

**PLANNING COMMISSION SUB-COMMITTEE**

**ON**

**IMPROVEMENT IN ACCREDITATION  
AND  
CERTIFICATION SYSTEMS**

**REPORT AND RECOMMENDATIONS  
NEW DELHI**

**MAY 2009**

## FOREWORD

*Skills and knowledge are the driving forces of economic growth and social development in any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of globalization. Shortages have already emerged in a number of sectors in our country, which constitutes a major impediment to growth. However as India develops as a knowledge centric country and competes internationally, it is faced with the realization that our base of skilled and knowledge workers is commoditized and has much to learn. To address the emerging knowledge economy various measures have to be developed and executed in parallel.*

*An effective Education Ecosystem espousing quality standards is a key prerequisite for the socio-economic development of the country. For a national vision towards educational programmes, that encompass functional literacy, a globally employable workforce and world class infrastructure, to become a global hub of knowledge creation, it is essential to set standards for a value based learner-centric education. For such a scenario to become a reality, an independent accreditation system with consequences for non performance to set outcomes, gains importance, and is the need of the hour for shaping the future of the Indian educational ecosystem.*

*This document "Improvement in Accreditation and Certification System" addressing the Higher Education system in particular, describes the existing, vis-à-vis the required trends in accreditation of education in India, in conjunction with practices around the world. It focuses on the development of a comprehensive quality assurance strategy so as to enable both external and internal stakeholders viz. government, industry and society at large, to participate in outcomes based education programmes and the continuous total quality management of the same.*

*To bridge the gap regarding the aspirations of various stake holders, namely educational institutions, industry, government and students, this document also recommends the development of "Sector Skill Councils" to operate in conjunction with recommended national and state bodies as a comprehensive whole, towards excellence in learning, developing and maintaining quality standards, regarding the curricula espoused and various centres of learning. However as a way forward, for us to be successful in the implementation of the recommendations stated in this document it is critical for us to address the concept of 'Systems to Scale', with speed and efficiency, never compromising on the requisite quality.*

*I take this opportunity to compliment the members of the Sub-Committee and the co-opted members for contributing towards the development of this recommendations document, 'Improvement in Accreditation and Certification System', under the aegis of the Planning Commission, Government of India. I must place on record my sincere gratitude and admiration for the painstaking research and innovative conceptualization of the proposed framework done by the author Dr Sandhya Chintala, Director Education, NASSCOM for this thought provoking document.*

*A special note of appreciation goes to Col I S Gahlaut, Director, Confederation of Indian Industry, Mr. Amar Jit Banga, Director, Ministry of Rural Development, Mrs. Gurpreet Kaur, Principal, Apparel Export Promotion Council and Ms Nirupama Soundarajan, Research Associate, ICRIER for their invaluable contribution.*

*I am confident that the recommendations will be adopted in its full spirit thus helping the Indian Higher Education System be dynamic to respond to the changing local and global requirements, going beyond attaining global standards by setting a new benchmark for others to follow.*

**Som Mittal**

**15<sup>th</sup> May 2009**

Chairman,

Sub-Committee on Improvement in Accreditation and Certification System

President, NASSCOM.

## EXECUTIVE SUMMARY

In the light of the existing higher education system in the country, coupled with our desire to progressively move towards a 'Knowledge Economy', we urgently need to identify and map the required skills and competencies, bridging supply and demand in various high rise sectors that have been identified as areas for growth, in the short, medium and long term. The skills and competencies, developed in our human resource via our various educational institutions and sometimes through work life experiences do not match industry expectations or standards, both in the national and or international arenas.

Global standards are of great relevance, especially as India has a demographic advantage that will be able to contribute, if effectively nurtured and strategized to reap rich dividends, to the tune of 47 million a potential labour surplus available to the world by 2020 (US Census Bureau,BCG,2002-2003). However, "this advantage can only be realized if we expand opportunities for our youth on a massive scale and in diverse fields of basic science, engineering and technology, health care, architecture, management etc." (Source:11<sup>th</sup> Five Year Plan). Nonetheless, equity and access to quality education is the key enabler, if the above statement has to see the light of day.

As mentioned in the 11th Five year Plan, with reference to Education, India has 378 Universities and 18,064 colleges (UGC-NAAC-2007). However, of the lot, to date, only 140 Universities and 3492 colleges have been accredited by NAAC (National Accreditation and Assessment Council) and only 9% of the colleges and 31% of the universities are rated as 'A' grade ( Source:UGC-NAAC-2007).

The only programme/course/curriculum accreditation available, falls under the preview of NBA (National Board of Accreditation), which is a part of AICTE (All India Council of Technical Education). Courses in colleges of Engineering, Architecture, Pharmacy, and Management are to be recognized and accredited by NBA. Out of a probable 25,000 courses in these areas, so far only 1924 programs have been considered for accreditation (Source; 11th Five Year Plan).

However identifying, publishing, recognizing and maintaining the desired national and international quality standards regarding educational 'Outcomes', 'Process' and 'Inputs' for programmes/courses/ curricula and institutions calls for an effective 'Accreditation and Regulation' system, with multiple agencies outsourced for the same.

Accrediting programmes of learning and the institutions that deliver the same is an essential part of a quality assurance system regarding education. However as indicated, India has to learn to deal with the sheer magnitude of scale and yet maintain quality, constantly evolving to requirements. Though this report identifies with the virtues of voluntary institutional accreditation; it also emphasizes the advantages of accrediting a course/programme of study in the recommended new system and the disadvantages/unappealing consequences of not being accredited for the same. As per the report's recommendations 'Affiliation' to a University is not a prerequisite for accreditation (institution and or course) or for granting a degree. Once accredited (course and or institution) each educational institution should have the locus standing to exist on its own as a center of learning.

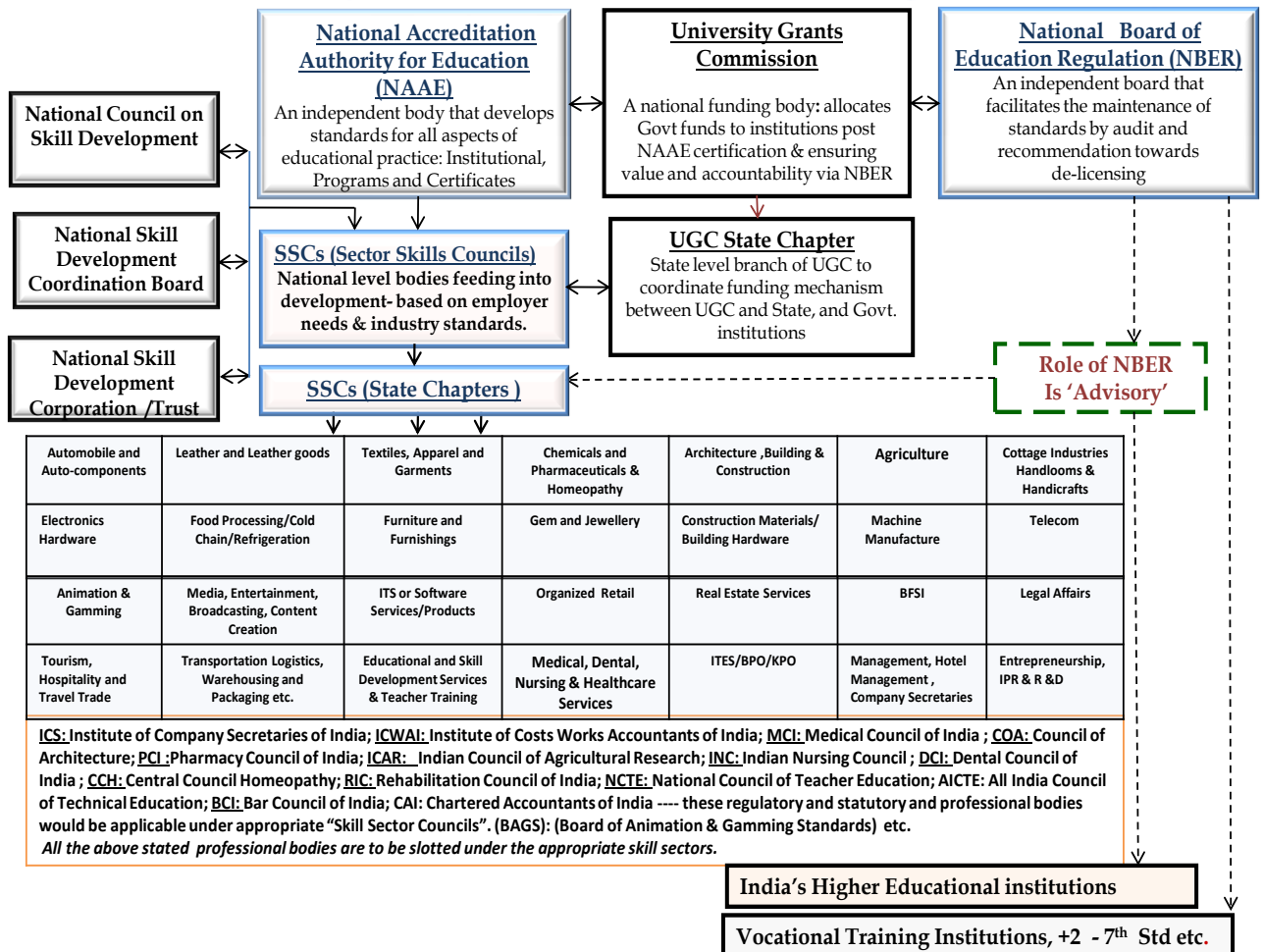
Though the focus of the recommendations in this report is for higher education it can be easily be adapted to accommodate vocational and other levels of learning. The Accreditation and Regulation/Audit framework suggested, is meant to encompass all levels of learning with an 'outcomes' based approach. The Sector Skill Councils indicated in this document are meant to accommodate all programmes and institutions of higher learning along with vocational education and training. As the outcomes of our higher education system is not dynamic and responsive to market needs to the desired extent, attention has to be focused on developing the appropriate inputs and process that can assure and ensure the desired quality outcomes.

This report prescribes and recommends the development of:

- An alternative framework that is dynamic in nature w.r.t. program/curriculum and institutional accreditation and a quality audit and ensuring process;
- An independent accreditation and regulation/audit system, including all the stakeholders concerned, in consideration of suitability, scalability and sustainability;
- Consequences of Accreditation and De-accreditation
- 'Sector Skill Councils' as the core of the independent accreditation and certification system, addressing an inclusive educational framework with consequences for non performance;
- Guidelines for an integrated outcomes based course/curriculum/program for the purpose of accreditation ;
- Guidelines for institutional accreditation;
- Norms for empanelling outsourced accreditation and regulation agencies for measurement, rating and ranking of institutions and programs/courses.

Given below is the recommended framework for an independent accreditation and regulation system, which espouses central and state chapters, which in turn empanels multiple accreditation and regulation agencies to address the requirement of scale, regarding performance measurement, rating and ranking of institutions and programs therein .This report caters mainly to the Higher Education platform and details within the above stated recommendations.

**Figure 1**  
**Proposed Structure of the New System**



Source: Adapted from NASSCOM-CII-ICRIER White Paper on Establishing Independent Accreditation & Regulation Systems

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**SECTION A**  
**ABOUT THE SUB-COMMITTEE**  
**&**  
**THE REPORT**



### 1.a. Sub Committee Terms of Reference (TORs)

The Government of India has established a National Skill Development Coordination Board (NSDCB) to review issues related to skill development in the country. In pursuance of the decision taken in the first meeting of NSDCB, held on 10<sup>th</sup> September 2008, it was decided to constitute among many, a Sub-Committee to examine issues regarding 'Improvement in Accreditation and Certification System' in the country.

The Sub-Committee constituted for the same, is to submit its recommendations, post deliberations, in consideration of the TORs as stated hereunder:

- Suggesting ways and means /mechanism for alternative framework for accreditation of
  - a. Institutional;
  - b. Curriculum;
- Suggesting ways and means /mechanism for alternative framework for certification of
  - a. Institutional;
  - b. Curriculum;
- Identify inhibitive factors for emergence of an alternative to AICTE/NCVT;
- Suggesting framework for rationalization in terms of curriculum, value of certification etc;
- Assessment of the extent of need for sectoral/regional accreditation and certification system;
- Suggest ways and means for establishing a sectoral credible accreditation system and a guidance framework for all accrediting agencies;
- Suggesting national framework for performance measurement and rating ,ranking of institutions;
- Frame sector specific informally acquired skills;
- Establishing linkages with ISO, accreditation and certification.

The members of the Sub-Committee so constituted along with some additions, on recommendation by the Chairman of the same, are:

S. No.	Name	Designation	Organization	Sub-Committee
1	Mr Som Mittal	President	NASSCOM	Chairperson
2	Mr. Amar Singh	Joint Secretary	Ministry of Rural Development	Member Secretary
4	Mr Sunjay Kothari	Joint Secretary,	Ministry of Tourism	Member
6	-	Joint Secretary	AICTE - Department of Higher Education	Member
7	Dr R.L. Singh	Director	Ministry of Labour & Employment	Member
9	Mr. I. S. Gahlaut ( in place of Col. Harmeet Singh Sethi)	Director	CII	Member representative

10	Mr. Bakshi ( in place of Dr Darlie Koshy)	Joint Director	Apparel Export Promotion Council	Member Representative
18	-	-	Representative of State Govt of Tamil Nadu	Member
19	Mr. Analjit t Singh	Managing Director	Max India Limited	Member
<b>Members Co-opted by the Chairman of the Sub-Committee and other Members</b>				
S. No.	Name	Designation	Organization	Sub-Committee
1	Mr. Amar Jit Banga	Director	Ministry of Rural Development	Co-opted Member
2	Mr. N. S. Bhuie	Director	National Council for Hotel Management	Co-opted Member
3	Dr. Sandhya Chintala	Director – Education Initiative	NASSCOM	Co-opted Member by the Chairman of the Sub-Committee
4	Mr. Vijay Kumar	Deputy Secretary	Ministry of Tourism	Co-opted Member
5	Mr. G. D. Gaur	Sr. Registrar (T&P)	Apparel Export Promotion Council	Co-opted Member
6	Mrs. Gurpreet Kaur	Principal	Apparel Export Promotion Council	Co-opted Member
7	Ms. Nidhi Rawat	Deputy Registrar / Principal	Apparel Export Promotion Council	Co-opted Member

### 1. b. About the Report

This report covers some recommendations, based on research findings and the experiences of the Sub-Committee regarding the present institutional and curriculum accreditation, regulation system and the certification of the same. The members of the Sub-Committee held discussions amongst themselves and a multitude of stakeholders from industry, academia and governments both national and international before penning these recommendations for a new system, which seamlessly emerges from the old.

