A Review on the Higher Education Entry Qualifications and Entrance Examinations in Indian UG Admissions

Krishnamoorthy A, Srimathi H

Abstract: *Indian higher education system is one of the largest systems, where the multiplicity starts from existence of more apex bodies that regulate the higher education, type of institutions which are segmented under different groups in terms of establishment / autonomy / affiliation / course offerings, different school education boards offering academic & vocational streams of education, multiple criteria that are in vogue in admissions and state –to state varying reservation policies that are prevalent across the nation, in addition to the reservation policy of the central government, that cater the needs of the people across different states / language / culture. The institutions of higher education in India adopt multiple criteria for the selection of the applicants based on the availability of the seats and demand prevalent. It cannot be compared with any other nation in the world and proved beyond doubt that any methods adopted in such nations cannot be implemented as it is in India. However, needless to say that, it is high time to review the existing admission system and look for the avenues of improvisation with respect to quality. The study analyses the qualifying examinations and various admission processes adopted in the institutions of higher education across India.*

Index Terms: *Indian School Education, Higher Education India, Admission, Entrance Exam, JEE, NEET*

.

I. INTRODUCTION

According to All India Survey on Higher Education (AISHE, 2018), more than 12 million students appear in the higher secondary examinations (Grade 12 / 10 plus 2 / 12th Standard) conducted by the various state boards and central boards of examinations under various streams such as arts, commerce, science, vocational etc. The institutions of higher education include 560 state / central universities with 357 of them located in the rural areas, 343 private deemed to be universities, 39050 colleges and 10011 stand alone institutions to accommodate the students aspiring for higher education. The total enrollment in higher education in various undergraduate (UG) programmes is about 29.06 million and approximately 36.6 million including Postgraduate (PG) programmes. Gross Enrollment Ratio (GER) in higher education in India has been reported as 25.8 %, among the age group of 18-23 years. For the aspirants of higher education beyond higher secondary education, access is challenging and restricted among the peer group, owing to social reasons and

also due to the heavy competition prevalent for select professional courses / institutions. The Indian school education system and admission processes followed for the various UG programmes have been reviewed in this study.

II. SCHOOL EDUCATION SYSTEM

(Tillak, 2017) The responsibility of providing quality education is vested with both the central and state governments and the state governments are given the freedom to develop their own curriculum within the national framework of education. (Nordic, 2006) A uniform structure of school education, the 10+2 system, with public examination in 10th and 12th standards / grades, has been uniformly adopted by the states and union territories of India, as depicted in Figure 1.
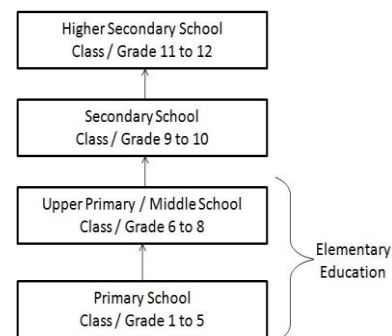

Figure. 1 Indian School Education System

(Sarkar, 2012) All the schools must be affiliated to an education board – either at the national level or to the regional state board. The national or central boards are named as Central Board of Secondary Education (CBSE) and Council for the Indian School Certificate Examination (CISCE). The state education boards in India are governed by the rules and regulations of the state act enacted for the school level education. Today, almost all the states in India have their own education board. (QCI, 2017) Some schools have begun seeking affiliations with international boards / examinations such as International General Certificate of Secondary Education (IGCSE), General Certificate of Education (GCE), General Certificate of Secondary Education (GCSE), Cambridge International Examinations (CIE), International Baccalaureate (IB) etc., mainly to attract students from various countries or those students, whose parents move to different countries over a period owing to their employment.

According to the British Council study report on

Indian education system (BC, 2014) the higher secondary education (Class XI - XII), with classifications into different streams as arts, science, commerce, vocational etc., is essentially for the aspirants who prefer to continue their studies leading to graduation. (MHRD, 2012) As per the report compiled in the year 2010, the percentage of higher secondary students enrolled in the arts and science streams is about 40% under each category, about 20 % in commerce and only about 0.1% under vocational category. The enrollment in arts and science education has shown significantly increasing trends in the recent years. (MHRD, 2016) The number of senior / higher secondary schools is 109318 as against 135335 schools of secondary education. Approximately 0.1 million of students appear in the higher secondary examinations through National Institute of Open Schooling (NIOS). The GER in the higher secondary schools stands at 62.5 %, as on 2014, in the International comparison (Figure 2).
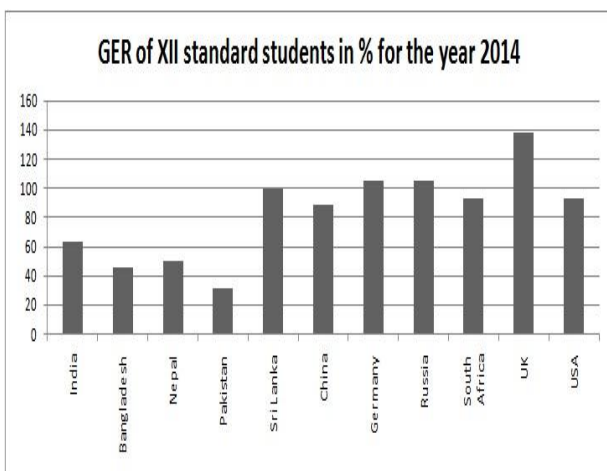

Figure 2. International Comparison of GER of Class XII students - 2014 (Source: MHRD, 2016)

(Khurana, 2017) As per a study report, the approximated percentage of students who had appeared in the higher secondary examinations conducted by the various boards during the academic year 2016-17 is given in Figure 3. The total number of students who have appeared has been more than 13 million. The Uttar Pradesh state board had the maximum registrations with about 2.62 million, followed by about 1.5 million students registered in Maharashtra state board and about 1.1 million students registered with the CBSE Boards. Even with a conservative estimate of about 50 % opting for higher education, approximately 6.5 to 7 million students would apply to various universities and colleges for an undergraduate degree.

III. CURRICULUM OF SCHOOL BOARDS

The National Council of Educational Research and Training (NCERT) provide the necessary academic support required in enhancing the quality of school education in India. NCERT (2005) provides the framework for the national curriculum, identifies the mandatory educational prerequisites, affiliation procedure, teaching-learning modules, evaluation models and techniques and skill enhancement for the teachers and administrators. Each state board's curriculum and syllabi may have some variance from the NCERT prescribed guidelines, with emphasis on local

relevance. The boards mainly differ in modes of instructions, exposure and depth of coverage in the subjects, applicability, updates and examination patterns. CBSE curriculum mainly focuses on developing the application skills and problem solving abilities of the students. CISCE curriculum is designed to develop thorough conceptual knowledge with necessary contents and helps students to develop analytical skills. The general perception of the public, mainly academicians, is that the state board curriculum promotes rote learning and offers limited scope for application and critical thinking.
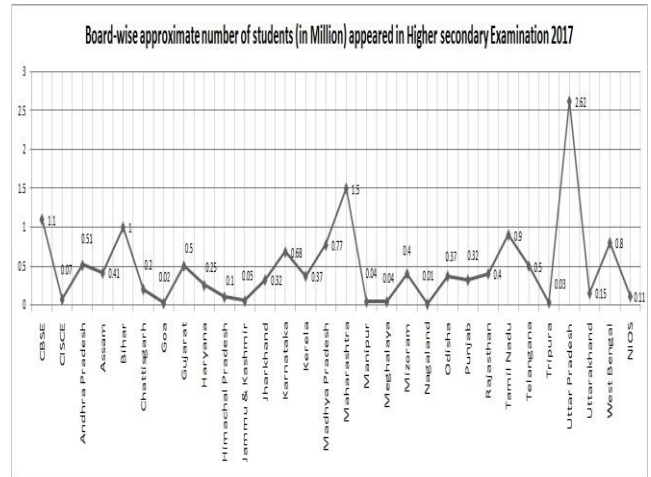

Figure 3. Higher Secondary Examination student strength 2017 (Source: Khurana, 2017)

(IQAS, 2009) The names of the higher secondary certificates will be (a) CBSE: All India Senior School Certificate / All India Higher Secondary Examination Part II / Delhi Senior School Certificate, (b) CISCE: Indian School Certificate / Certificate of Vocational Education – Year 12 (c) NIOS: Senior Secondary Certificate d) State Boards: Higher Secondary (School) Certificate / Intermediate Examination Certificate / Pre-University Examination Certificate / Pre-Degree Examination Certificate. (MHRD, 2014) The examination organizing body is CBSE for the following list of states and union territories: Sikkim, Arunahcal Pradesh, Chandigarh, Andaman & Nicobar Islands, and Delhi. The union territories, Daman & Diu and Dadra & Nagar Haveli follow the curriculum of Gujarat secondary and higher secondary education board. There are wide variations in the passing criteria of examinations conducted by the various boards. The Mark / Grade sheets of XII standard qualified students, between 2015 and 2018, are used for preparing the Table 1. Generally, the grade / mark sheets include only the final marks obtained in Class 12. Both Class XI and XII marks are included in some of the boards.

