



Vol. 14, No. 02



May - August, 2022

Message from Director



After celebrating the festival of lights known as Diwali / Deepavali with fanfare and firecrackers, people have rejuvenated with an aura of joy and prosperity and welcome the arrival of winter leaving aside a spell of rain and cyclone. It is also important and essential for us to devise new

ways of igniting the mind of youth with lamp of knowledge and wisdom with help of the national curriculum framework 2022, launched recently by the Union Education ministry for the successful implementation of NEP 2022. It is envisaged to usher a new era of transforming the educational landscape in India with the successful implementation of NEP-2020. This curriculum framework has envisaged imparting various essential capabilities namely creative problem solving, critical thinking, scientific temper, sustainable living, cultural values and ethics, technological acumen, art and crafts, socio-emotional capacities, and others which are essential for leading a purposeful, progressive life in 21st century. A sense of service to one's family, village/city, and one's country to the entire mankind at large is to be inculcated among students through proper design, development, and successful implementation of

the flexible and holistic curriculum in line with cardinal principles of epoch making NEP 2020. It has been emphasized that the curriculum must be designed and developed such that the majority of students can experience an aura of true multidisciplinary and holistic education that can not only educate them but can provide gainful employment and productive life. It is important and essential for the successful implementation of NEP 2022 to educate teachers about various envisaged objectives of the national curriculum framework 2022 as they are the building blocks of the educational edifice. Any tangible change in the landscape of education can be possible only through the active participation of teachers as they are the torchbearers for youngsters to move forward on the path of and path and prosperity. As NITTTR Kolkata is involved in imparting training to technical teachers since 1965, it is our moral duty and obligation to design and develop a program for educating the technical teachers about the national curriculum framework 2022. Hence I believe that NITTTR, Kolkata can take a lead role in educating about tenets of the national curriculum framework 2022 to the teachers who will be instrumental in igniting the mind of youth, and in turn, rejuvenating and rebuilding modern India with the ethos of time tested Indian culture and tradition. Let us salute the flight (knowledge) of the lamp that can bring wellness, health, wealth, and prosperity, which tended to destroy the idea of enmity within us.

शुभं करोति कल्याणमारोग्यं धनसंपदा ।
शत्रुबुद्धिविनाशाय दीपज्योतिर्नमोऽस्तुते ॥

Prof. Debi Prasad Mishra
Director, NITTTR, Kolkata

WORRYING STATISTICS OF ENGINEERING ADMISSIONS IN INDIA

Dr. Rayapati Subbarao

Associate Prof., Dept. of Mechanical Engineering
NITTTR Kolkata

Engineering education in India had a very impressive growth from 1980s to 2010 or so. Earlier, Engineering, Medicine and Law were the most sought-after as career option. Even as this is true, value for the degree programs in Science, Arts, and Commerce continued to attract a good number of students. These students managed to get jobs in the public sector as well as private organizations drawing salaries not very differently from Engineering graduates. Hence, engineering institutions grew at a rapid pace and many engineers have been produced by the end of the year. The IT industry wanted graduates who were analytically strong and able to learn new techniques and work in new environments. Their undergraduate qualification did not matter. Thus, the IT boom was beneficial to all branches of Engineering. This was also helped by the fact that typically Mechanical, Civil, and Electrical Engineers were needed in far fewer numbers by traditional industries. But, from 2010 onwards, the kind of jobs and job opportunities started changing dramatically. Later half of the last decade saw its worst.

1. Happy days

During the early years, companies could afford to recruit students of any branch and retrain them after paying nominal salaries at times as long as a year. But that became a luxury that is affordable only to very few companies. The majority of jobs were related to doing legacy projects or transitioning work from the USA to India. But over the last decade, Indian organizations participate in projects from day 1 or initiate projects/programs that are completely based in India. Then there is also a startup boom where a large number of jobs are in India itself.

The domestic IT sector also requires a huge workforce to support it. These jobs require graduates to be productive in stacks/toolchains/platforms that are extremely powerful enabling high productivity with a lot of custom features but they also have a significant learning curve and opportunity to specialize. All these have made companies choose only those graduates whom they think will be very productive. Naturally,

they would prefer Computer Science and Engineering graduates. With mushrooming of private universities there is no dearth of such graduates. Even though there is a huge buzz about emerging fields such as Machine Learning and Artificial Intelligence and a large number of student projects are related to these fields, the companies visiting campuses look at these more as icing on the cake. The jobs in core Engineering not only declined but paid far less compared to IT jobs which benchmarked their wages to global norms.

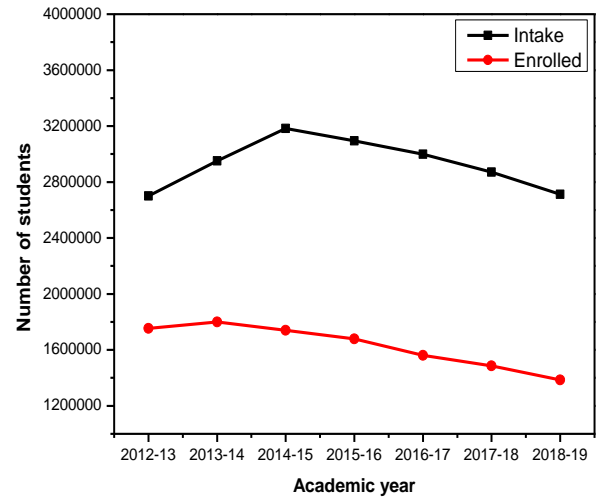


Fig.1. Admitted vs intake in engineering programs.

