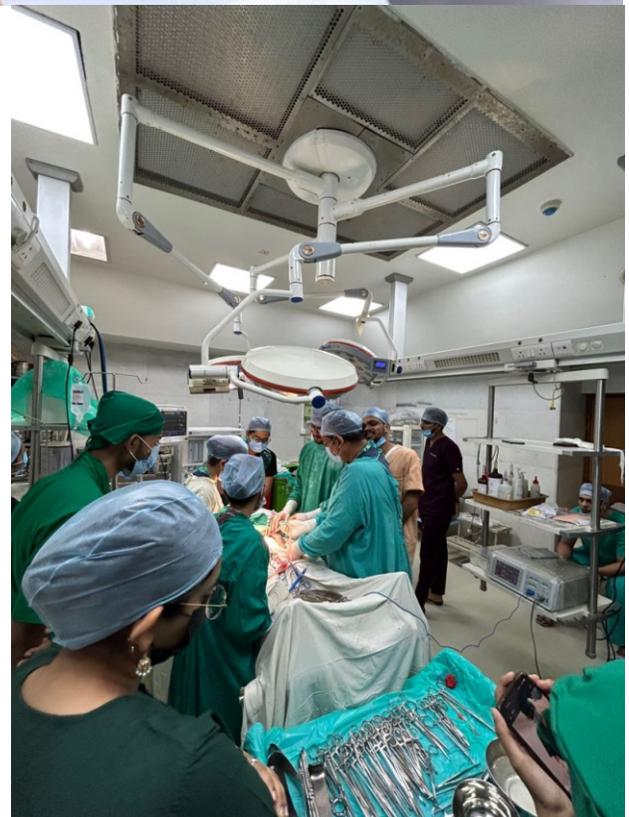
Year	AIR at 500 Marks
2018	20K
2019	48K
2020	75K
2021	80K
2022	85K
2023	105K
2024	205K
2025	53K***

### **Increasing Fees / Expenditure / Budget**

The fee structure is a critical factor when it comes to securing admission into a medical college. If we consider government medical colleges, the expenditures are nominal or on the lower side. The tuition fees may range from as low as Rs. 1,000 per year, such as in AIIMS, to Rs. 1 lakh per year,

such as in ESIC colleges. In addition, the hostel and mess charges are also reasonable. Even students from financially disadvantaged backgrounds can afford to pursue a career in medicine.

Private medical colleges in India can charge as high as a few crore for their courses. Although not all private colleges charge this much, it is still necessary to have a budget of Rs 50 lakhs to 1 crore to secure a seat in one of these institutions. This may seem like a shocking number, but unfortunately, it is the reality. We will continue this discussion in later part of the article.



The fact is that tuition fees are increasing every year, and this trend is particularly evident in West Bengal. In the past five years alone, tuition fees have almost doubled. For instance, in 2019, the tuition fee was around Rs 12.68 Lakh per year, while in 2025, it has reached almost Rs. 22 Lakh per year in management quota.

Many private colleges of Uttar Pradesh have revised their tuition fees from 12 Lakh per annum to 18/19 Lakh per annum for the academic session 2025-26.

Many deemed colleges (particularly in Tamil Nadu, Pondicherry & Maharashtra) have also revised their tuition fees in 2025 raising the overall expenses up to 1.5CR in management quota.

This means that if you choose to leave your seat this year and prepare for the next year in hopes of obtaining a better score, you may end up paying a higher amount for the same seat next year. (All seats of a private medical college are called as management quota seats; we will discuss about the seat type in details later in this article).

### What happens after the NEET exam results are announced?

As we already know that, role of NTA is limited to conduct the NEET exam and provide AIR. Once the results are declared, the next crucial step for qualified candidates is to participate in the counselling process. Kindly keep this in your mind that there is NO DIRECT ADMISSION provision for any of the government or private medical college in India for MBBS, BDS or Ayush programmes. All the seats are allotted based on MERIT ONLY.

### Types of Colleges

To gain a comprehensive understanding of the counselling process, it is necessary to first familiarize oneself with the various types of colleges.

There are four types of colleges in India:

**State Government Colleges**

**Central Universities or Central Govt Colleges**

**Private Colleges**

**Deemed Universities**

State Government Colleges are managed and funded by the state government. 85% of the seats are reserved for candidates domiciled in the state,



while 15% are open to candidates from all over India.

For example, Medical College, Kolkata and NRS Medical College, Kolkata, 85% of seats are reserved for West Bengal domiciled candidates and 15% seats are open to students from all over India. (The domicile criteria for each state can be found on their official website.)

Please note that the remaining 15% of seats are available for admission to any student across the country based on their merit. (Including students from West Bengal).

All AIIMS, IMS BHU, JIPMERs are categorized as central universities. There is no state-wise reservation, which means that all seats are open for students from across India.

Private colleges are institutions that are privately owned and operated, and are affiliated with any state university. Deemed universities, on the other hand, share a similar structure to private colleges however, they are affiliated with their own university.

### Types of Counselling

Counselling can be broadly divided into two levels – All India Level and State Level.

All India level counselling, also known as All India Quota-AIQ Counselling, is conducted by Medical Counselling Committee or MCC under Directorate General of Health Services, Ministry of Health & Family Welfare. This counselling is conducted for-

- 15% All India Seats of State Government Medical Colleges.
- 100% Seats of Central Universities or Central Govt Medical Colleges.
- 100% Seats of Deemed Medical Colleges.

State level counselling is conducted by the state authorities of each state respectively.

In West Bengal, counselling is conducted by West Bengal Medical Counselling Committee (WBMCC), formed by the Department of Health and Family Welfare, West Bengal.

In Uttar Pradesh, it is conducted by Uttar Pradesh Directorate General of Medical Education (UPDGME),

In Bihar it is conducted by Bihar Combined Entrance Competitive Examination Board (BCECE Board) and likewise, the committees of respective states.

The state counselling is conducted for:

- 85% Seats of State Government Medical Colleges within that state.
- 100% Seats of Private Medical Colleges within that state.

Only candidates who have qualified NEET are eligible to register and participate in the desired counselling by paying the registration fee and counselling security deposit amount.

### Counselling Process:

- Counselling generally comprises of the following steps

- Registration with personal & qualification details
- Payment of Registration Fee and Counselling Security Deposit (if applicable)
- Choice filling and locking (after publication of seat matrix and merit list)
- Declaration of Result
- Reporting & Admission Process

Counselling is generally conducted in four rounds – Round-1, Round-2, Mop-up Round and Stray Vacancy Round. If required, more rounds can also be conducted based on availability of seats. The first two rounds are conducted online, while the Mop-up and Stray Vacancy Rounds can be either online or offline based on the state's policy. However, most of the states has started conducting all the counselling rounds online only.

Counselling is typically carried out concurrently by all states. It is mandated by the National Medical Commission (NMC) that the Medical Counselling Committee (MCC) will conduct the AIQ Round-1 counselling before the states can initiate their Round-1 counselling. After Round-1, the MCC will conduct the AIQ Round-2 counselling, following which, the states may conduct their Round-2 counselling and so on.

It is important to bear in mind that the regulations and guidelines for state counselling may vary from state to state. Prior to the commencement of the counselling process, each state's governing body publishes a prospectus containing pertinent information.

It is imperative that students review the prospectus thoroughly so as to avoid any errors that may lead to disqualification from participating in the counselling process.

Additionally, it is to be noted that any error may result in barring the student from participating in the subsequent year's NEET-UG exam or the state counselling for a period of 2 to 3 years.

Also, many states charge a security deposit of Rs 1 Lakh to Rs 2 Lakh to participate in the counselling process, although this amount is entirely refundable based on few criteria.

### Types of Quota:

- Medical Seats can be broadly categorised into 3 quotas
- Government Seats and State Quota Seats
- Management Quota Seats and
- NRI Quota Seats

A seat in a Government Medical College is simply called as Government Seat. Many states offer a certain percentage of seats from Private Medical Colleges with a very low fee structure. These seats are referred to as State Quota Seats and made available for domiciled candidates only. The reservation policy (based on caste/category) of the state applies to such Seats. Generally, no reservation system is applicable to private medical colleges.

All seats of a Private Medical College are Management Quota Seats. In some states, 15% of the management quota seats are made available to NRI's (Non-Resident of India) or NRI-sponsored candidates.

For example, in West Bengal, 33% of the seats in private medical colleges are reserved as State Quota seats. The remaining 67% come under the management quota, out of which 15% are reserved for NRI-sponsored candidates.

#### • Reservations

Both Central and State Government Colleges follow reservation system based on caste/categories of students.

The AIQ 15% seats have following reservation category-wise:

- SC- 15%
- ST- 7.5%
- OBC (NCL) -27%
- EWS-10%
- PwD- 5%.

Most state government medical colleges have a reservation system in place which is based on the state government policies of that particular state. In addition, many states have horizontal reservations for female candidates. Furthermore, some states offer reservations for children of freedom fighters, victims of terrorism, martyrs, national level sportsmen, and other categories.

#### • Open & Closed States

Based on our current understanding, individuals seeking admission to government medical colleges are limited to two options: 85% of government seats in their respective states, or 15% of seats within the All-India quota of other states. However, what is the policy regarding private medical colleges? Are students able to pursue enrolment in private medical colleges across all state? The Answer is NO.

Not all states allow admission to students from other states to their own private medical colleges. Here comes the concept of OPEN and CLOSED states. States that permit students from

other states to participate in the counselling process for admission into private medical colleges are categorised as "OPEN" or "PARTIALLY OPEN"

states, based on the percentage of seats available. Examples of such states include West Bengal, Uttar Pradesh, Bihar, Karnataka, Andhra Pradesh, and Telangana.

However, many states across India follow a policy of not allowing students from other states to participate in counselling even for their private medical colleges. Such states are called "CLOSED" states, where only students who are domiciled in that state are eligible to take admission into their private medical colleges. It's worth noting that this policy is strictly enforced. Some examples of these states include Odisha, Maharashtra, and Gujarat.

#### • Which colleges can be expected at what score?

At the end of the discussion, the most important question is how much marks or rank is sufficient to get admission in top most medical colleges of India. Our discussion is limited to UR (unreserved category) only. NEET UG 2024 & 2025 results has been exceptional. No correlation can be established with previous years (NEET UG 2024 & 2025 exam & result is a debatable topic, which we will be covering in our upcoming edition) NEET UG 2025 counselling has just started in the month of Aug'25 and no conclusions can be made till the counselling is over. Hence, our discussion is based on ranks/cutoffs trends of past 4 years. To simplify, let us discuss rank-wise for All India Counselling.

- AIR 1 to 50 –Can expect AIIMS, Delhi
- AIR 51 to 100 - Can expect top colleges like Maulana Azad Medical College, New Delhi (MAMC)&Vardhman Mahavir Medical College & Safdarjung Hospital, Delhi (VMMC).
- AIR 101 to 200 - Can expect top colleges like Jawaharlal Institute of Postgraduate Medical Education & Research, Puducherry (JIPMER), Atal Bihari Vajpayee Institute of Medical Sciences and Dr. RML Hospital, New Delhi
- AIR 201 to 500 - Can expect top colleges like University College of Medical Sciences & GTB Hospital New Delhi, Lady Hardinge Medical College New Delhi, AIIMS Bhubaneswar & AIIMS Jodhpur.

- AIR 501 to 1000 - Can expect top colleges like AIIMS Bhopal, AIIMS Rishikesh, GMC Chandigarh, Seth GS Medical College Mumbai, B J Medical College Ahmedabad, Madras Medical College Chennai, IMS BHU Varanasi, North Delhi Municipal Corporation Medical College Delhi, King George Medical University Lucknow (KGMU), SMS Jaipur etc.
- AIR 1001 to 5000- Can expect to get a seat in any of the other AIIMS colleges or you can expect other good colleges like Bangalore Medical College, Grant Medical College Mumbai, GMC Kozhikode, Medical College Kolkata, RG Kar Medical College Kolkata, JIPMER Karaikal etc.

It would be beneficial for you to take part in the state counselling also in order to increase your chances of getting admission in top government colleges in your state.



If you aspire to study at a government medical college, you should aim to achieve an All-India Rank (AIR) of less than 22K/23k.

However, in some states, the cut-off for government colleges can be lower due to availability of more government seats or lesser competition. For instance, in West Bengal, you can expect to get admission to a government college till a rank of 35K.

#### What if you did not get a Government Medical College

Not all aspiring medical students have the financial capability to pursue their studies in private medical colleges, as the fees tend to be comparatively high. However, some states offer state quota seats in private colleges with a moderate fee structure.

For instance, in West Bengal, students who can afford the annual fee of Rs 5.5 lakh may consider obtaining a state quota seat in a private medical college. Nevertheless, the competition for such seats is also intense, and the cut-off is only marginally lower than that for government seats.

In states such as Karnataka, Andhra Pradesh, and Telangana, where there are more private colleges compared to other states an All-India Rank of 80K is sufficient to secure a state quota seat. The state quota fee for these three states is around Rs. 1,50,000, Rs. 60,000, and Rs. 15,000 per year, respectively.

If you cannot manage government seats or state quota seats, you can apply to top private medical colleges of your state or other open states.

You need to understand that your BUDGET is INVERSELY PROPORTIONAL to your marks. The higher the marks, the lower your budget/expenses will be.





**West Bengal (12 Private Colleges) – Open State**

- KPC Medical College, Jadavpur - 2008
- ICARE Haldia – 2011
- IQ City Medical College, Durgapur - 2013
- Gouri Devi Medical College (GIMSH), Durgapur – 2016
- Jagannath Gupta Medical College (JIMSH), Budge Budge - 2018
- Sri Ramakrishna Medical College (SRIMSH) – 2019
- Santiniketan Medical College, Bolpur – 2021
- JIS Medical College Santragachi - 2023
- JMN Medical College, Nadia – 2023
- Krishnanagar Medical College, Krishnanagar – 2024
- East West Medical College, Burdwan – 2024
- Jakir Hossain Medical College, Murshidabad – 2024

The Management Quota Fee structure of KPC is 72 Lakhs. Generally, All-Indiarank of 1,10,000 is considered safe for KPC management quota seats. The fee structure for other medical colleges ranges from 86.5 Lakhs to 99 Lakhs for the entire course.

Karnataka (48 Private & Deemed Colleges) – Partially Open State. When considering higher education options, many students prefer the state of Karnataka due to its abundance of private colleges and comparatively affordable fees. For other state candidates, Karnataka offers three types of seats - Management, NRI, and Other Quotas. The Management Quota seats in most of the colleges have a fee range of Rs 12 lakh per year, with a total cost of approximately Rs 60 lakhs, which includes tuition fees, hostel and mess charges, and other miscellaneous expenses. However, it is important to note that to be eligible for this fee structure, at least 60,000 All-India Rank is required. Those who do not meet this score requirement have two options: Either go for colleges with higher fee structure (upto 25 lakh per annum) or opt for the NRI or 'Other Quota', with fees that may escalate to Rs. 1.5 crore.

**North Bengal Medical College, Darjeeling**





**Below are the top medical colleges based out from Karnataka:**

- Kasturba Medical College, Manipal – 1953 and Mangalore – 1955
- St. Johns Medical College Bangalore – 1963
- Kempegowda Medical College, Bangalore– 1980
- Vydehi Medical College, Bangalore – 2002
- Dr BR Ambedkar Medical College, Bangalore – 1980
- Father Muller Medical College, Mangalore - 1999

**Kerala (20 Private Colleges) - Partially Open State**

Kerala is often considered as a cost-effective option for pursuing MBBS. Opting for an MBBS course in a private medical college in Kerala would incur an annual fee of around Rs. 7-9 Lakhs.

This fee structure is relatively less expensive in comparison to other states across the nation. Moreover, the overall expenditure, including lodging and fooding, is estimated to be around INR 45-50 Lakhs. It is important to note that to secure a private management seat in Kerala, candidates should aim to score at least 60,000 All-India Rank in NEET.

**Uttar Pradesh (35 Private & 1 Deemed College) – Open State**

Uttar Pradesh is a well-regarded destination for those seeking to pursue MBBS programme. Potential candidates may be able to secure a

private management seat with a comparatively lower score. However, it is important to note that the total cost of the course, including hostel and mess charges, may amount to as much as 70 Lakhs.