Some of the contents of this document are extracted from the NASSCOM-CII-ICRIER White Paper on 'Establishing Independent Accreditation & Regulation Systems-Directions for Change', as the authors of that White Paper, Dr Sandhya Chintala, NASSCOM and Ms Nirupama Soundarajan, ICRIER supported by IG Gahlaut, CII have also played a defining role in the development of this recommendation report on 'Improvement on Accreditation and Certification System'. It is interesting to note that the new accreditation and certification system, reflected in the White Paper was developed as a collaborative effort by the members of this Sub-committee and the members of the NASSCOM-CII-ICRIER Task Force.

The findings on global accrediting systems mentioned in the White Paper on 'Establishing Independent Accreditation & Regulation Systems-Directions for Change' is used as a base point and for further recommendations mentioned in this document 'Improvement on Accreditation and Certification System'.

Suggestions from all stake holders coupled with exhaustive research has given rise to this customized recommendations document that seeks to address the issues of access and equity of quality education for all. The report has detailed a central structure for accreditation and regulation that covers all levels of learning. However the focus of the recommendations indicated herein is only with reference to the Higher Education (HE) system in India.

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**SECTION B**  
**BACKGROUND**

## **2. a. What is accreditation?**

Accreditation is normally a voluntary method of quality assurance used by education providers of all types serving all ages of students. Accreditation is seen as the finishing touch of the quality assurance system that engages the academic community in meeting high quality standards, implementing a continuous improvement process and engaging in quality assurance through internal and external review.

It is rightly stated that 'Accreditation' is the final point of a complex assessment process that cannot be understood apart from evaluation; it is rather the outcome of the evaluation procedure. It is the final formal decision, following a multi-step evaluation procedure and it is perceived as an added, normative element to evaluations.

Accreditation of educational institutions and programmes/curricula is an ongoing process, which ultimately is meant to nurture the development of the human resource that is globally adaptable to changing needs and standards.

## **2. b. Need for Accreditation?**

Globalisation has brought to the educational arena new issues not considered a few decades ago. These issues are related to the import and export of higher education as well as their connections with quality assurance. Accreditation, regulation and certification, on the one hand, are the usual way educational institutions assure quality and acquire recognition within their national and sometimes international boundaries.

The rapid growth of the knowledge economy brings risks and opportunities to higher education systems in India. Educational leaders and policy makers in India need to fully engage in all underpinnings of the internationalisation of educational services by taking the necessary provisions to maximise the benefits and to minimise the unwanted consequences.

Established universities in our country are facing ruthless competition from foreign higher education institutions that are trying to make themselves attractive to overseas students by offering greater professional prestige and better working opportunities in the global labour market than any local Indian institution.

For India to produce globally employable students we need an educational ecosystem to assure international quality and recognition. The adoptions of global quality standards by local institutions, as well as their commitment to internationalise their campuses are necessary steps to counterbalance the competition from such foreign universities towards the development of a world class workforce in India.

Hence accrediting educational programmes/curricula and institutions is mainly about workforce development that would be indirectly and directly responsible in building a sustainable future.

## **2. c. Accreditation in India - Present Status**

For over a decade pundits have been debating the nature of reforms that are mandated in the higher education system in India. Many issues pertaining to access, enrolment ratios and dropout rates have been emerging, and these issues the Government of India has been aiming to deal with by announcing the opening of many higher educational institutions<sup>1</sup>.

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<sup>1</sup> Refer to Annexure 7, Tables 1, 3 and 4 for growth in higher education institutions.

However there remains the problem of quality. Many reasons have been cited for the lack of quality in our educational institutions, such as inappropriate pedagogy, outdated curriculum, poor resources/infrastructure, inadequate connectivity and bandwidth, unavailability of blended learning processes, irrelevant assessments, the limited participation of the private sector etc. to name a few. Nevertheless, central to the issue is the lack of robust, independent accreditation and regulation systems that ensures the requisite performance to set quality standards, concerning both inputs (including processes) and outcomes of existing and new education institutions. The independent accreditation and regulation systems must also be able to address issues related to non compliance of quality performance norms, once accredited.

Higher educational institutions in India are of various kinds. They may be established by the centre, the state, or private providers. Apart from these, the central government also labels some, as institutions of 'national importance'. Such institutions have independent administrative, academic and financial systems.

Universities are funded privately, by the government or publicly. All colleges are affiliated with a university, and each university follows its own syllabus and examination system. Some colleges have only temporary affiliations since they do not meet the minimum infrastructure standards and many of them are not recognised by the UGC. However, these colleges continue to award degrees from the university.

The primary source of funding for institutions is the UGC. The UGC spends an insignificant amount of Rs 600 Crores on nearly 5500 institutions<sup>2</sup>. Most of these institutions receive only partial funding and the better part of this money is used to pay faculty salaries and pensions, leaving little money for infrastructure development. Moreover most institutions by rule are not teaching cum research institutions. As a result, the quality of higher education in India has suffered greatly<sup>3</sup>.

Most institutions, as pertinent, follow the board guidelines set by bodies like the All India Council for Technical Education (AICTE), UGC, National Board of Accreditation (NBA), and National Assessment and Accreditation Council (NAAC) i.e. several state and national professional councils and many affiliating universities also regulate the system, whose functions often overlap, thereby creating confusion and complexity.

The two principal quality monitoring bodies are NAAC established under the UGC and NBA set up under AICTE. It would be appropriate to broadly categorise that while NAAC mainly accredits institutions, NBA accredits professional courses<sup>4</sup>.

The NBA involves itself with the tedious task of accrediting professional courses. The NBA however limits itself to accrediting profession courses in the areas of:

- Engineering and Technology;
- Management;
- Architecture;
- Pharmacy;

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<sup>2</sup> Source: Towards Excellence – Higher Education in India, A CII-ICRIER White Paper on Higher Education

<sup>3</sup> Refer to Annexure 7, Table 5 for the quality status of universities in India as of 2007.

<sup>4</sup> Details of the parameters and weightages of NAAC and NBA for purposes of accreditation are given in Annexure 3 and Annexure 4.

- Hotel Management;
- Town and Country Planning;
- Applied Art and Crafts.

The result of this is that 54 per cent of the colleges that impart knowledge in the science and arts field are left out of the accreditation process. There are no councils present to monitor the quality of these courses. The current system of accreditation has various drawbacks:

- The system is based on inputs and not outcomes;
- There is no process in place for continuous accreditation;
- Accreditation of courses and institutions are not concomitant;
- There exists no mechanism or body to listen to stakeholder grievances;
- The time lines for accreditation take too long. Only an institution that has functioned for a minimum of five years or has had two batches of students, who have graduated, is eligible to apply for accreditation<sup>5</sup>;
- There is no way of ensuring that new institutions that open meet the minimum quality requirements;
- The benefits of accreditation are not apparent;
- Affiliation to a University is a prerequisite for accreditation;
- The consequences of non-accreditation are not engaged and are, in fact, mostly unavailable.

The main drawback in the present system is that, the three central processes relating to accreditation, regulation and funding are all carried out by the same or closely associated bodies. International experience, including the USA, the UK, Germany and many other countries, indicate that accreditation is usually carried out by multiple independent but recognised non-profit organisations. Unlike in India, where the need for accreditation is restricted to only ensuring basic quality, the Council for Higher Education Accreditation (CHEA), an independent USA based accreditation body, states quite clearly that the need for accreditation is not just to ensure quality education, but also to:

- Ensure funding for accredited institutions,
- Easy transfer of credits for students and
- Develop the private sector's confidence in the higher educational system<sup>6</sup>.

Presently, there exists a need in India to develop an accreditation system that:

- Is at par with international standards;
- Facilitates a better quality of education and;
- Will eventually even lead to a robust system of ranking of higher educational institutions nationally and internationally.

The accreditation system in operation in the country has only partial coverage regarding courses/programmes/curricula and educational institutions.

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<sup>5</sup> New Methodology of Assessment & Accreditation, NAAC, March 2007

<sup>6</sup> Fact Sheet 1, October 2008, [www.chea.org](http://www.chea.org)

As per the 11th Five year Plan, with reference to Education, India has:

- 378 Universities (Source; UGC-NAAC-2007);
- 18,064 colleges (Source: UGC-NAAC-2007).

However, of the lot, to date, only:

- 140 Universities and ;
- 3492 colleges.

have been accredited by NAAC (National Accreditation and Assessment Council)

Out of the Colleges and universities accredited only:

- 9% of the colleges and;
- 31% of the universities.

are rated as A grade ( Source:UGC-NAAC-2007).

Programme/course/curriculum accreditation falls under the preview of NBA (National Board of Accreditation), which is a part of AICTE (All India Council of Technical Education). Courses in colleges of Engineering, Architecture, Pharmacy, and Management are to be recognized and accredited by NBA; out of a probable 25000 courses, so far only 1924 programs have been considered for accreditation (Source: 11<sup>th</sup> Five Year Plan). This does not take into consideration the courses /curricula from colleges which are not related to Engineering, Architecture, Pharmacy, and Management which may approximate to 100,000 courses or so. Hence, it is clearly indicated that the:

- Setting of standards as an ongoing process (i.e. what to accredit w.r.t the curriculum and the educational institutions);
- System, strategy and operations required to achieve the desired scale, without exception (i.e. how to accredit?) and;
- Subsequent measures to ensure the maintenance and evolution of standards, important for ongoing quality processes (i.e. how to audit/regulate? and How to rank performance?).

cannot be met, by the existing accreditation and certification system.

The country's educational system needs to constantly evolve, to up skill and upgrade our human resource, at all levels, with an outcomes approach to learning. The 'Outcomes' of any educational programme/ curriculum of study must be responsive to market needs, both national and international. Thus the quality standards espoused for a programme of study or an educational institution must always be dynamic. The ability to effectively measure and evaluate and subsequently rank the performance of an institution in realising its goals and objectives w.r.t outcomes, processes and inputs, against set standards national and international and to carry out the same w.r.t a curriculum/programme/course is the strength of an accreditation and regulation /audit system.

An employability dipstick indicates a direct correlation between our education platform and the outdated quality standards espoused by our accreditation system. In India, there is a clear mismatch regarding expectations and outcomes; between the demand and supply of skilled workers. Higher and vocational education outcomes have not kept pace with the rapid change in requirements of the human resource,

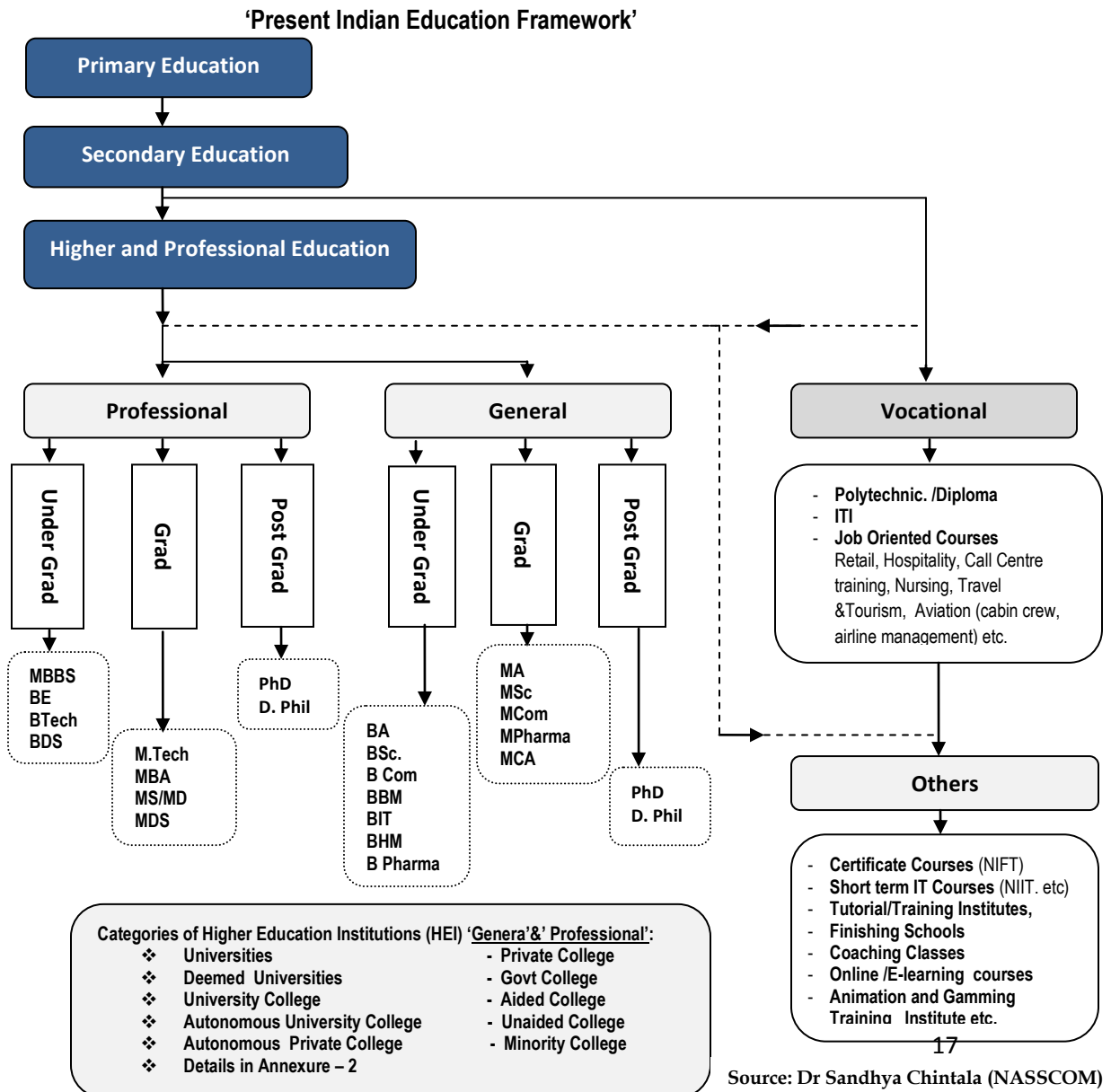


relevant to today's economic drivers. There is consensus amongst industries is that, the graduates of today, by and large, do not have the requisite higher order thinking skills including logical thinking, adaptability and the desired soft skills. This problem has been compounded over the years resulting in only 25 per cent of Technical & Engineering and 10-15 per cent non-Engineering graduates, being deemed employable by global standards. (Source: NASSCOM- McKinsey Report 2005).

However, in the last couple of decades, in response to the requisite industrial demand, the system of higher education in India has expanded rapidly. Nevertheless the emerging private and deemed higher educational institutions and new programs of instruction are responsible for the up-and-coming quantity but without the required quality, as the employability quotient remains unchanged.