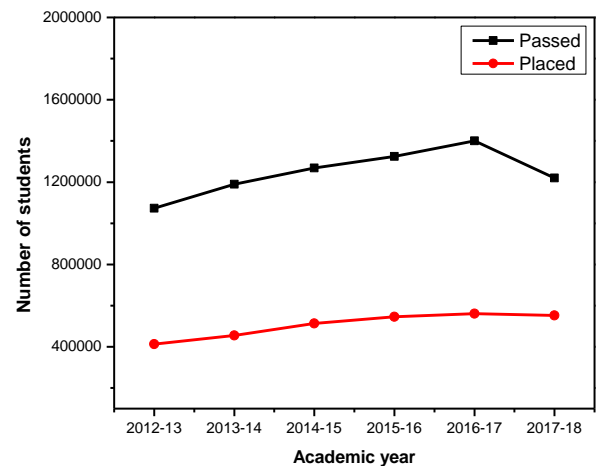


Fig.2. Passed vs placed in engineering programs

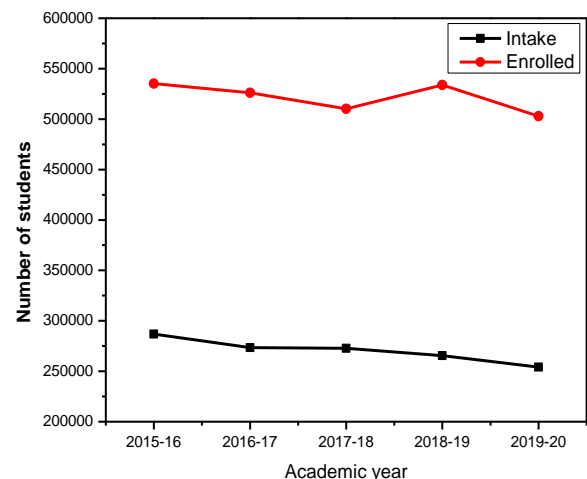


Fig.3. Scenario in Tamilnadu.

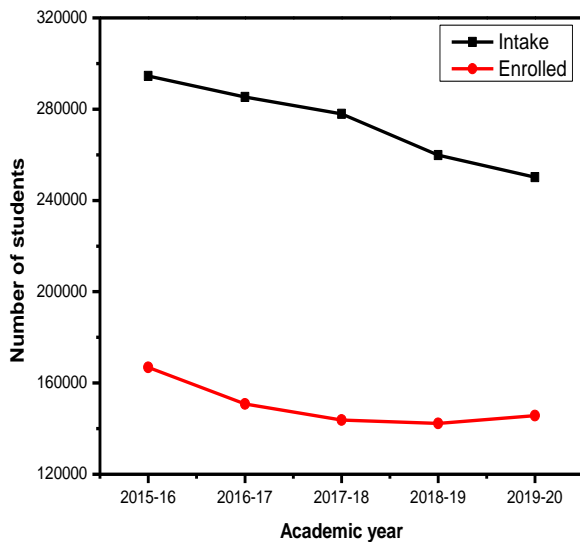


Fig.4. Scenario in Andhra Pradesh.

2. Days of agony

Overall, in India, admissions into engineering colleges was in the increasing trend up to 2014, after which, it started decreasing as shown in Fig.1. Even then, the enrolment was about 65%. Afterwards, every year, it started declining at slow pace. In the recent past, it has been more. India produces about 0.7 to 1.2 million engineers every year. More than 50% of this amount stays unemployed as shown in Fig.2. This lead to diminishing admissions in all the engineering branches. Though the situation has started to change now with lots of start-ups sprouting all over the country and MNCs coming from abroad but still there is still a long way to go. Especially in Core engineering branches saw a decline in number of seats in engineering colleges this year compared to last year with several colleges preferring to cut down the seats in favour of new and specialised courses in the computer science stream. Several colleges reduced their seats even for a top course like Electronics and Communication Engineering (ECE) that used to find favour with toppers five or six years ago. A similar trend was noted in other core branches like mechanical engineering, civil engineering and electrical engineering with even top colleges seeking permission for seat reduction in those branches. In the Electrical and Electronics Engineering (EEE) course, Civil engineering also suffered decrement in seats available this year, when compared to last year. Mechanical engineering, once considered a preferred branch for toppers, saw seats being slashed in the last few years. On the other hand, computer science engineering (CSE), which has been the first choice of students for the past five years, saw an increase in seats with the colleges seeking additional numbers to accommodate the growing demand. Information Technology (IT) branch, which is considered equivalent to CSE, also saw a slight enhancement in numbers from last year. Overall,

admissions in engineering colleges have been down by more than 20% in the last 7 years.

2.1 Cases of Tamilnadu and Andhra Pradesh

In this work, states like Tamilnadu and Andhra Pradesh are considered, where the number of engineering colleges and seats are more. Decreasing trend of intake and admissions is observed. In Tamilnadu, the number of seats is quite high, compared to other states. Admissions have been about 50-60% as shown in Fig. 3. Similar is the case with Andhra Pradesh as shown in Fig.4. Not only these two states, the other neighbouring state of Maharashtra also. is facing the same problem. There, about 15% of the institutes were closed in 2019. As per the AICTE norms, if engineering colleges attract less than 30% of the students for the three consecutive years, they will be closed down.

2.2 Less admissions in Mechanical and Civil

About five years ago, mechanical engineering was the most sought after course. In Tamilnadu, only 30% civil engineering seats were filled and in Mechanical only 50% were filled in 2016. In 2017 also, same is the case with civil engineering seats, while in the mechanical stream, just 50% seats were filled. In 2020, colleges struggled to fill their civil engineering seats, as only 20% students joined and lot of seats were available. In the mechanical stream, only 30% students joined. In the last year it might have been slightly more. Andhra Pradesh and Maharashtra are no different. It has been in the headings like '67% seats in Maharashtra lie vacant as interest declines (2021)' and '70% Mechanical and Civil engineering seats lie vacant in Maharashtra engineering colleges (2019)'. For that matter, well before covid, Dr. A. Gupta, who obtained PG and Ph.D from reputed IITs and working as a Professor in a reputed private engineering institute in NCR region, was asked to leave, as they wish to close ME branch. Same is the case now in A.P. Another Dr. P. Reddy (Ph.D from IIT Madras and M.Tech from NIT W) has changed nearly 3 colleges in the last 2 years and is now put on 'notice period' in the present institute as there is only few faculty required for that very few seats filled (ME). Another friend has already been into IT, took training and posed experience and is now enjoying 'work from home' with a hefty salary. In fact, he was a passionate 'Thermodynamics Teacher'. It is also a reflection of the poor growth of the manufacturing sector in our country despite various government programmes. We are not able to become a manufacturing hub. The poor admission rate will also affect faculty members as colleges may try to reduce their staff strength. Many faculty members from mechanical engineering departments are now seeking

jobs in the industry and many are even willing to take trainee-level jobs.

