NBA and NAAC Accreditation of UG Engineering Programmes/Colleges in India: A Review

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Abstract

As of 2015, India has over 4000 engineering colleges in various states which include IITs, NITs, Central Universities departments, State Universities departments, constituent colleges, affiliated institutions, Government Aided Institutions, Institutes under Private Universities, Institutes under State Universities, and Autonomous Institutions. Of late the quality of engineering graduates passing out of private engineering institutions has degraded to the extent that majority of them are unemployable. Due to outburst in quantity of engineering institutions, the quality of institutions has taken a beating and even institutes of national importance like IITs, NITs are suffering for want of qualified and experienced faculties in various departments. Government of India, Ministry of Human Resource Development has established NAAC under UGC and NBA under AICTE in 1994 to look into the quality aspects of HEI and undertake accreditation of the HEI. Engineering institutions can go for NAAC accreditation for institution as well as NBA accreditation for individual programmes. Due to implementation of RUSA which shall be funding the HEI, and the mandatory clause imposed by NBA of accreditation for capacity enhancement etc, these engineering institutions are clamoring for accreditation for its associated benefits from UGC and other funding agencies. Moreover NBA accreditation is a prerequisite for the technical institutions to seek autonomous status from university/UGC. This paper studies the commonalities and differences between NBA and NAAC accreditation for engineering institutions in India

Keywords: *Accreditation,* AICTE*, Engineering Institutions HEI, IQAC, NAAC, NBA, SAR, SSR*

1. Introduction

India currently is second largest populous nation in the world, second largest educational system in the world and five years down the line shall be the single largest populous nation leaving behind China. Demographically too India is a nation of young persons with two thirds of population below 35 years of age and should leverage from this to emerge as a superpower and get into the comity of developed nations. Presently as on 2015 no Indian Institution is in top 100 world Class University ranking as most of the institutions are only engaged in teaching. There is no much quality research, consultancy and industry interaction and majority of private institutes clamor for more branches and more seats. Government of India has been giving focus to education sector and had come out with Sarva Shiksha Abiyan and thereafter Madhyamik Shiksha Abhiyan. After the success of these two abhiyans in 2013 (The National Higher Education Mission) Rashtraiya Ucchatar Shiksha Abhiyan (RUSA) has been put into force to improve the quality of higher education institutes (HEI) in India. Universities as well as institutions are covered under RUSA and the minimum eligibility to get grants is accreditation. Mushrooming of engineering institutions for the sake of encashing on the growing aspirations of the citizens has led to severe deterioration in the quality of teaching learning process over the years. Quality is not an event; it's a continuous process and a relentless pursuit to achieve academic excellence. It's an ongoing, dynamic and lifelong endeavour of an institution. India has one of the largest and diverse education systems, in the world. Privatization, widespread expansion, increased autonomy and introduction of programs in new and emerging areas has improved access to higher education. At the same time it also led to widespread concern on the quality and relevance of the higher education.

Indian economy as well as the global economy has undergone change from being agriculture oriented to manufacturing and now is dominated by the service sector which not only is the major contributor to the economy but also having considerable employment potential and growing. Service sector like IT, BT, BPO,

R&D, Consulting, Media, Insurance, Banking, Knowledge management, Internet of things big data, data analytics has lot of potential for employment of young engineering graduates. Today we live in an era of digital communication and crores of young people are used to it. Change is not only permanent but also happening rapidly in the fast paced world. Business environments are fast changing and the engineers need to understand it and stay relevant to be on the top. Operational excellence, skilling oneself, innovation, being future ready by picking up the trends, improve competence and capabilities are needed to be in the ecosystem.

According to reports by NASSCOM less than 25% of our 10 lakh odd engineering graduates passing out annually are employable and as such there is a dire need to improve the quality of graduating engineers. Accreditation is the formal recognition of an educational institution or a degree programme by an external independent authorized agency based on well defined and documented criteria and standards.