Students with a similar percentage of marks in the higher secondary board examinations from different boards have different levels of cognitive ability, as the scope of the syllabi and ratio of Bloom's taxonomy learning outcomes varies in the curriculum design. Table 2 compares the blue print of physics of Tamil Nadu state board and CBSE board examinations of the year 2016.

Many students shift from one board to another to

pursue their higher secondary education, apparently targeting better marks either in the board examinations or in the entrance examinations which would enhance their chances of securing an admission in the premier institutions of the nation. Some of them join NIOS in the senior secondary school studies to dedicate more time for the preparations required for scoring high marks in the entrance examinations. (Hindustan Times, 2017) The CISCE council has decided to change the syllabi and revamp question paper pattern for classes IX to XII from the year 2018, which would enable the students to prepare better for appearing in the competitive examinations that are held for engineering and medical courses.

Table 1 XII Standard Pass criteria of different boards (State & Central Government Boards)

Education Boards	Pass Marks
Andhra Pradesh (Two years)	35 % (Grading system from year 2019)
Assam	Theory : 30 %, Theory + Practical : (21 / 70) + (12 / 30)
Bhopal & Chhattisgarh	Theory : 33 %, Theory and Practical : Minimum 25 in Theory and 8 in Practical
Bihar	33% Aggregate in Theory & Practical courses with minimum 30 % in Theory and 40 % in Practical, 30 % in Theory papers like Mathematics, English
CBSE, Himachal, Delhi, Jharkhand, NIOS, RIOS, Jamia Milla Islamia & Punjab	33 % in Theory, Practical and aggregate
CISCE	40 %
Goa	33 % overall (minimum 21 % in Theory & Practical)
Gujarat (Number of semesters: 4 in two years)	33 %, weightage of 25 % given for each semester, Passing standard for disabled student : 20 %
Haryana	33 % with weightage of 50 % in each semester
Jammu Kashmir	Theory: 36 % for Mathematics, 33 % English and other theory courses, For Theory and Practical (25/ 70) + (11 / 30)
Karnataka	Theory : 24/ 90, Theory + Practical : Minimum 30 each & aggregate of 35 % in Part I Language and Part II optional subjects
Kerala (Two Years)	30 %, D+ Grade and above with each year Continuous, Terminal and Practical Evaluation
Maharashtra	Written exam : 20 % Aggregate : 35 %
Meghalaya	Theory : 30 %, Theory + Practical : (21/70) + (9/30) ,
Odisha	Theory : 30 %, Practical 40 %, Aggregate 35 %
Rajasthan	Theory : 33 %, Theory + Practical : (23/ 70) + (10 / 30)
Tamil Nadu	Till 2018 :Theory : 70/ 200 , Theory + Practical : (Theory : 30 / 150, Practical 40/50) From 2019: 35 % Mark distribution :Theory :(90 End exam , 10 Internal), Theory + Practical: (70 End exam, 20 Practical, 10 Internal)
Telangana (Two years)	35 %
Uttar Pradesh	33 %
West Bengal	30 %, Theory + Practical : (21/70) + (9/30) , Mathematics: Theory 24/80, Practical 6/20, Pass: 30/100

Table 2 A comparative study of cognitive ability between Tamil Nadu and CBSE Board, based on the blue print of standard XII Physics, followed in the year 2016

Board	Tamil Nadu	CBSE	Board	Tamil Nadu	CBSE
Learning Outcome	In Percentage		Question form	Total Marks (Marks / Question)	
Knowledge	35	10	Very Short Answer	30 (1) Multiple choice	5 (1)
Understanding	40	30	Short Answer -I	45 (3)	10 (2)
Application	20	30	Short Answer -II	35 (5)	36 (3)
Skill	5	14	Value based	--	4 (1)
Evaluation	--	16	Long Answer	40 (10)	15 (3)
Level of Questions	Percentage		Theory Marks	150	70
Easy : Moderate : Challenging	60 : 30 : 10	15 : 70 : 15	Practical Marks	50	30

The state boards are also forced to align their curriculum on par with national boards to improve students' cognitive

skill and facilitate their preparation for the national level entrance examinations. Some state boards consider the marks obtained in class XI marks also, mainly to curtail the students and schools from skipping the subjects in XI standard, and conduct the entrance examination including the topics covered in the subjects of XI and XII standards. (TNCF, 2017) The state government of Tamil Nadu had conducted workshops to revise the state curriculum of all the classes, especially the syllabi of the subjects in the higher secondary classes, to equip the students to meet the challenges of the national level competitive examinations. The strategies include honing the higher-order thinking skills and prepare the younger generation to cope with the challenges of the twenty first century.

IV. ADMISSION CRITERIA

When the demand for few courses and institutions exist among a large pool of applicants aspiring for higher education, need arises to formulate the selection processes to select the best of the applicants. Such selection processes include one or more of the following: marks secured in the higher secondary examinations, performance in entrance examinations and interviews. (Tilak and Biswal, 2015) The admission in Indian higher education is based on two major criteria such as students' cognitive ability and reservation policy recommended / followed by the government, as shown in Figure 4. While the former criterion promotes merit and excellence in higher education, the latter aims at inclusive education for all.
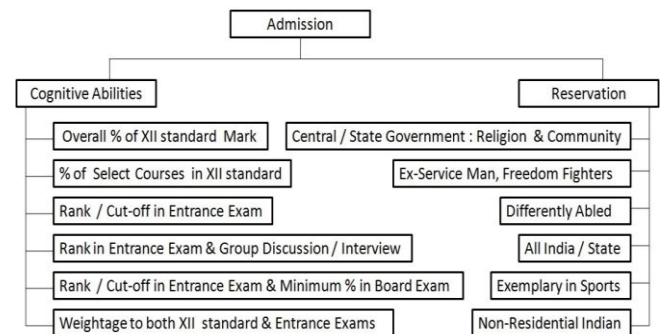

Figure 4. Selection criteria in Admission

V. RESERVATION POLICY

The reservation, as per the constitution of Indian government, ensures the inclusiveness in participation of the under-represented groups in nation building. Specific percentages of seats are allocated to educationally backward castes, socially disadvantaged communities, armed forces, exemplary sports persons and Kashmiri migrants. The public sector units, civil services, union / state government departments follow the reservation policy in employment and promotion. All the seats in public and general category seats of private affiliated educational institutions are filled as per the reservation policy. The religious / linguistic minority educational institutions are guided to allocate specific percentage of seats to the reserved classes of their own religious / linguistic communities. Apart from reservation of seats,

relaxations in the minimum eligibility criteria, age limit etc., are also in vogue as per the government notification. The management quota of private institutions is exempted from the reservation policy, and most of the institutions carry out merit based admissions. (TISS, 2018) The set of reservations under various categories is listed in Table 3, where the candidates are recommended to obtain their social status certificates from the competent authorities. The seat allocation matrix of state level Tamil Nadu Agricultural University (TNAU, 2018) and National level medical admission (MCC, 2018) is represented in Table 4.