2.3 Rush towards AI and DS

The declining trend in core branches could be a result of preference for white collar jobs, outdated syllabus and fewer placements due to poor growth of the manufacturing sector. Branches like computer science engineering and information technology had more takers with 65% and 71% of seats filled. Even, newly launched courses like Artificial Intelligence (AI) and Data Science (DS) had more takers with more than 60% seats filled in the counselling. Most of the institutes in Vijayawada, Chennai, Hyderabad or Delhi are closing core branches or giving less importance to and offering more seat in CS/IT related advanced programs. It is students' preference for white collar jobs is reflecting in the poor admission rate. IT companies provide attractive offers while core companies are unable to do so.

3. What might be the reasons

Too much hype to engineering education or the output in terms of salary. This didn't exist after a while.

Craze to just become an engineer. Seeing this institutes bargained for more seats with less facilities and less number of faculty. Seeing the trend, Mechanical was raised from 60 to 120 to 240 in an engineering institute. At present, they are running with 2 sections of 60 each with hardly seats are filled.

Permission by the approving authority to run the programs without proper background checks. (Showing the same computers, obtaining both permission for B.Tech and MCA, separately. 😊).

Poor infrastructure and incompetent faculty in various engineering programs.

Increased applications of computers in day-to-day life and industry.

Increased applications of DS and AI in various fields.

4. How to overcome that

Stick to the basics: Adapt appropriate teaching learning-processes. With proper T-L processes adapted in the class only, the programs are looked into. For example, IIT K is repute for Aerospace Engineering or IIT D is repute for Design. AICTE approval itself is not suffice to run the program. They should move into any suitable accreditation and then into NIRF as shown in Fig.5.

Training of faculty: This may be the ideal solution. Every time industry claims that the faculty of such branches are not competent to deal with the cutting edge technologies as part of electives. AICTE has already moved in this direction and made the 8-week raining compulsory to the newly inducted faculty. Also, the faculty may involve in continuing education or training to update their knowledge and skills.

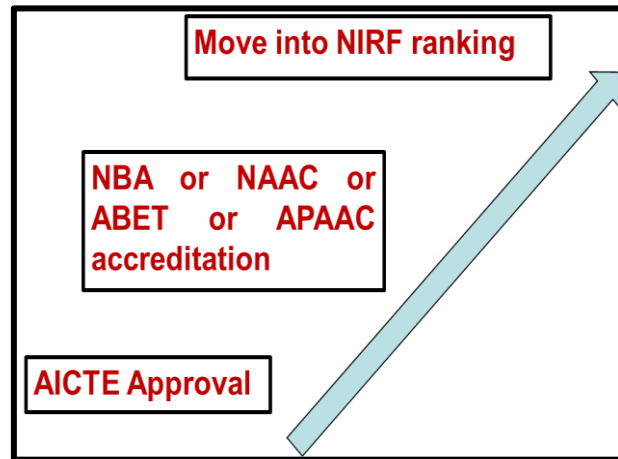


Fig.5. Way forward for any program.

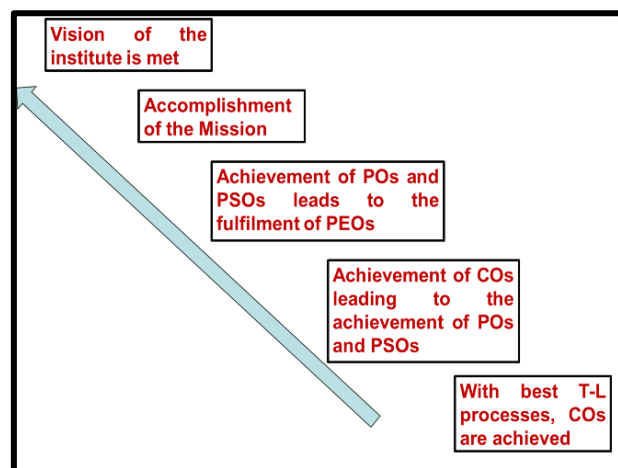


Fig.6. How outcomes help meeting the vision.

Periodic stake holders' feedback: Feedback of the stake holders at regular intervals to improve the output of the program may help.

Changes in the syllabus: Programme Curriculum is the base. Curriculum will have certain age of 10-15 years. No need of changing the curriculum just like that. Try to induce extra skills like professional/soft skills for better employability of the students. If one wishes to induce more knowledge or skills, it can be done through assignments or min/major projects. Communicate the gap if any, to the University or the Curriculum design committee, so that they are taken care in the next revision of the curriculum. Hardly, it is required.

Student Centric learning, adapt OBE: More focus on the delivery inside the classroom and ensure

appropriate COs are achieved, which leads to the attainment of PO/PSO and finally mission is accomplished as depicted in Fig.6.

Engineering Education to the changing needs of the Industry: As mentioned earlier, if it is required, few changes in the curriculum may be communicated to the university/board.

5. Bottom line

The demand in core branches may never decrease as there will always be requirement of genuine engineers in research and core fields. The demand for the core branches is lowered a bit as it cannot be avoided because of the explosion of the IT companies. May be there are lot of engineers from core ranches out there, however true talented engineers, who are strong in their basics and make things work are rare to find, they get jobs. For them demand still exists. Darwin’s theory fits well here, “The fittest will survive”. It is immaterial which branch one belongs to, important thing is one’s potential, knowledge, intelligence and hard work to remain in the race. For that matter, Mr. Satya Nadela, Mr. Sundar Pichai, Mr. Raghuram Rajan and Mr. Rajeev Suri, all obtained engineering degrees, but, none was from CSE or IT. Govt. sector organizations and PSUs hardly recruit from CSE/IT, they recruit mostly from core branches. So demand of core branches will always

be there, because they are the pioneers of engineering. (This work is based on actual scenario. Data is taken from AICTE website, where data up to 2019-20 is present. Since this would be communicated as a publication in future, in-depth details are not given at times. The scenario may be different in other regions of the country or states, like somewhere Mech/Civil/EE seats are filled and CSE/IT/ECE are lying vacant. The author accepts this and admits that more detailed analysis is required before drawing any conclusion.)

Teachers’ Training

Teachers’ Training During the period of May - August 2022: 3039 number of Technical Teachers have been trained, through various Short-Term Training Programmes, broadly in the areas of Content Updating, Management, Pedagogy and Professional Skill development. A total of 63 training programs were conducted for the Teachers and Technicians of different Polytechnic colleges and Engineering colleges all over the Country during the 2nd Quarter of the Year 2022. Due to Pandemic mentioned programmes have been conducted primarily in online mode though Contact Mode programs have been conducted from April 2022 along with online mode.