Government of India has ventured into many ambitious projects such as 100 Smart Cities, Make in India programme, Start Up India, national Solar Mission etc and as such there is great need of engineers to undertake and manage these programmes.

2. National Board of Accreditation (NBA) was established by AICTE in 1994 and became an independent body in 2010 and in 2014 India has become permanent signatory to the Washington Accord (WA) which recognizes global equivalence of engineering degrees. NBA accredited Tier I engineering institutions degrees are now valid in 20 nations. NAAC certifies institutions whereas NBA accredits the programmes run by the institutions. NBA is more specific that it expects that the graduating engineers should have the graduate attributes as defined in Washington accord. It can happen that an institute may have a mix of excellent programmes as well as some average programmes. And students are unable to differentiate between the departments if the institute is accredited by NAAC but NBA accredited programme means that the said programme meets all the ten criteria's and thus is very specific.

2.1 NAAC: National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous institution of the University Grants Commission (UGC). NAAC as on Dec 2014 has accredited 192 universities and 5627 colleges in India. NAAC methodology for Assessment and Accreditation (A&A) is very much similar to that followed by Quality Assurance agencies across the world and consists of self-assessment by the institution and external peer assessment by NAAC.

Table 1 Various Criteria for NAAC accreditation

Criteria	NAAC	Sub Criteria Marks	Criteria Marks
1.0	**Curricular Aspects**		
1.1	Curriculum Planning and Implementation	20	100
1.2	Academic flexibility	30	
1.3	Curriculum Enrichment	30	
1.4	Feedback System	20	
2.0	**Teaching Learning and Evaluation**		
2.1	Student Enrolment and Profile	30	
2.2	Catering to Student Diversity	50	
2.3	Teaching-Learning Process	100	350
2.4	Teacher Quality	80	
2.5	Evaluation Process and Reforms	50	
2.6	Student Performance and Learning Outcomes	40	
3.0	**Research Consultancy and Extension**		
3.1	Promotion of Research	20	
3.2	Resource Mobilsation for Research	10	
3.3	Research Facilities	10	
3.4	Research Publications and Awards	20	150
3.5	Consultancy	10	
3.6	Extension Activities and Institute Social Responsibility	10	
3.7	Collaborations	20	
4.0	**Infrastructure and Learning Resources**		
4.1	Physical Facilities	30	
4.2	Library as a learning resource	20	100
4.3	I T infrastructure	30	
4.4	Maintenance of facilities	20	
5.0	**Student Support and Progression**		
5.1	Student Mentoring and Support	50	
5.2	Student Progression	30	100
5.3	Student Participation and Activities	20	
6.0	**Governance, Leadership and Management**		
6.1	Institutional Vision and Leadership	10	
6.2	Strategy Development and Deployment	10	
6.3	Faculty Empowerment strategies	30	100
6.4	Financial Management and Resource Mobilisation	20	
6.5	Internal Quality Assurance system (IQAS)	30	
7.0	**Innovation and best Practices**		
7.1	Environment Consciousness	30	
7.2	Innovations	30	100
7.3	Best Practices	40	
	Total		1000