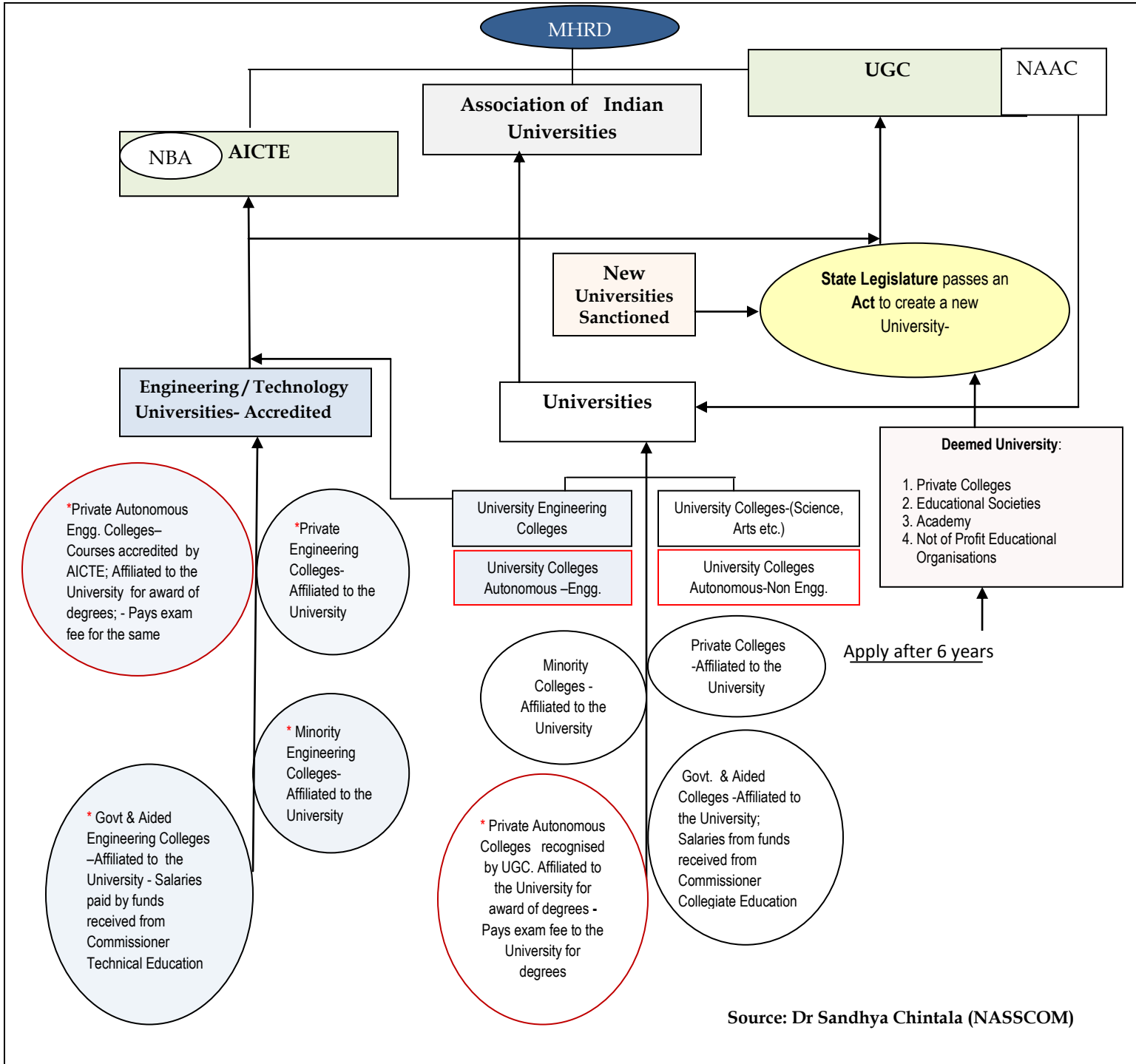
Portrayed below are the 'Present Indian Education Framework' and the 'Present National Higher Education Platform for Accreditation Curricula and Institution Accreditation' that would help in envisioning the existing educational framework and accreditation structure in the country.

**Figure 2**



**Figure 3**

**'Present National Higher Education Platform for Accreditation Curricula and Institution Accreditation'**



Source: Dr Sandhya Chintala (NASSCOM)

\* University colleges, Aided, Unaided, Minority and Private Colleges can apply to the University concerned for 'Autonomous' status by fulfilling the requisite norms laid down by the concerned body AICTE/UGC. The University may recommend the institution to AICTE/UGC for 'Autonomy'.

The growth of Universities and colleges, the number accredited by NAAC over the years, the distribution of Universities discipline wise, the current quality status of Universities etc., covered in Annexure 7 indicates the acute need for identifying educational standards and instituting reforms at the earliest.

The reforms and recommendations indicated in the following chapters are post a detailed study of the accreditation and regulation /audit systems from USA, UK, France, Germany, Europe, Singapore, and Australia in conjunction with our own system, aimed to counter the paucity within. The global perspective on accreditation, is available in the NASSCOM-CII-ICRIER White Paper on 'Establishing Independent Accreditation & Regulation Systems-Directions for Change' .

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## **SECTION C**

### **RECOMMENDATIONS**

- Part I. Alternate Framework for Accreditation and Regulation**
- Part II. Independent Accreditation and Regulation /Audit System including all Stakeholders**
- Part III. Consequences of Accreditation and De-Accreditation**
- Part IV. Sector Skill Councils as the Core of the Accreditation and Certification System**
- Part V. Guidelines for Programme/Course/Curriculum Accreditation**
- Part VI. Guideline Criteria for Institutional Accreditation**
- Part VII. Guideline Norms for Empanelling Outsourced Accreditation and Regulation Agencies**

## Part I. Alternate Framework for Accreditation and Regulation

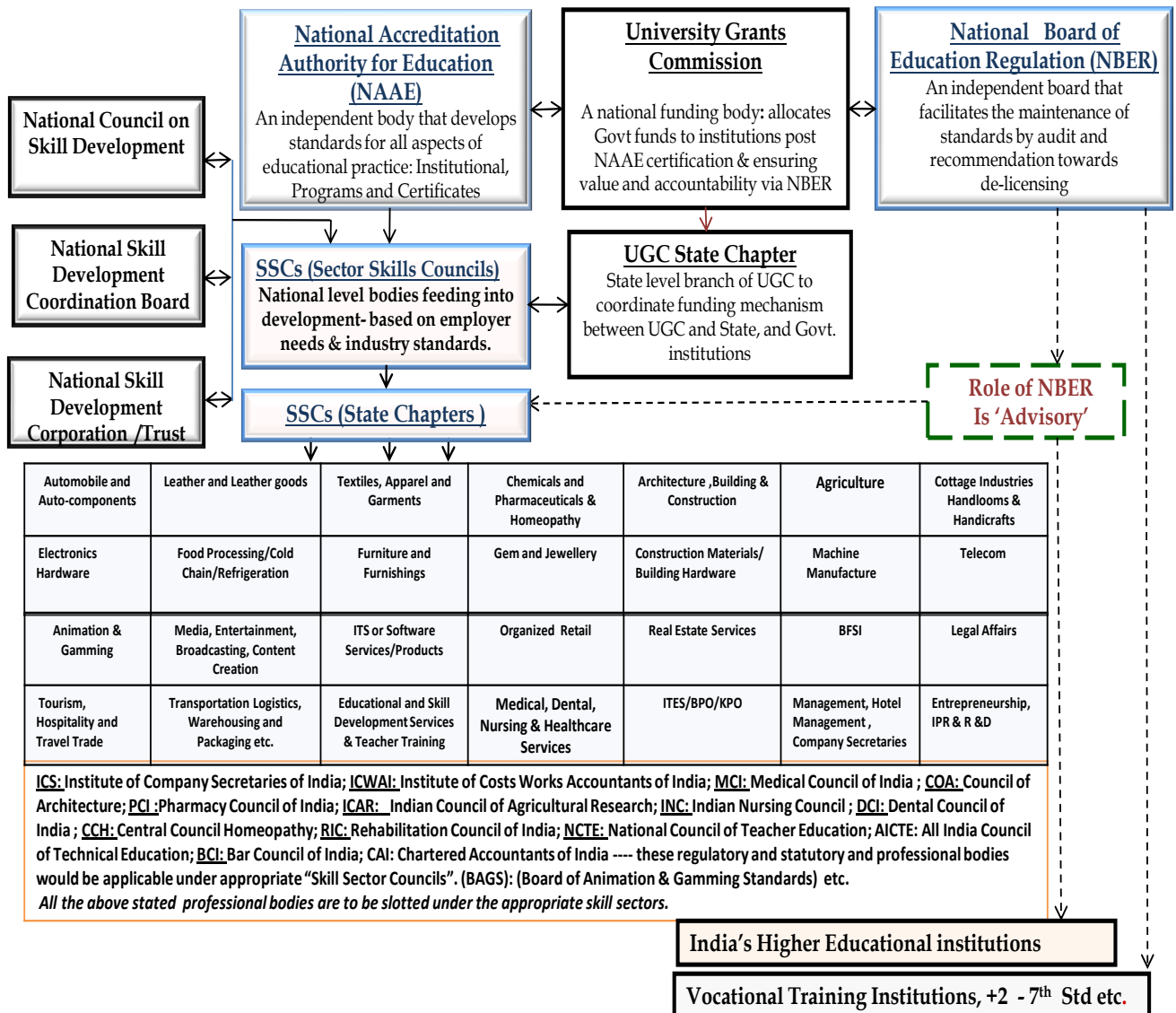
### a. Recommended Independent Centralised & De-Centralised Accreditation Structure

Globally, the availability of high quality internationally benchmarked education, and the equity of access to the same, is a key indicator of a country's economic growth. The education framework must have sturdy practical applications, nurtured by strong linkages between industry and academics, at all levels.

To ascertain the quality of that framework there is a need for comprehensive, effective and independent accreditation and regulation/ audit practices to be in place. These practices have to be instituted in national bodies by an act of parliament and decentralized region/state wise for localization, efficiency and sustainability. Highlighted in Figure 4 is the recommended operational structure for independent 'Accreditation' and 'Regulation' bodies involving all stakeholders concerned.

Figure 4

## Proposed Structure of the New System



Source: Adapted from NASSCOM-CII-ICRIER White Paper on Establishing Independent Accreditation & Regulation Systems

A renewed interest in the practicality of education at all levels, coupled with the fact, that it also nurtures lifelong learning practices is the currency for profitability. Lifelong learning opportunities are only viable if there is mobility, both vertical and horizontal on an educational platform that nurtures a national qualifications framework; a framework that captures and maps the skills and competencies, at all levels, qualifying and quantifying the same.

Included in the structure are linkages with three key national bodies, created under the 11<sup>th</sup> 5 Year Plan, namely, the National Skill Development Corporation/Trust (NSDC), National Council on Skill Development (NCSD) and the National Skill Development Coordination Board (NSDCB)<sup>7</sup>. The functions of these three bodies are detailed under Annexure 7 Section c.

Certain points of import considered in drafting the recommendations are:

- The above recommended structure (Figure 4) calls for revamping of the existing system of accreditation and audit;
- Emphasis has been laid on higher education, though the framework is meant to include K-12 and VET(Vocational Education and Training) ;
- The old system should evolve into the new, in a specific timeframe, no longer than 3 years, so as to help attain and enable the desired goals in the identified timelines indicated below;
- India at 75, i.e.in 2022 (13 years hence), should be able to deliver, in excess of the national requirement, a 47million globally employable workforce. That calls for 200 million employable individuals with a minimum UG degree and 500 million employable individuals who are vocationally trained and certified. That would accommodate 3 professional degree cycles (4 years) and 4 non-professional degree cycles (3 years). The recommended norms for accreditation as indicated in this report, should eventually fade out the present system, where an engineering institution can apply for accreditation only post two batches of pass outs i.e.post an operational period of 5-6 years;

#### **b. Key Points Qualified:**

The above proposed structure in Figure 4 encompasses an educational framework that is inclusive of all levels of learning (formal and non-formal) from K-12, VET (Vocational Education and Training), to Higher Education (HR).

However:

- Skills and competencies both generic and domain specific, at all levels of education are to be mapped and standards national and international be identified for the purpose of certification, employment, and educational mobility, both vertical and horizontal;
- This mapping is also meant to facilitate credit transfer, between courses, in both the national and international educational platforms.

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<sup>7</sup> Refer to Annexure 7, Quote 3, for detailed information on these three national level bodies, as described in the 11<sup>th</sup> Plan.

To enable such a system, highlighted below are some key recommendations that will help develop the appropriate strategy, identify the implementation and operational processes in developing the requisite deliverables w.r.t. a world class “Accreditation and Regulation/Audit” system that can address the short, medium and long term educational needs of this country in the global context.

Indicated below are some important suggestions essential to the proposed new structure, with reference to the ‘Accreditation and Regulation/Audit’ system, which can empower a change management system reflecting domestic and global employment trends:

#### Accreditation

Some key general points to be taken into consideration for the purpose of accreditation, in consideration of upgrading the quality of the existing system:

- Faculty from all institutions must have at least a 10 per cent mix of faculty from out of state;
- Faculty from the same college/institution must not be more than 5 per cent;
- Universities must aim to have a 20 per cent mix of international faculty;
- Students must have one semester /year in UG, PG course in a different State /Region (voluntary);
- Students can be allocated extra credits for undertaking an exchange programme (national /international).

#### Regulation/Audit

- A financial grant for an institution or a programme should be impacted negatively if the audit report on the same indicated non-compliance of accrediting standards;
- This regulation audit is to be an independent process;
- Even though a grant is sanctioned, the periodic disbursements of the same from a government funding body (UGC)/private venture capital can be curtailed based on the audit report from the independent regulation board.

#### Ranking

- Independent national ranking body/s may be ascertained with the help of apex bodies;
- The ranking parameters may be developed in consultation with apex accreditation and regulation/audit bodies identified;
- For this to be facilitated, it is important to ensure that all higher educational institutions are accredited. Currently the Indian Institute of Technology (IIT), the Indian Institute of Management (IIM) and the Indian Institute of Science (IISc), to name a few, are not required to be accredited. However, under the new system, these institutions too should also be included in the accreditation process. This will not only help standardise the process for all new and older higher educational institutions, but will also ensure establishing best practices for other institutes to follow. The Yashpal Committee report that is to be submitted to the Government of India, also states, that these premier institutions should be accredited along with the others (Abstract in Annexure6).

This document also suggests the creation of multiple rating agencies to be empanelled by the identified apex body, to rate the outsourced accreditation and regulation/audit agencies. In addition to institutional ratings that must be published, it is advisable that departmental ratings (academic verticals in an educational stream), also be undertaken and published. For example an engineering college may be excellent in 'Mechanical' engineering but not in other verticals. Likewise, internationally, certain MBA colleges are rated higher and acclaimed in particular verticals.

## **Part II. Independent Accreditation and Regulatory /Audit System including all Stakeholders**

### **a. Role of Bodies Responsible for Accreditation and Regulation/Audit**

Recommendations regarding the role and responsibilities of the national and state level bodies indicated in Figure 4 are highlighted below.