It is strongly recommended to exercise discretion when selecting a college, as certain institutions may have undisclosed fees that can significantly increase the overall cost of the programme.

Some of the top private college in Uttar Pradesh are:

- Sharda University, Greater Noida – 2009
- Shri Ram Murti Smarak, Bareilly (SRMS) – 2005
- Hind Institute of Medical Sciences, Barabanki – 2009
- Hind Institute of Medical Sciences, Sitapur- 2015
- Subharti Medical College, Meerut – 1996
- Heritage Institute of Medical Sciences, Varanasi – 2015

**Other states that you can choose from:**

State	Tuition fee /Year	Total Package
Andhra Pradesh	13.2 Lakh	70-75 Lakh
Telangana State	12 Lakh	60-70 Lakh
Tamil Nadu	13.5 Lakh	70-75 Lakh
Bihar	10 to 12 Lakh	65-85 Lakh
Jharkhand	10.25 Lakh	60-65 Lakh
Chhattisgarh	7 Lakh	55-60 Lakh
Haryana	12 Lakh	70-75 Lakh
Rajasthan	22-35 Lakh	1Cr+



If budget is not a constraint, you can opt for deemed colleges with tuition fees ranging from 18 to 30 Lakh per year.

### **Service Bonds / Discontinuation Bonds/ Bank Guarantee**

The government is making significant efforts to establish medical colleges across the country, investing substantial resources and funding into the initiative.

As part of this effort, individuals who are granted a government seat for their MBBS, postgraduate, or super specialty degree are required to serve a mandatory term in government healthcare institutions located in rural areas.

This obligation, known as a service bond, is a crucial step towards strengthening healthcare infrastructure in rural parts of the country. It is worth noting that although the service bond is not compulsory in all states, it is a vital measure that will undoubtedly benefit the healthcare system in the long run.

Private medical colleges do not have a service bond. However, they might require you to sign a Discontinuation Bond or provide a Bank Guarantee (at their discretion) for the remaining tuition fees of the course. If you decide to leave the course before completion and fail to pay the full tuition fee, the college may encash the Bank Guarantee to recover their fees.





- SOMTING DIFFERENT

# OCCUPATIONAL THERAPY AS A PROFESSION

**Manish Samnani**

(Doctoral scholar, OT  
Masters in Occupational Therapy (Pediatrics)  
Director, SOCH, Gurgaon, India  
President, Haryana Chapter of Occupational Therapy)

**T**he ever changing dynamics of career are also changing the prospects of many streams that are not traditional, yet equally fulfilling and prosperous. One such promising area in the medical arena is Occupational Therapy (OT).

Occupational Therapy (OT) is a health care profession which focuses on restoring human functions and human participation.

### The history of OT:

Historically started for dealing people with mental illness in the 1800 to 1900, gradually expanding the practice domain to physical, neurological, and childhood disorders.

Occupational Therapy was established in India in 1948, and Asia's first OT training program started in India in 1950 at King Edward Memorial Hospital, Mumbai. It was by Mrs. Kamala V Nimbkar (Elizabeth Lundy), an American lady who adopted India as her country.

### The academic journey of Occupational Therapy

The minimum entry requirement for OT course is 10+2 pass (minimum pass percentage decided by individual institutes) with biology as a compulsory subject. Some institutes may have an entrance exam (NEET) for admission.

The Bachelors of Occupational Therapy degree is 4½ years of academics which includes 6 months of compulsory rotatory internship. Some institute may have 'semester system' and some follow 'annual system'.

The Masters of Occupational Therapy degree is for 2 to 3 years and admission is through entrance exam or merit. The electives include Hand & Musculoskeletal, Neuro Rehabilitation, Developmental Disability, Community Rehabilitation, Mental Health, Oncology, and Cardiopulmonary. Doctor of Philosophy (PhD) in Occupational Therapy is for 3 to 6 years and is available in many Universities.



The curriculum covers medical subjects like anatomy, physiology, biochemistry, pathology, microbiology, pharmacology; medical clinical subjects like general surgery, medicine, psychiatry, orthopaedic, paediatrics, neurology, etc.

It also includes subjects from the field of applied sciences like ergonomics, biomechanics, kinesiology, work physiology, and psychology.

The specific Occupational Therapy subjects include musculoskeletal conditions, paediatrics, neurology, mental health and community

The first Baccalaureate Degree was introduced in 1962 (Nagpur), The Master program in Occupational Therapy started in Mumbai University in 1978. The Doctoral program started in 2008. Currently there are 40 institutions across India offering courses in Occupational Therapy.

medicine.

Occupational Therapy as a field has application from paediatrics to adults and also for geriatrics. Occupational therapists can work in neurology rehabilitation centre; orthopaedic rehabilitation



private practice; industrial rehabilitation setups; de-addiction centres; general hospitals; regular, inclusive and special schools; community health centres; sports clinic; old age homes and cardiopulmonary setup.

As per global data by World Federation of Occupational Therapists, the following are the percentage of OT's working in different sectors: 27% in hospitals, 20% in schools, 19% in long term care, 11% in outpatient clinics, 7% in home health, 6% in academia, 5% in early intervention, 2% in mental health settings, 2% in community work sectors, and 1% in other sectors.

The skills required for Occupational Therapy include effective communication, rapport building, handling, creative and innovative thinking, assistive technology, designing and fabrication, and combining arts and science of occupation.

The roles of Occupational Therapy include but are not limited to the following posts: clinician, researcher, academician, counsellor, occupational related health risk assessor and advisor, expert in medical board for functional and disability assessment, program director, and rehabilitation director.

The following are some unique highlights of the field of Occupational Therapy. It offers one of the longest contact time, with the patients amongst all the health care professionals.

It gives you freedom to exercise your creativity and imagination to bring about a difference into the lives of affected individuals.

It offers a unique combination between physical health and mental health. It offers a unique combination between health sciences and engineering sciences.

• MOTIVATION

## KEEP TRYING, HOLD ON AND ALWAYS BELIEVE IN YOURSELF

Sucharita Sen Chowdhury

**F**ailure is a part of any journey, but it's how you respond to it that matters. Many NEET toppers have faced setbacks along the way. Instead of succumbing to disappointment, they used failures as stepping stones to success. Learn from your mistakes, adapt your strategies, and remember that setbacks are opportunities for growth.

It is common to feel stressed while preparing for NEET. However, it is important to understand that this stress can negatively impact your preparation and performance in the final exam. As NEET aspirants, your primary focus should be on managing this stress and staying motivated. To avoid any confusion, create a schedule that includes all your daily activities and the chapters that need to be covered to complete the NEET syllabus.

It is essential to stick to the schedule and not deviate from it. This self-discipline, which is completely under your control, will not only keep you on track but also boost your confidence. With well-organized preparation for NEET, you will achieve good scores in the mock exams, which will keep you motivated. Whenever you take a practice test, set a goal for the number of marks you want to achieve. Set modest goals that are achievable instead of big ones. As you prepare for the NEET, your scores will improve in each test.

For effective NEET preparation, a keen interest in the subjects of physics, chemistry and biology is crucial.

While learning and acquiring knowledge in new concepts and solving problems, it is advisable to avoid any distractions when studying. Additionally, maintaining a regular study

schedule and dedicating specific time slots for studying is vital. Understanding the concepts thoroughly will boost your motivation and increase your chances of acing the NEET exam with flying colors. So, stay focused, dedicated, and confident, and success will follow.

### Some tips for you

Follow a time table. Make notes and Set your priorities for long hours of study with short breaks.

Eat and sleep healthy.

It is difficult to get 600+ on the NEET; one must develop a rigid approach tailored to their needs. This will not only guarantee that each subject receives an equal amount of time but meeting daily targets is also known to increase confidence. But hard work makes everything possible.

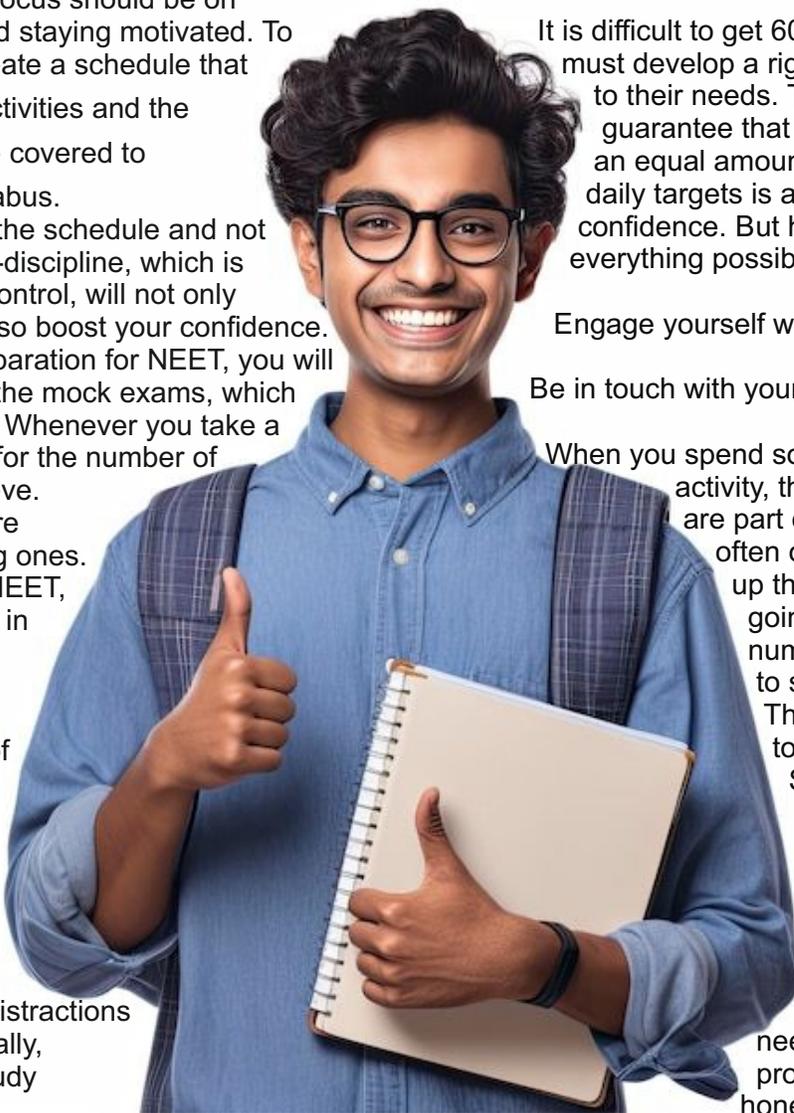
Engage yourself with Physical Activities.

Be in touch with your friends.

When you spend so much time doing one activity, the other activities that are part of their routine are often overlooked. Many give up their hobbies, stop going out or reduce the number of sleeping hours to study a little longer. They give up everything to prepare for NEET. Sooner or later, the graph dips and the motivation fades.

The most important thing to remember here is that NEET 2024 preparation needs to be planned properly. You must be honest with yourself about

the preparation.



Divide the topics in NEET syllabus into three sections, the ones that need to be covered, topics that you are not confident about, and last, those that you are confident about. Based on this, plan your preparation. One major reason for demotivation during NEET preparation is the inability to complete the syllabus within the allotted time. This can lead to a sense of overwhelm and a decrease in confidence. To avoid this, it is important to create a timetable that takes into account all of your daily activities and the chapters that need to be covered in order to complete the NEET 2025 syllabus.

It's crucial to stick to the timetable and not deviate from it. If you maintain a disciplined approach to preparing for NEET 2025, you will perform better in mock tests and stay motivated. In order to maintain good health and remain active, it is important to give your body the rest it needs to rejuvenate.

Studying can be mentally exhausting and it is natural to feel drained after hours of reading or problem-solving. To prepare for the next day, it is recommended that you get at least six hours of sleep. This will help ensure that you begin your day with a healthy body and mind, where core strength lies in the fitness.

Many students have a habit of stress eating. They tend to eat more when they are worried which causes them to feel lazy and inactive. This slows down their system and hampers preparation causing them to worry even more. To avoid this, you must develop healthy eating habits and eat nutritious food. You must be involved in any form of sports or exercise in your daily routine.

Exercise is not only good for your physical health but your mental health as well. The impact of exercise on mental health is proven scientifically. After exercising, the body releases a hormone known as endorphins. These are neuro-receptors that give you a feeling of positivity and well-being. Spending at least 30 minutes a day playing your favourite sport will help you stay focused and prepare for NEET 2025 in a better manner. Friends and family are the biggest motivators. Staying in touch with those close to you will help you stay happy and cheerful. They can also boost your morale on the days that you feel low.

Discussing NEET 2024 preparation with your parents or siblings may also help you work out the areas that need more effort. Hobbies are an important part of who you are as a person. They make you happy and relieve stress. Letting go of these will only lead to irritation and demotivation.

Remember, success is not just about reaching your destination, but also about the personal growth, resilience, and willpower you develop along the way. By staying constructive in your approach, you can make your NEET preparation journey a positive and rewarding experience.





- **DEMANDING PARAMEDICAL FIELD**

## **B.Sc Anaesthesiology & Operation Theatre Technology** courses can make dream come true

**DR. SUBHAS ROY & DR. MANJIT KUMAR**

**B**achelor of Science (B.Sc) in Anaesthesia and Operation Theatre Technology is an undergraduate degree program designed to prepare students for careers in the field of medical care, specifically focusing on the preoperative care of patients.

This 4-year B.Sc Anaesthesiology & Operation Theatre Technology is an allied health professional course. It aims to train students with clinical exposure in operation theatre management, disinfection, sterilization, responsibilities in anesthesia, and maintaining all the instruments used in the operation theatre before and after procedures.

The program's focus on advanced training in the

latest technologies in anesthesia specialty is intended to ensure that graduates are up-to-date with the latest advances in the field.

After completing the course, a technologist may assist the specialized clinicians/experts at hospitals. The main objective of this program is to equip graduates with the knowledge, skills, and values essential for a confident medical career in the 21st century.

At the end of the course, the students can choose the right anesthetic medications, anesthetic gases, relevant surgical instruments, and sterilization necessities during surgery.

A wider scope of Operation Theatre Technology is quite prominent in transplant teams, orthopedic

clinics, gynecology sections, cancer units, surgery, special care baby units. They are also hired for research, education and training. Some of the professionals are privately hired by doctors, surgeons, physicians or dentists who perform surgery of the patients.

### Eligibility Criteria

A candidate seeking admission to the Bachelor of Science – Anesthesia technology shall have passed.

**Educational Qualification:** Candidates must have completed 10+2 or equivalent examinations from a recognized board with Physics, Chemistry, and Biology as core subjects. Some institutions may also require a minimum aggregate score of 50% in these subjects.

### Age Limit:

1. Candidates must be at least 17 years of age at the time of admission.

Pre Degree Course from a recognized university (two years after ten years of schooling) with

Physics, Chemistry and Biology as principal subjects of study.

### II. DURATION OF COURSE

The duration of the Course shall be for a period of four years.

### III. MEDIUM OF INSTRUCTION

The medium of instruction and examination shall be English.

### IV. SCHEME OF EXAMINATION

There shall be four examinations during the course, each at the end of the first, second, third and fourth year.

### Career Prospective for Anesthesia Technologist

An Anesthesia technologist assists the anesthesiologist during surgeries, procedures and performs Anesthesia-related procedures under the supervision of a licensed anesthesiologist.





# Operation Theatre Technologist

## **Operation Theatre Technologist:**

An operation theater technologist sets up the operation theater before surgery, sterilizes instruments, and assists surgeons during procedures.

## **Surgical Assistant:**

A surgical assistant is responsible for providing assistance to surgeons during surgical procedures. They can work in various medical settings, including hospitals, outpatient surgical centers, and private clinics.

## **Some of the areas where the operation theatre technology students are required are:**

- General Surgery
- Gynecology Surgery
- Neurosurgery
- Plastic Surgery
- Nephrology Surgery
- Ophthalmic Surgery
- Heart Surgery
- Gastro-intestinal Surgery
- Cosmetic Surgery

## Dental Surgery

## **Surgical Lab Technician:**

The operation theatre also houses surgical labs and the main role of this lab technician is to maintain the cultures and tissues of the patients that undergo culture.