NAAC expects HEI to have Quality initiative, Quality sustenance and Quality enhancement. Self-evaluation in the process of A&A promoting objectivity, self-analysis, reflection and professionalism on the part of HEIs. The self- evaluation proforma of NAAC provided as "manuals for self study" maps out different inputs, processes and outputs and facilitates HEIs to evaluate their strengths, weaknesses and areas for improvement. The self-evaluation process and the subsequent preparation of the Self-Study Report (SSR) to be submitted to NAAC involves the participation of all the stakeholders –management, faculty members, administrative staff, students, parents, employers, community and alumni. Overall it is expected to serve as a catalyst for institutional self-improvement, promote innovation and strengthen the urge to excel.
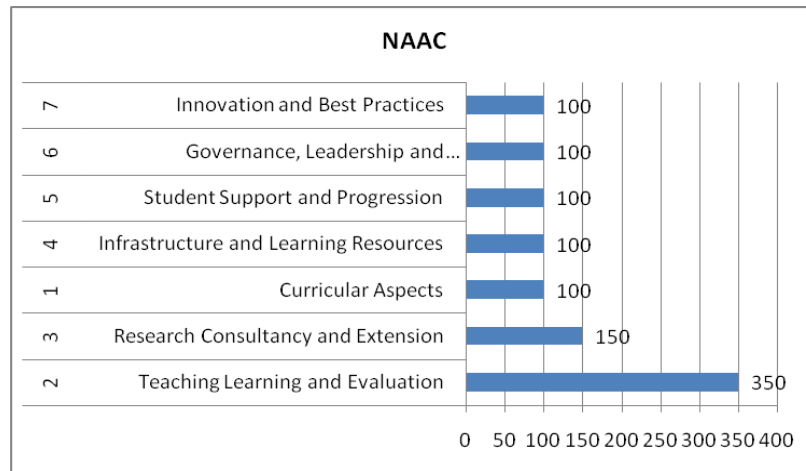
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Figure 1 Seven Criteria's for NAAC accreditation with marks (arranged in ascending order)

Figure No 1 indicates the absolute marks of the various criteria have to secure NAAC accreditation. The largest criterion is the teaching learning process having 350 marks. Focus is given to academics to ensure good learning takes place. Research and Consultancy is offered the second place with 150 marks. Research, consultancy shall ensure better interaction with real world by the faculty so that they keep updating themselves to the requirements of external world. Rest five criteria's have been allocated 100 marks each and thus have equal weightage.
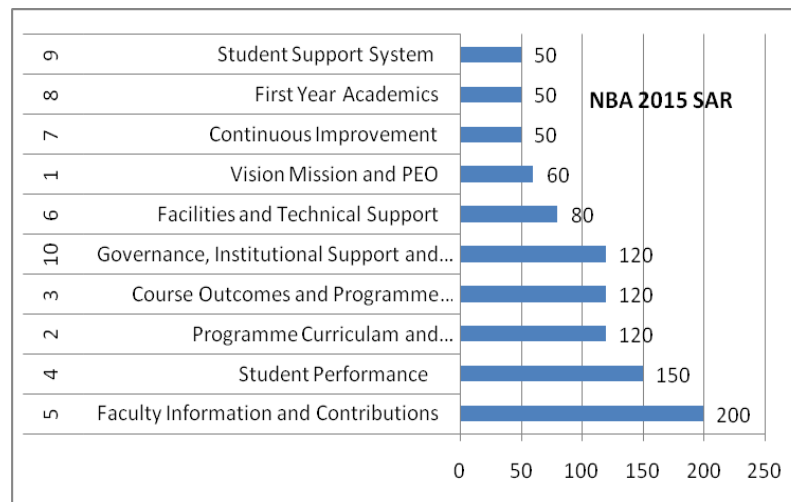

Figure 2 Ten Criteria's for NBA accreditation with marks (arranged in ascending order)

Figure No 2 indicates the absolute marks of the various criteria have to secure NBA accreditation. The largest criterion is the faculty information and contributions having 200 marks. Focus is given to faculty to ensure good qualifications and contributions of faculty takes place. This criterion does include Research, Publications, and Consultancy. Research, consultancy shall ensure better interaction with real world by the faculty so that they keep updating themselves to the requirements of external world. Student's performance is offered the second place with 150 marks. Here the performance of students in second year, third year and final year is considered.