#### **National Level**

- **National Accreditation Authority for Education (NAAE)** (A recommended body- to be instituted);
  - lays down guidelines for 'Accreditation' standards
  - registers and provides licenses for independent accreditation agencies through the Sector Skill Councils (SSCs)
  - audits the functioning of the Sector Skills Councils (SSC) at the National level and the State level branches
- NAAE to be constituted by an act of parliament, to be free of government control and have a governance structure that espouses a public private partnership mode of operation;
- The National Accreditation Authority for Education (NAAE) is to be an independent body that develops standards for all aspects of educational practice, institutional and curricula/course/programme with a clear distinction between the two. It also identifies the norms, terms and conditions under which quality certificates can be granted by the SSC via the empanelled accrediting agencies /bodies;
- NAAE is also responsible for seeking and establishing equivalence with other accreditation and regulation systems/bodies in the world. It invites publications, regarding SSCs' performance including its own, from the empanelled rankings(institutions and curricula) bodies;
- NAAE as a national body will provide guidelines for quality education standards and the strategy and operational policy for Sector Skill Councils (SSC), that can be customized w.r.t. the domain;
- NAAE will be an apex national body that acts as the final court of appeal regarding all matters in relation to accreditation and regulation w.r.t. national and international concerns. Otherwise its role is advisory and will not be responsible to handle day to day implementation issues;
- NAAE will not accredit and certify courses and education institutions but will qualify and certify the performance of SSCs, and will be the appellate body for empanelled accrediting and regulation/audit agencies;



- **The University Grants Commission(UGC)** - modified role and responsibilities (Existing body);
  - provides funding to institutions and programmes
  - will provide funding only to those institutions that are accredited and for courses/programmes that are accredited
  - may consider providing funds to those institutions that are not accredited due to lack of money, on set terms and conditions
  - audits the functioning of the UGC State Chapters
- The University Grants Commission (UGC) will have state chapters with slightly modified roles and responsibilities;
- The UGC will be a purely funding body, which on the recommendation of the NAAE will fund SSCs and indirectly the education institutions and courses accredited by the SSCs. The allocation and disbursement of funds may be handed over to the SSCs so as to avoid duplication of work by the State UGC chapter. It might not also necessitate the development of a State UGC Chapter if the State SSC takes on in addition the mantle of responsibilities of the State UGC Chapter;
- The UGC will seek and redirect the allocation of funds from the central government and private and international bodies, and any other sources;
- The UGC will fund all deserving education institutions and courses at all levels of learning (Higher, Vocational and K-12);
- The UGC may work with existing government and private education bodies and the SSCs to redistribute funds as ordained (Higher education ,Vocational and K-12);
- The financial audit operation arm of the UGC will be allocated to the National Board of Education Regulation (NBER);
- State UGC Chapters will coordinate the funding mechanism between the UGC,SSC, State Govt., and education institutions;
- State UGC chapters may apprehend and also recall funds allocated to education institutions on the recommendation of the NBER and NAAE due to loss of accreditation certification;
- The UGC will be the final appellate body regarding issues related to institutional funding at all levels;
- **National Board of Education Regulation (NBER)** (Recommended, to be instituted);
  - the sole independent regulatory board that may have chapters in a particular skill sector;
  - may also have State level chapters;
  - indirectly audits the functioning of accredited institutions and programmes using multiple empanelled auditing agencies;

- audits the functioning of empanelled auditing agencies, SSC, NAAE, UGC (using a 360 degree feedback process);
- has the power to recommend revoking institutional and programme/course curriculum accreditation, if the institution/ programme fails the audit;
- has the power to recommend the issue of the Probationary Accreditation License;
  
- The National Board of Education Regulation (NBER) is an independent board that facilitates the maintenance of standards by audit and recommendations towards de-licensing accreditation;
- The role of NABER is only advisory ;
- NABER will carry out its responsibilities by empanelling regulation agencies to carry out the day to day operations of auditing, documenting and reporting w.r.t the status of curriculum standards, institutional standards and fund utilization;
- NBER to receive all escalated complaints with reference to conduct of audits regarding institutions, programmes and SSCs and the empanelled audit bodies;
  
- **National Skill Development Corporation/Trust (NSDC) (Existing);**
  - is a not for profit trust
  - to encourage private sector participation in the field of skill development
  
- **National Council on Skill Development (NCSD) (Existing);**
  - will provide apex level policy directions and guidelines for skill development
  
- **National Skill Development Coordination Board (NSDCB) (Existing);**
  - to coordinate and harmonise the government's initiatives for skill development, spread across seventeen Central ministries and State governments
  
- **Sector Skills Council (SSC)- National level bodies feeding into development, based on employer needs and industry standards; (Recommended to be instituted);**
  - each skill sector w.r.t the 28 high- rise sectors to be allocated a SSC (20 already identified by the 11<sup>th</sup> 5 Year Plan)
  - State/Region may have a SSC chapter pertinent to that sector
  - SSCs are accountable to NAAE
  - will act as interface between NAAE and State SSCs
  - to monitor the functioning of State SSCs and the empanelled accrediting agencies under the SSC
  - to set up guidelines that account for localisation of some accreditation norms laid down by NAAE

- to also compute Institution-SS Council ratio, to set up the maximum number of councils that can open in a State/Region for a select education vertical

The independent bodies, working together, will ensure that accrediting, funding and auditing are handled by three different bodies (SSC state Chapters, SSCs, NAAE) and their outsourced empanelled agencies, instead of one single body, as is the current modus operandus.

### **State Level**

- **Sector Skills Council -State Chapter (SSC) (Recommended);**
  - each State/Region may have one SSC state chapter
  - accountable to SSC (National Level)
  - will act as interface between central SSC, independent accreditation bodies and institutions
  - to monitor the functioning of independent councils under the SSC state chapter for the respective domain
  - to set up guidelines that account for localisation of some accreditation norms laid down by National Level SSC, for respective domains
- **Empanelled Independent Accreditation Bodies under SSC (State or National) (Recommended);**
  - all local accreditation units are decentralised independent units under the state chapter SSC and subsequently under the national level SSC
  - can initiate changes in the norms prescribed by apex bodies, post notional approval of the same by SSC
  - all independent accreditation bodies will have to register themselves with the SSC at the state level and the NAAE at the centre
  - responsible for issuing Provisional Accreditation Certification with validity of eighteen months
  - responsible for continuous 'Accreditation'
- **UGC State Chapters (Recommended);**
  - act as interface between State Government and UGC National Level
  - act as interface between Institutions and UGC National Level
  - co-ordinate funding process
  - accountable to UGC National Level
  - co-ordinate with Independent Accreditation Bodies
  - evaluate every accredited institution in the State for funding
  - review funding applications

## **b. Accreditation Process in Brief**

### Accrediting New Institutions

- It is essential for all new institutions to obtain a 'Provisional Accreditation Certification' for courses/programmes before the commencement of all operations, without exclusion, concerning the same;
- The validity of this provisional certification will be for eighteen months;
- Broad parameters that will be considered for obtaining provisional certification are:
  - infrastructure – teaching and non teaching/practical /projects
  - course design and content
  - processes in place to achieve course outcomes and the related learning experiences
- After the provisional certification has been obtained, institutions may begin the admission process;
- At the end of one year and before the completion of eighteen months, the Independent Accreditation Bodies will review the institution under respective domains/programmes;
- At this juncture all standard parameters for accreditation will be considered;
- Subject to clearing these parameters, an institution will be accredited;
- Failing the programme/course accreditation parameters will be dealt with in detail later.

### Accrediting Existing Institutions

- Existing institutions may choose to approach any of the multiple independent accreditation bodies under the SSC;
- These Independent Accreditation Bodies will consider the institution based on set parameters for accreditation;
- Certification will be issued depending on the result.

### Continuous Accreditation

- Accreditation should ideally occur once every five/ten years (inconsideration of the scale to be addressed);
- Set parameters will be reviewed/audited periodically to ensure minimum standards are continuously met;
- Lifelong accreditation with periodic regulation/audit may also be considered based on historical evidence;
- Improvements made from the previous time should be considered

### **c. De-accreditation on the Basis of Non-compliance**

#### New Institutions

- New institution that fail to obtain 'Provisional Accreditation Certification,' cannot begin the admission process;
- Based on reports and reasons stated for not obtaining the certification, institutions may choose to make suitable changes and apply for Provisional Accreditation Certification again;
- Institutions may also choose not to open at this stage.

#### Existing Institutions

- If an institution fails certification at the initial stage, the Independent Accreditation Bodies will provide a probationary certificate for a period of one year;
- Within the year, the institution has to address the problems and demonstrate improvement and apply for certification again;
- Probationary certificate may be extended further for another six months if required;
- More than two extensions will not be entertained;
- Failing certification subsequent to two extensions, will result in the institution losing all privileges of accreditation (dealt with separately under the head – Consequences of Accreditation);
- Institutions may receive another one year grace period, at the discretion of SSC and NAAE, to meet minimum standards and obtain certification, failing which institution will be recommended to shut down.

#### Continuous Accreditation

- Failing to obtain certification during the continuous accreditation period will automatically lead to certification being converted into 'Probationary Certification,' for a period of one year;
- Post receiving a 'Probationary Certification,' the process is identical to that outlined under the above section titled – Existing Institutions;

### **d. Regulation Process in Brief**

#### Regulation of NAAE, UGC and NBER

- All the three central bodies are independent in nature;
- They are all accountable to the Government of India, to the Public and to each other;
- The activities of all the three bodies are to be audited compulsorily once every three years;
- Surprise audits will also be permitted;
- All findings must be made available on the public domain;

- Auditing is to be conducted by an independent committee which includes representatives of all stakeholders.

#### Regulation/Audit of SSC by NAAE

- NAAE to constantly monitor functioning of SSCs;
- NAAE may hold surprise audits any time;
- Compulsory audit to be held every three years;
- Any complaint against SSCs to be made to NAAE.

#### Regulation/Audit of UGC State Chapters by UGC

- UGC to constantly monitor the functioning of its State Chapters;
- UGC may hold surprise audits anytime;
- Compulsory audit to be held every three years;
- UGC to audit the funding arm of the SSC if it also functions as the UGC state chapter;
- Any complaint against State Chapters to be made to UGC.

#### Regulation/Audit of Independent Accreditation Bodies by the relevant SSC

- Each SSC to operationalise the accreditation processes by identifying and empanelling an appropriate number of accrediting agencies/bodies.
- SSC to constantly monitor functioning of relevant Independent Accreditation Bodies;
- SSC may hold surprise audits any time;
- Compulsory audit to be held every three years;
- Any complaint against Independent Accreditation Bodies to be made to SSC;
- SSC to ensure that accreditation of all existing institutions takes place within two years of the new system being operational.

#### Regulation/Audit of Accreditation Process by NBER

- NBER through its empanelled regulation/audit bodies /agencies may conduct surprise audits of an institution any time;
- Visits must be made, once every two years, compulsorily;
- NBER has the right to recommend the conversion of any level of certification to a Probationary Certification should the institution fail the regulatory audit;
- Institutions failing audits may also result in the Independent Accreditation Bodies that issued the certification to be audited;

- Post the allocated time frame for addressing the audit recommendations, both by the institution and NAAE, NBER may publish the recommendations provided to Independent Accreditation Bodies and NAAE;
- Under extreme circumstances, NBER may also recommend the closing down of a higher education institution.

At all times, the Ministry for Human Resource Development (MHRD), Government of India, may undertake to conduct an audit of any of the bodies and/or processes adopted. All entities in the accreditation framework are subject to the judicial system of India. All audit reports must be available on the public domain.

### **Part III. Consequences of Accreditation and De-Accreditation**

#### **a. Consequences of Accreditation**

##### New Institutions

- Once accredited, new institutions will be permitted to begin the admissions process;
- New institutions will also be allowed to remain autonomous and issue degrees once accredited;
- Institutions may apply for government funding only if accredited, and once the Provisional Certification has been converted into a proper/full Certificate of Accreditation.

##### Existing Institution

- May apply for aid only once accredited;
- Can also issue degrees once accredited;
- Once accredited, institutions need not be affiliated to a University.

##### Continuous Accreditation

- Depending on the track record of continuous accreditation, institutions may receive greater share of government aid/funding;
- Institution will be allowed to continue issuing degrees.

#### **b. Consequences of De-Accreditation**

##### New Institutions

- Without the Provisional Certification, the institution cannot begin admissions;
- Until Provisional Certification is converted into a proper certificate of accreditation, the institute will not be allowed to issue degrees;

- On failing to convert Provisional Certification into a proper certificate of accreditation, further admissions will be stopped;
- Funding requests will not be considered unless, the reason a proper Certificate of Accreditation is being withheld is due to failure to meet minimum standards only due the lack of financial resources.

### Existing Institutions

- Institutions with Probationary Certification cannot hold examinations or issue degrees;
- If Probationary Certification is extended for the second time, admissions are to be put on hold;
- On failure to convert the Probationary Certificate into a proper certificate, institutions may be asked to shut down;
- If on two occasions, an institution fails the NBER audit, it will be recommended that all funding will be withdrawn and admissions for the academic year may be stopped.

The process of accreditation should lead to a market ranking/rating of the institutions. The process should also be an indicator based on which funding to institutions may be provided. The major consequence of making accreditation indispensable (at least for the next 5 years) is to ensure that all institutions meet basic quality standards and produce students who are globally employable.

### **c. Foreign Universities and Institutions**

All universities, domestic or foreign, should be accredited by the Indian system. Since the direct consequence of accreditation is the right to issue degrees, foreign universities may consider coming to India. Foreign Universities in India will also be subject to the rules, laws and regulations of India. Presently foreign universities are not permitted to award degrees in part or whole on India soil.

### **d. Relocation Policy**

Should an institution be asked to close down, one must have a proper relocation strategy for students and staff, the conduct of examinations and the award of degrees. A sound relocation strategy and process will be a parameter for awarding accreditation. Every institution should have in place a relocation policy that is available on the public domain. As part of the orientation programme during admission, students must be briefed on the relocation process. Similarly, staff too should be briefed on the relocation policy at the time of joining the institution.



## On Obtaining a Probationary Accreditation Certificate

### **Examination and Degree**

- On obtaining a Probationary Certificate, the institution loses the right to hold examinations and to issue degrees;
- Each institution should have a sister concern within and outside the state;
- Sister concerns should be based on the following guidelines:
  - Minimum of three sister concerns within the State
  - Minimum of two sister concerns for every four neighboring States
- Annual final examinations should be conducted by sister concern institutions alone;
- Degrees should also be provided by the same sister concern institution.