Table 3. List of Reservation categories

Category	Description
Caste / Community	• Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Communities Non creamy layer (OBC - NCL), where the creamy layers of OBC are exempted from reservation for whom the annual salary income exceeds Rs. 8 lakhs (0.8 million) • The seats of the SC / ST shall be filled by the candidates of SC / ST only. Interchange within them is permitted in case of non-availability of eligible candidates; the same shall be remains vacant if the seats remain unfilled • Some of the state governments have also considered the religious minorities in the caste based reservation
Differently - abled	• Persons with disabilities (PwD) are classified as low-vision / blindness, hearing impairment and loco motor disability / cerebral palsy • The extent of disability shall not be less than 40 % as certified by medical officer
Armed forces	• Wards / Widows of personnel of armed / paramilitary forces – killed / disabled in action during the hostilities • Wards / Widows of defense personnel / paramilitary personnel - died / disabled in peace time to military service • Wards of serving defense personnel and ex-servicemen / paramilitary personnel • Wards of police personnel who have received gallantry awards • Wards of Freedom fighters
Sports	• Eminent sports persons in the notified sports field with certification of participation / won medals in state / national and international level • The marks are awarded under each classification to rank among the sports candidates
State	• The state government institution allocates few percentage of seats for candidates from other states • The Kashmiri migrants and their wards are considered in some institutions
Non-Resident Indian (NRI)	• NRI / Foreign nationals / Persons of Indian Origin / Children of Indian workers in Gulf countries have few seats reserved for them in select courses / institutions either directly based on the performance in the qualifying examination or through a mandatory entrance examination, as applicable to Indian nationals • In the recent years, the sponsorship is limited only to those candidates whose parents enjoy the NRI status
Economically Weaker section (EWS)	• In year 2019, the central government of India has introduced to provide 10 % reservation for EWS whose family has gross annual income below Rs. 8.00 lakh and prescribed limitations in assets

With reference to (PIB, 2014), one can understand that the status of OBC reservation varies from one state to another and depends on the population statistics. As per (AISHE, 2018) report, there is an upward trend in SC / ST, OBC enrollment recorded in the last 5 years in the institutions of higher education, and consequently a reduction of few percentage of the unreserved in the general category. There are few criticisms on continuing reservation in India merely on the basis of caste. Voices are being raised to review and revise the existing reservation policy to provide opportunities in education to those, who could become first generation graduates, in the community based reservation and also

include the economically deprived groups of all communities under the reservation categories.

Table 4. Seat Reservation in State and National Level

Tamil Nadu State Agricultural B.Sc. Agricultural Admission (source: TNAU 2018)		
Category	Reservation %	Minimum eligibility marks
Open / General Category	31.00 %	55 % aggregate of all the four required subjects
Backward Class (BC)	26.50 %	50 % aggregate of all the four required subjects
BC (Muslims)	03.50 %	50 % aggregate of all the four required subjects
Most Backward Class (MBC)	20.00 %	45 % aggregate of all the four required subjects
SC	15.00 %	A pass in XII with four required subjects
SC – Arunthathiyar	03.00 %	A pass in XII with four required subjects
ST	01.00 %	A pass in XII with four required subjects
Category	Number of permissible attempts in Qualifying exam	Age limit
SC / SC Aruthathiyar / ST	Three	No age limit
All other communities	Two	Age not more than 21 years as on 01-July of the Academic year in which admission is sought.
Special Cases	Reservation % / seats	
PwD	03.00 % (1 % each in three listed disabilities)	
Ex-service man	6 seats	
Descendents of Freedom Fighter	1 seat	
Eminent sports person	4 seats	
Through All India Entrance	15 % seats	
Industry / NRI sponsorship	10 seats under each sponsorship	
National Level Medical Admission (MCC, 2018)		
OBC NCL : 27.00 %, SC : 15.00 %, ST : 07.50 %, PwD : 03.00 % (15 % All India quota in all state level institutions with above mentioned distribution) The minimum eligibility cut-off marks vary for each reservation category. Age relaxation in upper age limit 5 years for SC / ST / PwD candidates		

VI. ENTRANCE EXAMINATIONS

(Tilak & Biswal, 2015) Lack of uniform standards and formulae for equalizing the scores secured by the students in different boards necessitated the advent of entrance examinations, which provided the common, normalized platforms for the admission process. Students aspiring for admissions in engineering, architecture, medical, law and design courses have to appear in several entrance examinations in order to secure admissions in the courses / institutions of their choice. Entrance examinations comprise questions mostly of multiple choices, objective type pattern and measure acquired knowledge in specific subjects mandated as prerequisite for the course, and results are declared in the form of ranking and cut-off. The examination can be either offline, which makes the use of paper-pencil and optical mark recognition (OMR) sheets or online computer based test. Tables 5 and 6 list the various national level examinations conducted by the governments and entrance examinations conducted by the private bodies. Table 7 lists additionally, the entrance examinations conducted at the state levels. Class XII candidates who aspire to secure an engineering admission have

to appear at least in 4 to 5 entrance examinations.

Table 5. National Level Entrance Examination and their mode as on year 2017-18

Examination	Admitting Institutions	Exam Mode
JEE Main (Joint Entrance Examination) Paper 1 (Engineering)	National Institute of Technology (NITs), International Institute of Information Technology (IIITs), Centrally funded technical institutions (CFTI) like Indian Institute of Space Technology (IIST), Indian Navy B.Tech courses. Also accepted by: Indian Institute of Science (IISC), SASTRA Deemed University, Shiv Nadar University, Thapar University, College of Engineering Pune, Delhi, Jaypee Institute of Information Technology, SSN College of Engineering, PSG College of Technology etc.	From year 2019: Online & Twice a year conducted by National Testing Agency (NTA) – Percentile
JEE Main Paper 2	Courses : B.Arch. and B.Planning in NITs, IIITs and CFTIs	Online / Off-line
JEE (Advanced)	Indian Institute of Technology (IITs), Indian School of Mine Dhanbad	Online
NATA (National Aptitude Test)	B.Arch. Courses in all Government, Government Aided and un-aided private Colleges /Universities	Paper-Pen from 2018
NIFT Entrance Test	B.Design admission in National Institute of Fashion Technology which constitutes testing General Ability, Creative Ability and Situation Test	Offline
NID Entrance Test	B.Design admission in National Institute of Design	Offline
AIEED	All India Entrance Examination for Design in ARCH Academy of Design	Online & Interview
UCEED	B.Des admission in IITs and participating institutes	Online
KVPY	Kishore Vaigyanik Protsahan Yojana examination for Bachelor of Science courses in IISC	Aptitude Online & Group Discussion
NEET (National Eligibility cum Entrance Test) UG	MBBS (Medical) and BDS (Dentistry) courses in all Government, Government Aided and Un-aided private Colleges / Universities and in Armed Forces of Medical College (AFMC).	Offline (Planned to conduct online mode also)
AIIMS Entrance Test	All India Institute of Medical Sciences Entrance Exam for MBBS	Online
JIPMER Entrance Test	Jawaharlal Institute of Postgraduate Medical Education and Research for MBBS	Online
IMU CET	Indian Maritime University Common Entrance Test to seek admissions in Diploma and UG Nautical Science programs	Online
NDA and NA	National Defence Academy and Naval Academy entrance exam to join Army, Air Force and Navy	Offline
CLAT	Common Law Admission Test for admission to Law programs conducted by 19 National Law Universities	Online
LSAT	Law School Admission Test covering 80 institutes conducted by Law school admission council	Offline
AILET	All India Law Entrance Test to admission integrated course in National Law University, Delhi	Offline
NCHMCT JEE	National Council for Hotel Management and Catering Technology Joint Entrance Exam for B.Sc. Hospitality and Hotel Administration	Offline
CA CPT	Chartered Accountant Common Proficiency Test	Offline
AIEEA	All India Entrance Examination Agriculture in courses like Agriculture, Horticulture, Forestry, Fishery, Agricultural Engineering, Home Science, Dairy Technology etc.,	Online

Table 6 Few Popular Entrance Examinations conducted by Private Deemed universities

