ROLE OF WASHINGTON ACCORD ON ACCREDITATION

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Abstract:

Accreditation is an important part of quality assurance for institutions imparting higher education, particularly in engineering education. Recognising this need, National Board of Accreditation (NBA) and National Assessment and Accreditation Council (NACC) were established by the Ministry of Human Resource Development (MHRD) and the University Grants Commission (UGC), respectively. Both provide methods for external review of overall quality of academic programmes and institutions. Of late it has become more relevant and pertinent in the light of massive expansion of educational systems in India. The role of various accords is significant in assessing the quality of education in comparison with international standard. The lecture will highlight the importance of Washington Accord in relation to professional engineering programmes whose duration is normally of four years and the method of review of academic programmes by NBA for the purpose of accreditation.

Introduction:

There are several international agreements governing mutual recognition of engineering qualifications and professional competence. In each of the agreements countries who wish to participate may apply for membership, and if accepted become members or signatories to the agreement. In a broad principle, each country must meet its own costs, and body making application must verify that it is the appropriate representative body for that country.

Agreements covering tertiary qualifications in Engineering:

There are three agreements covering mutual recognition in respect of tertiary level of qualifications in engineering. These are all recent accords.

- The Washington Accord signed in 1989 first- it recognises substantial equivalence in the accreditation of qualifications in professional engineering, normally of four years of duration.
- The Sydney Accord signed in 2001 and recognises substantial equivalence in the accreditation of qualifications in engineering technology normally of three years of duration.
- The Dublin Accord is an agreement for substantial equivalence in the accreditation of tertiary qualifications in technician engineering, normally of two years duration and it commenced in 2002.

Agreements covering competence standards for practising engineers:
For Washington Accord Graduates, apply knowledge of Mathematics, Science and Engineering fundamentals and Engineering specialization to the solution of complex engineering problems.

The Basics

- Accreditation assures quality.
- It is a peer review process that assures the quality of postsecondary education students receive. Educational institutions or programmes volunteer to undergo this review periodically to determine if certain criteria are being met.
- It is important to understand that accreditation is not a ranking system. It is simply assurance that a programme or institution meets established quality standards.
- There are two types of accreditation- Institutional and Specialized.
- Institutional accreditation evaluates overall institutional quality. One form of institutional accreditation is regional accreditation of colleges and Universities.
- Specialized accreditation examines specific programmes of study rather than institution as a whole.
- This type of accreditation is granted to specific programme at specific level.

There are 13 signatories (Australia, Canada, Chinese Taipei, Hong Kong China, Ireland, Japan, Korea, Malaysia, New Zealand, Singapore, UK and USA), who have full rights of participation to Accord. Organisation in India is holding provisional status. India is represented by National Board of Accreditation (NBA), MHRD, Govt. of India, New Delhi. The NBA is an aspirant for full participation.

Accreditation Board of Engineering and Technology (ABET) is one of the leading international accreditation agencies who has set standard for the purpose. In India NBA, who examines specific programmes whereas National Assessment and Accreditation Council (NAAC) and UGC evaluate institutional quality.

At present accreditation in India is voluntary; however mandatory accreditation is likely to make engineering education system in the country to become a part of the global quality assurance system. This would require a huge number of competent and reliable agencies or bodies, like NBA.

Who sets the ABET/NBA/NAAC quality standards?
The standards must meet academic quality specified by the appropriate statutory authority. These are set by board professionals themselves. This is possible by the joint efforts of many eminent professionals, technical societies and industry representatives.

Why is accreditation important?

- Accreditation helps prospective students and their parents choose quality college programmes.
- Accreditation enables employers to recruit graduates they know are well prepared.
- Accreditation gives colleges and universities a structured mechanism to assess, evaluate and improve the quality of their programmes.
- Accreditation benefits society as a whole.

NBA Accreditation:

NBA follows the procedure for accreditation as outlined below:

Procedure and Evaluation Guidelines:

There are 8 parameters having maximum 1000 points.

Parameters:

1. Organization and Governance, Resources, Institutional support, Development and Planning (150).
    - Minimum qualifying points-100.
2. Evaluation and Teaching-Learning Process (175).
    - Minimum qualifying Points-115.
    - {Based on past three years' record}.
3. Students' entry and outputs (150).
    - Minimum qualifying Points-100.
    - {Based on past three years' record}.
4. Faculty Contributions (150).
    - Minimum qualifying Points-100.
    - {Based on past three years' record}.
5. Facilities and Technical Support (75).
6. Continuous Improvements (75).
7. Curriculum (125).
8. Programme Educational Objectives (PEOs) - their compliance and outcomes (100).