They are responsible to preserve the cells and lab specimens of the patients. They also maintain the donated organs from the donors until it is implanted to the recipient patients. The time span is very less between the donor and recipient. So it is very important to preserve the donated organs in the proper storage mechanisms.

**Healthcare Educator:** Healthcare educators work in hospitals and other medical facilities to educate healthcare professionals on the latest medical technologies, best practices, and procedures.

**Medical Device Sales:** Graduates can also work for medical device companies, selling surgical equipment and supplies to healthcare facilities.



**Hospital Administration:** Graduates can work in hospital administration, managing and overseeing various departments, including Anesthesia and Operation Theater.

Overall, a B.Sc. in Anaesthesia and Operation Theatre Technology provides a wide range of career opportunities in the healthcare industry. Graduates can choose to work in clinical or administrative roles and can pursue further education to specialize in a particular area. B.Sc. in Operation Theatre and Anaesthesia Technology, is among the best paramedical courses in India. A career in Operation Theatre & Anaesthesia Technology is meeting the demand of the growing needs of experts in the fields of operation theatre management, medical ethics, anaesthesia technology and post-operation care.

#### **College List:**

##### **WESTBENGAL**

1. Nil Ratan Sircar Medical College and Hospital, Kolkata.
2. Institute of Post-Graduate Medical Education and Research and Seth Sukhlal Karnani Memorial Hospital (IPGME&R and SSKM Hospital), Kolkata.
3. KPC Medical College and Hospital, Jadavpur, Kolkata.
4. RG Kar Medical College and Hospital.
5. North Bengal Medical College and Hospital.

6. Midnapore Medical College and Hospital.
7. Medical College Kolkata.

##### **Odisha**

1. Centurion University of Technology and Management, Bhubaneswar Campus.
2. Sri Venkateswara Medical College.
3. All India Institute of Medical Sciences, Bhubaneswar.
4. Institute of Medical Sciences and SUM Hospital - Siksha 'O' Anusandhan University.
5. Koustuv Research Institute of Medical Science, AIPH University.

##### **Bihar**

1. Gopal Narayan Singh University.
2. Patna Institute of Nursing and Paramedical Science.
3. Himalaya Institute of Higher Education.
4. Dhanarua School of Nursing.
5. Shri Sai College of Nursing and Paramedical Science.
6. RIMS College of Nursing.
7. Ramchandra Chandravansi University.



PIONEER LADIES WHO BROUGHT  
**RENAISSANCE IN MEDICAL WORLD**

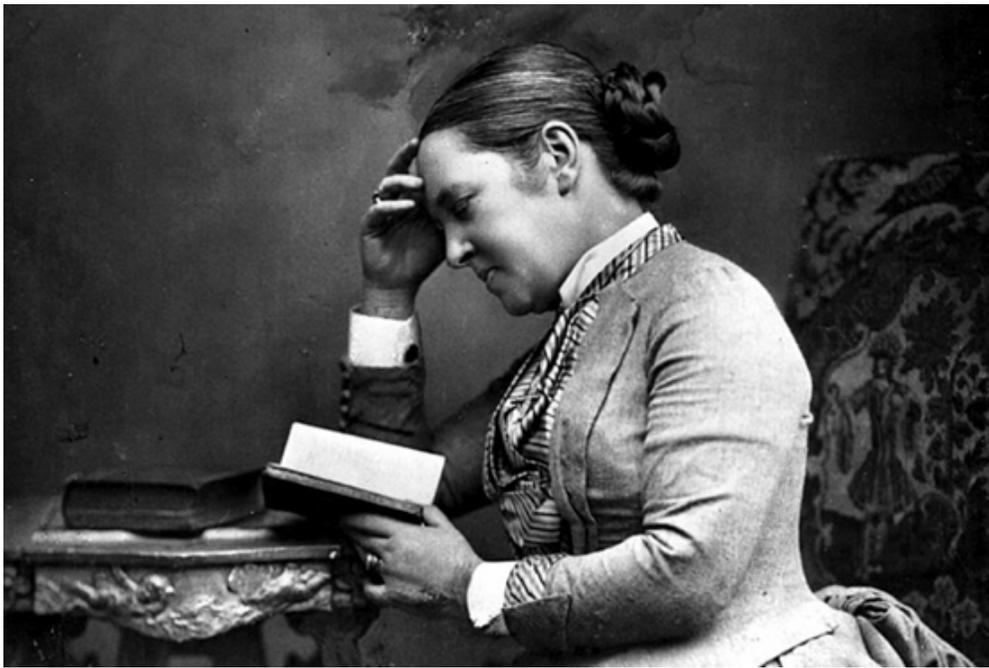
Feature Story by ANI



Students in the operating amphitheater of the Woman's Medical College of Pennsylvania in 1903

**W**omen have never been left behind in the development and growth of society. Statistics says that from the 18<sup>th</sup> century true incredible contribution of some women in the field of medicine is truly astonishing.

These inspiring women endured poverty, deep-seated stereotypes, and discrimination, but they went on to build hospitals, win a Nobel Prize, lead a medical school, and dramatically improve the health of millions. Read their incredible stories.



**Elizabeth Blackwell, MD (1821-1910)**

**Elizabeth Blackwell, MD (1821-1910): A fabulous first**

In 1849, Elizabeth Blackwell became the first woman in the United States to be granted an MD degree. Blackwell began her pioneering journey after a deathly ill friend insisted she would have received better care from a female doctor.

Turned away by more than 10 medical schools, Blackwell refused a professor's suggestion that she disguise herself as a male to gain admission. "It was to my mind a moral crusade," she wrote at the time. "It must be pursued in the light of day, and with public sanction, in order to accomplish its end." Blackwell ultimately attended Geneva Medical College in western New York: Male students there asked their opinion agreed to admit her, thinking the matter a mere prank.

In the years following graduation, Blackwell struggled to find work, but in 1857, she co-founded the New York Infirmary for Indigent Women and Children to serve the poor.

The hospital, like the Woman's Medical College of the New York Infirmary she created in 1867 and many other efforts, was also intended to support and encourage women hoping to pursue careers in medicine.





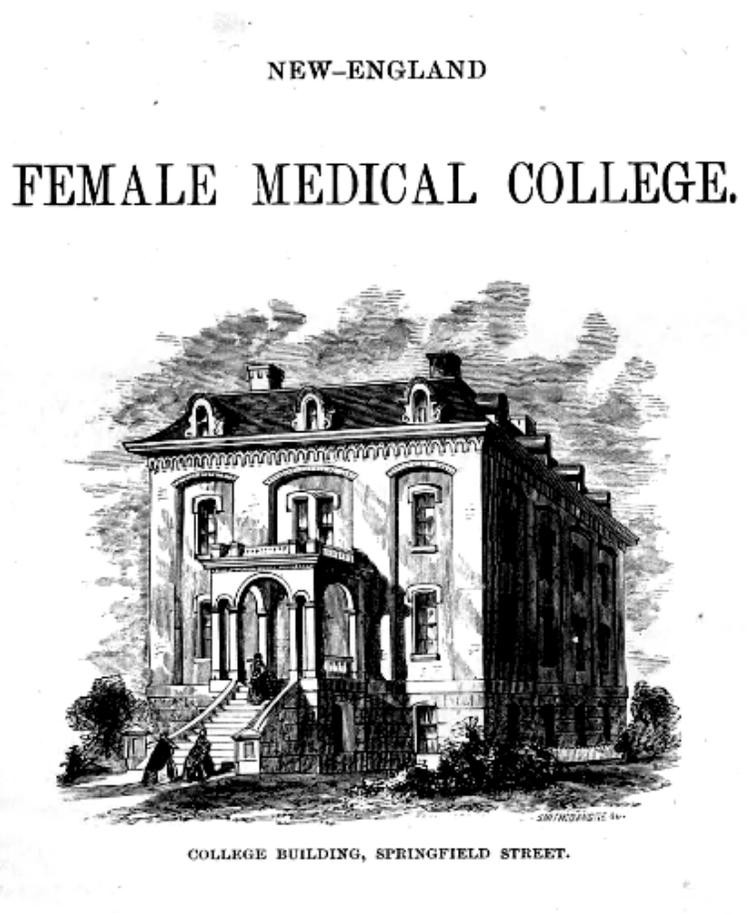
**Rebecca Lee Crumpler, MD (1831-1895)**

**Rebecca Lee Crumpler, MD (1831-1895): An African American pioneer**

The first African American woman in the United States to earn an MD degree, Rebecca Lee Crumpler was inspired by an aunt who took care of many ill neighbors. "I early conceived a liking for, and sought every opportunity to relieve the suffering of others," wrote Crumpler in her groundbreaking 1883 publication, *A book of Medical Discourses: In Two Parts*.

Crumpler gained entrance to the New England Female Medical College in Boston, Massachusetts, after working for eight years as a nurse in nearby Charlestown and receiving letters from doctors commending her. When she completed her education in 1864, she became the only black graduate in the school's history.

Following the Civil War, Crumpler moved to Richmond, Virginia, to care for formerly enslaved people, where she suffered rampant racism and sexism. Still, the experience taught her a great deal about providing care, Crumpler said, and when she returned home to Boston, she served her patients with "renewed vigor."





**Mary Putnam Jacobi, MD (1842-1906)**

**Mary Putnam Jacobi, MD (1842-1906): The menstruation myth.**

Mary Putnam Jacobi was interested in biology from the time she was young, and even briefly considered dissecting a dead rat she found to get a glimpse at its heart.

With the reluctant support of her father, renowned publisher George Putnam, Jacobi received her MD degree from the Female (later Woman's) Medical College of Pennsylvania in 1864.

Determined to get a better education than she could in

the United States, she also managed to study at l'École de Médecine in Paris — the first women to ever do so.

Jacobi fought hard for her female peers. She argued for coeducation for medical students, noting that existing women's medical schools could not provide the same clinical experience as major hospitals. In 1872, she created the Association for the Advancement of the Medical Education of Women to address inequities.





**Ann Preston, MD (1813-1872)**

**Ann Preston, MD (1813-1872)**

As the first woman dean of a U.S. medical school, Ann Preston fought intense hostility to win opportunities for her female students.

Preston first became interested in medicine and physiology while working as a temperance activist in Pennsylvania. After apprenticing with a local doctor in 1847, she applied to all four medical schools in Philadelphia — and was accepted by none.

In 1850, Preston entered the first class of the Female (later Woman's) Medical College of Pennsylvania, and she went on to become a professor there. When the Philadelphia Medical Society barred female physicians from training in clinics, Preston recruited an all-women board to establish a hospital where



women could train. In 1866, she was appointed dean of the medical college.

Eventually, Preston won the right for her students to train at the well-established Pennsylvania Hospital. When the group entered the surgical theater, male students hissed and spat at them — but Preston remained undeterred. In 1869, in response to a campaign to prevent women from studying alongside men, she wrote-  
“Wherever it is proper to introduce women as patients, there also is it but just... for women to appear as physicians and students.”



**Virginia Apgar, MD (1909-1974)**

**Virginia Apgar, MD (1909-1974): Scoring for babies**

New parents anxiously await their child's Apgar score, which is the gold standard for determining the health of a newborn. Virginia Apgar devised that score in 1953, creating the first tool to scientifically assess a neonate's health risks and need for potentially life-saving observation.

When she graduated from the College of Physicians and Surgeons at Columbia University in 1933, Apgar hoped to pursue surgery. A mentor discouraged her, though, so she studied anesthesiology instead, becoming the first director of Columbia-Presbyterian Hospital's new division of anesthesia in 1938.

Apgar went on to study the effects of anesthesia, labor, and delivery on a newborn's health, and she is said to have created her tremendously influential

checklist in response to a question from a student. Before the Apgar score, providers had little guidance on assessing and treating infants in their first hours, often losing babies who could have been saved.

In her 50s, Apgar launched a second career, pursuing a master's degree in public health from Johns Hopkins University and working at the March of Dimes as vice president for medical affairs. There, she drove public attention to such vital issues as how to prevent birth defects.

Former U.S. Surgeon General Julius Richmond once said that Apgar had "done more to improve the health of mothers, babies, and unborn infants than anyone else in the 20th century."





**Susan LaFlesche Picotte, MD (1865-1915)**

**Susan LaFlesche Picotte, MD (1865-1915):  
Devoted to healing Native Americans**

Susan La Flesche Picotte was born in 1865 in a tipi made of hide, and died in 1915 in the sun-splashed Victorian house she'd built on a town lot in Walthill, NE. Though it lasted only 50 years, her life was an epic, as sweeping and rolling as the Nebraska Plains that were her home.

The youngest of four daughters born to parents of mixed ancestry, she always identified as an Omaha Indian. Her father, Joseph La Flesche, was an Omaha chief who, observing the inexorable flood of white people coming from the East, urged the Omaha to learn their ways as a means of survival. He pressed on his children the need to straddle worlds and accomplish greatly in all of them.

For Susan this meant journeying East by train to New Jersey at 14 to attend the Elizabeth Institute for Young Ladies. In 1884 she went on to Virginia's Hampton Normal and Agricultural Institute, where she and other Indians were educated alongside Black students whose parents, in some cases, had been enslaved (Booker T. Washington attended a decade earlier). Finally Picotte studied medicine for three years in bustling Philadelphia, graduating in 1889 as valedictorian from the Women's Medical College of Pennsylvania.

Her cultural understandings, by this point, recalled words of the poet Walt Whitman, who was roughly her contemporary: "I contain multitudes." She knew the art and literature of European Americans and the stories, customs, and dances of her Native people. She spoke English, French, Omaha, and Otoe. She could handle horses and rake hay with the best of them—"men's work"—and also cook, launder, and sew to exacting standards.

She was the country's first American Indian physician—a woman doctor, no less, when these were exceedingly rare and encountered disrespect from a white male establishment that deemed women constitutionally unfit for the job. But the heart of Susan La Flesche Picotte's life accomplishment was this: She took all her talents and abilities back to the reservation in northeast Nebraska and for the next 16 years ministered, with cultural competence and the tenderest care, to some 1,200 Omaha spread out across 1,350 square miles.

She remembered well how, as a child, she'd sat vigil with an old woman as she struggled through a painful death, unattended by the white physician who'd been summoned in vain. "It was only an Indian," Picotte ruefully observed, "and it did not matter." To her, these lives, mattered deeply. First, as a government doctor connected to the Omaha Agency Indian School and later in private practice, Picotte delivered babies and held the hands of the dying. She treated tuberculosis, flu, and cholera, assorted infections and fevers and injuries.

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She also addressed what today are known as social determinants of health. Often Picotte would procure and prepare nutritious meals for a patient whose hunger was a contributing cause of illness.

She advised on business matters and home economics, needing no instruction in the connection between family wealth and wellness. She waged public health campaigns for hygiene practices to stem contagion, and tirelessly (but mostly unavailingly) battled against the sale of the alcohol she saw damaging the health and safety of individuals and community.

It was grueling work. To reach her patients, Picotte often had to drive her horse-drawn buggy many miles through the prairie's blistering heat or driving snow. "When I realize all the work that God has given me to do, it almost takes my breath away to think how little justice I can do it," she wrote Sara Kinney, head of the Connecticut Indian Association, which had supported her medical education. "But it is a comfort to turn and do the next thing to relieve some poor soul's trouble."



**Gerty Theresa Cori, PhD (1896-1957)**

**Gerty Theresa Cori, PhD (1896-1957): Winning a Nobel**

Gerty Theresa Cori — the first U.S. woman to win a Nobel Prize in science — and her husband Carl worked as equals, yet they were rarely treated that way.

Gerty and Carl met in Prague during medical school, which she attended at the urging of her pediatrician uncle. The couple moved to Buffalo, New York, in 1922 and began conducting biomedical research at a state institute, where Gerty was warned she'd ruin her husband's career if the two collaborated. That did not dissuade them, and they went on to publish dozens of papers together.

The pair delved into the body's use of energy from food, arriving at the Nobel-winning Cori Cycle that explained how glucose is metabolized — a key insight for the treatment of diabetes.

Carl was courted by various institutions and became a department chair at the Washington University School of Medicine in St. Louis, but Gerty remained a research assistant. Eventually, in 1947, the same year the pair became Nobel laureates, Gerty was promoted to professor of biochemistry.