List of Training Programmes (May to August, 2022)

Sl. No.	Programme Co-ordinator	Programme Code	Programme Title	From	To
1	Mithu Dey	CU12	AutoCad for Engineers	09/05/2022	13/05/2022
2	U. C. Kumar	CU13	Laboratory Practice on Brick and Cement	09/05/2022	13/05/2022
3	Sheela Yadav Rai	PS07	Estimating & Costing of Non-Conventional Energies	09/05/2022	13/05/2022
4	Rayapati Subbarao	PS08	How to Write Thesis and Research Paper	09/05/2022	13/05/2022
5	Salendra Nath Mandal	PS09	Testing of Drinking Water and its Importance	09/05/2022	20/05/2022
6	Rajeev Chatterjee	CU14	IP Networking	09/05/2022	20/05/2022
7	Dipankar Bose	CU15	Fluid Mechanics and Machinery	09/05/2022	20/05/2022
8	Sukanta Naskar	PS10	Effective Training	16/05/2022	20/05/2022
9	Indrajit Saha	CU16	Fundamentals of Image Processing	23/05/2022	27/05/2022
10	Habiba Hussain	PS11	Writing Research Proposal	23/05/2022	27/05/2022
11	Prasanta Sarkar	CU17	MATLAB and its Application	23/05/2022	27/05/2022
12	Nirmal Kumar Mandal	CU18	CNC Machining System	23/05/2022	27/05/2022
13	Subrata Mondal	PS12	Induction Training	23/05/2022	27/05/2022
14	Arpan K. Mandal & Kinsuk Giri	CU19	Digital Pedagogy and Tools for Teaching and Learning	23/05/2022	27/05/2022
15	Chandan Chakraborty	CU21	Refresher Course on Machine Learning with R	30/05/2022	10/06/2022
16	Habiba Hussain	SPL02	FDP on OBE & Accreditation Process under NBA	30/05/2022	10/06/2022
17	Urmila Kar	PS13	Induction Training programme Phase - I	30/05/2022	10/06/2022

Sl. No.	Programme Co-ordinator	Programme Code	Programme Title	From	To
18	Sheela yadav Rai	PS14	Community Development through Technical Institutes	06/06/2022	10/06/2022
19	Subrata Mandal	MGT04	Laboratory Safety Management	06/06/2022	17/06/2022
20	Rajeev Chatterjee	CU23	Advance Programming in C	13/06/2022	17/06/2022
21	P. Sarkar	CU24	Control System analysis and Design with Matlab	13/06/2022	17/06/2022
22	D. Bose	PS15	Assesment and Evaluation	13/06/2022	17/06/2022
23	K. Giri, S. Roy, R. Subbarao	PS16	Academic Research Writing with LateX	13/06/2022	24/06/2022
24	Habiba Hussain	PS17	Advanced Pedagogy	13/06/2022	24/06/2022
25	S. Bhanja	CU27	Commentary on the Indian Standard on Plain and Reinforced Concrete - IS:456-2000 with Amendments	20/06/2022	24/06/2022
26	Indrajit Saha	CU28	Introduction to Data Science	20/06/2022	24/06/2022
27	N. K. Mandal	CU29	Data Analytics with MATLAB	20/06/2022	24/06/2022
28	S. N. Mandal	PS18	Water Treatment Technology	20/06/2022	01/07/2022
29	S. K. Naskar	PS19	Induction Training	20/06/2022	01/07/2022
30	Urmila Kar	PS20	Accreditation Process and NBA	27/06/2022	01/07/2022
31	S. K. Mandal	CU31	Control System with LABVIEW	04/07/2022	08/07/2022
32	R. S. Rao	PS21	NBA Accreditation and SAR preparation	04/07/2022	08/07/2022
33	Rajeev Chatterjee	CU32	Network Infrastructure Management	04/07/2022	15/07/2022
34	P. Sarkar (In place of Sheela Yadav Rai)	PS22	Renewable Energy Sources and Emerging Technologies	11/07/2022	15/07/2022
35	D. Bose	CU34	Fluid Power	11/07/2022	15/07/2022
36	Arpan K Mondal/ Kinsuk Giri	PS23	Digital Tools for Faculty and Staff	11/07/2022	15/07/2022
37	S. K. Naskar/ N. K. Mandal	SPL03(In-house)	Induction Training	11/07/2022	15/07/2022
38	Santanu Bhanja	CU35	Concrete Mix Proportioning as per IS 10262 - 2019	18/07/2022	22/07/2022
39	Mithu Dey	PS24	Values and Ethics for Professional	18/07/2022	22/07/2022
40	Sailendra Nath Mandal	PS25	Environmental Chemistry	18/07/2022	22/07/2022
41	Habiba Hussain	PS26	Effective Teaching	18/07/2022	22/07/2022
42	Uday Chand Kumar	CU30	NBA Accreditation and Document preparation	18/07/2022	22/07/2022
43	Samir Ror/ N. K. Mandal	SPL (inhouse)	Introduction to Data Analytics using MATLAB	18/07/2022	22/07/2022
44	S. K. Naskar	SPL (inhouse)	Professional Certificate course on Creating and Managing New Ventures	18/07/2022	23/07/2022
45	R. S. Rao	SPL (Inhouse)	NBA Accreditation and SAR preparation	20/07/2022	23/07/2022
46	Indrajit Saha	CU38	Fundamentals of Data Security	25/07/2022	29/07/2022
47	Chandan Chakraborty & Samir Roy	CU40	Data Analytics with SPSS / Excel	25/07/2022	05/08/2022
48	Sagarika Pal & Subrata Chattopadhyay	PS27	Advanced Pedagogy	25/07/2022	05/08/2022
49	Sailendra Nath Mandal	PS28	Environmental Pollution and Control	01/08/2022	05/08/2022
50	Rajeev Chatterjee	CU41	Introduction to Software-Defined Networking (SDN)	01/08/2022	05/08/2022
51	Habiba Hussain	MGT06	People Management & Leadership	01/08/2022	05/08/2022
52	Nirmal Kumar Mandal	CU43	CAD/CAM	01/08/2022	05/08/2022
53	Dipankar Bose	SPL05	Concept Teaching Of Engineering Mechanics	01/08/2022	12/08/2022
54	Kinsuk Giri	CU44	PYTHON Programming	08/08/2022	19/08/2022
55	Mithu Dey	CU45	Analysis and Design of Structures using Software	08/08/2022	12/08/2022
56	Sheela Yadav Rai	PS29	Role of Technical Institutions in Community Development	08/08/2022	12/08/2022
57	Urmila Kar	SPL01	NEP 2020	08/08/2022	12/08/2022