Examination	Admitting Institutions	Exam Mode
BITSAT	Birla Institute of Technology and Science Admission Test to admissions at BITS campuses in Pilani, Goa and Hyderabad in Engineering, Pharmacy and Information Systems	Online
SRMJEE (E/H)	SRM Joint Entrance Examination in Engineering and Health Science courses to admission of SRM Institute of Science and Technology	Online
VITEEE	VIT Engineering Entrance Examination for admission to all campuses	Online
AmityJEE	Amity Joint Entrance Examination for admission to all campuses	Online
AEEE	Amrita Entrance Examination Engineering for admission to all campuses	Online & Offline
MUOET	Manipal University Online Entrance Test for admission to all campuses	Online

Table 7 State Level Entrance Examinations

Examination	Description	Exam Mode
APEAMCET *	Andhra Pradesh Engineering Agricultural and Medical Common Entrance Test	Online
TS EAMCET*	Telangana State Engineering Agricultural and Medical Common Entrance Test	Online
BCECE	Bihar Combined Entrance Competitive Examination	Offline
UPSEE	Uttar Pradesh State Entrance Examination	Online & Offline
KCET	Karnataka Common Entrance Test	Offline
KEAM*	Kerala Engineering Agricultural Medical Entrance Examination	Offline
RPET	Rajasthan Pre Engineering Test	Offline
CGPET	Chhattisgarh Pre Engineering Test	Offline
JCECE	Jharkhand Combined Entrance Competitive Examination	Offline
WBJEE	West Bengal Joint Entrance Examination	Offline
J&K BPEE CET	Jammu & Kashmir Board of Professional Entrance Examination	Offline
GCET	Goa Common Entrance Test for Engineering Admission	Offline
T JEE	Tripura Board of Joint Entrance Examination	Offline
Assam CEE	Assam Combined Entrance Exam	Offline

*NEET Examination is made mandatory for all the admissions to the courses in all the medical colleges from the academic year 2016 – 2017.

NEET and JEE are discussed in detail as these are the two major entrance examinations written by large number of Indian & NRI students. The overview of NEET 2018 is given in Table 8. The NEET 2018 cut-off has been reduced compared to that of the previous year.

Table 8. Exam pattern, Result Statistics and Seat matrix of NEET 2018 (Careers360, 2018a, 2018b)

Exam Pattern	
Total Questions : 180	45 question in each section (Physics, Chemistry, Botany, Zoology)
Total Marks : 720	Marking scheme: 4 marks for every correct answer, -1 marks for every incorrect answer
Duration : 3 hours	Type of questions : Multiple Choice Questions, Medium of Exam : 11 languages
Tie breaking order : NEET score in (1) Biology (2) chemistry (3) min. negative score (4) senior age NEET Percentile = 100 - ((Rank * 100)/ Total number of candidates)	

Result Statistics						
Description	Registered	Appeared	Qualified	Pass %	Qualifying Percentile	Minimum Score
Total	1326725	1269922	714562	56.27	--	--
Male	580160	553849	312399	56.25	--	--
Female	746075	716072	402162	55.99	--	--
Transgender	1	1	1	100	--	--
Indian	1323673	1267229	712635	56.24	--	--
NRI / OCI / PIO / Foreign	3052	2693	1927	71.56	--	--
General	484480	466213	268316	57.55	50th percentile	119
OBC	580160	556621	327575	58.85	40th Percentile	96
SC	181217	171856	87311	50.80	40th Percentile	96
ST	80868	75232	31360	41.68	40th Percentile	96
General PwD					45th Percentile	107

	MBBS		BDS	
Type of Colleges	Colleges	Seat Matrix	College	Seat Matrix
Government	216	30455	47	2930
Private*	247	36165	260	24130
AIIMS & JIPMER**	11	1107	--	--
Central Universities	2	151	2	88
Grand total	476	67878	309	27148
*including deemed universities			** conduct separate entrance exam for admission	

The multilingual question papers of NEET benefitted the students who had their education in the vernacular medium. Provisions have been made for the candidates to review their answer scripts with the help of the answer key made available after the examination. Though the NEET examination is conducted in offline mode, there is an online counseling process for which the candidates and participating colleges / universities must register. The detailed seat matrix of All India quota, counseling scheme and schedule are listed in Medical Council website (MCC, 2018). The candidates, who have secured seats in the earlier rounds of counseling, can still avail another chance, to opt for better choices (upgradation). Those candidates who got their seats allocation through upgradation should forfeit the previous seat allotment within two days of publication of the results. The counseling conducted by the state governments is listed in the respective websites of state health council / competent counseling authority assigned by the state governments. It is expected to have seamless integration in counseling schedule between state and central, to minimize the burden of institution carrying out mop-up round of counseling for filling vacant seats that may arise due to rejection of allocations made and seats forfeited by the candidates who availed the up gradation facility.

JEE Main Paper 1 is the second largest entrance examination in India written by the candidates who prefer to get admitted in the leading institution such as IITs / IIITs and NITs etc. There exists a challenging competition for securing admissions to the leading institutions listed as the candidates firmly believe that securing an admission in such institutions would ensure, apart from gaining abundant knowledge in their UG course, improved chances of securing an employment through campus placements in the multinational companies or

securing PG / Ph.D. admissions in the institutions of repute in India / abroad are high. The examination pattern, result statistics of JEE Main Paper 1 engineering, and advanced JEE are summarized in Table 9 and 10 respectively.

Table 9. Exam pattern, Result Statistics of JEE Main Paper 1 (Engineering) 2018

Exam Pattern of JEE Main Paper 1 (Engineering)	
Total Questions : 90	30 question in each section (Physics, Chemistry, Mathematics)
Total Marks : 360	Marking scheme: 4 marks for every correct answer, -1 marks for every incorrect answer
Duration (hours) : 3	Type of questions : Multiple Choice Questions, Medium of Exam : 3 languages
Mode of exam	Both online and offline mode
Tie break order : JEE Score in (1) Mathematics (2) Physics (3) min. negative mark (4) same rank	

Result Statistics (source : collegedekho, 2018, career360, 2018c)							
Description	Qualified	Max. mark	2019	*2018	*2017	* 2016	*2015
General	111275	350	89.75	74	81	100	105
OBC NCL	65313	73	74.31	45	49	70	70
SC	34425	73	54.01	29	32	52	50
ST	17256	73	44.33	24	27	48	44
PwD	2755	73	0.11	-35	--	--	--
General-EWS from year 2019		78.21					
Total	231024	*A downward trend in minimum mark every year					

Total candidates registered : 1135084, % of Boys : 75.86, % of Girls : 24.14, No. of Transgenders : 5	
Total candidates appeared : 1074319, Online Exam : 216755 Offline Exam : 857564	
Seat matrix JEE 2018 : (a) IIIT : 4023, (b) NIT : 17967, (c) CFTI : 4683 (d) Total : 26673	
Determining factors of cut-off: Number of candidates appeared, difficulty level of exam, number of questions asked, overall performance level of candidate, number of seats available and trend of previous year cut-off.	
Minimum eligibility in XII standard examination: Score 75 % in 10+2 or be in the top 20 percentile in class XII examination conducted by respective boards. The qualifying mark for the SC/ST candidates is 65 % in class XII examination.	
There is no weightage of higher secondary marks in JEE Main Rank from the year 2017	

Year 2019 Statistics (Source : Career 360, 2019)	
Total number of unique candidates registered in JEE Main 2019 (January and April) : 12,37,892	
Total number of unique candidates appeared in JEE Main 2019 : 11,47,125	
Number of appeared candidates registered in both January and April sessions : 6,08,440	

The preferred mode of examination is offline paper-pencil mode (~ 79 %) in year 2018 among for the present millennial, technology driven students. The JEE examination become online and two sessions per year from 2019 onwards. Pattern of the entrance examinations held for admissions to courses such as Architecture, Agriculture, and Fashion technology, Law and Charted Accountancy are summarized in Table 11. The demand for Chartered Accountancy course is more among the candidates who pursue commerce and accountancy groups, as the course generates abundant employment opportunities.