Unfortunately, Gerty also developed the rare blood disease myelofibrosis that same year. She fought it for another decade, sometimes in extreme pain, and she refused to give up her research until the last few months of her life.





**Patricia Goldman-Rakic, PhD (1937-2003)**

**Patricia Goldman-Rakic, PhD (1937-2003): Brain breakthroughs**

Alzheimer's disease, cerebral palsy, Parkinson's disease, schizophrenia — scientists' understanding of these conditions and many more are founded on the groundbreaking research of Patricia Goldman-Rakic.

Goldman-Rakic, who received her PhD from UCLA in 1963, achieved unprecedented insight into the brain's frontal lobes. Working at a time when the prefrontal cortex was deemed too complex to research in detail, Goldman-Rakic mapped the region and shed light on such crucial functions as cognition, planning, and working memory.

Goldman-Rakic achieved her success by taking a multidisciplinary approach, combining such fields as anatomy, biochemistry, and pharmacology. In fact, when she joined the faculty at the Yale School of Medicine in 1979 — after conducting research at such prestigious institutions as MIT and the National Institutes of Health — she held appointments in several departments, including neurology and psychiatry.



Over her career, she published more than 200 papers and received numerous honors, including admission to the National Academy of Sciences in 1990.

She still had much more to contribute, peers noted, when she was struck by a car in 2003 and died two days later.

At the time, Susan Hockfield, provost of Yale University, said of Goldman-Rakic, "Not only was she a dedicated and brilliant researcher, she was also a great and beloved mentor to many junior researchers.

Her discoveries and insights into brain function have forever changed our understanding of the mind and brain."



**Antonia Novello**

**Antonia Novello, MD (1944-): Fighting for the vulnerable**

When Antonia Novello became U.S. surgeon General in 1990, her name was etched in two history books: one for Hispanics and one for women.

As a child in Puerto Rico, Novello suffered from a congenital digestive condition that her family could

barely afford to treat. That experience motivated her to study medicine and ensure that care was available to all.

After earning her medical degree from the University of Puerto Rico, Novello pursued pediatrics for a while but found the field too heart-wrenching.

“When the pediatrician cries as much as the parents do, then you know it’s time to get out,” she said. Instead, she pursued a career in public health, working her way up at the National Institutes of Health for decades and eventually catching the attention of the White House.

As surgeon general, Novello chose to focus on protecting the young and the vulnerable, addressing such issues as underage drinking and cigarette ads that targeted children.

Although widely lauded for her achievements, Novello faced a dark moment in 2009 when she pled guilty to using government staff to conduct personal errands back when she served as the New York state health commissioner. Novello claimed she was the victim of former coworkers who accused her unfairly.

Over the course of her career, Novello was committed to battling health inequities among the poor and minority groups. Speaking in 2017 at a health equity symposium at Penn Health, Novello quoted historian Yehuda Bauer, who said, “Thou shalt not be a victim, thou shalt not be a perpetrator, but, above all, thou shalt not be a bystander.”





**Joycelyn Elders**

such topics as sex education, masturbation, and the distribution of condoms in public schools.

After leaving her position, Elders returned to her alma mater as a faculty researcher and professor at Arkansas Children's Hospital. Over the years, she has also crisscrossed the country speaking out about women's health and other issues.

Throughout, she has advocated for those with limited access to care. As she famously said, "Health is more than absence of disease; it is about economics, education, environment, empowerment, and community."

### **Joycelyn Elders, MD (1933-): First African American surgeon general**

Joycelyn Elders grew up in a large family in a poor part of Arkansas, and she often missed school to help her sharecropper parents work in the fields. Decades later, she became the first African American surgeon general of the United States and the second woman to hold that position. Elders did not see a doctor until she was 16 years old, and when she did, she knew she wanted to be one.

After serving in the Army, she enrolled at the University of Arkansas Medical School with funding from the GI Bill, and she graduated in 1960 as the only woman in her class. She went on to become the first board-certified pediatric endocrinologist in Arkansas and to focus on preventing pregnancy among teens with diabetes.

In 1987, Elders was chosen to run the Arkansas Department of Health. In that role, she logged many impressive achievements, including nearly doubling childhood immunizations, expanding the state's prenatal care program, and increasing supports for elderly and terminally ill patients.

These and many other successes led to Elders' appointment as surgeon general in 1993. However, Elders was forced to resign in 1994 after coming under fire for several controversial statements on





## IMPORTANT WEB LINKS

- Medical Counselling Committee (MCC):  
**[www.mcc.nic.in](http://www.mcc.nic.in)**
- AYUSH Admissions Central Counseling Committee (AACCC)  
**[www.aacc.gov.in](http://www.aacc.gov.in)**
- Veterinary Council of India (VCI).  
**Website will be announced soon**
- NATIONAL MEDICAL COMMISSION NMC  
**[www.nmc.org.in](http://www.nmc.org.in)**
- Dental Council of India DCI  
**<https://dciindia.gov.in/>**

### State Quota counselling websites:

- Andhra Pradesh  
**<http://drysruhs.edu.in>**
- Assam  
**[www.dme.assam.gov.in](http://www.dme.assam.gov.in)**



• Arunachal Pradesh  
[www.apdhte.nic.in](http://www.apdhte.nic.in)

• Bihar  
[bceceboard.bihar.gov.in](http://bceceboard.bihar.gov.in)

• Chandigarh  
[www.gmch.gov.in](http://www.gmch.gov.in)

• Goa  
[www.dte.goa.gov.in](http://www.dte.goa.gov.in)

• Chhattisgarh  
[www.cgdme.in](http://www.cgdme.in)

• Gujarat  
[www.medadmgujarat.org](http://www.medadmgujarat.org)

• Haryana  
<https://dmer.haryana.gov.in/>

• Jammu and Kashmir  
[www.jkbopee.gov.in](http://www.jkbopee.gov.in)

• Jharkhand  
[www.jceceb.jharkhand.gov.in](http://www.jceceb.jharkhand.gov.in)

• Kerala  
[www.cee.kerala.gov.in](http://www.cee.kerala.gov.in)

• Karnataka  
[www.kea.kar.nic.in](http://www.kea.kar.nic.in)

Madhya Pradesh  
[www.dme.mponline.gov.in](http://www.dme.mponline.gov.in)

Thrissur Govt. Medical College





# ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RISHIKESH अखिल भारतीय आयुर्विज्ञान संस्थान, ऋषिकेश



• Maharashtra  
[www.cetcell.mahacet.org](http://www.cetcell.mahacet.org)

• Meghalaya  
[www.meghealth.gov.in](http://www.meghealth.gov.in)

• Manipur  
[www.manipurhealthdirectorates.mn.gov.in](http://www.manipurhealthdirectorates.mn.gov.in)

• Mizoram  
<https://dhte.mizoram.gov.in/>

• Nagaland  
<https://dhte.mizoram.gov.in/>

• Odisha  
[www.ojee.nic.in](http://www.ojee.nic.in)

• Puducherry  
[www.centacpuducherry.in](http://www.centacpuducherry.in)

• Rajasthan  
<https://rmcjaipur.org>

• Punjab  
[www.bfuhs.ac.in](http://www.bfuhs.ac.in)

• Tamil Nadu  
[www.tnmedicalselection.net](http://www.tnmedicalselection.net)

• Tripura  
[www.dme.tripura.gov.in](http://www.dme.tripura.gov.in)

• Uttar Pradesh  
[www.upneet.gov.in/](http://www.upneet.gov.in/)

• West Bengal  
[wbmcc.nic.in](http://wbmcc.nic.in)



AIIMS Bhubaneswar

• NEW RESEARCH

# BLOOD PRESSURE MEDICINES CAN LOWER THE SYMPTOMS OF MIGRAINE TOO

Article by The George Institute for Global Health in Sydney, Australia



**H**igh blood pressure has become a most common and dreaded disease in every household in the present age. Like other daily essentials, BP medicines are now a constant companion in our common regular lives.

The first known large-scale review of international studies on the positive effect of blood pressure (BP) medicines across all classes in preventing migraine shows these common drugs could be used much more widely, at low cost, than is the case with current practice, according to a new paper published today in the journal, *Cephalalgia*.<sup>1</sup> Conducted by researchers at The George Institute for Global Health in Sydney, Australia, the study confirms almost all classes of antihypertensive medications have some ability to reduce the

frequency of days with headache in people with migraine and that more research is therefore warranted to better understand the mechanisms involved.

The meta-analysis included 50 trials of more than 4,300 people, with BP-lowering medication on average reducing the number of headache days experienced per month by about one (1) day on top of the average placebo effect.

“For countries where new migraine medications are expensive, limited by prescribing criteria or not available at all – covering all countries to some extent - this study shows that common BP medicines, which GPs are comfortable prescribing, can be an important preventative measure for

patients with migraine or severe headache episodes,” said the study’s Joint Principal Investigator, Dr Cheryl Carcel, Senior Research Fellow at The George Institute and Conjoint Senior Lecturer, Faculty of Medicine, UNSW Sydney.

“Moreover, while we can see from the analysis that the effect is true for almost all types of BP medicines, this is not reflected in the current clinical guidelines, which specify just one or two types (such as beta-blockers) but not the full range of therapies that could be useful,” she said.

Global migraine prevalence is estimated at 14 to 15 per cent of the population, representing a major cause of ill health for up to 1 billion people.<sup>2, 3</sup> Migraine is the world’s second leading cause of disability overall and the first among women.

“Around 90 percent of people with migraine can be managed in general practice, where the goal is to prevent as many episodes as possible because of the disabling impact they have on the patient’s quality of life,” commented Joint Principal Investigator and former GP, Dr Faraidoon Haghdooost. “The good news is that blood pressure medications are widely available at low cost, with many available in generic forms, presenting a trusted treatment option alongside other preventive measures such as

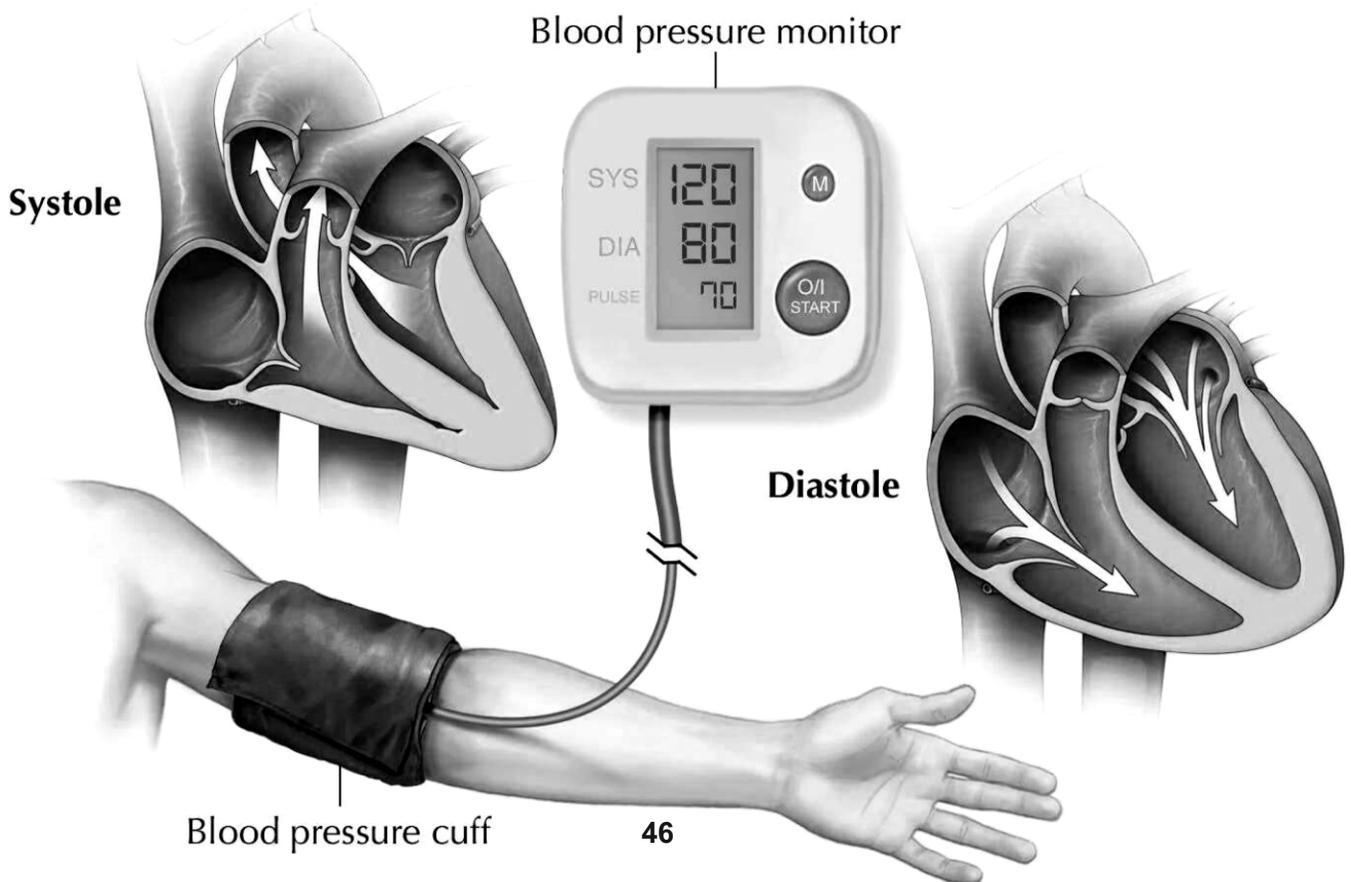
avoiding triggers and making lifestyle changes.”

The results also indicated that not all BP medications are equally effective in preventing migraine. The George Institute team is soon to publish a further review to give more insight into which of the various mechanisms are best.

“The numbers of people living with headache disorders is enormous and common treatments given once an episode has taken hold can have side effects that in themselves present problems, such as drowsiness or weight gain,” continued Dr Haghdooost. “Whereas BP meds can prevent episodes without a significant side effect burden.”

Tens of thousands of lives a year could be saved by new treatment protocol for brain haemorrhage.

The George Institute for Global Health today announced data from the phase III INTERACT3 study demonstrating that a new combination of treatments for stroke due to intracerebral haemorrhage (ICH) significantly improves the chances of surviving without major disability. Results were presented today at the European Stroke Organisation Conference in Munich, Germany, and simultaneously published in The Lancet.



The INTERACT3 study is the first-ever randomised controlled trial to show a clearly positive outcome for the treatment of ICH. Timely administration of the new treatment protocol – known as a Care Bundle – centred on the rapid control of high blood pressure, led to improved recovery, lower rates of death, and better overall quality of life in patients with this serious condition.

Professor Craig Anderson, Director of Global Brain Health at The George Institute and a senior author of the research said, “Despite the high rates of ICH and its severity, there are few proven options for treating it, but early control of high blood pressure is the most promising. Time is critical when treating this type of stroke, so we tested a combination of interventions to rapidly stabilise the condition of these patients to improve their outcomes. We estimate that if this protocol was universally adopted, it could save tens of thousands of lives each year around the world.”

Commonly referred to as a haemorrhagic stroke or brain bleed, ICH is the second most common type of stroke and also the most deadly, with 40% to 50% of patients dying within 30 days. It occurs when blood leaks out of a blood vessel into the brain tissue and represents over a quarter of all cases of stroke, affecting approximately 3.4 million people a year.

In the INTERACT3 study, over 7,000 patients were enrolled across 144 hospitals in 10 countries - nine middle-income countries and one high-income country.

The research team evaluated the effectiveness of the new Care Bundle, which included early intensive lowering of systolic blood pressure, strict glucose control, fever treatment, and rapid reversal of abnormal anticoagulation.

They found that using this new treatment protocol compared to usual care reduced the likelihood of a poor functional outcome, including death, after six months. This was estimated to prevent one additional death for every 35 patients treated.