### **Students**

- Students may choose the sister concern institution from which they would like to obtain the degree (and therefore attempt examinations from the same institution);
- If the Probationary Certification is not converted into a proper/final certificate, students should have the choice of continuing in the parent institution or transferring to a sister concern;
- The fees structure would be that of the institution that the student chooses to attend, and be no different from the original institution where he/she took admission.

### **Teachers**

- If teaching quality is not the reason for a failed audit, then teaching will be permitted on the campus;
- If teaching quality is the reason for the failed audit, students should be allowed to attend classes in sister concern institutions of their choice based on availability of seats;
- Institutions should take immediate measures to rectify teaching quality, including letting go of poor quality faculty and hiring better quality faculty.

## On Ordering the Closure of an Institution

### **Examination and Degree**

- The process of evaluation and issuing degrees will be similar to that when a Probationary Certificate is awarded/issued to an institution;
- Teaching will be allowed to continue (provided that was not the reason for the failed audit) only for the remainder of the current academic year;
- If teaching is the reason for the failed audit, students will be asked to transfer to other institutions immediately (the whole process will be smoothly conducted).

## **Students**

- Upon receiving a notice for the closure of the institution/programme, students may choose to continue in the current institution till the end of the current academic year, if teaching is of the required quality;
- If students are required to transfer to institutions with immediate effect, they may choose to go to any institution of their choice (choice should not be limited to only sister concerns) dependent on the availability of seats;
- Legislation may help in relocating/transfer of all students;
- Transfer to another institution may be based on a screening process (based on performance of the student) held by the institution concerned
- Students who are not successfully relocated to individual satisfaction will have the right to demand and receive all fees paid to the institution with interest applicable for the financial year;
- In consideration of the lack of availability of seats in the sister concern, on closure of the parent institution, the parent institution is bound to pay the requisite fee in to the college where the student has got admission, in India. This is irrespective of the fact that there may be a substantial difference in the fee structure between the new and parent education institution, where the student was originally studying.

## **Staff (Teaching and Non-Teaching)**

- The academic market should be able to absorb most of the quality staff;
- Should the current academic year continue for a period of over three months, salaries should be paid to staff that choose to stay for the remainder of the period;
- Should the remaining academic period be less than three months, institutions should provide salaries to all staff for a period up to a maximum of three months, post closure of the institution or till the staff obtains employment elsewhere, whichever is first;
- Policy may be required to relocate those people who are good at their work but have not obtained employment within the end of academic year (if the time to closure of the current academic year is greater than three months) or within three months, post closure of the institution.

## Part IV. Sector Skill Councils as the core of the accreditation and certification system

### a. Role of Sector Skill Councils

**Educational accreditation** is a type of quality assurance process under which services and operations of an educational institution or program are evaluated by an external body to determine if applicable standards are met. Should standards be met, the institution is accordingly certified whereby accredited status is granted by the agency. This status is valid locally, nationally and globally (as per the tenets of the NAAE and the relevant SSC) and enjoys all privileges that come with it.

National and State chapters of the relevant Sector Skill Council (SSC) will be responsible for the requisite quality outcomes of the pertinent education institutions under its wing. Independent Accreditation Agencies /Bodies under the SCC and 'Ranking' bodies will be responsible for the on the ground action in-developing and sustaining all aspects of quality in an education institution and or programme/course/ curriculum.

Regarding the process of sustaining the established stands w.r.t quality, because of which the institution and or programme/course /curricula was and continues to be accredited and certified; it calls for an independent audit. The independent audit /regulatory process will be the responsibility of the independent regulatory agencies, empanelled under the NBER, periodically advising the SSC, State and Central chapters on the status of quality maintained.

#### Sector Skills Councils (SSCs)

"Sector Skill Councils (SSCs) are national partnership organizations that bring together business, labour and educational stakeholders. Operating usually at arms length from the Government, Sector Councils are a platform for stakeholders to share ideas, concerns and perspectives about human resources and skills issues, and, in a collective, collaborative and sustained manner, find solutions that benefit their sector".  
*Source: Defined by Human Resources & Skill Development Canada*

Leading western economies such as Canada, Australia, and the United Kingdom have set up Sector Skill Councils to address sector specific human resource development gaps in their countries. These countries addressed the need for a coordinated effort in dealing with the issue of skill shortages and develop the human resource concerned. However this is an ongoing process as markets continue to change at an accelerating pace and employers want employees to have a plethora of skills pertinent to the quality standards ascertained to meet such demands..

SSCs are national partnership organisations that bring together the key stakeholders on a common platform-Industry, Labour, Academia and the Government. The main objective of SSC is to address the skill shortages and other human resource development issues that are affecting the industry sector. SSCs are national level bodies feeding into development of employer needs and industry standards. As identified by this Sub-committee a SSC is also to be responsible for accrediting and certifying educational institutions and programmes/courses /curricula vis'-a-vis' the accreditation of standards identified and undertake the necessary initiatives to address the required scale in various verticals of the service sector.

Sector Skill Councils will operate in the PPP mode in the 28 high growth sectors indicated in this document. Industry will play a key role in the development and operations of these SSCs.

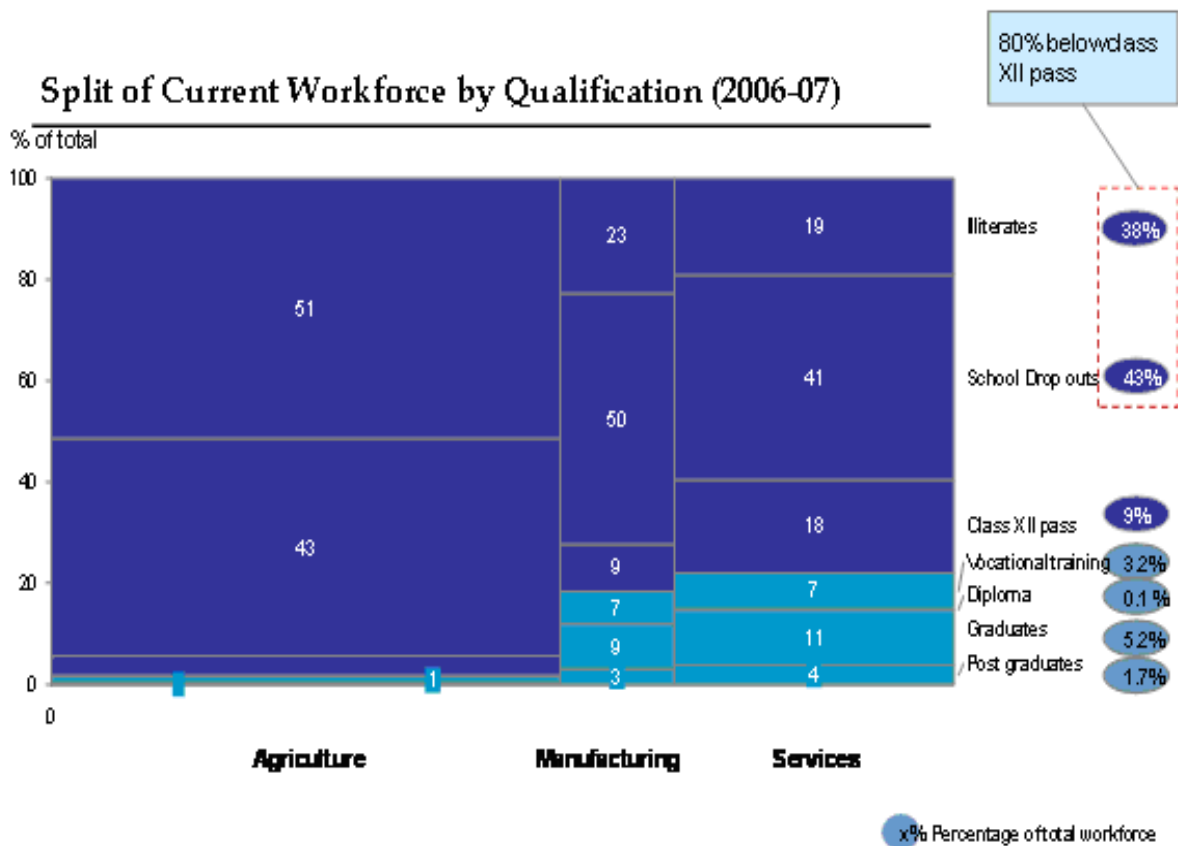
It is also recommended that the:

- Apex industry associations will evolve the skill development vision and plan for their respective sectors;
- The SSC will address both VET (Vocational Education and Training) and HE (Higher Education);
- The 28 high rise sectors are equally distributed among 'Manufacturing' and 'Services'.

Present indicators in Figure 5, below qualify the Service Sector at about 31 per cent of the total workforce. However the bulk of that current workforce is unqualified and illiterate. It is essential that the skills and competencies of various service streams be mapped, standardized and the programmes be accredited along with the institutions that offer the same. Even within Services 80 per cent of the workforce is employed in traditional sectors like trade, construction, transportation and community services.

Bulk of the current workforce is unqualified and untrained. 40 per cent of current workforce is illiterate and another 40 per cent are school dropouts.

**Figure-5**

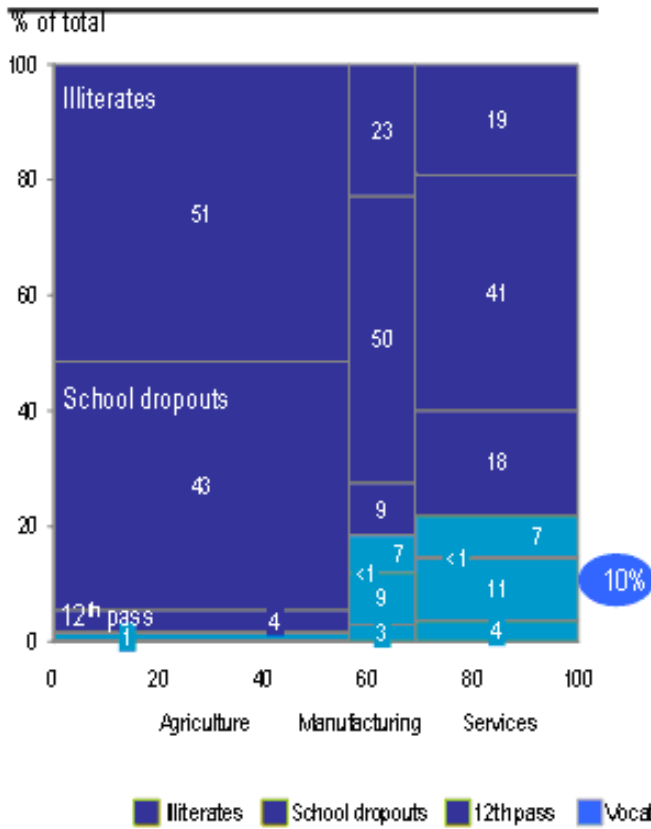


Source: BCG (2008)

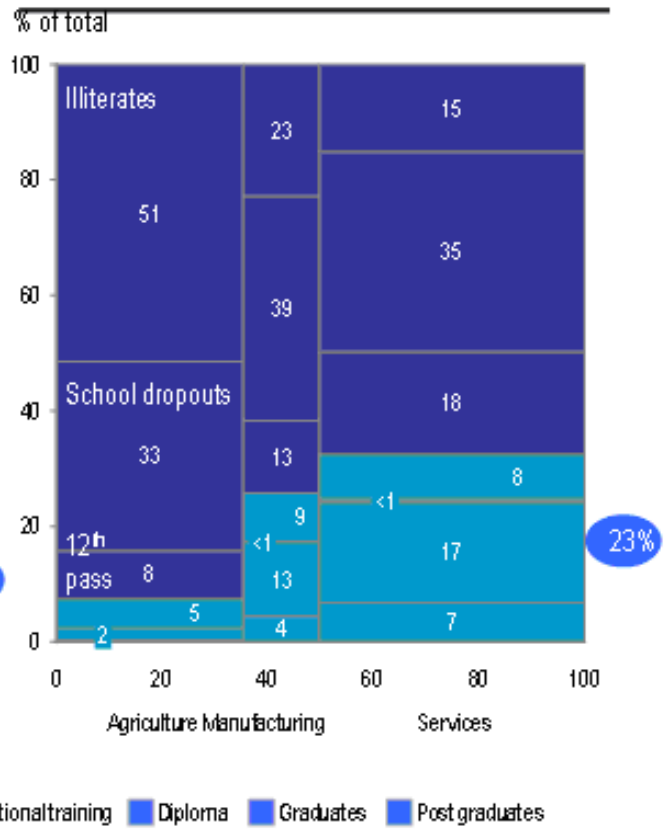
However as indicated in Figure 6, there is a significantly higher demand for a qualified /skilled workforce in incremental demand. To address the required quality and scale an effective and efficient accreditation system that is inclusive of all levels of education is the need of the hour. It must aim to bring into its fold all non-formal streams as well. The educational framework must address all types of employment and establish standards that are globally acknowledged. There is a significantly higher share of demand for qualified/skilled workers in incremental demand.

**Figure 6**

**Split of Current Workforce by Qualification (2006-07)**



**Split of Demand Over Next 5 Years by Qualification (2007-12)**



Source: BCG (2008)

Over the next 5 years there would be a demand for an additional 85-90 million people to be gainfully employed in various verticals in the service sector. As indicated below are some important service sector verticals that can be indicative of the goals of the SSC. One of the key enablers of this growth is an inclusive educational framework, with well recognised and effective standards that can add value to the workforce quality. In this education-employment ecosystem, clarity with respect to the role, responsibility and outcomes of the SSC is quiet critical.

It is recommended that SSCs will help identify and develop:

- New skills required and the curriculum and courseware to develop the same in line with industry needs ;
- Faculty training to deliver and assess, 'add on' and new and self financing courses;
- The infrastructure required for the courses designed;
- Methodologies for Open Distance Learning (ODL) and e- learning platforms;
- Linkages with associations and trade and commerce bodies, vocational education and training bodies, local and global projects, corporate bodies, statutory and regulatory bodies, foundations and NGOs round the world.

SSCs will also be responsible to:

- Operate as apex bodies for all Academic Staff Colleges and Training Institutes and Finishing Schools and similar programmes operating in and out of regular colleges;
- Provide internal quality assurance with reference to the institution (public and private), courses/programmes delivered; and faculty available;
- Provide training needs for faculty development, institutional management, assessment and evaluation (formative and summative) with reference to the deliverables identified for the institution and the individuals concerned (the teacher and the taught)
- Provide training in the use of ICT for education;
- Facilitate the recognition of informal learning methods;
- Facilitate familiarity with the use of ICT to increase flexibility and reduce costs-online assessment and electronic data transfer;
- Promote an inclusion agenda that focus on: the disengaged learner; recognition of small sections of learning; industry/work/trade related vocational programmes in school /+2 ; core skills/ employability skills;
- Facilitate all forms of learning and enables alignment with other frameworks;
- Facilitate the understanding of 'Levels of Learning and Skills' attained;
- Develop assessment processes to measure the identified outcomes of an accredited course/curricula/programme of instruction;
- Facilitate the award of credits and the transference of credits from one vertical to another for horizontal and vertical mobility;
- Develop capacity building projects with similar bodies round the world as indicated in the county focus table below;
- Develop norms (exhaustive and inclusive), addressing all aspects of "Institutional and Curriculum/Programme Accreditation " in collaboration with the guidelines mooted by the NAAE;
- Assess, empanel and certify accrediting agencies /bodies;
- Grant the certificate of accreditation for both, institutional and programme/curriculum.