Table 10. JEE Advanced 2018 pattern (source: jeeadv, 2018)

Eligibility Criteria for submission of application
Candidates should be qualified in Paper 1 of JEE Main 2018, The percentage of various categories are as per government norms, within each of these categories, 5 % horizontal reservation is available for differently-abled candidates.
Upper Age limit : 25, relaxed 5 years for SC / ST / Differently abled candidates
Number of attempts in JEE Advanced Exam: 2, candidate who appeared JEE Advanced in previous year also can apply with his score
Number of attempts in XII standard : One attempt
Earlier admission in IIT : Candidate should not have taken admission previously in any of the IIT

Exam Pattern
Mode of Exam : online, Time duration : 3 hours each,
Type of Question : Numerical and Objective, Number of Papers : 2 (Paper 1 & 2),
Each paper carries 3 parts (Physics, Chemistry and Mathematics
Each part has 3 sections (Single correct answer, One / more correct options, Single digit integer / Comprehension in Paper 1 / 2 respectively)
Each paper carries 54 questions in total, total marks : 306 with 183 marks each
Marks: Not attempted : 0, Partial correct : +1 for each correct option, Correct : +4, Incorrect: -2
There is no fixed pattern of question paper distribution among the part and sections of each paper.

Result statistics (Source : Careers360, 2018d)							
Category	Section mark Min	Aggregate Mark Min	Aggregate min revised	Sub-Category	Section mark Min	Aggregate Mark Min	Aggregate min revised
General	12	126	90		6	63	45
OBC NCL	11	114	81		6	64	45
SC	6	63	45	PwD	6	64	45
ST	6	63	45		6	64	45
Preparatory courses are conducted to improve academic performance of SC/ST/PwD candidates will be considered at the end of counseling for vacant seats) for which the min section mark is 3 with revised aggregate min of 23							
Number of candidates appeared : 155158 Qualified : 18138 Revised qualified count : 31988 First time the min mark of aggregate is revised to accommodate more candidates in IIT admission Approximate Number of seats in IITs : 10988							
Seat up-gradation options in counseling : Sliding (within the institution), Floating (all institutions)							

Table 11 Pattern of NATA, NIFT, CLAT, CACPT and AIEEA examinations

Program	Exam	Description
Architecture	NATA	The test measures aptitude towards drawing, mathematic proficiency, analytical reasoning mental ability, aesthetic sensitivity and critical thinking
Fashion Technology	NIFT	Creative ability test judges intuition skills, power of observation, design ability and innovation, where General ability test measures the candidate's quantitative / communication and analytical ability along with general knowledge
Law	CLAT	Knowledge in the elementary mathematics, English, general knowledge, logical reasoning and legal aptitude of the candidates is evaluated
Chartered Accountant	CACPT	The subject areas of the test include fundamental of accounting, mercantile laws, general economics and quantitative aptitude
Agriculture, Forestry etc.	AIEEA	Questions from Physics, Chemistry, Biology, Mathematics and Agriculture, where candidates have to select any three subjects

Admission through entrance examinations for professional courses is practiced for many years in India. A large number of candidates competing for limited number of seats had resulted in a scenario wherein most of the students have commenced attending special coaching classes even prior to the secondary school of study.

VII. ADMISSION ELIGIBILITY

University Grants Commission (UGC) is an apex body which promotes & coordinates higher education in India through framing rules and regulations from time to time, regulates the functioning of the universities to monitor whether the prescribed norms and conventions are being followed to maintain the quality of teaching-learning process, examination and research. Additionally, there are various apex bodies and councils which provide the required minimum norms, guidelines, and standards, grant approvals to offer professional and technical programmes. They also provide the necessary guidelines to fix the minimum eligibility criteria for the admissions to the professional courses offered in the institutions of the country. The universities and institutions are recommended to follow the UGC prescribed nomenclature in awarding the degrees. The minimum eligibility levels recommended for entry into different courses offered by majority of the institutions are listed in Table 12. The private deemed to be universities and independent institutions can fix the eligibility criteria above the minimum standards prescribed (as being done in IIT admissions, the minimum eligibility is 75 % aggregate in qualifying examination). (AIU, 2015) The association of Indian Universities is the nodal point to evaluate the equivalence of qualifications obtained from institutions abroad for securing admissions in Indian universities / institutions.

VIII. ADMISSION PROCESS

The admission process, for an academic year, begins with the updation of website & prospectus of the institution and publication of advertisement to solicit collection / purchase of applications. The various stages of admission life cycle are compiled in Figure 5. The optional services of digital marketing and call-centre are exercised by the private institutions to attract more number of prospective applicants. Entrance examinations are conducted wherever the admissions include, either partially or fully, the marks obtained in them. The merit list is prepared with the marks obtained in the qualifying examinations, or with the marks obtained in the entrance examinations. Some institutions follow a normalized rank list prepared with the marks secured in the qualifying examinations and also the entrance examination on a prefixed ratio. The choice of combined weightage is rarely exercised in Indian scenario in the recent years, as it poses difficulties in the normalization of results of different boards. The merit lists (for non-entrance programmes) are usually based on the overall percentage or aggregate in select subjects as per the norms and guidelines recommended by the council / institution.

Table 12. Minimum Standards of Entry Eligibility for different UG courses

Degree, Eligibility in XII standard Academic / Vocational / Equivalent
Engineering and Technology
Degree : B.E / B.Tech.
• Council : All India Council for Technical Education (AICTE)
• Courses : Physics and Mathematics along with Chemistry / Biotechnology / Biology / Technical Vocational Subject
• Marks : 45 % aggregate in the subjects mentioned above (relaxation to reserved candidates as per norms)
• Entrance Examination: Mandate for NITs with JEE Main Part I, JEE Advanced for IITs. Admission for other colleges and institutions can be done through qualifying exam, and entrance is not compulsory.
Degree : B.Arch.
• Council : Council of Architecture (COA), AICTE
• Courses : Physics, Chemistry, Mathematics, English in XII or 10+3 Diploma
• Marks : 50 % in PCM and aggregate
• Entrance Examination (Mandate) : Valid NATA or JEE Main Part II or State Government Exam score
Degree : B. Planning
• Council : AICTE
• Courses : Physics, Chemistry, Mathematics
• Marks : 50 % aggregate
• Entrance Examination (Mandate) : Valid JEE Main Part II, NATA, UPSEE, TANCET scores
Science and Humanities
Degree : BA, BCA, BBA, B.Sc. Hotel & Catering, Viscom,
• Council : National Council for Hotel Management & Catering Technology (NCHMCT) , AICTE for Hotel and Catering courses
• Marks & Courses: PASS in XII standard
Degree : B.Com.
• Marks & Courses: Pass in XII Standard with Accountancy and Commerce
Degree : B.Sc. Science stream
• Courses : One or two corresponding courses (Physics, Chemistry, Mathematics, Biology, Botany & Zoology, etc.,
• Marks : Pass in XII standard
Degree : Law (LLB, BA/ B.Com. / BBA LLB)
• Council : Bar Council of India (BCI)
• Courses : XII standard (Commerce & Accountancy as subjects for B.Com. LLB)
• Marks : 45 % aggregate (relaxation to reserved candidates as per norms)
Degree : B.Ed.
• Council : National Council for Technical Education (NCTE)
• Course : Corresponding Bachelor Degree
• Marks : 55 % aggregate (relaxation to reserved candidates as per norms)
Medical and Allied Health Sciences
Degree : MBBS & BDS
• Council : Medical Council of Indi for MBBS and Dental Council of India for BDS
• Entrance Examination : National Eligibility and Entrance Examination (NEET) Mandate
• Age : Must have completed 17 years on or before 31st December of the year of admissions
Degree : BASLP
• Council : Rehabilitation Council of India (RCI)
• Courses: Physics, Chemistry, Biology, Mathematics / Computer Science / Statistics / Electronics / Psychology
• Marks : 50 % aggregate (Relaxation to reserved candidates as per norms)
Degree : B.Pharm. & Pharm D
• Council : AICTE, Pharmacy council of India (PCI)
• Courses : Physics, Chemistry, Mathematics / Biology / Botany & Zoology in XII standard, or Diploma in Pharmacy
• Marks : 45 % aggregate in above mentioned subjects (Relaxation to reserved candidates as per norms)
• Age : Must have completed 17 years on or before 31st December of the year of admissions
Degree : BOT, BPT, B.Sc. Nursing, Cardio, Clinical & Alternate Medicines (Ayurvedha, Siddha)
• Council : Indian Nursing Council (INC) for nursing courses, Ayurvedha & Siddha Boards for respective Alternate Medicine course
• Marks & Courses : Pass in XII standard with Physics, Chemistry, Biology / Botany & Zoology
Degree : B.Sc. Medical Imaging
• Marks & Courses: Passing XII with Physics, Chemistry, Biology / Botany & Zoology or Diploma in Radiology with PCB curriculum
B.Optom.
• Marks & Courses: Pass in XII with Physics, Chemistry, Mathematics / Biology / Botany & Zoology
Agriculture
Degree : B.Sc. Agriculture, Forestry, etc,
• Council : Indian Council for agriculture (ICAR)
• Marks & Course: Pass in XII with Physics, Chemistry, Biology & Mathematics / Bio-related