The PEOs require elaborations. The educational objectives of a programme are the statements that describe the expected achievements of graduates within first few years of their graduation from the programme. The programme objectives may be guided by global or local needs, the vision of the institution, long term goals etc. For defining the programme objectives the faculty members of the programme must continuously work with local employers, industry and R&D advisors and the alumni. The **objectives** of the programme can be broadly defined on five categories.

1. ***Preparation***: To prepare students to excel in postgraduate programmes or to succeed

in industry/technical profession through global, rigorous education.

2. ***Core Competence***: To provide students with a solid foundation in Mathematical, Scientific and Engineering fundamentals require to solve engineering problems and also to pursue higher studies.
3. ***Breadth***: To train students with good scientific and engineering breadth so as to comprehend, analyze, design and create novel products and solution for the real life problems.
4. ***Professionalism***: To inculcate in students professional and ethical attitude, effective communication skills, teamwork skills, multidisciplinary approach and ability to relate engineering issues to broader social context.
5. ***Learning Environment***: To provide a student with an academic environment aware of excellence, leadership, written ethical codes and guidelines and the life-long learning needed for a successful professional career.

Programmes outcomes: The outcomes essentially indicate what a student can do from subject-wise knowledge acquired while undergoing the programme. Generally, the engineering programmes must demonstrate their graduates have following capabilities:

Graduate will demonstrate

- Knowledge of mathematics, science and engineering.
- An ability to identify, formulate and solve engineering problems.
- An ability to design a system, component or process as per needs and specifications.
- An ability to design and conduct experiments, analyze and interpret data.
- An ability to visualize and work on laboratory and multidisciplinary tasks.
- Skills to use modern engineering tools, software and equipment to analyze the problem.
- Knowledge of professional and ethical responsibilities.
- Be able to communicate effectively in verbal and written form.
- Show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues.
- Develop confidence for self education and ability for life-long learning.
- Who can participate and succeed in competitive examinations.

Accreditation Criteria:

1. The programme gets the status "**Accredited**" for next **5 years** from the date of issue of the letter from NBA, if it gets minimum score of **750** points and scores minimum qualifying marks in parameters specified above.
2. The Programme gets status "**Provisionally Accredited**" for next **2 years** from the date of issue of the letter from NBA, if it gets a minimum score of **600** points. The institution may apply after overcoming the weaknesses to upgrade the status to **Full Accreditation** of the Programme.

3. The Programme gets status "**Not Accredited**" if it gets the score less than **600.**

The institution who wishes to apply for NBA accreditation of its **programme(s)** is required to submit Self Assessment Report(SAR) online (website of NBA,**www.nba-india.org**) to NBA , New Delhi along with prescribed fee. The report should be duly signed by the Head of the institution. It contains mainly four parts.

Part 1: Institutional Summary for Parameters 1 and 2.
Part 2: Department and Programme Summary for Parameters 3 to 8.
Part 3: Curriculum and Syllabus for the degree programme along with the identified Programme Evaluation Objectives (PEOs).
Part 4: List of documents (Annexure 1) to be made available during the accreditation visit.

The visiting Chairman and subject experts (two for each programme) are provided with Formats for Evaluation Guidelines and Evaluation Report and filled-in SAR submitted by the institution concerned for evaluation. It is essential that team members strictly follow the time schedule during visit. Evaluators should clearly specify the strengths and weaknesses of programmes concerned giving an opportunity to remove the deficiencies listed in the report for upgradation. The detailed visit schedule (Annexure 2) has also to be enclosed along with the report of chairman.

Summary and Conclusions:

The success of accreditation very much depends upon the competence, sincerity and integrity of the chairmen and experts. The NBA draws its persons from senior academicians from all over India as experts to undertake accreditation work. The NBA has panel of chairmen and experts, who are professors and directors of IITs, NITs, Govt. engineering colleges and renowned Universities in the country. Some experts are also from research laboratories and industries. The NBA conducts workshops for experts time to time to familiar with the evaluation method. Each team member has to give an undertaking that he will have to adhere to all norms of code of conduct and ethical standards as provided by NBA. Any such violation will result in exclusion of the member concerned from NBA activities.