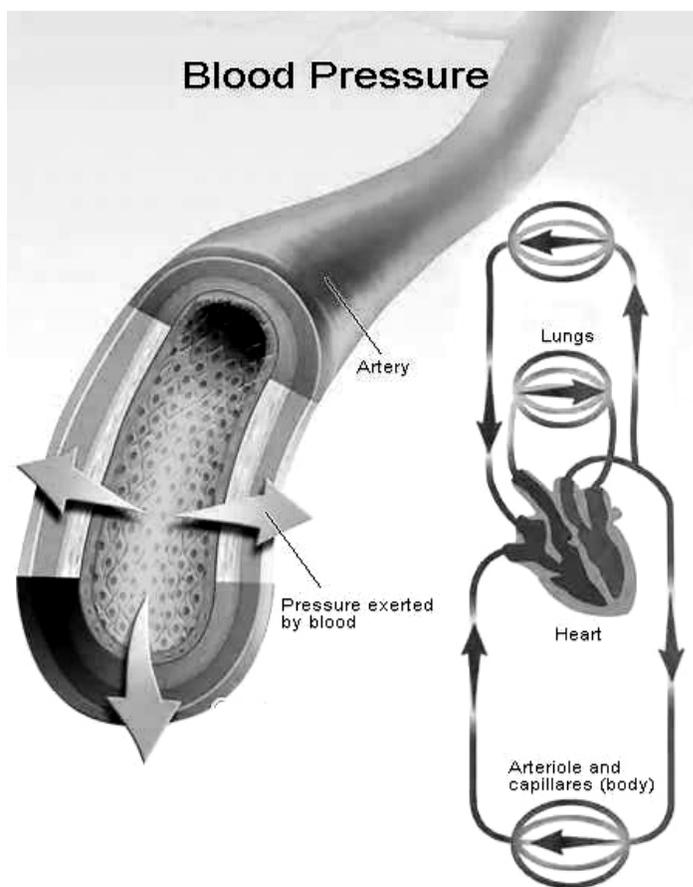
Central to this was a rapid reduction in systolic blood pressure, where target levels were achieved, on average, in 2.3 hours [range 0.8 to 8.0hrs], compared to 4.0 hours [range 1.9 to 16.0hrs] in the control group. The interventional protocol resulted in a statistically significant reduction in mortality, number of serious adverse events, and time spent in hospital, as well as demonstrating an improvement in health-

related quality of life.

The burden of ICH is greatest in low- and middle-income countries. In 2019, 30% of all stroke cases in LMICs were ICH, almost double the proportion seen in high-income countries (16%). This is in part due to high rates of hypertension and limited resources for primary prevention strategies, including identification and management of stroke risk factors by healthcare services.

Dr Lili Song, joint lead author and Head of the Stroke Program at The George Institute China, said, “A lack of proven treatments for ICH has led to a pessimistic view that not much can be done for these patients.

However, with INTERACT3, we demonstrate on a large scale how readily available treatments can be used to improve outcomes in resource-limited settings. We hope this evidence will inform clinical practice guidelines across the globe and help save many lives.”



# CURRENT AFFAIRS QUESTIONS

1. WHICH CITY WAS THE VENUE OF INTERNATIONAL AYUSH CONFERENCE AND EXHIBITION 2024?

- [A] New Delhi, India
- [B] Dubai, UAE
- [C] Mumbai, India
- [D] London, UK

2. FARSI (PERSIAN), RECENTLY SEEN IN THE NEWS, IS THE OFFICIAL LANGUAGE OF WHICH COUNTRY?

- [A] Iran
- [B] Iraq
- [C] Afghanistan
- [D] South Africa

3. WHICH STATE BECAME THE SECOND STATE IN THE COUNTRY, AFTER BIHAR, TO CONDUCT A CASTE CENSUS?

- [A] Andhra Pradesh
- [B] Uttar Pradesh
- [C] Tamil Nadu
- [D] Rajasthan

4. 'HAMARA SAMVIDHAN, HAMARA SAMMAN CAMPAIGN', RECENTLY SEEN IN THE NEWS, IS ASSOCIATED WITH WHICH MINISTRY?

- [A] Ministry of Law and Justice
- [B] Ministry of Corporate Affairs
- [C] Ministry of Finance
- [D] Ministry of Commerce & Industry

5. WHICH MINISTRIES COLLABORATED TO ORGANIZE THE VEER GATHA 3.0 EVENT IN NEW DELHI?

- [A] Ministry of Defence and Ministry of Finance
- [B] Ministry of Education and Ministry of Health
- [C] Ministry of Defence and Ministry of Education
- [D] Ministry of Home Affairs and Ministry of External Affairs

6. WHO IS THE AUTHOR OF THE RECENTLY LAUNCHED BOOK 'EK SAMANDAR, MERE ANDAR'?

- [A] Sanjeev Joshi
- [B] Vikram Seth
- [C] Aravind Adiga
- [D] Vineet Bajpai



# Current Affairs

7. DR. RADHAKRISHNAN COMMITTEE, RECENTLY SEEN IN THE NEWS, IS RELATED TO WHICH ONE OF THE FOLLOWING REFORMS?

- [A] Agricultural Reforms
- [B] Tax Reforms
- [C] Educational Reforms
- [D] Banking Reforms

8. 'OPERATION BLACK GOLD', RECENTLY SEEN IN THE NEWS, IS RELATED TO WHICH ONE OF THE FOLLOWING?

- [A] Crude oil smuggling
- [B] Gold smuggling
- [C] Black money smuggling
- [D] Drugs smuggling

9. POSHAN UTSAV, RECENTLY SEEN IN THE NEWS, IS ORGANIZED BY WHICH MINISTRY?

- [A] Ministry of Agriculture
- [B] Ministry of Rural Development
- [C] Ministry of Women and Child Development
- [D] Ministry of Defence

10. WHICH STATE GOVERNMENT RECENTLY ANNOUNCED A FULLY FUNDED UNIVERSAL LIFE INSURANCE SCHEME?

- [A] Nagaland
- [B] Mizoram
- [C] Assam
- [D] Manipur

11. HOW MANY CANDIDATES FROM THE 2024 LOK SABHA AND STATE ASSEMBLY ELECTIONS HAVE REQUESTED VERIFICATION OF THE BURNT MEMORY IN EVMs AND VVPAT UNITS?

- [A] 11
- [B] 13
- [C] 16
- [D] 18

12. RECENTLY, WHICH STATE GOVERNMENT HAS INTRODUCED THE FIRST AI-BASED SMART FENCE PROJECT, NAMED 'ELE-FENCE', TO REDUCE HUMAN-WILDLIFE CONFLICT?

- [A] Rajasthan
- [B] Kerala
- [C] Maharashtra
- [D] Gujarat

13. RECENTLY, WHICH STATE GOVERNMENT HAS APPROVED THE ESTABLISHMENT OF ONE PRIME MINISTER COLLEGE OF EXCELLENCE IN ALL THE DISTRICTS OF THE STATE UNDER NEP?

- [A] Uttar Pradesh
- [B] Haryana
- [C] Bihar
- [D] Madhya Pradesh

**14. RATLE POWER PROJECT, RECENTLY SEEN IN NEWS, IS SITUATED ON WHICH RIVER OF JAMMU AND KASHMIR?**

- [A] Chenab
- [B] Jhelum
- [C] Sind
- [D] Ujh

**15. RECENTLY, THE INDIA'S FIRST 'CHADWICK HOUSE: NAVIGATING AUDIT HERITAGE' MUSEUM HAS BEEN INAUGURATED AT WHICH PLACE?**

- [A] Jaipur
- [B] Shimla
- [C] Ladakh
- [D] Chandigarh

**17. WHAT IS THE MAIN PURPOSE OF THE SANGYAAN APP, RECENTLY LAUNCHED BY RAILWAY PROTECTION FORCE (RPF)?**

- [A] To provide train schedules
- [B] To educate and empower RPF personnel by providing information about criminal laws
- [C] To monitor train ticket bookings
- [D] To provide health tips to RPF personnel

**18. RECENTLY, WHERE WAS THE DISTRICT MINERAL FOUNDATION GALLERY INAUGURATED?**

- [A] Bhopal
- [B] New Delhi
- [C] Chennai
- [D] Bengaluru

**19. WHICH STATE GOVERNMENT HAS RECENTLY LAUNCHED 'LOKPATH MOBILE APP' FOR RESOLVING ROAD PROBLEMS?**

- [A] Madhya Pradesh
- [B] Uttar Pradesh
- [C] Rajasthan
- [D] Gujarat

**20. RECENTLY, THE ASIAN DEVELOPMENT BANK AND ENGIE GROUP HAVE SIGNED A LONG-TERM LOAN AGREEMENT TO CONSTRUCT AND OPERATE A 400MW SOLAR PV POWER PLANT IN WHICH STATE?**

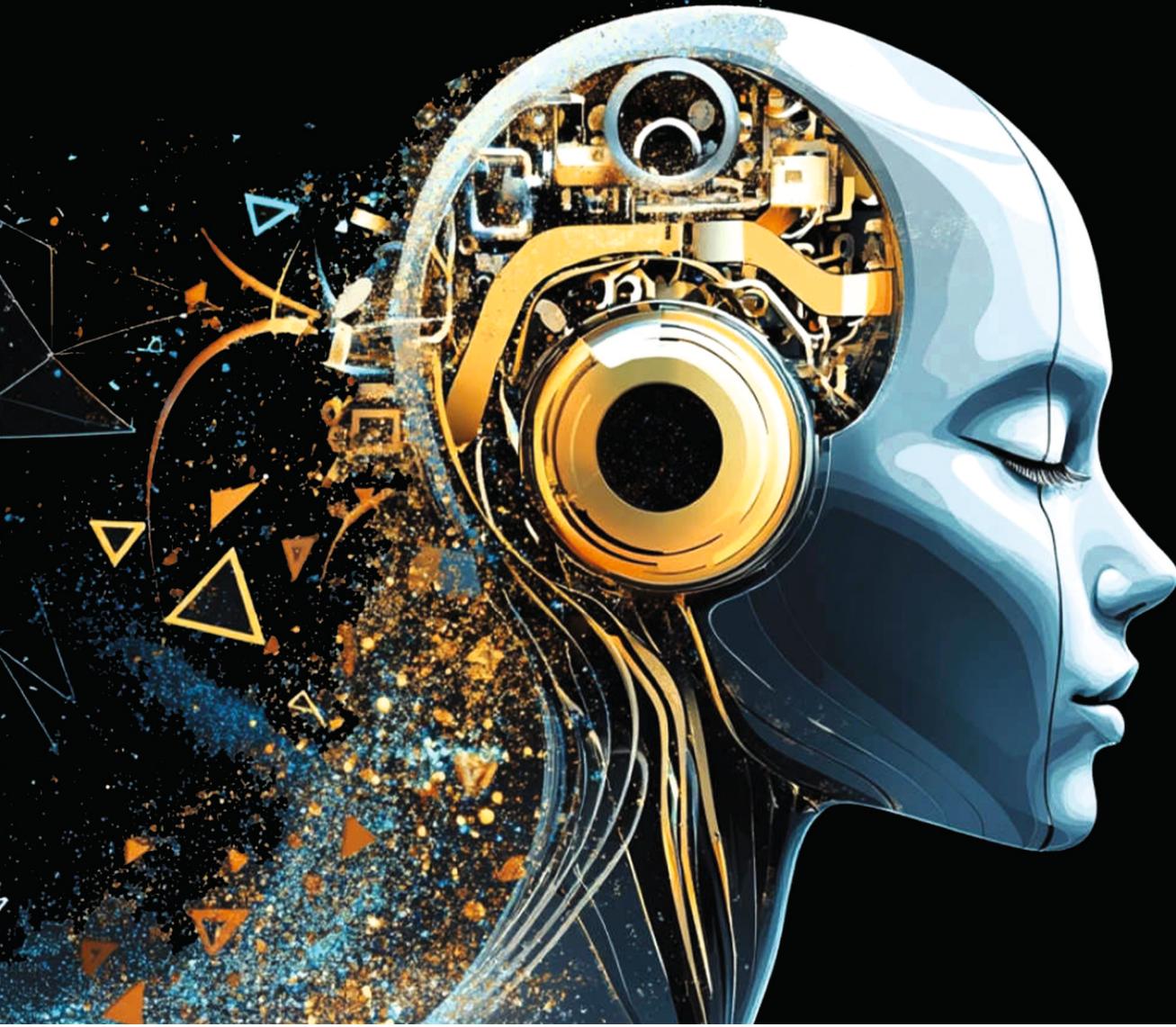
- [A] Bihar
- [B] Gujarat
- [C] Kerala
- [D] Odisha

**\*\* THE CORRECT ANSWER IS UNDERLINED \*\***

# CSE **VS** AI

SUVRA RAY  
(CEO- ENCODERS)

In an era of rapid technological advancement, Computer Science has emerged as a profoundly significant and highly sought-after field. It not only unlocks a wide array of job opportunities but also cultivates critical skills such as creative thinking and problem-solving. The Information Technology (IT) industry is experiencing an explosive growth with experts predicting an even sharper rise in demand for IT professionals. According to the US Bureau of Labor Statistics (BLS), “overall employment in Computer and Information Technology occupations is projected to grow much faster than the average for all occupations from 2023 to 2033. The median annual wage for this group was \$105,990 in May 2024, which was higher than the median annual wage for all occupations of \$49,500”.



## **BLS employment projections from 2023 to 2033 & median salary:**

Computer and Information Research Scientists – 26% (\$140,910 per year)  
Computer Network Architects – 13% (\$130,390 per year)  
Computer Systems Analysts – 11% (\$103,790 per year)  
Information Security Analysts – 33% (\$124,910 per year)  
Web Developers and Digital Designers – 8% (\$95,380 per year)  
Software Developers, Quality Assurance Analysts, and Testers—17% (\$131,450 per year)

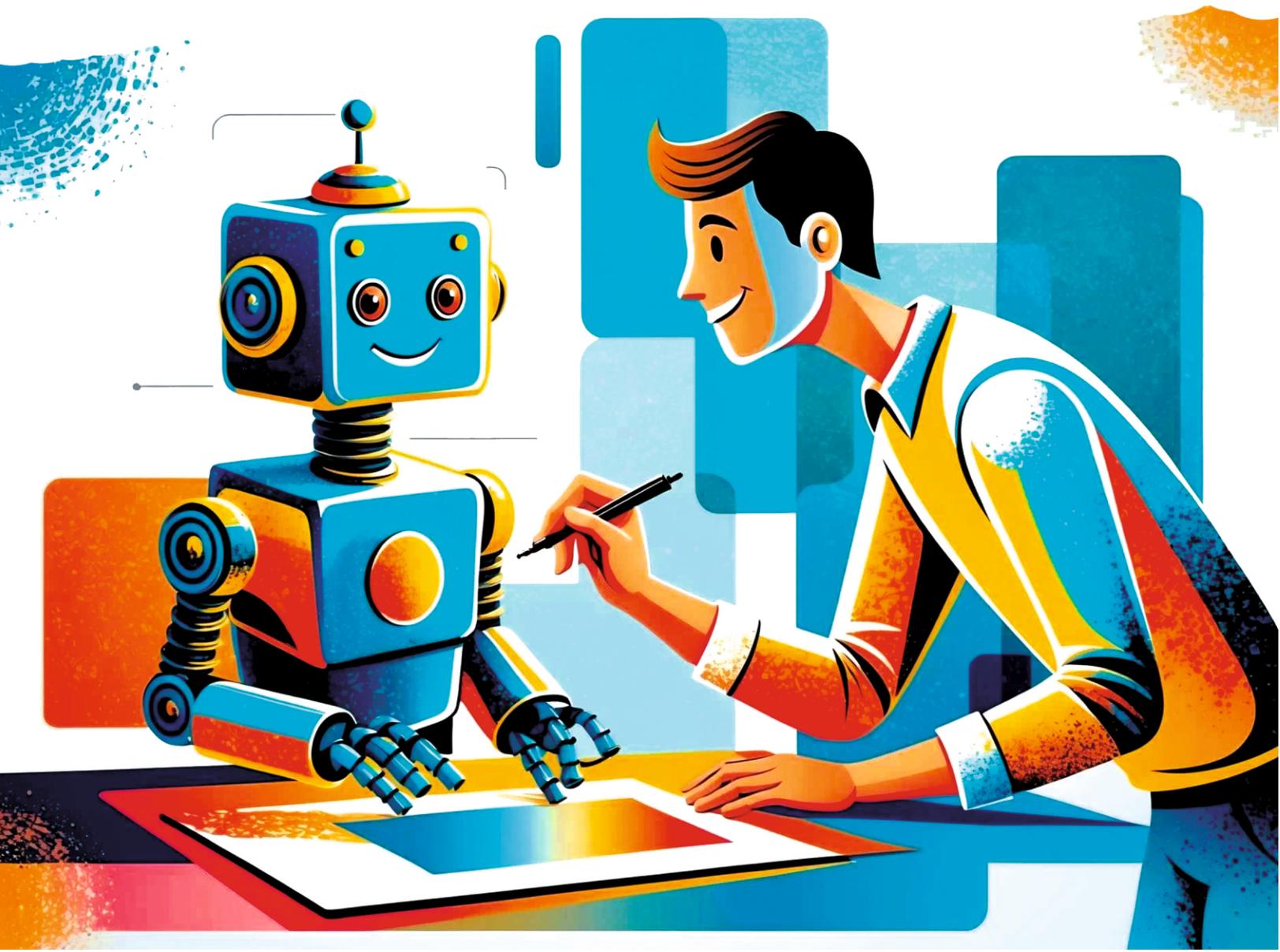
## **How to become Computer Science or IT Professional**

The journey to become an IT professional begins just after your schooling (Class XII) or Pre-University Course (PUC) is over and you choose an undergraduate course to pursue. The most popular UG course is either Bachelors of

Technology (B.Tech) or Bachelor of Computer Applications. For this article, we'll focus exclusively on the B.Tech degree.