Tamil Nadu Engineering Admission (TNEA) committee has carried out the certificate verification manually in every district head quarters of the state prior to publishing the merit list. For the engineering admissions, the merit list has been drafted with the marks obtained in the qualifying examination and for the first time the state has encouraged submission of the online applications. (DigiLocker, 2018) The DigiLocker authentication, digital initiative by the government, may automate the verification process through online in the years to follow. The verification of eligibility standards in the qualifying examinations are carried out during the counseling / post-counseling stages for the admissions based solely on the entrance examinations. The common counseling in state of

TNEA follows single window admission process and is meticulously carried out by the affiliating university (Anna University, Chennai) for the seats surrendered by the colleges under the government quota. The seats are allocated during counseling, where several rounds are held, at the national and state level for all the institutions affiliated to Anna University. Some states give special preferences to those students who studied in their state board system. The private deemed universities and institutions that have autonomy to admit the students on their own prefer on-campus counseling, which has impact on student retention and minimizes cancellation / withdrawal of seats after the counseling process.
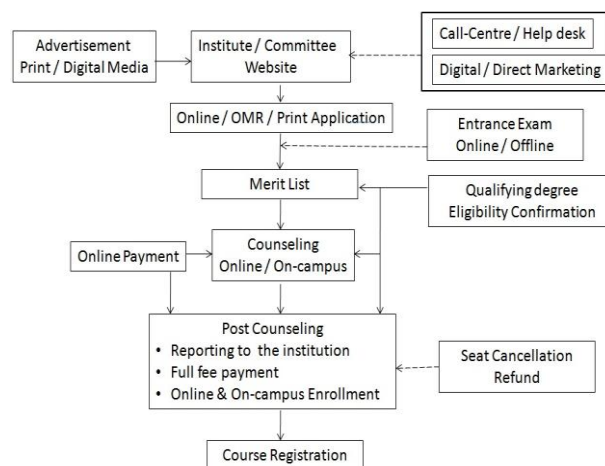
Figure 5. Stages of Admission life cycle

All institutions have the facilities for online payment of tuition fees and other applicable fees, which eases the payment procedures involved. The candidates may choose to withdraw from the institution, whatsoever may be the reason, and claim for refund of the fees paid as per the norms of UGC / respective councils. The activities of the post-counseling stages include reporting of the candidate at the institution, payment of tuition fees and other fees, submission of the original certificates, with which the eligibility of the candidate for the course can be confirmed. NEET and other common counseling processes facilitate the institutions to update the details of vacant seats if the candidates fail to report to the allotted institution within the stipulated time. This could lead to several rounds of counseling process and finally the regulatory council / body permits the institutions to conduct mop-up counseling (i.e., final round of counseling to fill the vacant seats) on their own. The detailed counseling schedule of NEET provides clarity on counseling process and given in Table 13. The delay in reporting time of second round of counseling is to follow the court verdict on the bonus marks issue due to language translation error in (English and Tamil) observed in the NEET question paper.

The cut-off marks are usually high and changes marginally in the subsequent rounds of counseling in premium institutions that are ranked high on every parameter possible. Table 14 presents an example of one such premium institution, where the demand for admissions, year after year, is escalating. The average percentage in four subjects (as prescribed) is taken into consideration as per the norms of the affiliating university. It is understandable that the institutions undergo rigorous

and lengthy process of admissions to have their allotted seats filled. The vacant seats are forwarded to the next phase of counseling with the same / revised cut-off marks / ranks. If the admission process is made completely online (with error free software, of course) then the time taken can be drastically reduced, that would also enhance the decision making and completion of admission procedures relatively faster.

Table 13. Counseling Schedule of NEET 2018
(source: MCC, 2018)

Schedule for online counseling (Allotment process) for NEET 15 % All India Quota / Deemed / Central Universities / ESIC & AFMC (MBBS / BDS) Seats 2018				
First Round				
Registration / Payment & Choice filling	Choice filling / Locking	Processing of Seat Allotment	Result	Reporting
13 June to 18 June 2018 Payment : till 19 June 2018 (6-Days)	19 June 2018 10 am to 5 pm (1-Day)	20 June to 21 June 2018 (2-Days)	22 June 2018 (1-Day)	23 June to 3 July 2018 (11-Days)
Second Round				
6 July to 8 July 2018 Payment : till 9 July 2018 (3-Days)	9 July 2018 10 am to 5 pm (1-Day)	10 July to 11 July 2018 (2-Days)	12 July 2018 (1-Day)	2 August to 8 August 2018 (7-Days)
Mop-up Round for Central / Deemed University / ESIC only (Display of seat matrix for Mop-up 14th to 15th August 2018 (2-Days)				
16 August to 18 August 2018 Payment : till 19 August 2018 (3-Days)	19 August 2018, 10 am to 5 pm, (1-Day)	20 August 2018 (1-Day)	20 August 2018 (1-Day)	21 August to 26 August 2018 (5-Days)

Table 14. Cut-off Trend in B.COM (Honors) :
8 rounds of counseling (source: SRCC, 2018)

Category	1	2	3	4	5	6	7	8
General	97.5	97.375	closed					
OBC	95.5	95	94.875	closed				
SC	92.75	90.75	90.75	90.5	closed			
ST	87.5	83.75	closed					
PwD	86.75	82	80	80	79.5	79.5	closed	79
Kashmiri Migrants	88.75	87.375	87.375	87.375	87.375	87.375	87.375	87.375

The demand for few courses and institutions observed during the admission process is based on several criteria. The reputation of the institution, employability opportunities after the graduation, scope of higher studies in India / abroad etc., are the major factors. In the digital era, website of the institution provides the primary source of information and the students and the faculty are the brand ambassadors for an institution. With the demand mainly based on the employment opportunities, it is essential that the details such as placement record, companies who participated in the recruitment and placement, opportunities for higher studies, alumni and employers opinion etc., are to be focused and presented appropriately in the website to draw the prospective applicants to opt for the institution. The brand value of the institution will be evident through the accreditation & rankings carried out by the approved agencies such as National Board of Accreditation (NBA), National Assessment and Accreditation Council (NAAC), National Institute Ranking Framework (NIRF) etc. These information supplemented with additional information on the infrastructure, faculty strength, campus facilities, internship

opportunities, value added courses offered etc., form the vital parameters for the decision making process.

IX. ADMISSION SYSTEM IN WORLDWIDE

The study of (Helms, 2008) recorded different combinations of admission processes that happen around the world, (Figure 6): based on the secondary school leaving examinations, entrance examinations, standardized aptitude tests, multiple examinations and no examinations.

The Indian subcontinent is grouped under multiple examinations, the only country which exercises all combinations of examinations for the selection processes. This clearly indicates the various complexities that are prevalent in the admission processes of higher education.