## **b. Sector Skill Councils-Merger of Industry Academia and Professional Bodies**

As indicated in Figure 4, there are a number of statutory and regulatory bodies that certify programmes of instruction outside the academic sphere of influence. A list is provided in Annexure 8. However it is recommended that all courses/programmes /curricula are certified under the relevant SSCs. Hence the existing regulatory and statutory bodies will now slot under the appropriate Sector Skill Council and take over the mantle along with the role and responsibilities of the SSC as recommended. Wherever appropriate, the National Council for Vocational Training (NCVT) will work together with the other relevant statutory /regulatory/ accrediting bodies concerned.

All academic institutions at all levels will also come under the preview of the appropriate Sector Skill Council. As indicated earlier, these SSCs will operate in a PPP mode with functional and governance autonomy.

The SSC will accredit by setting a guidance framework mapping supply- demand requirements and deficiencies with reference to skills and competencies, based on outcomes and performance measures and rating and ranking of institutions and the programmes/courses/curricula concerned.

Private enterprise and industry associations will have a key role along with academicians in the development, governance and operations of the SSC. Given below are a list of the SSCs, industry associations and statutory and regulatory bodies if any and the academic programmes at all levels that will come under the preview of the SSC.

All academic institutions at all levels will also come under the preview of the appropriate Sector Skill Council. As indicated earlier these SSCs will operate in a PPP mode with functional and governance autonomy. The SSC will accredit by setting a guidance framework mapping supply- demand requirements and deficiencies with reference to skills and competencies, based on outcomes and the related performance measures, rating and ranking of institutions, and the programmes/courses/curricula concerned.

Private enterprise and industry associations will have a key role along with academicians in the development, governance and operations of the SSC. Given below are a list of the SSCs, industry associations and statutory and regulatory bodies if any and the academic programmes at all levels that will come under the preview of the SSC.

Twenty eight Sector Skill Councils have been identified as areas of growth in the 'Manufacturing' and 'Services' space. The table below identifies the:

- Sector Skill Council;
- Industry association/s that can support the SSC;
- Role and responsibility of the Sector Skill Council;
- Existing statutory and regulatory bodies that can certify courses, relevant under a SSC;
- Academic courses feeding into the SSC courses w.r.t. Higher Education.

SL NO	SECTOR SKILL COUNCIL	APEX INDUSTRY ASSOCIATION	ROLE & RESPONSIBILITY OF THE SECTOR SKILL COUNCIL	EXISTING STATUTORY & REGULATORY BODY CERTIFYING PROGRAMMES/ COURSES	COURSES PRESENTLY FEEDING THE SECTOR /SSC WRT HIGHER EDUCATION
<b>Manufacturing</b>					
<b>1</b>	<b>Automobile &amp; Auto Components</b> -Current Turnover: US\$ 45 billion -Expected Turnover: US\$145 Billion by 2016  -Current employment at all levels 10.5 million  -Target employment at all levels 25.0 million by 2016  (90% skilled manpower required .6.25 million technical and managerial personnel required to be trained – training requirements included)	Society of Indian Automobile Manufacturers & Automobile Component Manufacturers Association (ACMA)	<ul style="list-style-type: none"> <li>Identify Skill deficiencies</li> <li>Envision the sectoral plan to meet growing needs</li> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	AICTE (All India Council of Technical Education)	<u>Courses:</u> BE, BTech & MTech in: <ul style="list-style-type: none"> <li>Mechanical</li> <li>Automobile</li> <li>Electronics</li> <li>Infotronics</li> <li>Mechatronics</li> </ul> <u>Training requirements:</u> <ul style="list-style-type: none"> <li>Manufacturing Management</li> <li>SQC</li> <li>TQM</li> <li>6-Sigma</li> <li>Statistical Process Control,</li> <li>Kaizen Practices</li> <li>Lean manufacturing &amp; Breakthrough Management</li> <li>CAD (computer Aided Design)</li> <li>CAM (Computer Aided Manufacturing) etc.</li> </ul>
<b>2</b>	<b>Electronics Hardware</b> -Current Turnover: US\$ 30 billion -Expected Turnover: US\$320 Billion (2016)  -Current employment at all levels 1.5 million direct + 3.0 million indirect -Target employment at all levels 7.14 million direct+ 14.0 million indirect by 2016  ( 5% graduate engineers, 15% diploma holders 50% Skilled workers 30% Semiskilled workers are required)	Electronics Industry Association India (ELCINA) / ELCINA Electronics Industry Association India	<ul style="list-style-type: none"> <li>Identify Skill deficiencies</li> <li>Envision the sectoral plan to meet growing needs</li> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	AICTE	<u>Courses:</u> <ul style="list-style-type: none"> <li>BE, in Electronics</li> <li>B. Tech</li> <li>M. Tech</li> </ul> <u>Training requirements:</u> <ul style="list-style-type: none"> <li>Chip manufacturing</li> <li>Embedded software</li> <li>VLSL design</li> <li>Assembly line operations etc.</li> </ul>



SL NO	SECTOR SKILL COUNCIL	APEX INDUSTRY ASSOCIATION	ROLE & RESPONSIBILITY OF THE SECTOR SKILL COUNCIL	EXISTING STATUTORY & REGULATORY BODY CERTIFYING PROGRAMMES/ COURSES	COURSES PRESENTLY FEEDING THE SECTOR /SSC WRT HIGHER EDUCATION
<u>3</u>	<b>Textiles, Apparel and Garments</b> -Current Turnover: US\$ 47 billion -Expected Turnover: US\$115 Billion by 2016 -Current employment at all levels 35 million -Target employment at all levels 41.5 million by 2016 ( the 6.5 million increase will comprise off: 10% management and technical graduates, 20% ITI certificate holders, 50% Semi skilled workers & 20% unskilled workers)	Textiles Association (India)-TAI South India Textile Research Association North India Textile Research Association	<ul style="list-style-type: none"> <li>Identify Skill deficiencies</li> <li>Envision the sectoral plan to meet growing needs</li> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	National Institute of Fashion Technology (NIFT)	<u>Courses:</u> Bachelor Programmes in <ul style="list-style-type: none"> <li>Design</li> <li>B. Des. (Fashion Design)</li> <li>B. Des. (Leather Design)</li> <li>B. Des. (Accessory Design)</li> <li>B. Des. (Textile Design)</li> <li>B. Des. (Knitwear Design)</li> <li>B. Des. (Fashion Communication)</li> </ul> Bachelor Programme in <ul style="list-style-type: none"> <li>Technology</li> <li>B. F Tech. (Apparel Production)</li> </ul> Master M. Des. (Master of Design) M.F.M. (Master of Fashion Management) M. FTech. (Master of Fashion Technology) <u>Training Required:</u> Info NA (Not Available)
<u>4</u>	<b>Leather and Leather Goods</b> -Current Turnover: US\$ 4 billion -Expected Turnover: US\$ 9 Billion by 2016 -Current employment- 160529 -Target employment – 230141 by 2016	Indian Leather Products Association (ILPA)		Central Leather Research Institute (CLRI) + National Council of Vocation & Training (NCVT)	<u>Courses</u> Diploma in Leather Goods Diploma in Leather Garments Diploma in Leather Footwear P.G. Diploma in Leather Processing <u>Training Required</u> - Chemistry - Leather processing etc.
<u>5</u>	<b>Chemicals and Pharmaceuticals &amp; Homeopathy</b> -Current Turnover: US\$ 66 billion -Expected Turnover: US\$168 Billion by 2016 -Current employment - 588275 -Target employment - 711990 by 2016	Indian Pharmaceutical Association (IPA)		Pharmacy Council of India (PCI) Indian Homeopathy Medical Association (IHMA)	<u>Courses</u> B.E , B. Tech in Chemical engineering M. Tech in Chemical engineering B. Pharm <u>Training Required</u> Info NA

SL NO	SECTOR SKILL COUNCIL	APEX INDUSTRY ASSOCIATION	ROLE & RESPONSIBILITY OF THE SECTOR SKILL COUNCIL	EXISTING STATUTORY & REGULATORY BODY CERTIFYING PROGRAMMES/ COURSES	COURSES PRESENTLY FEEDING THE SECTOR /SSC WRT HIGHER EDUCATION
<u>6</u>	<b>Gem and Jewellery</b>  -Current Turnover: <b>US\$ 16 billion</b> -Expected Turnover: <b>US\$ 41 Billion by 2016</b>	Gem & Jewellery Exporters Association	<ul style="list-style-type: none"> <li>Identify Skill deficiencies</li> <li>Envision the sectoral plan to meet growing needs</li> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> </ul>	Gemological Institute of India (GII)	<u>Courses</u> Diploma in Gemology Diploma in Diamond Grading Diploma in Jewellery Designing Gem Identification Certificate course Diamond Grading Certificate course Certificate Course in Cut Designing and Analysis <u>Training Required</u> -Info NA
<u>7</u>	<b>Architecture, Building &amp; Construction</b>  -	Builders' Association of India (BAI)	<ul style="list-style-type: none"> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	Council of Architecture (COA)  National Institute of Construction Management and Research (NICMAR)	<u>Courses</u> B E in Civil Engineering B. 42rc h PGP ACM : Post Graduate Programme in Advanced Construction Management PGP PEM : Post Graduate Programme in Project Engineering and Management PGP REUIM : Post Graduate Programme in Real Estate & Urban Infrastructure Management Construction Project Mgt Building Maintenance Mgt Construction Safety Mgt. Highway Project Mgt. Oil & Gas Pipelines Project Mgt. Oil & Gas Pipelines Project Mgt. Construction Contracts Mgt <u>Training Required</u> -
<u>8</u>	<b>Food Processing / Cold chain/ Refrigeration</b>  -Current Turnover: <b>US\$ 5.5 million</b>	India Chapter of the Global Cold Chain Alliance  All India Food Processors' Association (AIFPA)		Central Food Technological Research Institute (CFTRI)	<u>Courses</u> M.Sc. [Food Technology Programme) <u>Training Required</u> - Engineering - Statistics and Applied Mathematics - Packaging Technology etc.

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9	<b>Cottage industries, Handlooms and Handicrafts</b> Info NA		<ul style="list-style-type: none"> <li>Identify Skill deficiencies</li> <li>Envision the sectoral plan to meet growing needs</li> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> </ul>	State owned bodies  + NCVT	<u>Courses</u> Diploma in Handloom Technology  Diploma in Apparel Manufacturing Technology (AMT)  <u>Training required</u> NA
10	<b>Building Hardware and Construction / materials</b> Info NA	<b>Builders Association of India (BAI).</b>	<ul style="list-style-type: none"> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> </ul>	-	<u>Courses</u> Post Graduate Diploma in Building Technology, Post Graduate Diploma in Construction Project Management  Graduation in Building Sciences  BE/BTech Construction BE Civil Engineering <u>Training required</u> -
11	<b>Machine Manufacture</b> -Current Turnover: US\$ 30 billion -Expected Turnover: US\$133 Billion by 2016  -Current employment - 344745 -Target employment - 487309 by 2016	-	<ul style="list-style-type: none"> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	-	<u>Courses</u> BE Mechanical <u>Training Required</u> -
12	<b>Agriculture</b> -Current Turnover: US\$ 5 Billion -Expected Turnover: US\$ 38 Billion by 2016  Current employment – 93031 Target employment - 104929 by 2016			Indian Council of Agricultural Research (ICAR)	<u>Courses</u> BSc (Agriculture) / B.Tech/ B.F Sc (Horticulture, Agricultural Engineering, Food Science, Fisheries Sciences)  <u>Training requirements</u> 12 <sup>th</sup> Science

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13	<b>Furniture and Furnishings</b>  -Current Turnover: US\$ 15 Billion -Expected Turnover: US\$ 72 Billion by 2016  -Current employment - 182521 -Target employment – 436650 by 2016	-	”	NCVT	<u>Courses</u> Graduate Diploma in Industrial Design Graduate Diploma in Textile & Apparel Design Graduate Diploma in Furniture & Interior Design <u>Training requirements</u> NA
<b>Services</b>					
14	<b>Animation &amp; Gaming</b>  <b>Animation-</b> -Current Turnover: US\$460 million -Expected Turnover: US\$1.16 billion by 2012  -Current employment at all levels 20,789 -Target employment at all levels 30,000 by 2010  <b>Gaming-</b> -Current Turnover: USD 212 million - Expected Turnover USD1060 million by 2012 at a CAGR of 50%.  -Current employment at all levels 6,400 -Target employment at all levels 13,100 by 2010	National Association of Software and Service Companies (NASSCOM)  Federation of Indian Chambers of Commerce and Industry (FICCI)  & Confederation of Indian Industry (CII)	<ul style="list-style-type: none"> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	BAGS (Board of Animation & Gaming Standards)	<u>Courses:</u> B.A & Diploma Courses : - 2 D Animation - 3 D Animation - Game Design - Game programming  <u>Training requirements:</u> - Animators - Rigging - Texturing - Script Writing - Modeling, - Storyboarding - Animatics - Engineering - C, C++ etc.
15	<b>ITs or Software Services /Products</b>  -Current Turnover: US\$ 59.6. Billion (including exports + domestic )  -Expected Turnover: US\$ 225 Billion by 2020	NASSCOM (National Association of Software and Services Companies)		All India Council of Technical Education (AICTE)  University Grants Commission (UGC)	<u>Courses:</u> - B. E - B. Tech - B CA - MCA - <u>M. Tech</u> <u>Training requirements:</u> -Application Development