Sl. No.	Programme Co-ordinator	Programme Code	Programme Title	From	To
58	Sukanta Kr. Naskar	SPL (MGP)	SPL (In-House STTP at Mathabangha, Govt. Ploytechnic)	11/08/2022	21/08/2022
59	Uday Chand Kumar	PS32	Field Practice on Basic Surveying (Chain, Plane Table, Compus, Lavelling) <i>Instrument will be supplied by the State Authorities.</i>	22/08/2022	26/08/2022
60	Habiba Hussain	PS30	Student Mentorship	22/08/2022	26/08/2022
61	Rayapati Subbarao	PS77	Thesis and Research Paper Writing	22/08/2022	26/08/2022
62	Arpan Kumar Mondal & Ranjan Dasgupta	PS31	NBA Accreditation and SAR Preparation for Engineering Colleges	22/08/2022	26/08/2022
63	Urmila Kar	PS33	Induction Training programme Phase II	29/08/2022	09/09/2022

Workshop / Seminars

One-day workshop on “Teaching-Learning Process”

Organising educational settings is important as it has both direct and indirect influence on student learning, including their engagement in what is being taught, their motivation to learn, and their sense of well-being, belonging, and personal safety. To create an effective learning space, all the necessary details regarding the particular batch of students, course content, course outcomes, course study and assessment schemes, test items for assessment, assignments, assessment metrics and overall outcomes of the programme must be clearly known. A course file is essentially a document which includes all the necessary information and hence an integral part for the academic auditing / accreditation / review process. One-day workshop on “Teaching-Learning Process” was conducted on 8th July 2022, by Dr. Urmila Kar, Professor, Department of Education and Management, at the Government college of Engineering and Ceramic Technology(GCECT), Kolkata, a NAAC accredited Autonomous institute. Thirty-seven (37) faculty members of GCECT participated in the workshop and prepared a detailed format of course file.

Workshop on “Teaching - Learning methods in the context of present day’s learners”

Dr. Urmila Kar, Professor, Department of Education and Management has conducted a workshop on “Teaching-Learning methods in the context of present day’s learners” on 29th July 2022 at the Government college of Engineering and Ceramic Technology (GCECT), Kolkata. The objective of the workshop was to enable the participants to plan teaching considering learning preferences and requirements of 21st century learners. The workshop was attended by thirty-five (35) no. of faculty members of GCECT.

8th Regional Workshop on Technical Education System in North-Eastern States from 31st August 2022 to 2nd September 2022



Participants of the Workshop



From left Dr. V. R. Desai, Shri G. Prakash, IAS, Commissioner of Education, Govt. of Manipur and Prof. Debi Prasad Mishra, Director, NITTTR Kolkata



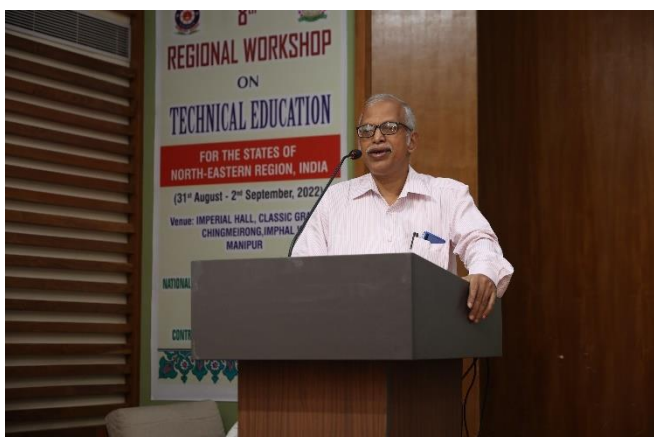
Director, NITTTR Kolkata being felicitated



Lighting the lamp by Shri G. Prakash, IAS, Commissioner of Education, Govt. of Manipur



Dr. S. N. Mandal, Coordinator explaining the objectives of the workshop



Welcome Address by the Director, NITTR Kolkata



Dr. S. Chattopadhyay, Coordinator on the dias



Address by Shri G. Prakash, IAS, Commissioner of Education, Govt. of Manipur



Vote of thanks of the Inaugural Ceremony by Dr. S. Mondal, NITTR Kolkata



Address by Dr. V. R. Desai



Prof. Basant Kumar Singh, Principal of Govt Polytechnic, Manipur

The 8th Regional Workshop was organized at Hotel Classic Grande, Imphal, Manipur on 31st August 2022 – 2nd September 2022 with the active support from Controller of Technical Education, Government of Manipur. The workshop was inaugurated by Shri Gyan Prakash, IAS, Honourable Commissioner of Education, Govt of Manipur as Chief Guest in presence of Prof. Debi Prasad Mishra, Director, NITTTR, Kolkata, Prof. V. R. Desai, Professor, IIT Kharagpur and member of BOG of NITTTR Kolkata as guest of honour, and Prof. Basant Kumar Singh, Principal of Govt Polytechnic, Manipur. Beside the faculty members and staff of the Institute (8 Nos), Shri. R. K. Nanda Singh, Controller of Technical Education, Govt of Manipur, Principals of various polytechnics (42 Nos) from North-Eastern States, Directors of Technical Education, or their representatives of Eastern Region (09 Nos), members of Board of Governors (02 Nos), officials from Ministry of Education (01 No), Govt of India attended the workshop.

The main purpose of the workshop was to provide a platform to discuss various issues of technical education system with a focus on polytechnics of North Eastern states and the participants were Directors, Principals, and other official from North Eastern states along with professional and invitee of NITTTR, Kolkata.

The major objectives of the 8th regional workshop were:

- (a) to present the academic activities of NITTTR, Kolkata;
- (b) to analyse and discuss the critical issues and challenges in NBA accreditation of diploma courses focusing to North - Eastern States Polytechnics;
- (c) to discuss issues and challenges in implementing National Education Policy 2020;
- (d) to discuss regarding the curriculum for technical education in line with NEP 2020;
- (e) to highlight the challenges of national start-up policy for student and faculty – 2019;
- (f) to implement the innovation and start-up for North Eastern states in technical education, and
- (g) to identify the skill gap in polytechnic education system.