National Exam Score of Secondary Examination	France, Austria, Ireland, Egypt
& Academic Performance in School Level	Tanzania
& Application Dossier	United Kingdom
& Institution Administered Exam Score	Finland
& Standardized Aptitude Test	Israel
Regional / State Exam Score & Academic performance in school	Australia
Institution Administered Exam	Argentina, Paraguay
& Academic Performance in School	Bulgaria, Serbia
National Entrance Exam	China, Iran, Republic of Georgia
& Academic Performance in School	Turkey, Spain
& Institution Administered Exam Score	Japan, Russia, France, Grandes / Ecoles
& / OR Academic Performance in School	Brazil
Standardized Aptitude Test	
& Application Dossier	United States of America
OR Academic Performance in School	Sweden
Multiple Exams Administered by Multiple Entries	India
No Exams : Secondary School Academic Performance	Norway, Canada
No Exams : Application Dossier only	Certain United States Universities

Figure 6. Admission selection in different countries (source: Helms, 2008)

X. DISCUSSION POINTS

Given the wide array of admission practices and procedures currently in use, it is clear that there is no single and perfect admission procedure. The effectiveness depends on the context in which the admission process is implemented including the global strategic priorities. The key issues and challenges associated with the various models to be taken into account for any reforms and revisions are discussed below.

The admission process extends from the month of April to August, and the state and central universities / institution commence common counseling only at the end of June / July for various reasons that include the waiting time till all the boards declare their results / complete entrance examination processes with reviews and revaluations, accommodate appeals in courts by general public etc.

The meticulous preparation of question papers of qualifying & entrance examinations, with zero tolerance error in concepts, typo-graphical representations, and uniformity in all languages is required as awarding grace marks due to error in representation affects the fairness of the system and delays the process of admissions as it happened in NEET 2018. The time delays make both parents and candidates impatient and drive them to decide on the

available choices, which may not be the best for the candidates.

Admissions based purely on the ranking of the entrance examinations have both advantages and limitations. Though the difficulty in normalizing the scores obtained in different boards are nullified with a common entrance examination, as presented earlier, it has caused few undesirable impacts in the whole system.

The mushroom growth of unregulated profit-oriented coaching institutions lures the prospective candidates with unrealistic promises regarding admissions. The formal education is controlled with stringent regulatory structures, but there is hardly any regulatory act for the coaching institutions. The demand of entrance examinations has resulted in an immense proliferation of such coaching institutions and the peer pressure has led to severe financial burden on the parents.

There are numerous career websites / forums which provide rank / cut-off predictions, as if they are the most authentic data, are undesirable for any quality conscious academic ambience. Surprisingly, most of the statistics about results / cut off marks / ranks are found only in those websites and our study had the difficulty in getting such details from the websites of governments / regulatory bodies concerned. The problem is collecting the authentic information from the third party websites and they are also archived at a relatively faster rate.

The prospective candidates appear in four to six entrance examinations after their higher secondary school education, and the coaching for entrance examinations may commence when they are in their secondary schools. Some candidates undergo private study in 10+2 system through open schooling (NIOS) and miss out the advantages (academic and non academic learning with peers) gained in formal school learning system. The very purpose of open schooling is to reach out to those rural students who do not have access to schooling and also to the students who cannot afford to learn in a formal school system, but the case is reversed and extremely exploited now.

The common counseling for the medical and dental institutions, be it central / state public, government / private affiliated, private deemed universities, and standalone institutions, offers few significant benefits in medical / dental admissions as the forfeiture / withdrawals are observed to be minimum. However, most of the institutions are struggling to fill the vacant seats within the stipulated time due to delay in the commencement of the counseling process as the counseling processes at central (all India quota) and state level for state quota are scheduled at different times which provides additional options to the students with high scores to opt for better courses / institutions in the latter counseling process, be it state and central. This reduces the choices of the candidates at the middle / lower ranks and also the admission process gets delayed. For most of them, it may not be financially viable to withdraw their admissions from other institutions (if they had been admitted earlier), with / without refund of the fees as per the norms, in case of delayed confirmation of admissions in the medical / dental institutions. This impact results in chain reaction with vacant seats in institutions wherever withdrawal happens, and the counseling cycle continues. The faculty members & freshly admitted candidates in the middle of an academic session face difficulties in the teaching – learning process.

There are vacant seats in large numbers even in technical institutions of repute such as IITs, NITs, central / state institutions and private institutions, which need immediate attention of policy makers to revive the system in terms of quality that leads to an increase in employment opportunities for the graduates, thereby strengthening the academic ambience of the institutions. The most-sought-after private deemed universities use their autonomy in the right way and hardly encounter difficulties in attracting the prospective candidates for admissions, through deployment of variety of measures that include offering inter-disciplinary courses, project-based learning, internships, semester abroad programmes, industry led programmes, training on soft-skills and foreign languages, expert guidance and assistance in securing placements etc.

(Devang et. al, 2010) There are some discussions on making a common National Aptitude Test (NAT) which tests the general parameters such as raw intelligence, comprehension and written communication skills etc similar to Scholarship Aptitude Test of United States. A lot of points need to be considered and debated prior to implementation.

- In the admissions based on the marks obtained in the higher secondary examinations, the class XII syllabus is taught from class XI in most of the schools. The weightage for class XI portions in NEET / JEE compelled them to teach the subjects of the class XI. The introduction of NAT with general proficiency may make shift both the students / schools to concentrate more on NAT and less in the qualifying XII standard examinations.

- The downward trend observed in the recent years in the minimum cutoff score of NEET and JEE, which are based on higher secondary school curriculum, requires serious attention and rigorous review of the academicians as it could be the result of poor 'learning outcome' of the candidate. Revisions of cut-off scores in JEE-Advanced 2018 exams are done to minimize the number of vacant seats.

- There are multiple exams exists in each Engineering, Law, Architecture and Design courses depend on the autonomy of institution. The national level NEET examination, mandatory for admissions to medical / dental courses receives continuous criticisms with respect to loss of state autonomy, forced linear ranking, projected difficulties of rural students in appearing in examinations and vacant seats in dental & medical programmes for various reasons etc. There are a few central institutions conducting their own entrance examinations for medical and dental admissions and are exempted from admissions based on NEET scores.

- The NEET and JEE are conducted with question papers prepared in 11 and 3 languages respectively. There is still a doubt in adopting the same in testing the comprehension or written communication skills of the proposed NAT.

- There are also some concerns on lack of provisions to test the descriptive answering in NEET and JEE exams as they focus only on objective questions.

- There are several states and stand alone institutions admitting candidates for engineering courses without entrance examinations but considering only the marks in the higher secondary examinations. However, the institutions are left with huge vacancy of seats. The introduction of common entrance

examination, similar to NEET examination for medical courses, for engineering could worsen the situation.

- No entrance examination is held till date for admission to Arts, Humanities and Science courses in general, though the percentage of enrollment is high.
- Bringing all within an umbrella without the pilot study will be a cumbersome process, considering the complex admission systems that exist in state & central institutions with different affiliated / autonomous structure of institutions. Lack of standardization of existing structure leads to revision of cut-off in each round, and accommodating all category-wise admissions will cause either repetition of the process for several rounds till the last date and could leave many seats vacant.

(AISHE, 2018) The private presence (37.98 % at university level, 78 % at college level in which 64.7 % is unaided) should be taken into account for any reforms in the admission process. Also, their representation in policy studies and committees is required for formulating revisions in common admission process, eligibility criteria, standards and regulations.

There is a need of quality control in the admission process and avoid middle men. The seamless integration of technology in admission may solve the problem to some extent. It also extends quick decision making & response in all stages of admission.

There is no question on discontinuing the reservation as there are under-represented communities still existing in large numbers. The admissions around the world have also considered such demographic factors in their educational policies. The revisions may be done exempting creamy layers or those already benefited & uplifted in the same community.

As the arts, humanities courses are having more admissions, both government and institution must ensure skill based curriculum to make the students employable. The curriculum should be designed on par with international standards and also strike a balance with the local needs. The total enrollment in distance education is 11 %, mostly the admissions are in the arts, humanities & management courses. The admission policy on distance education must be simplified and made online to increase the enrollment. In addition, the course delivery must ensure quality, on par with the regular courses. Gap in the enrollment at higher-secondary schools to the enrollment in the institutions of higher education has to be analyzed and if required, skill based courses with vertical mobility may be introduced similar to other countries.

India is ranked far behind in the global ranking stand in terms of GER in higher education. This along with the declining standards of school education and higher education need to be addressed together and resolved.