	(including exports + domestic )  -Current employment at all levels 2.226 million-direct 8 Million indirect  -Target employment at all levels 10-13.5 million-direct by 2020		<ul style="list-style-type: none"> <li>• Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>• Establish institutional outcomes and standards for the purpose of accreditation</li> <li>• Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>• Certify the courses and institutions accredited via the empanelled agencies</li> <li>• Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	National Accreditation and Assessment Council (NAAC)	<ul style="list-style-type: none"> <li>-Application Maintenance</li> <li>-Product Support</li> <li>-Application Testing</li> <li>-Data Analytics &amp; Processing</li> <li>-Infrastructure Management</li> <li>-Business Process Management</li> <li>-Enterprise Content Management etc.</li> <li>-Communication Skills</li> <li>- Project Management Skills</li> </ul>
16	<b>BFSI</b>  Insurance- USD 41 Billion in 2007  Retail finance- USD 27 billion in 2004, USD 75 billion by 2010 Total banking assets to grow to USD 1 trillion by 2010	Indian Banks Association (IBA)  Securities Exchange Board of India (SEBI)  National Commodities Exchange (NCX)		NAAC UGC & Indian Institute of Banking and Finance (IIBF)	<u>Courses:</u> <ul style="list-style-type: none"> <li>- B . Com</li> <li>- Diploma in Treasury, Investment and Risk Management</li> <li>- Diploma in International Banking &amp; Finance</li> <li>- Diploma in Banking Technology</li> <li>- Diploma Examination for Micro Finance Professionals</li> <li>- Diploma In Commodity Derivatives For Bankers</li> <li>- Post Graduate Diploma In Financial Advising Examination</li> <li>- Diploma In Home Loan Advising</li> <li>- Advance Diploma in Urban Co-Operative Banking</li> </ul> <u>Training requirements:</u> <ul style="list-style-type: none"> <li>- Banking Sub domains</li> <li>- Life Insurance</li> <li>- -General Insurance</li> <li>- Health Insurance</li> <li>- Finance and Accounting Sub Domains</li> <li>- Communication Skills</li> </ul>
17	<b>ITES-BPO/ KPO services</b>  Covered under Point 15	NASSCOM		NAAC AICTE & UGC	<u>Courses:</u> <ul style="list-style-type: none"> <li>- B. COM</li> <li>- B. E</li> <li>- B.Tech</li> <li>- B SC</li> </ul> <u>Training requirements</u> <ul style="list-style-type: none"> <li>- Communication Skills</li> <li>- Soft Skills</li> <li>- -HR Processes</li> <li>- Supply Chain</li> </ul>

					Management - Medical Transcription - Call Center Operations Etc.
18	<b>Organized Retail</b>  -Current Turnover: <b>US\$ 511 billion</b>  -Expected Turnover: US\$833 Billion by 2013 and USD 1.3 trillion by 2018  -Current employment at all levels 40.Million -Target employment at all levels 44 .Million by 2016	Retailers Association of India (RAI)	<ul style="list-style-type: none"> <li>• Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>• Establish institutional outcomes and standards for the purpose of accreditation</li> <li>• Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>• Certify the courses and institutions accredited via the empanelled agencies</li> <li>• Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	UGC NCVT	<u>Courses:</u> - Post Graduate Programme in Retail Management - B. Com - B SC - B A  <u>Training requirements</u> -
19	<b>Real Estate Services</b>  -Current Turnover: US\$ 48 billion	Confederation of Real Estate Developer's Associations of India ( CREDAI)		NCVT	<u>Courses:</u> - B Com - MBA - VET <u>Training requirements</u> -
20	<b>Media,  Entertainment ,  Broadcasting,  Content creation</b>  Media & Entertainment - Expected Turnover - US\$ 20.09 billion by 2013	FICCI & CII		UGC & NCVT	<u>Courses:</u> - B A in Mass Communication - B A in Broadcasting - B A in Journalism <u>Training requirements</u> -
21	<b>Medical, Dental and  Nursing &amp;Healthcare  Services</b>  -Current Turnover: US\$ 40. Billion  -Expected Turnover: US\$ 80 Billion by 2013	Indian Medical Council (IMC)		Medical Council of India (MCI)	<u>Courses:</u> - MBBS - M D - Diploma in Nursing etc.  <u>Training requirements</u> -
		Indian Dental Council ( IDC )  Association of Surgeons of India (ASI)		Dental Council of India ( DCI)  Indian Nursing Council (INC)  Rehabilitation Council of India (RIC)  Indian Academy of Pediatrics ( IAP)	

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22	<b>Tourism Hospitality and Travel Trade</b>  Travel & Tourism – Current Turnover - US\$ 67.3 billion (2009)  Expected turnover - US\$ 187.3 billion by 2019	Hotel association of India (HAI)  Tourism Export Promotion Council (TEPC)	<ul style="list-style-type: none"> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> </ul>	UGC & NCVT	<u>Courses:</u> <ul style="list-style-type: none"> <li>B.A in hotel management</li> <li>B A in hospitality</li> <li>B. Com</li> <li>MBA</li> <li>etc</li> </ul> <u>Training requirements</u> -
23	<b>Education Skill Development &amp; Services, Teacher Training</b>  Education sector market size- USD 50 Billion in 2007		<ul style="list-style-type: none"> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	NCTE (National Council of Teacher Education)  NCVT  UGC  NAAC  AICTE	<u>Courses:</u> <ul style="list-style-type: none"> <li>B. ED</li> <li>M. ED</li> <li>All UG,PG and PhD</li> </ul> <u>Training requirements</u> <ul style="list-style-type: none"> <li>Teaching Methodology</li> <li>Outcomes based teaching learning process</li> <li>Linking education to employment</li> <li>Soft skills and professional skills</li> <li>Use of ICT for teaching Etc</li> </ul>
24	<b>Management, Services, Hotel Management, Company Secretaries</b>			Chartered Accountants of India (CAI)  Institute of Costs Works Accounts of India (ICWA)  Institute of Company Secretaries of India (ICS)	<u>Courses</u> <ul style="list-style-type: none"> <li>BBA</li> <li>MBA</li> <li>BCom</li> <li>MCom</li> <li>Chartered Accountant</li> <li>Company Secretary</li> <li>Degree/diploma in hotel management</li> </ul> <u>Training Required</u> -
25	<b>Legal Affairs</b>  -Current Turnover – USD 46 million (2008) -Expected Turnover – USD 206 (2012)			Bar Council of India (BCI)	<u>Courses</u> Bachelor of Law / LLB & LLM etc <u>Training Required</u> -
26	<b>Entrepreneurship, IPR , R&amp;D</b> -	-		-	<u>Courses</u> - <u>Training Required</u>

SL NO	SECTOR SKILL COUNCIL	APEX INDUSTRY ASSOCIATION	ROLE & RESPONSIBILITY OF THE SECTOR SKILL COUNCIL	EXISTING STATUTORY & REGULATORY BODY CERTIFYING PROGRAMMES/ COURSES	COURSES PRESENTLY FEEDING THE SECTOR /SSC WRT HIGHER EDUCATION
27	<b>Transport/Logistic, Warehouse and Packaging etc.</b> - Current Turnover USD 90 billion in 2007  -Expected Turnover :USD 125 billion in 2010	<b>Association of Specialized Logistics in India</b>	<ul style="list-style-type: none"> <li>Establish program / course / curricula outcomes and standards for the purpose of accreditation</li> <li>Establish institutional outcomes and standards for the purpose of accreditation</li> </ul>	-	<u>Courses</u> Diploma/degree courses in Logistics management, material management  <u>Training Required</u> -
28	<b>Telecom</b> -Current Turnover: US\$ 10billion -Expected Turnover: US\$26Billion by 2016  -Current employment at all levels 1million -Target employment at all levels2.million by 2016	Telecom Regulatory Authority of India (TRAI)  Cellular Operator Authority of India (COA)	<ul style="list-style-type: none"> <li>Establish standards and empanel the accrediting Agencies; their PDOs, KPIs, and PEMs</li> <li>Certify the courses and institutions accredited via the empanelled agencies</li> <li>Undertake performance measurement and rating/ranking of institutions and courses</li> </ul>	Institute of Telecom and Communication Engineers (IETE )  &  Advanced Learning & Training (ALT), Ghaziabad	<u>Courses</u> - Diploma in Telecom - BE in Telecom by IETE. - MBA in Telecom by IGNOU - Advance Technical Course by ALT, Ghaziabad  <u>Training Required</u> MES based 100 to 200 hrs curriculum on: - Certificate Program in Telecom Sales - Certificate Program Telecom Customer Service - Certificate Program in Installation & Fault Repair - -Certificate Program in Tower Maintenance

Source: Industry Associations, ICRIER, the 11<sup>th</sup> 5 Year plan and “Case for Setting Up Sector Skill Councils in India” –CII ,Technopak, IBEF, Annual Survey of Industries 2007-08, F&B website

There are many gaps in the information required, as is indicated in the above table. The Indian education system has to move into an extensive programme of mapping skills and competencies in these identified sectors, develop standards, design and develop courses at all levels and establish accrediting and audit bodies to assure and ensure the requisite quality for the same.

### c.Challenges-Strategy and Operations of the SSCs

The recommendations below are categorised as challenges and require strategies to make them operational under the SSCs, to enable the desired outcomes, in the set interval of time. It is essential to:

- Identify all employment opportunities under all the SSCs at all levels and map the skills and competencies required for horizontal and vertical mobility both academically and professionally. Identification of skills to be developed with an emphasis on employability and training sector-wise is the need of the hour. Hence SSCs are to assess skill requirements w.r.t industry demand in both the organised and unorganised sectors;



- Ascertain standards of training, procedures of delivery, quality assessment criteria, and review mechanisms and parameters on which the training institutes and programmes can be measured;
- Address the mammoth task of the envisioned scale of developing the SSCs and to accredit all the programmes / courses/curricula and institutions to capacity, at all levels in the next three years;
- Ensure the equity and access of quality education for all, under SSC (youth, disadvantage communities, minorities, the poor, women, disabled, dropouts, and those working in informal economies);
- Bridge the skill gaps between supply and demand using multiple interventions;
- Diversify skill development programmes to meet the changing requirements, particularly of the emerging knowledge economy;
- Identify curricula standards pertinent to various employment streams, to continually meet the requirements of industry at all levels, thus building true market place competencies rather than mere qualifications;
- Ensure the quality and relevance of training;
- Establish a national educational and qualifications framework providing mobility between education, training and employment;
- Provide opportunities for lifelong learning through appropriate continuous skill upgradation and development;
- Promote the active involvement of all stakeholders in a PPP mode;
- Establish institutional arrangements for planning quality assurance and the coordination of skill development across the country;
- Build physical and intellectual resources necessary to the skills development system;
- Develop a system for sustainable growth and adequate mobilisation of finances for the same;
- Develop a system in which qualifications and certification are quality assured and recognised nationally across organisations;

It is also recommended that the Sector Skill Council, State Chapters maintain ongoing contact with the training schools, colleges, employers and potential employees in order to develop an efficient market led information mechanism.

## **Part V Guidelines for an Intergrated Outcomes Based Course /Curriculum/Ptogramme for the purpose of Accreditation**

### **a.Removing Affiliation**

'Approval', 'Affiliation' and 'Accreditation' are three words that have different meanings for different educational institutions under the broad categories of 'Engineering' and 'Non engineering'.

For example an engineering college:

- Needs to be 'Approved' by AICTE (All India Council of Technical Education) for the purpose of admissions and collaborations with foreign universities and other engineering colleges and technical institutions;
- Needs to be affiliated to a University to be able to award degrees under the brand name of that University;
- Runs programmes that are accredited by NBA (National Board of Accreditation ) as a stamp of quality (standard). This does not imply attainment of institutional quality and hence extends towards a certificate of accreditation for the institution too.

Likewise, non engineering institutions:

- Have to be approved by UGC (University Grants Commission) and ;
- Are accredited by NAAC (National Accreditation and Assessment Council)- NAAC accredits only institutions.

Nevertheless 'Accreditation' is not a pre-condition to operate in India. It is a periodic quality assurance mechanism over and above the regulatory checks and balances built into universities, colleges and other educational institutions.. The consequences of failing an accreditation assessment, or not volunteering for accreditation, are left to the Government and funding agencies.

In the present scenario University "Affiliation "is mandatory to offer any degree programmes in addition to 'Approval' .

It is often indicated that the paucity of skills and competencies in individuals that come through the portals of our education system, is because of our outdated, irrelevant curricula. Appropriate and timely changes in the curricula, leading to outcomes that are relevant and pertinent to industry needs, are not the norm.

The majority of our colleges are affiliated to Universities. Thus 'Affiliation' is one of the reasons quoted, for the lack of necessary and timely curricula change. Universities, Deemed Universities, Autonomous colleges, Institutes of National interest, can change their curriculum at will, addressing market forces.

However, most affiliated colleges indicate an inability to muster the competency and the initiative to change the curriculum because their affiliating universities do not do the needful towards the same.

It is thus recommended, as indicated below, that in the new system, for the purpose of nurturing quality in the outcomes of the curriculum espoused, which is to constantly evolve, in tune with industry requirements:

- Affiliation will not be mandatory;
- Only those institutions that do not (or cannot) want to issue degrees are required to affiliate themselves to a university/institution that is fully accredited;
- Every institution will have the freedom to design its own curriculum and assessment system;
- Every institution/university/college will have the choice to grant or not grant affiliation;
- It is essential for all institutions (independent or affiliated) to accredit their courses and institution (institutional accreditation is voluntary);
- The institution granting affiliation should ensure that colleges that are affiliated meet quality requirements;
- The institution granting affiliation will also share some liability of the institution seeking affiliation;
- Each institution can have only a specific number (minimum 2, maximum 3) of colleges affiliated to them called sister concerns;
- It is the responsibility of the institution to ensure that its affiliated colleges/sister concerns meet, and continue to do so periodically, regarding quality concerns. Failing to maintain the quality standards, can result in the loss of accreditation status, unless evidence suggests that the fault lies with the affiliated college/institution and not the affiliating institution.

If the Certificate of Accreditation of an university/institution granting affiliation is withdrawn

- Colleges that are affiliated will have to transfer their affiliation to a sister concern;
- From the subsequent year of transfer of affiliation, every affiliated college should be ready to meet the quality requirements of the new institution;

If the Certificate of Accreditation of an affiliated college is withdrawn or not cleared

- No new admissions will be permitted for that college;
- All existing students will automatically be transferred to the sister concerns (it is for this purpose; standards in curricula are recommended, that the syllabus of the affiliating and affiliated institutions be similar in content);
- All staff (teaching and non-teaching) may also be relocated accordingly;
- New admissions will be permitted, once a full certification of accreditation is granted;

- The affiliating institution too will be open to scrutiny, to help determine the reason the affiliated institution was able to maintain and showcase the desired quality standards.

### **b.An outcomes based course/ program /curriculum**

' A Curriculum is the whole set of influences and events, both planned and unforeseen, which impinge upon students during their period of education and which will, sooner or later, affect their ability to understand and achieve the aims of the course (program) and, indeed, of the wider arena for which they are being educated. (Burrell et al.1988)'. Hence, a curriculum is not just a guideline document, regarding any particular course/program of instruction, but is the sum total of measures undertaken to develop a responsible, caring individual with lifelong learning practices firmly in place.

For any educational programme to adequately respond to the challenges of education, towards the sustainable development of society, a virile, dynamic and living curriculum is essential. As the needs of society are always changing due to the incessantly changing pace of technology, global market forces, and the unique peculiarities of that society, hence the relevance of a programme of study to the society, is in its readiness to adapt to these changing realities.