Open air discussion during the workshop



Dr. U. Kar delivering lecture on NEP 2020: Issues and Challenges



Cultural Programme

List of Talks Delivered by Prof. Debi Prasad Mishra, Director, NITTTR, Kolkata

A. In programmes organized by NITTTR, Kolkata

1. Celebrate the International Day of Yoga 2022 on 21st June 2022 (Rainwater Harvesting: The Future of Water Conservation)
2. Azadi Ka Amrit Mahotsav (Glory of 75 Years Independence of India) will be celebrating through 'Har Ghar Tiranga' from 13th to 15th August, 2022

3. 8th Regional workshop on Technical Education held at Imphal, Manipur from 31-08-2022 to 02-09-2022

B. In programmes organized by other institutions

1. Delivery speech on Developing Thinking and Creative Thinkers on 25-07-2022 organized by Synergy Institute of Technology, Bhubaneswar

Invited Lectures by Faculty Members

Dr. Habiba Hussain

1. Delivered invited lecture on 5th May 2022, in a NAAC sponsored One Week Online Faculty Development Program on "Qualitative and Quantitative Approaches for Quality Assurance through Performance Indicators in Engineering Institutions" held during 2-6 May 2022, organised by Pune Institute of Computer Technology (PICT), Pune-43, Maharashtra, India.
2. Delivered an invited talk on 14th July 2022 in a 2-week Online Faculty Development Program on "Teaching Learning Process and Assessment", organised by the department of Computer Sc. & Engg., Brainware University, Kolkata, W.B. during 12th July to 22nd July 2022.
3. Shared her expertise as a judge in the FDP on "Flipped Learning & its Implementation" on 28th & 29th July 2022. The Programme was organised by JIS College of Engineering, Kalyani, Nadia, West Bengal during 25th to 29th July 2022.

Dr. Kinsuk Giri

1. "ICT Tools in Teaching – Learning", Special FDP Program, July 15, 2022, Durgapur Institute of Advanced Technology and Management, Durgapur, India
2. "Data Science with PYTHON", One Day Workshop, May 7, 2022, Omdoyal Group of Institutions, Howrah, India

Dr. S. K. Naskar

4. Delivered online lecture on classroom management in the five days online FDP on emergent pedagogy and contemporary research methods in travel and tourism on 28.7.22. organized by Amity Institute of Travel and Tourism, Kolkata

5. Delivered online lecture on recent trends in smart manufacturing process at Swami Vivekananda University, Kolkata
6. SCTR'S Pune Institute of Computer Training, IQAC and CITL organized NAAN sponsored one week FDP (online) on qualitative and quantitative approaches for quality assurance through performance indicators in engineering education. I have delivered lecture on accreditation issues in higher educational institutions.

Publications

Journal

1. Asifuzzaman Lasker, Sk Md Obaidullah, **Chandan Chakraborty**, Kaushik Roy, "Application of Machine Learning and Deep Learning Techniques for COVID-19 Screening using Radiological Imaging: A Comprehensive Review", Springer Nature Computer Science (2022) (Accepted).
2. Sudipto Chaki and **Dipankar Bose**, "Optimization of Spot Welding Process using Taguchi Based Cuckoo Search Algorithm", Journal. Decision Making: Applications in Management and Engineering ISSN: 2560-6018 eISSN: 2620-0104 DOI:<https://doi.org/10.31181/dmame0318062022c>
3. J. P. Sarkar, **Indrajit Saha**, N. Ghosh, D. Maity and D. Plewczynski, "Online Predictor using Machine Learning to Predict Novel Coronavirus and Other Pathogenic Viruses", ACS Omega, Vol. 7, pp. 23069-23074, 2022. [Impact Factor: 4.13]
4. N. Ghosh, **Indrajit Saha**, N. Sharma and J. P. Sarkar, "Human miRNAs to Identify Potential Regions of SARS-CoV-2", ACS Omega, Vol. 7, pp. 21086-21101, 2022. [Impact Factor: 4.13]
5. N. Ghosh, S. Nandi and **Indrajit Saha**, "Phylogenetic Analysis of 17271 Indian SARS-CoV-2 Genomes to Identify Temporal and Spatial Hotspot Mutations", PLoS ONE, Vol. 17, pp. e0265579, 2022. [Impact Factor: 3.75]
6. N. Ghosh, **Indrajit Saha**, S. Nandi and N. Sharma, "Characterisation of SARS-CoV-2 Clades based on Signature SNPs unveils Continuous Evolution", Methods, Vol. 203, pp. 282-296, 2021. [Impact Factor: 4.647]
7. Susmita Singh, **Kinsuk Giri**, Adrita Chaudhury and Somerup Ponda, "Computational Modelling of Surface Modified Carbon Nanotube for Low Temperature Fuel Cell", Journal of Nano-Electron. Phys. (JNEP), Vol. 14, No 3, 03014, DOI: 10.21272/jnep.14(3).03014, 2022
8. **Kinsuk Giri** and Tuhin Biswas, "Determining Optimal Epsilon (eps) on DBSCAN Using Empty Circles", Lecture Notes in Electrical Engineering,

AISE, vol 836, Page 265-75, Springer, Singapore, DOI: https://doi.org/10.1007/978-981-16-8542-2_21, 2022

9. **Rayapati Subbarao** and Nityanando Mahato, "Simulation studies on the comparison of different superalloys used in gas turbine blades", IOP Conf. Ser.: Mater. Sci. Eng. 1248 012034, 2022. (Scopus indexed)
10. Geetika Kumari Salwan, **Rayapati Subbarao**, **Subrata Mondal**, "Analysis on the Suitability of Powder Metallurgy Technique for Making Nickel Based Superalloys", 2022 IOP Conf. Ser.: Mater. Sci. Eng. 1248 012036, 2022. (Scopus indexed)

International Conference

11. Asifuzzaman Lasker, Mridul Ghosh, Obaidullah Sk, **Chandan Chakraborty**, Teresa Goncalves and Kaushik Roy, "Ensemble Stack Architecture for Lungs Segmentation from X-ray Images", 23rd International Conference on Intelligent Data Engineering and Automated Learning [IDEAL 2022], 24-26 November (2022), Manchester, United Kingdom. (Accepted).
12. Kangkana Bora, Lipi B Mahanta, **Chandan Chakraborty**, Prahlad Borah, Kungnor Rangp, Barun Barua, Bishnu Sharma, R Mala, "Computer-Aided Identification of Loom Type of ethnic textile, the Gamusa, using Texture features and Random Forest Classifier", International Conference on Data, Electronics and Computing (ICDEC-2022) 7-9 September (2022), North-Eastern Hill University (A Central University) Shillong, Meghalaya, India.