Both in-bound and out-bound ratio of international admissions must be studied thoroughly, as we are losing sheen in attracting foreign nationals, whereas enrollment of Indian nationals in foreign universities / countries has been increasing year after year.

XI. CONCLUSION

The complete understanding of school education, transformation to higher education with multiple eligibility criteria, presence of entrance examinations, types of institutions with respect to admission and counseling processes are presented in this study. The report will aid the academicians, administrators and institutions to understand the expectations of students and the improvements required in the stages of the admission process. The new reforms in the admission process should not be implemented arbitrarily; instead, the draft versions have to be discussed with all the stakeholders (public / private, state / central) including participation from school sector as major revisions are required in their curriculum & examination pattern.

REFERENCES

1. All India Survey on Higher Education [AISHE]. (2018). Government of India, Ministry of Human Resource Development, Department of Higher Education, Retrieved on August 10 2018 from http://aishe.nic.in/aishe/reports
2. Association of Indian Universities [AIU]. (2015). Policies and procedure for according equivalence of qualifications / Degrees, Retrieved on July 420 2018 from http://www.aiu.ac.in/Evaluation /AIU%20Equivalence%20Information%20Brochure%2013.07.2015.pdf
3. British Council [BC]. (2014). Indian School Education System An overview. Retrieved on June 25 2018 from www.britishcouncil.in /sites/default/files/indian_school_education_system_-_an_overview_ 1.pdf
4. Careers360, 2019, JEE Main 2019, Retrieved on 14 May 2019, https://engineering.careers360.com /articles/jee-main
5. Careers360, 2018a, NEET 2018 Result Statistics, Retrieved on August 4 2018 from https://medicine. careers360.com/articles/neet-2018 -result-statistics
6. Careers360, 2018b, MBBS / BDS seats in India through NEET, Retrieved on August 4 2018 from https://medicine.careers360.com /articles/mbbs-bds-seats-in-india-through-neet
7. Careers360, 2018c, JEE Main Result, Retrieved on August 4 2018 from https://engineering. careers360.com/articles/jee-main-result
8. Careers360, 2018d, JEE Advanced Cutoff 2018, Retrieved on August 4 2018 from https://engineering.careers360.com /articles/jee-advanced-cutoff
9. Collegedekho, 2018, JEE Mains 2018 Retrieved on August 4 2018 from https://www.collegedekho.com/news/231024-candidates-qualify-jee-main-2018-complete-details-here-13481/
10. Devang , V.K., Saxena, S.C., Ananth, M.S. and Acharya, D., 2010, Alternative to IIT-JEE, AIEEE and State JEEs, An interim Report, Retrieved on August 4 2018 from https://www.cse.iitk.ac.in/users /dheeraj/jee/ramasami-ann3.pdf
11. Digilocker. (2018). Towards Paperless Governance, Retrieved on 18 July 2018 from https://digilocker.gov.in/
12. Helms, R.M. (2008). University Admission Worldwide, Education Working Paper Series, Number 15, The World Bank Retrieved on May 4 2018 from http://siteresources. worldbank.org/EDUCATION/ Resources/278200-1099079877269/547664-109907995681 /EWPS15_ University_Admission_Worldwide.pdf
13. Hindustan Times. (2017), ICSE plans syllabi change from 2018, retrieved on October 10 2017 from http://www.hindustantimes.com /education/icse-plans-syllabi-change-from-2018/story-rOLuHVDBzY aqvQRrpEFwOP.html,
14. International Qualifications Assessment Service [IQAS]. (2009). International Education Guide for the assessment of Education From Republic of India, Government of Alberta, Canada, Retrieved on August 4 2018 from https://www.alberta.ca/documents /IQAS/india-international-education-guide.pdf
15. JEE Advanced [Jeeadv]. (2018). Information brochure for JEE Advanced 2018, Retrieved on August 4 2018 https://www.jeeadv .ac.in/
16. Khurana, K. (2017). Board Examinations 2017 : Over 1 crore students appear for exams, is India equipped to provide higher education to all Retrieved on May 15 2018 from http://www.india.com/educatio n/board-examinations-2017-over-1-crore-students-appear-for-exams-i s-india-equipped-to-provide-higher-education-to-all-2148938/ retrieved on 20 September 2017
17. Medical Council of India [MCC]. (2018). Online undergraduate medical and dental seats, Allotment process–counseling, Retrieved on August 4 2018

https://mcc.nic.in/UGCounselling /home/homepage

18. Ministry of Human Resource Development [MHRD]. (2012). Results of High School and Higher Secondary Examination, Government of India, Board of Planning, Monitoring & Statistics, Report on 2010,Retrieved on June 25 2018 from mhrd.gov.in/.../mhrd/files /statistics/ExamResults2010_0.pdf

19. MHRD. (2014). Selected Information on school education 2011-12, GOI, MHRD, Bureau of Planning, Monitoring and statistics, Statistics Division, New Delhi Retrieved on May 15 2018 from http://mhrd.gov.in/sites/upload_files/mhrd/files/statistics/SISH201112.pdf

20. MHRD. (2016). Educational Statistics at a glance, Government of India, Department of School Education and Literacy, New Delhi Retrieved on May 15 2018 from http://mhrd.gov.in/ sites/upload_files/mhrd/files/statistics/ESG2016_0.pdf

21. National Council of Educational Research and Training [NCERT]. (2005). National Curriculum Framework 2005, Retrieved on May 15 2018 from http://www.ncert.nic.in/rightside/links/pdf/framework/ english/nf2005.pdf

22. Nordic . (2006). The System of Education in India, Nordic Recognition Information Centres, Retrieved on October 17 2018 from https://norric.org/ files/education-systems/India-2006.pdf

23. Press Information Bureau [PIB]. (2014). Status of Reservation of OBC in various states, Retrieved on May 14 2018 from http://pib.nic.in /newsite/PrintRelease.aspx?relid=108754

24. Quality Council of India [QCI]. (2017). Final Report on Quality in School Education for Quality Council of India – New Delhi, Institutes for studies in Industrial Development, Retrieved on October 10 2017 from
http://www.qcin.org/PDF/Comman/Quality-in-School-Education.pdf

25. Sarkar, T.P. (2012). Assessment in Education in India, SA-eDUC Journal, Volume 9, Number 2 Retrieved on May 15 2018 from http://www.nwu.ac.za/files/files/p-saeduc/New_Folder_1/1_ Assessment%2520in%2520Education%2520in%2520India.pdf

26. Sriram College of Commerce [SRCC]. (2018). Admission 2018-19, Retrieved on August 4 2018 http://www.srcc.edu/admission-2018-19

27. Tamil Nadu Agricultural University [TNAU]. (2018). Undergraduate Admissions 2018-19, Information Brochure, Retrieved on August 4 2018 from http://www.tnau.ac.in/files/UG_Admission_Brochure _2018 .pdf

28. Tamil Nadu Curricular Framework [TNCF]. (2017). Development of Curriculum for School Education – TNCF 2017, The path travelled, Retrieved on May 15 2018 from www.tnscert.org /webapp2/files /The%20Path%20Travelled.pdf

29. Tata Institute of Social Sciences [TISS]. (2018), Reservation policy under Admissions 2018, Retrieved on May 12 2018 from https://admissions.tiss.edu/view/6/admissions/reservations /reservation-policy/

30. Tilak BG J. (2017) Union-State Relations in India's Higher Education, Occasional Paper 50, National University of Educational Planning and Administration (Unpublished), Retrieved on August 4 2018 from http://www.nuepa.org/New/OCASSIONAL%20 PAPERS.aspx

31. Tilak BG J. and Biswal, K. (2015) The transition to Higher Education in India, a part of report from The Transition from Secondary Education to Higher Education, Case Studies from Asia and the Pacific, UNESCO, pp 47-66

Prof. A. Krishnamoorthy has three decades of experience in engineering education. He is currently employed at SASTRA Deemed University. He is passionate about the studies on optimization techniques, machine design, renewable energy sources and higher education systems.

Prof. H. Srimathi has two decades of experience in higher education and services. She is employed at SRM Institute of Science and Technology since 1999 and served in various domains such as academics and administration. She is passionate about the studies on higher education systems, qualification framework, and academic mobility.