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Two indices which give the students performance are the student success rate and the academic performance
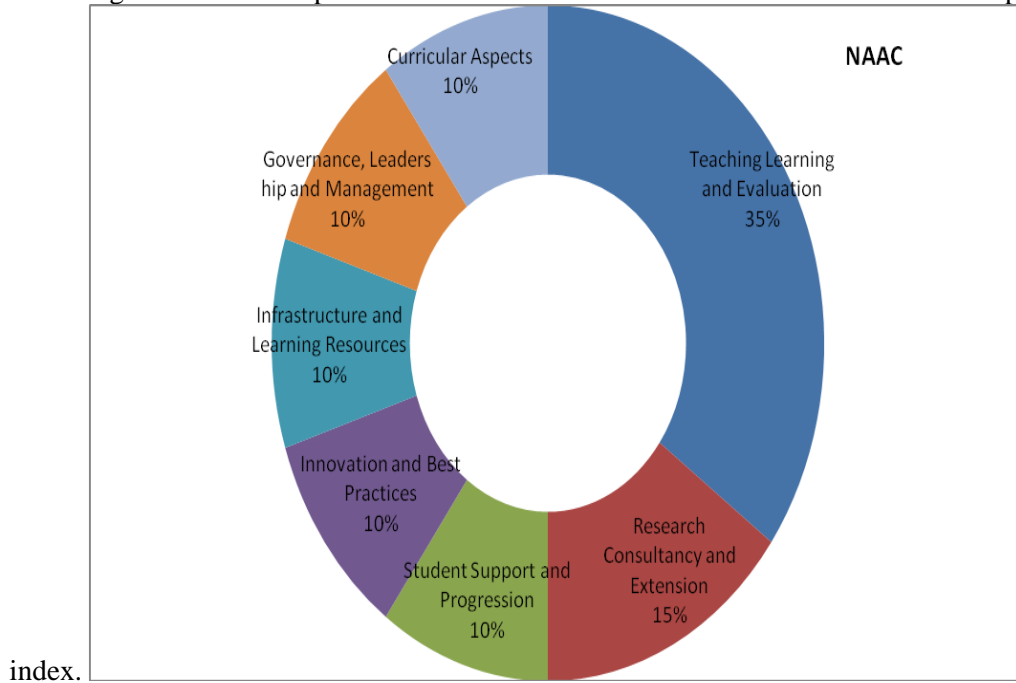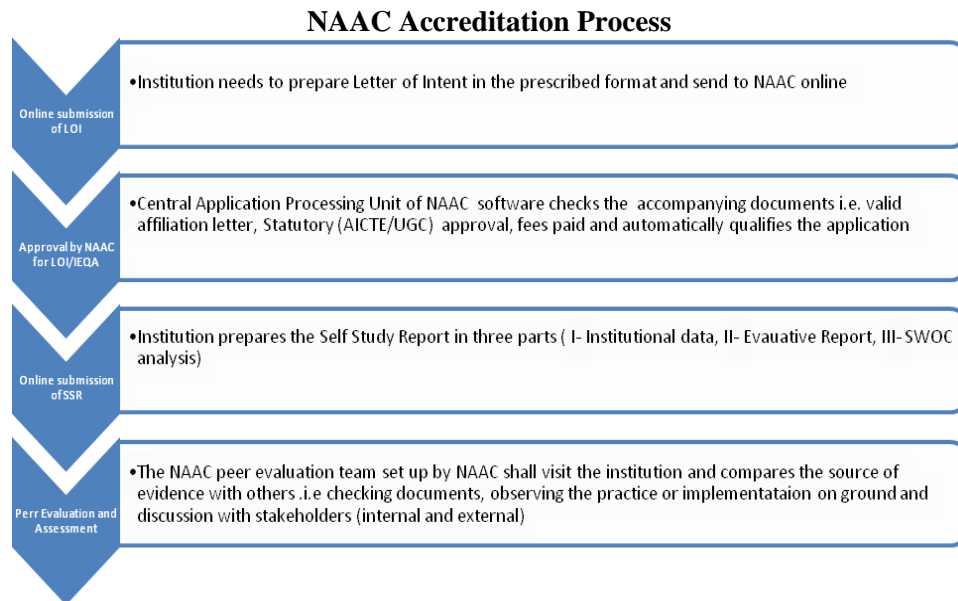

index.