ANNEXURE-1

(List of documents/records to be made available during the visit.)

Institute specific:

1) Land papers, built-in plan and approval etc.
2) Composition of GC/GB, Senate and other academic and administrative bodies, their functions and responsibilities. List of all meetings held in the past three years along with attendance records. Representative minutes and action-taken reports of a few meetings of such bodies along with the list of current faculty members who are members of such bodies.
3) Rules, policies and procedures published by the institution including service book and academic regulations and other along with the proof that the employees/students are aware of the rules and procedures.
4) Recruitment procedure of faculty and staff.
5) Budgeted allocation and utilization. Audited statement of accounts.
6) Library resources-books and journal holdings.
7) Listing of core, computing and manufacturing etc., labs.
8) Records of T&P and career & guidance cells.
9) Records of safety checks and critical installations.
10) Medical care records and usages of ambulance etc.
11) Academic calendar and schedule of tutorial and make up classes.
12) Set of question papers, assignments and evaluation scheme.
13) Feedback proforma, analysis and corrective actions.
14) Documented feedback received from the stake-holders of the institute.
15) List of faculty who teach first year courses along with their qualifications.
16) First year results.

Programme specific:

1) NBA Accreditation reports of the past visits, if any.
2) Department Budget and allocations of the past 3 years.
3) Admission-seats filled and ranks (3 years data).
4) List/number of students who clear the programme in 4 years (3 years data).
5) Average grade point (CGPA) (3 y data of students CGPA/percentage).
6) Placement and higher studies data (3 y data).
7) Professional society activities, events, conferences organized etc.
8) List of students' papers along with hard copies of the publications, professional society publications/magazines etc.
9) Sample best and average project reports/theses.
10) Details of faculty student ratio.
11) Faculty details with their service books, salary details, sample appointment letters,

promotion and award letters/certificates.

12) Faculty list with designation, qualification, joining date, publications, R&D, interaction details.
13) List of faculty publications/citations details.
14) List of R&D and consultancy projects along with approvals and project completion reports.
15) List and proofs of faculty interaction with outside world.
16) List of class rooms and faculty rooms.
17) List of programme specific labs & computing facility within dept.
18) List of non-teaching staff with their appointment letters.
19) List of short-term courses, workshops arranged and course module developed
20) Records of new programme specific facility created, if any.
21) Records of specific programme improvements, if any.
22) Curriculum, PEO/Course objectives and outcomes.
23) Known gaps in the curriculum vis-a-vis PEOs and outcomes.
24) List of contents beyond syllabi and schedule of academic calendar, if any.
25) Course file, plan of course delivery, question papers, assignments, list of experiments etc.

ANNEXURE 2

(Tentative visit schedule)

DAY I

09:30-09-45 hr :	Meeting of the team members at the Institute.
09:45-10:00 hr :	Meeting with management of the institution.
10:00-11:00 hr :	Presentation of activities of the institution by the Principal/Director
11:00-13:30 hr :	Visit to central facilities—central library, central computer centre, Workshop, Physics, Chemistry labs., Medical facility, Canteen Facility, Students' hostels, Sports facility, T&P facility.
13:30-14:00 hr:	Lunch break.
14:00-16:00 hr:	Visit to Departments by experts (Chairman will check the documents).
16:00-16:30 hr:	Meeting with students.
16:30-17:00 hr:	Meeting with staff.
17:00-17:30 hr :	Meeting with faculty.
19:00-20:30 hr:	Meeting of the team members at the hotel.

DAY II

09:00-13:30 hr:	Visit to Departments by experts (Chairman may interact separately with a group of final year students and selected faculty members and may visit selected Departments).
13:30-14:00 hr:	Lunch break.

14:00-15:30 hr :	Meeting with employers, parents and alumni.
15:30-17:30 hr:	Meeting of the team members at the institute.
19:00-20:30 hr:	Finalization of reports at the hotel.

DAYIII

10:00-11:00 hr :	Exit meeting (to inform the institute authorities by the chairman on the Strengths and Weaknesses of the programmes under review, on hearing him the institute may wish to withdraw specific programme(s) from the Accreditation process, this has to be given in writing by the Head of the Institution in the presence of other experts) at the institute/hotel.

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