Book chapter Publications:

13. **Rayapati Subbarao**, "Application of OBE approach for thermodynamics course in order to improve the overall teaching-learning practice", Proceedings of Engineering Education, pp. 62-29, NITTTR Kolkata, India, 2022.
14. **Rayapati Subbarao**, "Real time analysis of CO and PO attainment and their significance in case of a post graduate engineering program", Proceedings of Engineering Education, pp. 70-76, NITTTR Kolkata, India, 2022.
15. **Subrata Mondal**, Chapter 11, Polymer Nanocomposites and Hybrid Materials, In Thermal Analysis of Polymeric Materials: Methods and Developments, Vol 1, Eds: Krzysztof Pielichowski and Kinga Pielichowska, June 2022, Print ISBN: 9783527347827, Online ISBN: 9783527828692, DOI:10.1002/9783527828692, Wiley-VCH.
16. **Subrata Mondal**, Chapter 6: Additive Manufacturing of Polymers for Biomedical Applications, In Additive Manufacturing Processes in Biomedical Engineering: Advanced Fabrication

Methods and Rapid Tooling Techniques, Eds: Atul Babbar, Ankit Sharma, Vivek Jain and Dheeraj Gupta, July 2022, eBook ISBN: 9781003217961, DOI: <https://doi.org/10.1201/9781003217961>, CRC Press (Taylor & Francis).

Miscellaneous

Activity of Learning Resource Centre (LRC)

i. List of educational video resources developed

Sl. No.	Description	Nos.
a.	Educational Video Film for GD	07
b.	Virtual Lab video for EE Department	01
c.	Videos for online STTP (Course coordinator Dr.U Kar)	02
d.	Videos on Institutional Program	07

ii. Photographs of events

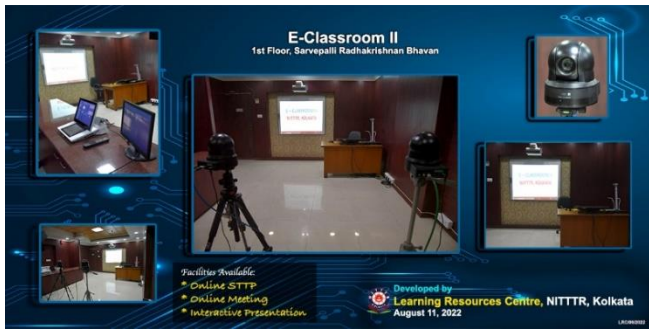
During this period, twenty-seven events (including Group photo session of ongoing STTP'S) were recorded. Among those some noted events are:

- a. Visit of Dr.Subhash Sarkar, Hon'ble Minister of State, Education Dept,Govt.of India at NITTTR,Kolkata on 06.05.2022
- b. Farewell program of Dr.J J Mondal on 30.05.2022.
- c. Celebration of International Yoga Day 2022
- d. 39th Finance Committee and 42nd BOG of NITTTR, Kolkata On 03.08.2022
- e. "Probhat Fari" on the eve of 75th Independence Day of India on 13.08.2022
- f. Observation of 75th Independence Day of India on 15.08.2022.
- g. Inauguration of Newly built Central Store Room on August 15, 2022.

iii. Facilities of e-Classroom.

Facilities of e-Classrooms recently developed by LRC at the Chanakya Bhavan, 1st Floor, Opposite to server Room and at the Sarvepalli Radhakrishnan Bhavan,1st Floor, Adjacent to old Board Room.





Farewell program of Dr. J J Mondal on 30.05.2022



Some Photographs

Visit of Dr. Subhash Sarkar, Hon'ble Minister of State, Education Dept, Govt. of India at NITTTR Kolkata on 06.05.2022



39th Finance Committee and 42nd BOG of NITTTR, Kolkata on 03.08.2022



*Inauguration of Newly built Central Store Room on
August 15, 2022*



Research Grant Received from ICMR, Govt. of India

Prof. Chandan Chakraborty of Dept. of CSE received a research grant for the project “COVID 19 Disease Risk Prediction and Diagnostic Classification using Statistical and Machine Learning Techniques” from ICMR Govt. of India for the duration of 03 years.

Attended and presented

Rayapati Subbarao

Attended and presented a research paper in the 2nd International Conference on Materials Science & Engineering (ICMSE-2022) conducted by NIT Jalandhar, from June 11 to 12, 2022.

Attended 8th Regional (NE) Workshop on Technical Education, Imphal, Manipur, conducted by NITTR Kolkata, from 31st Aug-2nd Sept 2022.

INSTITUTE EVENTS

Celebration of International Day of Yoga – 2022



The International Day of Yoga (IDY) is observed to spread awareness about the practice of yoga and its

holistic approach to physical and mental well-being. NITTR-Kolkata has celebrated 8th International Day Yoga on 21st June 2022 in the Institute at Netaji Subhash Chandra Bose Auditorium. Prof. Chandan Chakraborty enlighten the benefits of Yoga in human life. The theme of IDY this year was ‘Yoga for Humanity’.

We celebrate Yoga day with different activities throughout the Month like Encouraging students and staff to download the Y-break mobile application for work place and other yoga applications like M-yoga and Namaste Yoga for Yoga practices/activities, Encouraging staff and students through video presentation organized by the Ministry of Ayush through MyGov Portal.



Water Harvesting Awareness activities, Essay Writing Competition on **Yoga for Well Being: Post Covid 19 Pandemic recovery of physical and mental health** etc. We have also organized Yoga practice session for All employees and students. Yoga Teacher Miss Sudipta Saha from Sri Sri School of Yoga had with us and take a Yoga practice session which is really helps us to motivate to include Yoga in our daily routine. Prof Dipankar Bose has awarded the participants of Essay Writing Competition. Continuous encouragement from our Honorable Director, Prof. Debi Prasad Mishra leads the event in great success. The event was coordinated by Dr. Arpan Kumar Mandal and Mr. Avijit Kundu.