The Joint Entrance Examination (JEE) Mains & JEE Advanced are the most popular exams for B.Tech admissions in India. JEE scores are primarily accepted by the prestigious Indian Institutes of Technology (IITs) and National Institutes of Technology (NITs). However, many other reputable engineering colleges also consider JEE scores for their B.Tech programs.

For admission to other government colleges, state-level entrance exams are typically conducted. Examples include WBJEE in West Bengal, OJEE in Odisha, KCET in Karnataka, and MHT CET in Maharashtra. In Karnataka, COMEDK facilitates admissions to private engineering colleges. Additionally, many popular private colleges and universities conduct their own entrance exams, such as BITSAT for BITS Pilani, VITEEE for VIT Vellore, KIITEE for KIIT (Kalinga Institute of



Industrial Technology), SRMJEE for SRM Chennai, and MET for Manipal Institute of Technology (MIT Manipal).

No matter which entrance exam you take, what counselling you attend, or the colleges you consider, a key question probably pops up when it's time to pick your specialization: CSE or CSE with AI?

To answer this question effectively, we must first understand what is Artificial Intelligence (AI) and then explore its similarities and differences with Computer Science Engineering (CSE).

Artificial Intelligence together in this article.

## What is Artificial Intelligence

Artificial Intelligence (AI) is a broad field of computer science focused on creating machines and computer systems that can perform tasks that typically require human intelligence. This includes abilities such as:

**Learning:** AI systems can learn from data, identifying patterns and relationships without being explicitly programmed for every scenario. This is often achieved through machine learning and deep learning techniques.

**Reasoning:** They can apply logic and rules to solve



In today's world, it's hard to escape the buzz around Artificial Intelligence (AI). Whether we're on our phones, scrolling through social media, or just browsing the internet, AI is everywhere. We hear a lot about it: AI is the future, AI will change everything, AI will rebuild the world. But we also hear the concerns: AI is dangerous, AI might ruin the world, AI will take our jobs, AI will replace humans, and even that AI could end the human race.

The first thing that come in our mind is "What exactly is Artificial Intelligence?" and "Why has it become so incredibly important, dominating nearly every conversation?". Let's explore the world of

problems and make decisions.

**Problem-solving:** AI can devise strategies and actions to achieve specific goals.

**Perception:** This involves interpreting sensory data, such as images (computer vision) or sounds (speech recognition).

**Natural Language Processing (NLP):** Enabling computers to understand, interpret, and generate human language.

**Decision-making:** Making choices based on available data and learned patterns, often aiming to optimize for a specific outcome.

In essence, AI aims to empower machines to "think" and "act" in ways that traditionally would require human cognitive abilities.



It's important to note that most AI we encounter today is Narrow AI (or Weak AI), meaning it's designed to perform specific tasks extremely well (like facial recognition, recommending products, or playing chess).

Artificial General Intelligence (AGI), which would possess human-level intelligence across a wide range of tasks, and Artificial Superintelligence (ASI), which would surpass human intelligence, are still theoretical concepts and active areas of research.

The roots of AI trace back to the mid-20th century. Visionaries like Alan Turing, with his groundbreaking 1950 paper "Computing Machinery and Intelligence" and the concept of the Turing Test, laid down the foundation stone for machine intelligence.

"Dartmouth Summer Research Project on Artificial Intelligence in 1956" is marked as the formal birth of AI as an academic discipline. It was at this landmark conference that John McCarthy first coined the term "Artificial

Intelligence," gathering pioneers who dared to imagine machines capable of simulating human cognitive abilities.

In 21<sup>st</sup> century, Artificial Intelligence is rapidly transforming almost every industry. Talking about retails, agriculture, transport to healthcare industry, from Finance Management to Manufacturing, every industry is being revolutionized by AI.

Self-driving cars are a perfect example of AI. You've likely heard of Tesla and Elon Musk; their AI system, particularly in the context of its "Full Self-Driving" (FSD) and Autopilot features, is one of the most ambitious and widely discussed applications of AI in the automotive industry. Thanks to AI, you won't need to wait for a driver to take you somewhere.

These AI systems don't get sick, ask for raises, or threaten to quit. Imagine a street filled with self-driving taxis, available 24/7 at your doorstep with just a click, and no surge pricing!. Indian car manufacturers like Mahindra & Tata have also joined this race. Many countries like China, United States, Rwanda, Ghana, and Japan have successfully tested contactless & errorfree delivery by drones using AI system.

Few Indian startups are also on the same track to deliver eatables, medicines & grocery items.

Imagine a world where your day seamlessly unfolds with the help of AI. You leave the office at 5 PM in your self-driving car, and even before you arrive home, your bathroom geyser starts heating water, and your air conditioning sets your preferred temperature. Your home theatre might even begin playing your favourite playlist, perhaps sensing your mood.

By the time you've freshened up, your coffee is brewed and ready. As you take a sip, you effortlessly review your investment portfolio, with powerful AI tools highlighting high and low-performing stocks and suggesting new buys or sells based on intelligent analysis. Before bed, your virtual assistant has already prepared tomorrow's schedule for your review.

You'd feel like Tony Stark with your own JARVIS, wouldn't you? This is the incredible power of Artificial Intelligence. The day isn't far off when even flying cars become a reality, all made possible by AI.

Now we know what is Artificial Intelligence and what it is capable for. Let us come back to our question again CSE or CSE with AI?.In this article, we will discuss about the difference in academic curriculum, top institutes, placement opportunities, top recruiters and career growth scope.

Now that we've explored the fundamentals of Artificial Intelligence and its vast capabilities, it's time to revisit our core question: Should you pursue a degree in Computer Science and Engineering (CSE) or CSE with a specialization in AI?In the following sections, we'll delve into the key distinctions between these two programs, offering insights into:

**Academic Curriculum:** How do these courses differ from each other?

**Top Institutes:** Which colleges/universities excel in these field?

**Placement Opportunities:** What kind of jobs can you expect with each degree?

**Top Recruiters:** Who are the major employers hiring from these programs?

**Career Growth Scope:** What are the long-term career trajectories for each specialization?

### **Academic Curriculum**

The academic curriculum for a core CSE degree and a CSE degree with a specialization in AI has a lot in common when it comes to the basics but diverge significantly in their advanced and elective subjects.

Here's a breakdown of the typical differences:

#### **CSE Curriculum (Common to both):**

Both programs will provide a strong foundation in core computer science concepts, including:





Images created by AI

**Programming Languages:** Such as C, C++, Java, and Python, which are vital for any software development

**Data Structures and Algorithms:** Fundamental concepts for efficient problem-solving and program design.

**Operating Systems:** How computer hardware and software interact.

**Database Management Systems (DBMS):** Storing, organizing, and retrieving data.

**Computer Networks:** Principles of communication between computers.

**Computer Architecture and Organization:** Understanding the internal workings of computers.

**Software Engineering:** Methodologies for developing robust and scalable software.

**Discrete Mathematics:** Essential for understanding algorithms and computational logic.

**Theory of Computation:** Exploring the limits and capabilities of computation.

**Specialization in AI Curriculum (Differentiating**

**Courses):** A CSE with AI specialization will cover topics directly related to artificial intelligence and its subfields. These additional or more in-depth subjects often include.

**Fundamentals of Artificial Intelligence:** An introduction to the core concepts, history, and philosophical aspects of AI.

**Machine Learning (ML):** Supervised Learning: Regression, classification (e.g., decision trees, support vector machines, logistic regression).

**Unsupervised Learning:** Clustering (e.g., K-means), dimensionality reduction.

**Reinforcement Learning:** Training agents to make decisions through trial and error.

**Deep Learning:** Neural Networks: Architectures like Convolutional Neural Networks (CNNs) for image processing and Recurrent Neural Networks (RNNs) for sequential data.

**Generative AI:** Focus on models that can generate new content (e.g., text, images).

## Natural Language Processing

**(NLP):** Techniques for computers to understand, interpret, and generate human language (e.g., text analysis, sentiment analysis, machine translation).

**Computer Vision:** Enabling computers to "see" and interpret visual information from images and videos (e.g. object recognition, image processing).

**Robotics:** Often includes aspects of AI for robotic control, path planning, and perception.

**Big Data Analytics and Data Mining:** Handling and extracting insights from large datasets, which is crucial for training AI models.

**AI Ethics and Explainable AI (XAI):** Addressing the societal implications and ensuring transparency in AI systems.

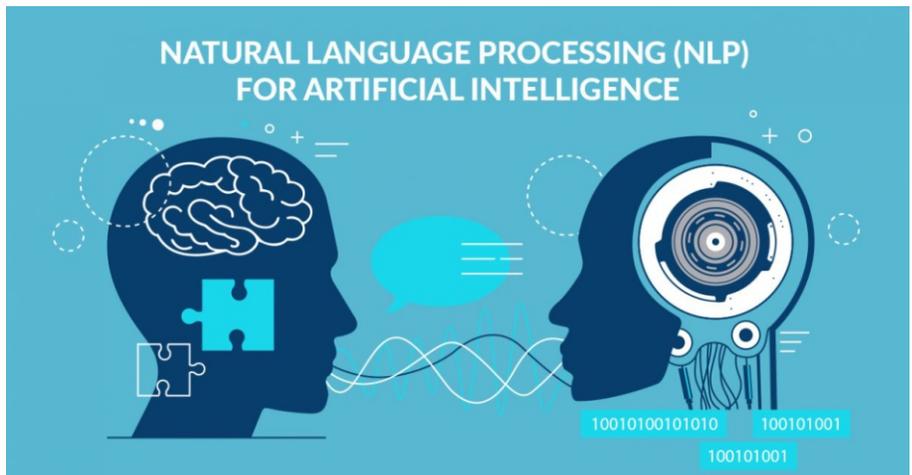
### Specialized AI Electives:

Depending on the institution, these might include topics like Expert Systems, Game Theory in AI, Federated Machine Learning, Augmented Reality & Virtual Reality (with AI components), etc.

**Differences in a Glimpse:** Breadth vs. Depth: Core CSE offers a broader understanding of various computer science domains, while CSE with AI provides a deeper and more focused learning into AI-specific domain.

Elective Subjects during final year: Core CSE program offers a wider range of electives to choose from across different CS fields like cyber security, data science, web development, Internet of Things, big data analytics, business systems etc. Whereas AI specialization electives are more inclined towards AI/ML topics.

**Mathematical and Statistical Computing:** AI specialization involves intensive focus on linear algebra, calculus, probability, and statistics, as these are the mathematical foundation of many AI algorithms.

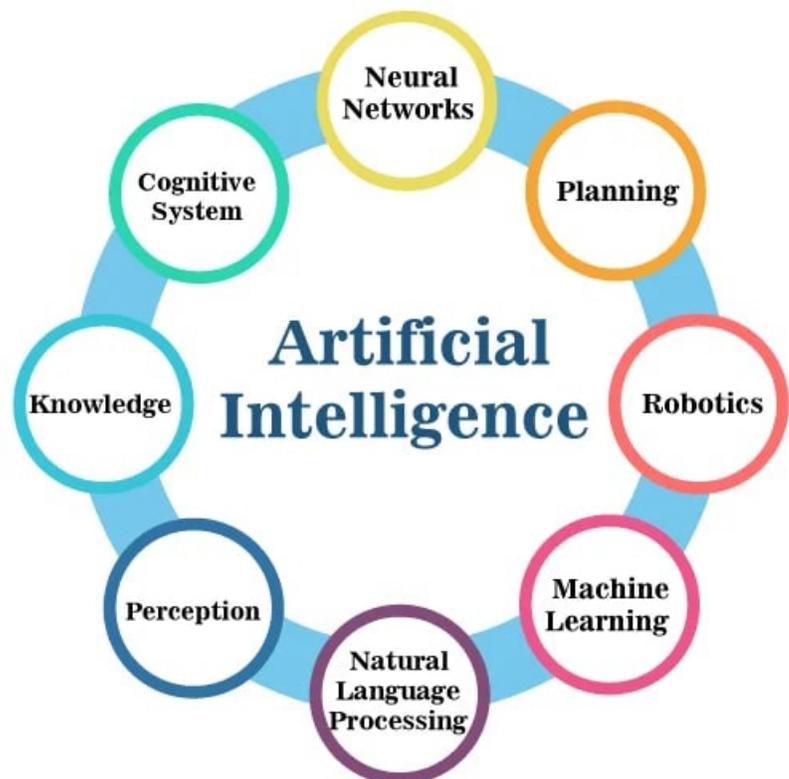


Hence CSE graduate will emerge with a versatile skillset, making them capable of working in various IT roles. On the other hand, a CSE with an AI specialization graduate will be specifically equipped with the knowledge and skills required for roles directly in AI/ML engineering, data science, and research within the AI domain.

### Top Institutes

While over thousands of engineering colleges and universities in India offer B.Tech degrees in Computer Science Engineering (CSE) or CSE with specializations like AI/ML, the most prestigious institutions are undoubtedly the IITs, NITs, and IIITs.

An engineering degree from these government-funded institutes provides an excellent foundation for a successful career.





However, it's worth noting that several premier private institutes have also distinguished themselves and made a significant impact within the IT industry. To name a few

- 
- BITS Pilani
- VIT Vellore
- MIT Manipal
- SRM Chennai
- Ramaiah University Bangalore
- RV University Bangalore
- Dayanand Sagar University Bangalore
- BMS Bangalore
- MIT WPU, Pune
- Top engineering college for B.Tech CSE or CSE with AI/ML in West Bengal
- IEM Saltlake Kolkata
- Techno India Saltlake Kolkata
- Heritage Institute of Technology, Kolkata

### Placement Opportunities

Core CSE degree is incredibly versatile. Core CSE graduates have wide range of job opportunity across various sector of IT industry. They can switch between various tech fields and pick up the

new technology quickly. Many IT giants prefer core CSE graduates as they can be trained for specialized role as per the organizational requirement.

### Core CSE Job Roles:

- Software Developer/Engineer (backend, frontend, full-stack)
- Web Developer
- Mobile App Developer
- Data Engineer/Analyst
- System Analyst
- Network Engineer
- Database Administrator
- Cyber Security Specialist
- IT Consultant
- Quality Assurance Engineer
- Product Manager

Whereas CSE with AI/ML opens up a wide range of highly sought-after and well-paying job opportunities.

As more companies adopt AI for automation, data analysis, and innovation, the demand for professionals in this field is growing rapidly across various industries.