Figure 3 Seven Criteria's for NAAC accreditation and their % marks (arranged % wise)

Figure No 3 indicates the percentage marks of the various criteria's to secure NAAC accreditation. The largest criterion is the teaching learning process having 35% share. Focus is given to academics to ensure good learning takes place. Research and Consultancy is offered the second place with 15% marks. Research, consultancy shall ensure better interaction with real world by the faculty so that they keep updating themselves to the requirements of external world. Rest five criteria's have been allocated 10% marks each and thus have equal weightage.
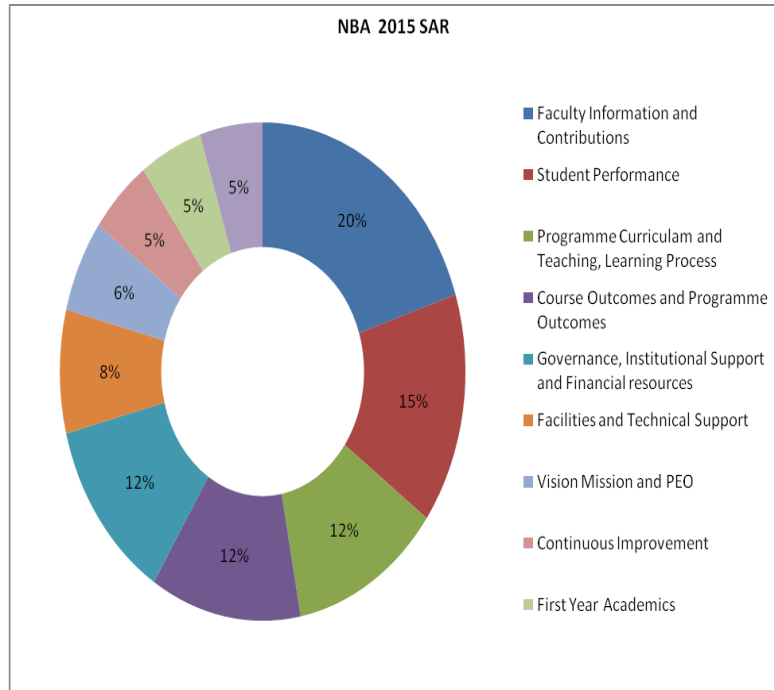
NAAC Accreditation Process

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Figure 4 Ten Criteria's for NBA accreditation and their % marks (arranged % wise)

Figure No 4 indicates the percentage marks of the various criteria's to secure NBA accreditation. The largest criterion is the faculty information and contributions having 20% share. Focus is given to faculty to ensure good qualifications and contributions of faculty takes place. This criterion does include Research, Publications, and Consultancy. . Research, consultancy shall ensure better interaction with real world by the faculty so that they keep updating themselves to the requirements of external world. Student's performance is offered the second place with 15% marks
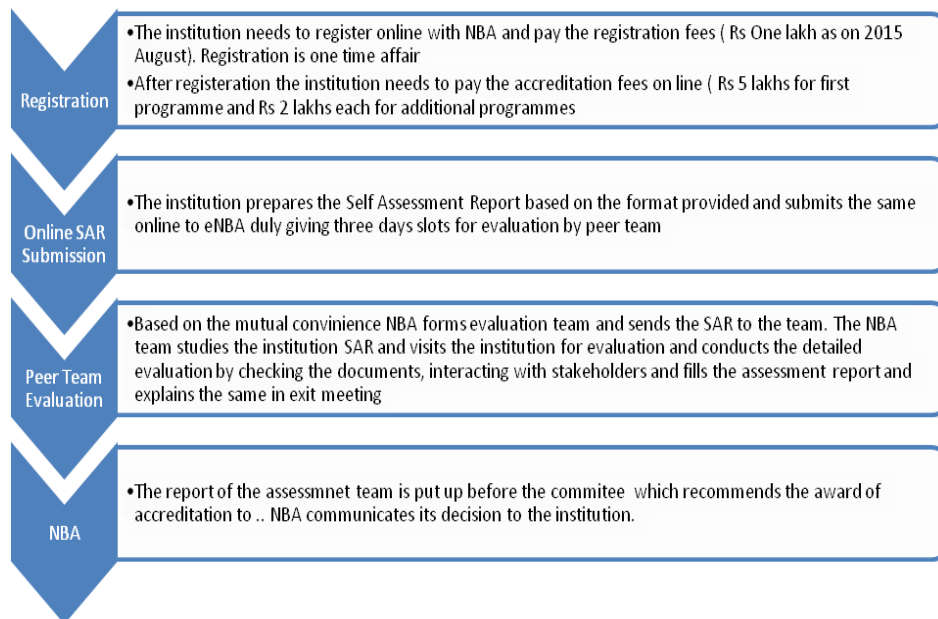
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Table 2 Comparison of NAAC and NBA accreditation