Preserve Ground Water, Save Life

Utilization of Roof Top Rain Water

Recharge Ground Water Through Hand Pump

Why Rainwater Harvesting?

- To meet the increasing demand of water.
- To reduce the run off which chokes the drains.
- To avoid the flooding of roads.
- To raise the underground water table.
- To reduce groundwater pollution.
- To reduce soils erosion.
- Supplement domestic water needs

Recharge Ground Water Through Roof Top

Recharge Ground Water Through waste water from Hand Pump

Rain Water Harvesting: The Future of Water Conservation



Celebration of 76th Independence Day:

CERTIFICATE OF APPRECIATION

PROUDLY PRESENTED TO

NITTR KOLKATA

FOR SUCCESSFULLY PINNING A FLAG,
AN INITIATIVE BY THE MINISTRY OF CULTURE TO MARK AZADI KA AMRIT MAHOTSAV

HAR GHAR TIRANGA



The Institute celebrated Azadi Ka Amrit Mahotsav (AKAM) to mark the 75 glorious years of a progressive Independent India and the 76th Independence Day in a befitting manner. Under the aegis of AKAM, various programmes programme conducted in the Institute. Wide campaigning of AKAM has been made through Institute’s website, social media and notice board. All employees of the Institute and students took active participation in the Prabhat Feri on 11th August 2022. In this occasion Tiranga to every member of the Institute was distributed to make the ‘Har Ghar Tiranga’ grand success.



Institute pinned the National Flag using the webpage www.harghartiranga.com. Hon'ble Director of the Institute, Prof. Debi Prasad Mishra took the lead role in the Prabhat Feri and Institute employees took selfie with the National Flag and uploaded in the webpage of

Har Ghar Tirang. Every building of the Institute was decorated with the National Flag.

76th Independence Day was celebrated on the hybrid mode to accommodate all the pensioners and alumni. The National Flag was hoisted by Prof. Debi Prasad Mishra, Director. All employees and students sang the National Anthem.



Plantation programme was organized in the Institute campus and inauguration of the newly renovated Central Store in the Sarvepalli Radhakrishnan Bhawan was made by the Director. Thereafter, the programme shifted to online mode. Hon'ble Director welcome all the participants and convey 'Suvkamnaya' in this auspicious occasion 'Azadi Ka Amrit Mahotsav'. Various programme such as Discussion, Cultural Programme, Quiz were made to celebrate the occasion. Prof. Debi Prasad Mishra, Director, Dr. Prasanta Sarkar, Professor, Dr. Habiba Hussain, Associate Professor and Dr. Rayapati Subbarao, Associate Professor at length discussed on 'Independence, Responsibility and the Role of Individual towards building the system as well as Nation' and highlighted and guided our responsibility towards building the system as well as the Nation. The Flag Code of India and the procedure to be followed were also discussed in the programme. Various employees and students actively took part in the cultural programme. The programme ended with a vote of thanks to the Chair by Dr. Sukanta Kumar Naskar, Associate Professor. The entire programme was well articulated by Shri Dipak Gupta, Assistant Section Officer of the Institute.



NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH, KOLKATA

Block-FC, Sector-III, Salt Lake City, Kolkata-700106

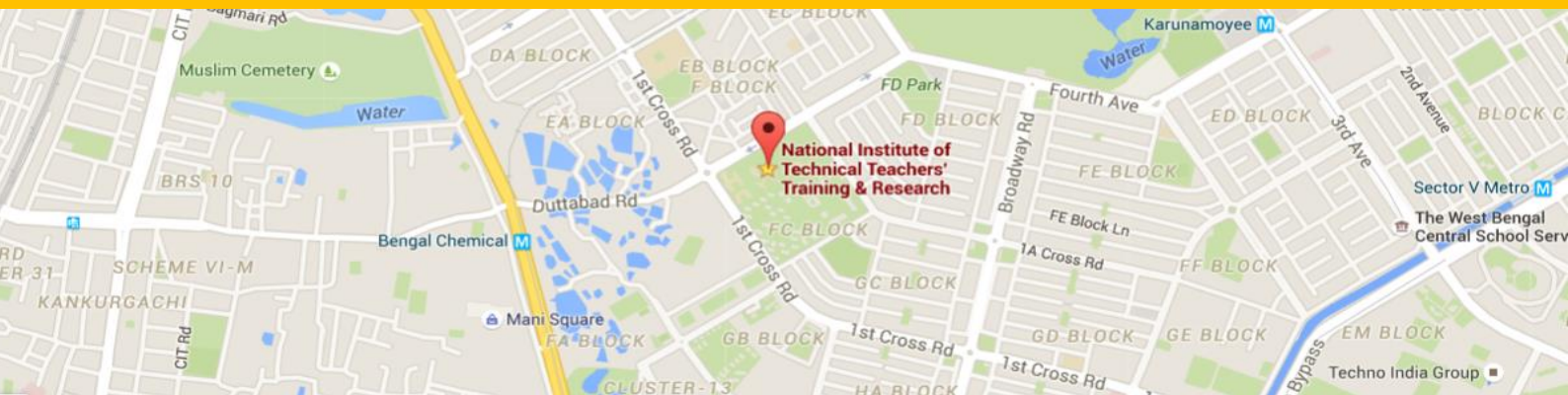
Phone: +91-33-66251900, Email: ds@nittrkol.ac.in

Visit us at www.nittrkol.ac.in

How to Reach NITTR, Kolkata

The Institute is located near Labony Bus Stand (Sector-III), FC Block in Salt Lake City, Kolkata 700106 and can be reached by taxi from Netaji Subhas Chandra Bose International Airport and also from Howrah, Shalimar, Sealdah and Kolkata Railway Stations.

“Great minds discuss ideas; average minds discuss events; small minds discuss people” --Eleanor Roosevelt



Distance:

- From Howrah Railway Station: **42 min** (8.1 km) via Maniktala Main Road
- From Sealdah Station: **26 min** (7.4 km) via Beliaghata Main Road and Broadway Road
- From Kolkata Railway Station: **16 min** (4.8 km) via Canal Circular Road
- From Shalimar Station: **38 min** (18.8 km) via Parama Island Flyover
- From Netaji Subhas Chandra Bose International Airport: **27 min** (11.5 km) via Kazi Nazrul Islam Sarani/VIP Road

Google map link: <https://goo.gl/maps/F7gssJoeqxSvffqf9>



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