### CSE with AI/ML Job Roles:

- AI Engineer
- Machine Learning Engineer/Scientist
- Data Scientist
- NLP Specialist
- Computer Vision Engineer
- Robotics Engineer
- Automation Architect

AI Researcher (often requiring further studies)  
The demand for AI professionals is high, leading to competitive salaries. Entry-level salaries for B.Tech CSE with AI graduates are often higher than for traditional CSE graduates, and there is significant potential for growth.  
With experience and specialized skills, salaries can increase substantially. The field is also projected to grow exponentially, with opportunities spanning across sectors like healthcare, finance, e-commerce, and logistics.

### Top Recruiters

When considering the top recruiters, the primary difference isn't the company names, but the profiles & department they are hiring for. Most of the major tech giants hire for both, but your specialization influences your placement opportunities.

Top recruiters that frequently hire core CSE graduates includes Tech Giants: Google, Amazon, Microsoft, and Meta  
IT Services and Consulting: Tata Consultancy Services (TCS), Infosys, Wipro, HCL

Technologies, Cap gemini, and Accenture  
Product-based Companies: Adobe, Oracle, Cisco, and IBM.

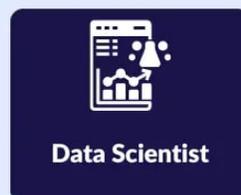
There are vast number of startups across various sectors constantly looking for versatile software developers.

Top recruiters for B.Tech in CSE with AI  
Tech Giants: Google AI, Amazon Web Services (AWS), IBM Watson, and Microsoft Azure AI  
Research-driven Companies: NVIDIA, Intel, Oracle, Adobe and Bosch AI Labs  
Fintech and E-commerce: Companies like Goldman Sachs, JP Morgan Chase, Amazon, and Flipkart hire for roles in fraud detection, recommendation engines and predictive analytics.

Automotive Sector: Companies like TESLA, General Motors, Toyota, BYD, Mahindra, Tata Motors are increasingly adopting AI for diagnostics, robotics and autonomous systems.

Career Growth Scope  
Core CSE graduates have a vast array of opportunities across industries. While starting salaries may be slightly lower than for specialized AI roles, a strong foundation in CSE allows for continuous learning and career pivots into various high-demand fields like cybersecurity or cloud computing. Mid-career salaries for experienced professionals in product-based companies can be very lucrative.

# Top AI Job Roles



Whereas CSE graduates with AI specialization often command higher starting salaries due to the specialized skill set and high demand.

The field of AI is experiencing explosive growth, leading to a fast-track career progression and some of the most lucrative salaries in the tech industry, with senior-level and niche roles offering very high compensation.

Just to mention that Meta Platforms (Facebook, Instagram & WhatsApp parent company) has unveiled massive compensation packages of around \$100 million (approximately Rs 800 crore) for Trapti Bansal and around \$200 million (approximately Rs 1,600 crore) for Ruoming Pang - as part of its new Superintelligence Labs, aiming to rival peers like OpenAI, Google DeepMind, Apple, and Anthropic.

### **Demand of AI Engineers in India vs Abroad**

The demand for Artificial Intelligence (AI) engineers is strong both in India and abroad, but there are notable differences in the scale, specialization, and compensation.

### **Demand for AI Engineers in India**

India is rapidly emerging as a global hub for AI talent and innovation. The demand for AI professionals is soaring, driven by the country's push for digital transformation across various sectors.

**Growing Market:** India's AI industry is projected to reach billions of dollars in value in the coming years, with a high compound annual growth rate. This growth is fuelled by startups, large enterprises, and government initiatives.

**High Demand, Significant Gap:** While the number of AI-related jobs is set to increase dramatically, a significant talent gap exists. Reports suggest that millions of AI roles may go unfilled in the next few years due to a shortage of skilled professionals. This gap is a major concern for companies looking to scale their AI operations.

**Skill Sets:** The demand in India is for a wide range of AI skills, from machine learning and data science to more specialized areas like natural language processing (NLP) and computer vision. Companies are also looking for professionals who can adapt to new technologies quickly.

**Salary:** While salaries for AI engineers in India are very competitive within the country's market, they are generally lower than those in Western countries. However, for freshers and those with niche skills, companies are willing to offer significantly higher compensation to attract top talent.

### **Demand for AI Engineers Abroad (e.g., USA, Europe)**

The demand for AI engineers in countries like the United States and Europe is well-established and continues to grow at a rapid pace.

**Established AI Ecosystem:** Countries like the U.S. have a mature AI ecosystem, with tech giants, a robust venture capital environment, and world-class research institutions driving innovation. This creates a high demand for skilled AI professionals.

**Specialized and Senior Roles:** The demand is particularly high for experienced professionals and those with specialized skills in areas like generative AI, ethical AI, and large language models (LLMs). There's also a significant need for research scientists and leadership roles in AI.

**Salary and Compensation:** AI engineers abroad, especially in major tech hubs like Silicon Valley, command some of the highest salaries in the tech industry.

Compensation packages often include stock options and performance bonuses, which can be very lucrative. Even entry-level positions often have a higher starting salary compared to their Indian counterparts.

**Talent Shortage:** Similar to India, many developed nations are facing a talent shortage in the AI field. This shortage is a key driver for companies to offer high salaries and benefits to attract and retain talent from around the world.

In conclusion, both India and foreign countries offer a promising future for AI engineers. The choice between working in India or abroad often comes down to personal preferences regarding work environment, compensation, and the type of projects one wants to work on.

India provides an excellent opportunity to be part of a rapidly growing ecosystem, while working abroad can offer access to higher salaries and more mature, research-driven environments.





WHY **IEM** IS PERFECT STUDY DESTINATION FOR

# LLB

BY LOVELY DE

## **W**hy Choose IEM's International Institute of Juridical Sciences (IIIJS) to Study Law?

Choosing the right institution to pursue a law degree is a pivotal decision for any aspiring law student. The International Institute of Juridical Sciences (IIIJS), a premier department under the Institute of Engineering and Management (IEM) Group, stands as an ideal destination for legal studies.

With its robust academic framework, focus on research, and a plethora of opportunities for practical exposure, IIIJS is committed to nurturing future legal professionals and scholars. Here are the key reasons why law students should consider IIIJS.

### **Affiliation and Accreditation**

The Department of Law at IIIJS is affiliated with the Bar Council of India (BCI), the apex body that regulates legal education and practice in India.

This affiliation ensures that the curriculum adheres to the highest academic standards and equips students with the knowledge and skills required to excel in the legal profession. BCI accreditation also ensures that graduates of IIIJS are eligible to enroll as advocates and practice law across India.

### **Research-Oriented Education**

At IIIJS, research is not just an add-on but a fundamental aspect of the academic experience. The department actively encourages students to engage in legal research, fostering critical thinking and analytical skills essential for a successful legal career.

The department collaborates extensively with two Centers of Excellence:

- 1. Centre of Excellence in Intellectual Property Research:** This center focuses on contemporary issues in intellectual property law, a field that has gained immense importance in the age of innovation and technology. Students have the opportunity to work on cutting-edge projects, attend workshops, and interact with industry experts.
- 2. Centre of Excellence in Sustainable Development Research:** Sustainability

and environmental law are increasingly significant areas of legal practice. This center provides students with the tools to explore legal solutions to global sustainability challenges, enabling them to contribute meaningfully to this critical domain.

### **International Conferences and Publications**

IIIJS regularly organizes international conferences, providing students with platforms to present their research and engage with global experts. One of the flagship events hosted by the department is **eHacon**, an internationally acclaimed conference published in Springer Proceedings. This event not only enhances the research exposure of students but also allows them to network with leading academicians, legal practitioners, and policymakers from around the world. Such initiatives cultivate a global perspective among students, preparing them for international legal careers.

### **Access to Premier Legal Databases**

Access to reliable and comprehensive legal databases is crucial for any law student.

IIIJS subscribes to some of the most reputable legal databases, including:



- **Manupatra**
- **SCC Online**
- **Platinum Version of EBC**

These resources provide students with extensive legal materials, including case laws, statutes, commentaries, and journals. This access ensures that students are well-equipped to conduct in-depth legal research and stay updated with the latest legal developments.

### **Internship Assistance**

Internships are an integral part of legal education, bridging the gap between academic knowledge and practical application. IIIJS has a dedicated internship assistance program that connects students with top organizations and law firms. Notably, students from IIIJS have interned with esteemed organizations like the **Airports Authority of India**, gaining valuable insights into the workings of corporate and regulatory legal frameworks. Such experiences help students build professional networks and enhance their employability.

### **Moot Court Training and Achievements**

Moot courts are a hallmark of legal education, offering students a platform to hone their advocacy skills. IIIJS boasts an excellent moot court facility and a mentorship program that provides rigorous training in legal research, drafting, and oral advocacy. These efforts have yielded remarkable results, as demonstrated by the department's triumph at the **National Moot**

### **Court Competition at Techno India**

**University**. Such achievements underscore the department's commitment to producing competent and confident advocates.

### **International Exposure**

IIIJS places a strong emphasis on global learning and interaction. The department frequently hosts visiting faculty and experts from foreign universities who engage with students through lectures, workshops, and interactive sessions. This exposure to diverse perspectives and international legal systems enriches the students' understanding and prepares them to navigate the complexities of global legal practice.

### **Comprehensive Curriculum and Pedagogy**

The academic curriculum at IIIJS is meticulously designed to cover all facets of legal education, from foundational subjects to advanced specializations. The teaching methodology combines traditional classroom instruction with modern pedagogical techniques, including case studies, moot court exercises, and group discussions. The department's faculty comprises experienced academicians and legal practitioners dedicated to mentoring students and fostering a culture of academic excellence.

### **Holistic Development**

IIIJS believes in nurturing well-rounded individuals who excel not only in academics but also in extracurricular activities. The department encourages participation in debates,





legal aid camps, and community outreach programs. These activities help students develop leadership skills, social responsibility, and a deeper understanding of the role of law in society.

### Why IIIJS is the Right Choice

- 1. Accreditation by the Bar Council of India:** Ensures high academic and professional standards.
- 2. Research Excellence:** Collaborations with Centers of Excellence in Intellectual Property and Sustainable Development.
- 3. Global Recognition:** International conferences like eHacon with Springer Proceedings publication.
- 4. Access to Premium Resources:** Subscriptions to Manupatra, SCC Online, and EBC Platinum.
- 5. Internship Opportunities:** Placements with reputed organizations like the Airports Authority of India.
- 6. Moot Court Success:** National-level achievements reflecting strong advocacy training.
- 7. International Exposure:** Interactions with visiting faculty from foreign universities.
- 8. Comprehensive Learning Environment:** A balance of academic rigor and holistic development.

### Conclusion

The International Institute of Juridical Sciences (IIIJS) is more than just an educational institution; it is a launching pad for aspiring legal professionals who wish to make a mark in the field of law. With its focus on research, practical training, and global exposure, IIIJS equips students with the skills and knowledge needed to excel in today's dynamic legal landscape. By choosing IIIJS, law students embark on a journey of academic excellence, professional growth, and personal development, paving the way for a successful and fulfilling legal career.

- **ALTERNATIVE CAREER SCOPE**



# MERCHANT NAVY COURSE

## An Adventurous Choice for Students

**SASHANKA CHATTERJEE**  
(RETIRED SHIP-CAPTAIN)

**W**ould you like to chase a career full of adventures and challenges? A career at sea will give you everything you need if adventure and money is what you desire from a profession.

Life in the Merchant Navy can be challenging but rewarding also. It involves spending considerable time at sea, working in shifts, and being away from home for extended periods. However, it offers opportunities to travel, experience different cultures, and develop valuable skills in a dynamic and international environment.

BE Marine Engineering is the most preferred course by candidates aspiring to Join the Merchant

Navy. BSc in Maritime Science, BS in Marine Science, MSc in Oceanography and diploma in nautical science are some of the top courses. JEE Main, JEE Advanced and AIMNET are some of the top exams for the Merchant Navy. First you'll have to make the journey and get placed in a good shipping company by applying for some top merchant navy colleges and getting selected in one of them.

Various private and government universities offer these courses, catering to students from science, commerce, management, arts, and other backgrounds. Like other courses, merchant navy courses also have specific requirements that students must fulfill.



### Eligibility to Join Merchant Navy after 12<sup>th</sup>

- They must clear class 12 with a minimum of 60% in PCM stream from a recognized board.
- The age of the candidates must be between 17 to 25 years of age.
- Medical standards set by the respective bodies must be met by the candidates.
- Appear in entrance exams like JEE, HMT-OET, AIMNET, IMU-CET and TMI- BITS EE for admission into bachelor's courses.
- Candidates can also opt for master's courses for better career growth.
- There is also an option for lateral entry. Candidates in the first year of a degree or with a diploma are eligible for lateral entries. Candidates are also eligible for sponsored entry in the Merchant Navy courses.
- There are also some physical requirements for joining the Merchant Navy which include good eyesight, overall fitness, and meeting specific medical standards set by the respective maritime authorities.
- Some of the merchant navy courses offered:
- BE Marine Engineering

- BSc in Nautical Science
- BTech Marine Engineering
- BTech in Ship Building
- BTech in Naval Architecture and Offshore Engineering
- B.E. Petroleum Engineering
- B.E. in Harbour & Ocean Engineering
- B.Sc. Marine Catering
- Diploma in Nautical Science
- Certificate Course Maritime Catering

These courses provide comprehensive knowledge and training for a career in the merchant navy, equipping students with the necessary skills to excel in the maritime industry.

### Benefits of Joining Merchant Navy after 12<sup>th</sup>

Like every other profession, merchant navy also comes with its own set of perks and benefits that are listed for your reference- The job security is relatively higher in the industry.

- Merchant Navy Officers get to travel and experience different cultures as a part of their job.
- They are granted leave before every relocation.

### Job Opportunities in Merchant Navy After 12th

The Merchant Navy offers a wide range of job roles that cater to diverse interests and skill sets, ensuring the smooth operation of ships and the safety of crew members.

Whether you aspire to be a deck officer, an engineering officer, a rating, an electrical officer, or part of the catering staff, each role plays a vital part in the maritime industry.

Here's an overview of key job roles you can pursue in the Merchant Navy:

- **Deck Officers:** Deck officers, including Captains, Chief Officers, Second Officers, and Third Officers, are responsible for navigation, safety, and cargo operations. They oversee overall ship operations, navigation and compliance with maritime regulations.
- **Engineering Officers:** Engineering officers, such as Chief Engineers, Second Engineers, and Third Engineers, maintain and operate the ship's machinery and systems. They ensure the smooth functioning of engines, electrical systems, and equipment.

- **Ratings:** Ratings, including Able Seamen (AB), Ordinary Seamen (OS), Oilers, and Fitters, perform various tasks on board. They assist with cargo handling, deck maintenance, engine room operations, and other assigned duties.
- **Electrical Officers:** With the increasing complexity of shipboard electrical systems, Electrical Officers play a crucial role in maintaining and repairing electrical equipment, communication systems, and navigational aids.
- **Catering Staff:** Catering staff, including Chief Cooks and Messmen, ensure the well-being and satisfaction of the crew by preparing meals and maintaining the galley.

To pursue these job roles in the Merchant Navy, aspiring candidates must fulfill specific requirements. This typically includes completing relevant educational qualifications, obtaining certifications aligned with international standards, and passing medical examinations .





Maritime training institutes, shipping companies, and government agencies are primary sources for recruitment and guidance on how to join the Merchant Navy.

A career in the Merchant Navy offers not only exciting job opportunities but also competitive salaries, comprehensive training, and the opportunity to travel the world. The industry values teamwork, discipline, and continuous learning, providing a rewarding and fulfilling maritime career for those passionate about the sea. Embrace a career in the Merchant Navy and experience the thrill of a dynamic and diverse industry. Sail across the globe, hone your skills, and embrace new horizons as you embark on incredible voyages. Discover the vast possibilities that await you in the maritime world.

#### **List of some Colleges in West Bengal**

- Mercantile Marine Academy, Kolkata.
- Metri college, Kolkata.
- Hoon Maritime Institute, Kolkata.
- Trident College of Marine Technology, Kolkata.
- The naval maritime academy is also a good option for students. The maritime training institute offers many courses like the merchant navy course in Delhi.

If you are looking for one of the good marine engineering colleges in India, or the best marine training academy, then you are at the right place. There are many Institutes of maritime studies in India like the Naval maritime academy and best college for merchant navy, but enrolling in the right one is all what matters.