Sl. No	Point	NAAC	NBA:2015 Tier II
1	Self assessment	Yes Self Study Report (SSR)	Yes, Self Assessment Report (SAR)
2	Total Points	1000	1000
3	Criteria for evaluation Sub Criteria	Seven Thirty Two	Ten Eighty One
4	Evaluation Scale	Out of 4, i.e. 1,2,3,4 per sub criteria Then calculated for each Criteria	Points awarded based on calculations as per SAR
5	Evaluation Institute Level	1000 points Criteria GPA Institutional Cumulative GPA	220 points: Institute level 780 Programe level
6	IQAC	Must	Optional
7	Accreditation	Institute Level	Programme Level
8	Vision Mission and PEO	No Marks	Evaluated for 60 points
9	Supporting Records	Must	Must
10	Accreditation Officials	Chairperson plus 2 or 3 members and a NAAC official	Chairman plus 2 evaluators per programme
11	Records i.e. files generated	Comparatively Less	Comparatively More
12	Records	Majority One Year Current Year	Three Years i.e. CAY, CAYm1 and CAY m2
13	Qualifying Marks	1.51 -2.00 Satisfactory C Grade, 2.01 -3.00 Good B Grade, 3.01- 4.00 Very Good A Grade	No Grading, Only 3 Years or 5 Years
14	Validity of accreditation	5 years fixed	5 years if programme secures 750 points or else 2 years if points >600 but < 750
15	Eligibility Criteria for HEI	Min 2 batches of students graduated	Min 2 batches of students graduated
16	Evaluation	The sum total of marks in all the criteria's are considered finally	Under all criteria the institution should qualify with 60% marks
17	Registration Fees	Rs 25,000 + Service Tax (ST)	Rs 1 lakh + ST
18	Evaluation Fess	Based on number of departments Rs 3 Lakhs + ST for 1 to 10 depts. Rs 6 Lakhs + ST for 11 or more	Rs 5 lakh + ST for first programme and Rs 2 lakh per additional programme
19	Accreditation for	Entire College, Institute, University	Programme certification

Appointment of well qualified faculty with a flair for teaching as a career, regular soft skills training of students from the first year, periodical training of all faculty, setting questions that encourage an inquisitive, innovative mind, strict evaluation of answer booklets in internal and external examinations, good relevant project works, serious practical classes with useful experiments', overall academic and administrative discipline are the need of the hour to achieve accreditation. Institutes need to align with students and be student centric.

Conclusions:

Both NBA and NAAC have aggressively taken up their activity of accreditation and have established open and transparent system of evaluation. They have continually updated and improved upon their accreditation process over time. The Self study Report of NAAC is similar to the Self Assessment Report of NBA which cover the various criteria's and their marks. SSR is user friendly as it has the questions which the institutes need to reply appropriately and precisely. Both in institutions expect the HEI to study their processes, prepare SAR/SSR and come out with their strengths, weakness, opportunities and challenges. NBA accreditation for engineering institutions is more objective in nature as it has ten different criteria's and points are awarded for all the 81 subcriterias and the institution needs to qualify not only in totality but individually for 8 the 10 listed criteria's (except criteria no. 2 and 3) . Moreover NBA accreditation includes mapping and use of rubrics which is not called for in NAAC A&A process. Hence available statistics reveal more number of engineering institutions preferring NAAC A & A rather than NBA for accreditation.

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