• CAREER SCOPE

# BRIGHT FUTURE IN PERFORMING ARTS

MADHUMITA MITRA



## **A short history of P.A**

Performing art has its origins in the early 20th century, and it is closely identified with the progress of the avant-garde, beginning with Futurism. The Futurists' attempt to revolutionize culture included performative evenings of poetry, music played on newly invented instruments, and a form of drastically distilled dramatic presentation. Such elements of Futurist events as simultaneity and noise-music were subsequently refined by artists of the Dada movement, which made great use of live art. Both Futurists and Dadaists worked to confound the barrier between actor and performer, and both capitalized on the publicity value of shock and outrage.

If you get an adrenalin buzz from being on stage performing and dream of singing, dancing or acting for a living, then a performing arts degree could be the perfect way to develop your skills and build your confidence. Many of these degrees are designed to help students become 'triple threat' performers – skillful in acting, singing and dancing. Performing arts degrees are generally either practice-based (involving a great deal of actual performance) or academic, which combines practical work with analysis of the background of the subject. Universities may offer dedicated degrees for each of the main three branches of performing arts – music, dance and drama. You may also be able to specialize in a more obscure art form during your degree. At undergraduate level, most performing arts degrees are three or four years long; this will depend on where you study.

They are usually awarded as Bachelor of Arts (BA) degrees, or less commonly, Bachelor of Performing Arts (BPA) and Master of Performing Arts (MPA). You might be given the option of taking part in a work experience placement during your studies, which would be a good opportunity to develop your skills in a professional context. Students can refine their skills and pursue a career as a successful artist in future. After the course is complete, graduated students can choose between many jobs' profiles.

### **Eligibility Criteria (UG & PG) of Performance Arts**

The eligibility criteria are based on the performance of the student in the respective examinations. For both BPA and MPA, there are exams or interviews before admission in a particular field.

### **BPA**

Aspiring students for Bachelor of Performing Art should have at least 10+2 level of qualification. The candidates who have completed their 12th class and have an active curriculum record during their schooling are eligible for taking admission in the graduation degree of performing arts. All the institutes providing this course demand a minimum of 50% marks in Senior Secondary level Examination.

#### **Colleges:**

- Department of Performing Arts, Presidency University, Kolkata.
- Rabindra Bharati University.
- Visva Bharati University
- Bankura University
- Mahishadal Girls' College
- International Institute D Fashion Technology

### **MPA**

Masters in Performing Arts demands a degree in Bachelors for the students to be eligible. Prime institutes may take an interview session before providing admission. And the student must have achieved a minimum of 50% aggregate in Bachelor degree. The upper limit for some institutes is 60% and heavily depends on the students' ability.

### **Entrance Exams for Performing Arts Courses.**

These are considered the most picked performing arts short courses focusing on a specific skill or area of study. Top certificate-level performing arts courses are listed below.

- Certificate In Performing Arts(Theatre Arts)
- Certificate in Film making, Direction, and Script Writing
- Certificate in Dance
- Certificate in Young Actor in Making (Dance and Music)

### **Popular Performance Arts Entrance Exams in India**

CUET PG.  
CUET UG  
LPU NEST.  
PESSAT.

### **Scope of Performance Arts in India and Abroad**

Students pursuing courses in Performing Arts have an extensive amount of options in the arts and creativity field. Every country has its own culture and to preserve this culture; students can take up different industries (art-related).

Graduates can work in Schools, Film Industries, Multimedia Entertainment, Production Companies, etc.

The PA graduates can choose one of the jobs after Masters of Performing Arts in a variety of fields such as Teacher, Actor, Director, Playwright etc. 5th–2nd century BC was an ancient Indian writer best known for writing the Natya Shastra of Bharata, a theoretical treatise on Indian performing arts, including theatre, dance, acting, and music, which has been compared to Aristotle's Poetics. Bharata is often known as the father of Indian theatrical arts.

Performing Arts are arts or skills that require a performance in front of a public audience. Examples are acting, singing, and dancing. Other forms of the Performing Arts include opera, theater, magic or illusion performances, mime, spoken word, recitation, and public speaking.

Art has been with man from the times of cave dwellers. Hence, the scope of this course is vastly

related to entertainment, art organization, the music industry and relevant industry.

Based on how good the work of a student is, they can go for any of the above-mentioned industry. We will see more on Job Profiles in the career in the later section of the guide. Possibilities are endless, and graduates can pursue any industry. Graduates can also apply for further studies abroad for better experience and mastery in the field. The choices are endless.

### **Performing Arts Courses Subjects BPA**

As the course duration is of 3 years, hence there are many subjects for music, dance and drama fields. Let's check all of the subjects in years- Music, Raga studies, Western music, Hindustani music, Study of Tala, Shastra Rabindra sangeet, Folk music, World music, Dance, History of Dance, Choreography, New media, Performance Practice, Indian Culture, Techniques of Dance, Movement Techniques, Dance on Camera.



## Music

Analytical study of raga  
Raga classification system  
Indian aesthetics  
Comparative aesthetics  
A critical study of specified raga  
Composition forms of Indian vocal music

## Dance

History of dance  
Dance and sculpture  
Kathak  
Bharatnatyam  
Rasa & Nayak Nayika Bheda  
Traditional folk dance  
Dance and Sanskrit treatises.

## Drama

Theatre game & physical exercises  
Voice speech  
Acting on stage  
Play production  
Classical Indian theatre  
Direction zones  
Stage management  
Acting on camera  
TV and film production  
Children's theatre  
Folk performances  
Play production  
Improvisation, Mime and choreography.

## Career scope in Performance Arts

This is a field with a wide range of different divisions. There are many career options available in this field with handsome salary packages. As the film industry is growing, the demand for different professionals is also growing. Today to make one movie, many professionals from different industries come together.

A film is now not just limited to Director, actors, choreographers, there are many people needed, such as animation artists, VFX, action directors and much more.

## Job Profile

**Actor-** The actor is a professional who plays different roles in a movie, drama, stage acting, theatre, play, television, etc. The actor's role in the film or play signifies his/her ability to show art. This is the most widely sought for a role in the industry. Also, if someone is famous for being an actor, s/he can earn a handsome amount of money.

**Choreographer-** A choreographer is a person who drafts and executes the dance performances.

**Screenwriter-** A screenwriter is a person who writes scripts of the movies, acts or show. They are responsible for writing the dialogues of individual characters in the storyline and scripts.

Screen writers are an extremely important profession, as everything starts with them.

**Dance Teacher-** A dance teacher is a professional who leads a dance class. Dance teachers can teach dance to individuals or a group of people. Many famous personalities also learn from them. They are most commonly employed in schools, colleges, or institutes.

The curriculum for this course is designed to impart specific knowledge and skills into a person to produce a masterpiece of art, be it music, dance or drama. Both the courses, Bachelor in Performing Arts and Master in Performing Arts, focus on this same ideology.

So If you're keen to keep your options more open, or simply enjoy variety, you may be able to study performing arts as part of a joint honors degree alongside another subject, perhaps in the humanities or another creative topic.



- **ESSENTIAL COURSES**

## **TOEFL & IELTS TESTS**

### **THE KEY TO STUDY IN ABROAD**

**HIRANMAY BANERJEE**

#### **TOEFL**

**B**efore any detailed discussion regarding this topic we must know about toefl and ielts and their importances in abroad studies.

Test of English as a Foreign Language is a standardized test to measure the English language ability of non-native speakers wishing to enroll in English-speaking universities. The test is accepted by more than 11,000 universities and other institutions in over 190 countries and territories.

The scores help determine student admissions and scholarships; higher scores provide better opportunities. There is no passing or failing in the TOEFL. Universities and programs that accept TOEFL set their own score requirements that are based on certain English skills that students need to have.

#### **IELTS**

The International English Language Testing System, is an international standardized test of English language proficiency for non-native English language speakers. It is jointly managed by the British Council, IDP: IELTS Australia and Cambridge Assessment English, and was established in 1989.



Taking the IELTS test can enhance your employment prospects. Excellent communication skills are essential these days as fifty-five countries have English as their first language. Demonstrating a good command of the language could open up options for you to pursue a career in a foreign country.

### **Main differences between TOEFL and IELTS**

TOEFL generally requires that you only use either US English or UK English during your examination and not mix the two, whereas IELTS seems to be a bit more flexible.

TOEFL consists mainly of multiple-choice questions and the IELTS has more variation in how questions are formed and answers need to be given.

The IELTS exam is shorter than the TOEFL. The IELTS speaking section is done face to face with an examiner.

The two main English language proficiency tests accepted at universities across the world are the Test Of English as a Foreign Language (TOEFL) and the International English Language Testing System (IELTS).

Achieving a particular score on one of these tests could help you study in English at the institution of your choice, so it can be an essential part of the studying abroad process.

The tests and their scoring system differ, so it's good to understand a bit more about them before deciding which one to take.

### **TOEFL scores**

Although a university will ask for an overall TOEFL score, they may also require that you meet a certain number of points in each section.

### **Test sections of the TOEFL iBT**

Universities that require a TOEFL score usually ask you to meet a specific iBT score. iBT stands for the internet-based test and is the latest version of a TOEFL assessment.

It is the preferred test for entry requirements of US universities, and the most widely accepted English proficiency test for higher education.

The TOEFL iBT test is split up by language ability in different areas. You'll be tested across reading, listening, writing and speaking and given a score for

each that combine for an overall score.

You must register and book a TOEFL test well in advance as there can be waiting lists for availability in some areas. Registration for a test date closes seven days before that test, so always give yourself plenty of time.

The TOEFL iBT takes around four hours to complete and consists of four skill sections. There is a mandatory break to be taken halfway through. The reading and listening sections can vary in length depending on the number of questions you get.

### **TOEFL listening section**

This section is also scored by a computer but consists of 34-51 tasks based on listening to lectures, classroom discussions and conversations, then answering questions on your understanding of them.

### **TOEFL reading section**

This section is scored by a computer and consists of 36-56 tasks based on reading academic texts and answering questions on your comprehension of them.

### **TOEFL speaking section**

There are six tasks in this section that are scored by a human assessor. The section lasts for 20 minutes.

### **TOEFL writing section**

This section is scored with a human and computer rating to get the best understanding of content and meaning. There are two tasks to complete in around 50 minutes.

### **IELTS academic**

All UK Universities accept IELTS academic test scores as a certification of English language ability, however, the level required varies by each institution and their programs. The IELTS academic is also widely accepted in Canada and Europe.

### **Is TOEFL Harder than IELTS?**

TOEFL is harder than IELTS in the listening section. But IELTS vs TOEFL difficulty depends on the preparation of the candidate.

Candidates consider the TOEFL Reading section to comprise difficult vocabulary and the TOEFL listening section has comparatively slower audio than natural speech. So, for few aspirants IELTS in comparison to TOEFL is considered easier.

### **Do Universities Prefer TOEFL or IELTS?**

Both TOEFL and IELTS scores are accepted by various universities across the world. Both the exams assess language proficiency. Universities in USA accept TOEFL Scores whereas universities in UK, Australia, Canada, and NZ accept IELTS scores. Applicants can appear for any of the two exams depending on the college they prefer taking admission for

### **TOEFL vs IELTS Reading Section**

Both IELTS and TOEFL reading sections consist of passages and questions followed by it. The TOEFL Reading section offers 3-4 reading passages of approximately 700 words and candidates need to answer around 10 questions followed by each passage. IELTS reading includes three passages. Candidates are required to answer 40 questions in 60 minutes in this test.

### **IELTS vs TOEFL Speaking Section**

TOEFL speaking test will be recorded through a microphone and for the IELTS speaking test there will be a face to face interview between the interviewer and the candidate. The TOEFL speaking test duration is 20 minutes whereas the IELTS speaking test duration is 10-15 minutes. The key difference between TOEFL vs IELTS speaking is the option of the attempt. IELTS speaking test can be taken a week before or after the paper based test. For TOEFL there is no such other.

### **IELTS vs TOEFL Writing Section**

The IELTS writing section consists of 2 writing questions. One writing task consists of an infographic question that requires an answer sample of 150 words. The other writing task consists of argumentative writing that requires an answer sample of 300-350 words.

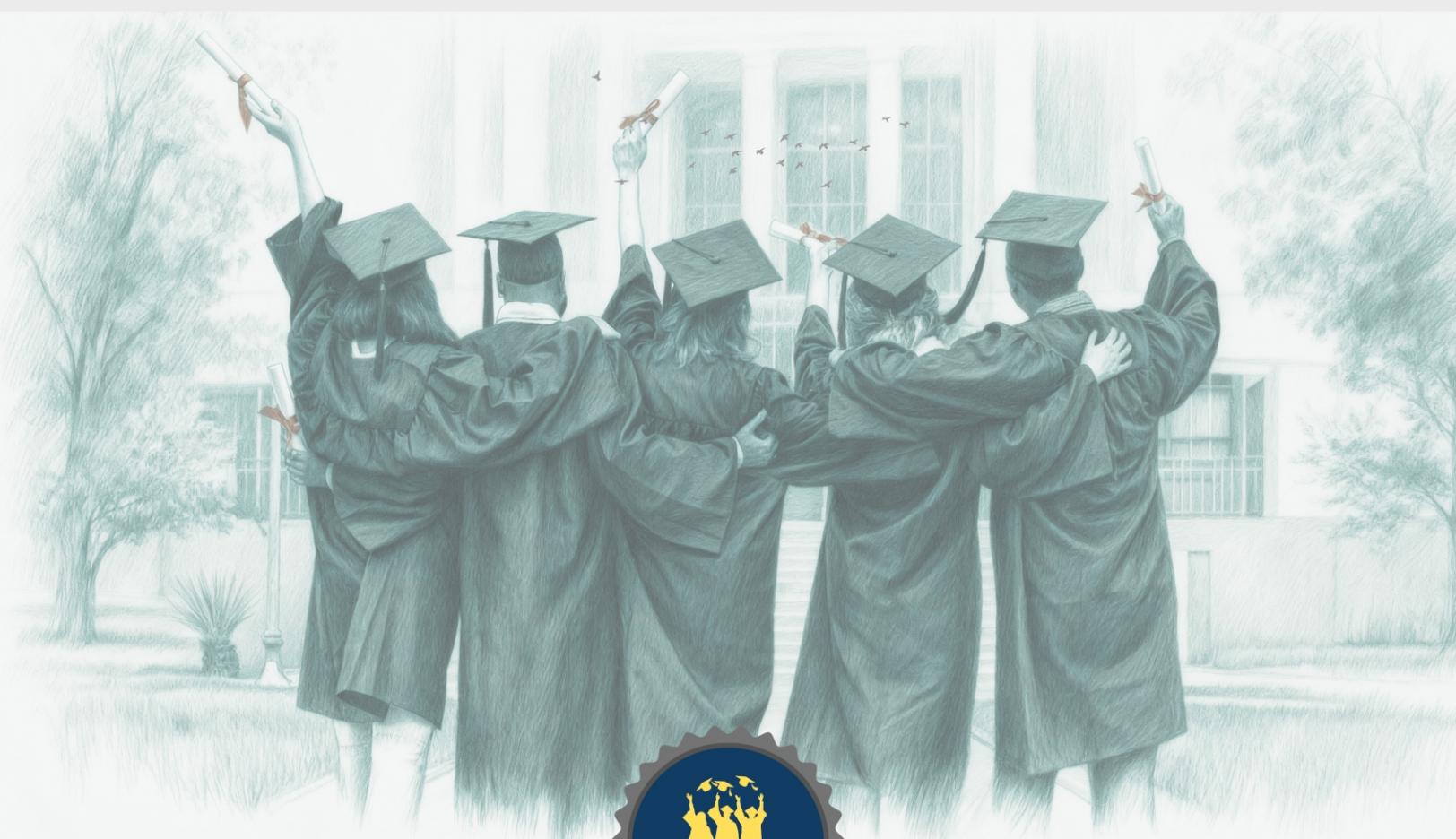
For the TOEFL writing section candidates need to answer 2 writing questions. The first question is to draft 5 paragraphs within 300-350 words. The section question requires a response of 150-225 words.

So it is clearly understood that if students are planning to study abroad they will have to qualify these exams, and only good score can make the procedure of studying abroad smoother.





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# VIDIYARTHI LAKSHYA

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