The aims and objectives of each academic program must be synchronized with societal needs in an ongoing and continuous way. The curriculum is the vehicle by which this can be achieved. The challenge is to structure the curriculum to accomplish this goal. The quality and currency of the curriculum must therefore feature prominently in any accreditation process.

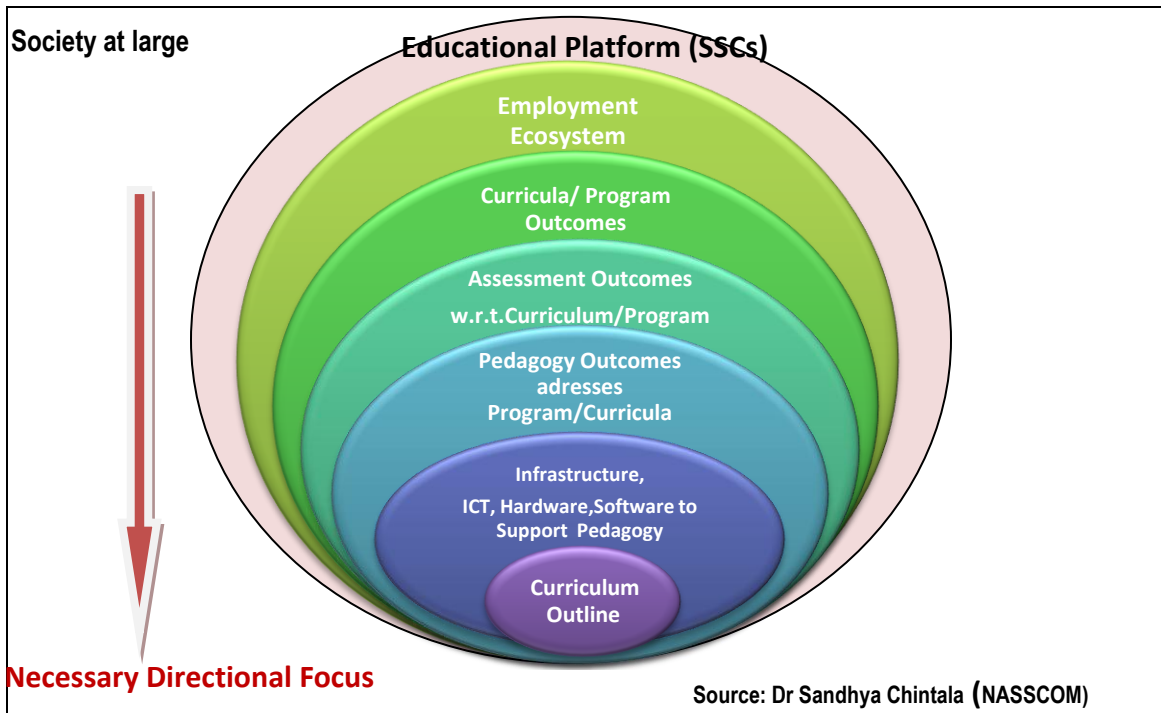
#### Recommendations:

- A well designed curriculum has a critical role and is meant to address four fundamental questions:
  - what are the educational purposes that the curriculum should seek to address?
  - what educational experiences can be provided via the curriculum that is likely to attain these purposes?
  - how can these educational experiences be effectively structured through the curriculum?
  - how can we determine whether these purposes are being attained by way of the assessment strategy which is a part of the curriculum?
- A curriculum must be designed to deliver set outcomes, which reflect learning skills and specific domain related competencies in the appropriate ratio;
- The outcomes based curriculum must be an integrated one addressing the:
  - **structure** – logically sequenced, so as to ensure an appropriate mix of theory (classroom or laboratory-based teaching and learning) practical and skills developed;
  - **process** –the adoption of a student-oriented approach, which juxtaposes theory and practice in such a way as to assist students to integrate their classroom learning with their experiential learning; in appropriately
  - **supervised practice** - which permits progressive acceptance of responsibility; and
  - **outcomes** – the achievement of competency in practice;

- The outcomes of a program of instruction embedded in a curriculum must be employment oriented and empower lifelong learning including:
  - communication skills
  - teamwork
  - problem solving
  - initiative and enterprise
  - planning and organizing
  - self-management
  - learning
  - technology
- Course/programme outcomes are to be revamped and constantly so, to meet the requirements of the world of work in the global context;
- An 'Outcomes based Curriculum' must integrate the desired 'Outcomes' with appropriate 'Processes' and adequate 'Inputs' for suitability, scalability and sustainability;
- The 'Outcomes' based approach prescribes a "small" core curriculum and other basic requirements. It defines the basic parameters for the goals of the program but not the specific goals of the program;
- The 'Outcomes' based curriculum requires the measurement of goals looking for evidence that these measurements have been used to foster a quality improvement process. An advantage of this model over the regular model is that the outcome-based model provides for significant diversity in goals and objectives. In theory it allows programs to declare, and be judged by, their own objectives and goals;
- As indicated in the flow chart below , the educational platform, must not only address the development of life skills, but also attend to the employment platform by identifying and mapping the required skills and competencies;
- Specific outcomes, in relation to certain skill sectors, w.r.t. Sector Skill Councils (SSC) and the employment opportunities within, must induce assessment outcomes, which in turn will define the pedagogy and the infrastructure to achieve those outcomes. Last but not the least, these inputs, must crystallize the curriculum and the syllabus to be pertinent and effective;
- This process is to be ongoing for the purpose of relevance, in the world of work. Hence, managing curricula change, is a critical factor in ensuring the desired quality outcomes;
- Quality outcomes, in turn, must be derived by integrating educational experiences that are effectively organized. For that, an integrated curriculum as indicated in the flow chart below is the key;

- Recommended Structure of an “Outcomes Based Curricula Flow” ;

**Figure 7**



- The organization of educational experiences, should be such as to prepare the student, through a gradual process of deepening knowledge, increasing skills attainment and sensitivities to work in ‘the wider arena’;
- The complexities of the real world of work and professional practice, are to be addressed to become qualified and competent in ‘Skills Sector’ of one’s choice.

### **c. Accrediting the Curriculum by the Sector Skill Council**

- A Sector Skill Council (SSC) to accredit curriculum has to first identify the quality parameters w.r.t outcomes, processes and inputs, of the said curriculum pertinent to a particular level;
- To assure and ensure the quality it is essential to consider the curriculum as a living document for achieving education for sustainable development ;
- The identified ‘ integrated curriculum’ will be appropriate as the national standard for that particular programme, and permutations and combinations of the same, w.r.t on the field requirements have to be clarified with the appropriate weightages;
- Agencies /bodies with the appropriate capability and capacity to certify are to be empanelled by the SSC;

- Empanelled accrediting agencies are authorised to accredit and certify the programmes concerned under the SSC brand for a given period of time;
- Independent ranking bodies, national and international, can rank the programme based on its real time performance and efficacy and publish the same;
- Feedback regarding the accrediting process and the performance of the agency concerned, from the appropriate authority in the educational institution accredited, is forwarded to the SSC (State Chapter);
- The feedback process and the correlation of outcomes with the end users is utilised to rank the performance of the accrediting agency, which will be factor responsible, in renewing the licence of the accrediting agency concerned.

#### **d. Auditing Program Accreditation and Certification**

An accredited curriculum that remains stagnant for many years is a direct indication of the fact that the changing needs of society are not being adequately addressed. It often suggests that teaching faculty of the programme is somewhat oblivious to the current trends in knowledge. Sometimes, a dormant curriculum very quickly becomes obsolete and irrelevant. Hence constantly changing the outcomes and the curriculum per say, to reflect industry trends, is the progressive path to nurture.

However, the efficacy of skill transference is embedded in the teaching-learning process which must cater to the target audience and their capabilities, individual and collective. Thus, the appropriateness of the outcomes of the curriculum must be tailored to the learning styles of the target audience/students. Therefore, to ensure if the set outcomes are appropriate and not impossible, and to measure the effectiveness of the pedagogy espoused in addressing the course development objectives, a course/programme audit is necessary.

#### Recommendations

- The objectives of a programme for meeting the needs of society in a particular discipline should dictate the outcomes of the educational program for an individual;
- Any perception from employers, that graduates of a programme do not adequately meet industry expectations, should be seen as an indictment of the curriculum design process of the program;
- The outcomes of a programme are in essence the results of the execution of an appropriate curriculum. If these outcomes are to meet the requirements of the needs-sensitive objectives of the programme, then the curriculum must be fashioned to be sufficiently fluid to make it adaptive to the rapid growth of technology and changing societal expectations;
- Thus, the mark of the relevance of an academic programme to its society is the readiness to undertake periodic review of the curriculum in consonance with these societal needs;

- A Sector Skill Council (SSC) to regulate /audit the efficacy of an integrated/outcomes based curriculum has to first identify the ensuring quality measures for the same;
- The published auditing /regulatory process w.r.t the 'integrated curriculum' will have to be clarified with the appropriate weightages and published;
- Dipsticks and time cycles for curriculum/course/programme audit are to be published and accomplished;
- The key performance indicators and ensuring measures of the integrated curriculum are established and appropriate weightages allocated;
- Agencies /bodies with the appropriate capability and capacity to audit are to be empanelled by the SSC;
- Empanelled audit/regulatory agencies are authorised to accredit the programmes concerned under the SSC brand for a given period of time;
- Independent ranking bodies national and international can rank the audit/regulatory agencies, based on appropriateness and relevance of their performance and publish the same.

## **Part VI. Guideline Criteria for Institutional Accreditation**

In India the NAAC is the body responsible for institutional accreditation. NAAC has with effect from 1<sup>st</sup> April 2007, revised its accreditation process and criteria<sup>8</sup>. However it still leaves plenty to desire. Accreditation in India, as in the developed and economically vibrant countries, should be a process that takes into account every nuance that goes into running a high quality educational institution that spells excellence. The criteria for excellence in institutional accreditation, therefore must not only be specific and extensive, but also be regularly revised to ensure its contextual validity.

Accreditation to be relevant has to be able to effectively answer three basic questions:

- Why accredit?
- What to accredit and certify?
- How to accredit and certify?

Educational accreditation, in totality, must at the least, ensure the required quality (on par with international norms) regarding infrastructure and teaching, link education to employability, prevail in cross referencing programme credits, recognise and ascertain the equivalence of qualifications from other institutions national and international, prevent the mushrooming of poor quality institutions and ensure global quality standards for equity and access.

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<sup>8</sup> Current NAAC criteria for accreditation provided in Annexure 3



The process of accreditation should guide the way to market generated rating of institutions. Besides being established as a programme and or an institution of quality, it also behaves as an indicator, based on which funding may be provided. In the long run, making accreditation desirable and exceedingly advantageous also helps ensure that all institutions meet the basic quality standards and produce students who are globally employable. Since one of the direct consequence of accreditation is the right to issue degrees, foreign universities may consider coming to India as partners in collaboration with Indian universities thus raising standards.

It is interesting to note that the 11<sup>th</sup> Five Year Plan strongly recommends that 'Accreditation' be made mandatory for all institutions<sup>9</sup>. However accreditation without a periodic independent audit, with consequences for non-compliance would be a futile exercise in itself.

## Recommendations

### **a. Administration and Coordination**

Administration and coordination must take into consideration the following:

- Governance structure;
- Admissions;
- Academic matters;
- Non academic matters;
- Database and record maintenance of the institution its faculty and students (student database must be verified and shared with employers during placement );
- Finance and accounts;
- Examination and certification;
- International office;
- Processes for continuous improvement.

### **b. Physical Infrastructure**

Physical infrastructure to be considered as criteria for accreditation must include the following:

- Floor plans;
- Building and utility details ;
- Class room infrastructure requirement (stream & vertical wise);
- Lab infrastructure detail (stream and vertical wise);
- Technology requirement (PC, network LAN &WAN internet)

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<sup>9</sup> Refer to Annexure 7, Quote 2 for the exact quote.

- Library and its related infrastructure;
- E-learning infrastructure with assessment infrastructure for scale, and tracking students from application, to registration up to the award of a degree.

### **c. Learning/Teaching Infrastructure**

Learning/Teaching infrastructure criteria must include the following, pertinent to requirement:

- LCD;
- Projector;
- TV;
- ICT and related equipment;
- Studio for learning and development;
- Audio-video conferencing facilities;
- Auditoria;
- Discussion rooms with flip charts, white boards and related material;
- Multimedia, self-instructional, web enabled and CD based e-courseware on Shareable Content Object Reference Module (SCORM) compliant 'Learning Content Management Systems' (LCMS).

### **d. Faculty Competency & Integrity to Ethical Practices**

The criteria to be followed under this heading must include:

- Qualifications and opportunity for updating;
- Education experiences offered to students;
- Professional development undertaken—domain, skills and competencies i.e. pedagogy, content assessment and evaluation;
- Innovation & R&D capabilities (self);
- Supervisory capabilities for nurturing R & D leading to PhD
- Consulting to solve local problems;
- Leadership and management skills.

### **e. Curriculum and Courseware/Course Content**

- Curriculum design;
- fundamental concepts interlacing all verticals—'learn by doing' infrastructure and not by rote
- domain concepts intoned with industry requirement

- curriculum design – national
- periodic updating of curriculum design and courseware-maintaining international parity and ensuring that it is more dynamic, by allowing induction of practice by professors or guest faculty
- proper HR structure is critical
- Self -Financing courses;
- Additional industry orient courses;
- Programmes for professionals as a revenue earner.

#### **f. Pedagogy**

- The right pedagogic approach can cater to the different learning styles of the human resource concerned and ascertain the taxonomy of skills, entirely relevant in the present work environment. The full array of 'Bloom's Taxonomy'<sup>10</sup> 'of thinking /learning skills must be aimed at every student and the teaching-learning process must aspire to empower the same;
- The skills highlighted are as indicated: Starting with 'Knowledge' at the lowest level in the compendium of thinking skills, it leads up to 'Understanding', 'Application' 'Analysis', 'Synthesis', and finally 'Evaluation'. However 'Effective Communication' and 'Soft Skills' are prerequisites in the bouquet of proficiencies required for gainful employment;
- Sculpting the details of the teaching methodology and the learning experiences provided to learners, at all educational levels, is critical in achieving the desired outcomes;
- As a part of institutional accreditation it is essential to include programme accreditation, which must address the aspirations and the capability of the applied pedagogy to encompass, at the least:
  - learner centric methodologies
  - problem solving and analytical skill development
  - project management
  - hands on approach
  - self-learning techniques
  - tutorials /labs
  - internship

#### **g. Assessment and Evaluation**

- The assessment and evaluation of an accredited programme /curriculum in an educational institution is a critical enabler of outcomes aimed at gainful employment and the development of a well-rounded individual;
- Multiple modes of assessment ought to be available to effectively identify individual and group proficiencies, structured in a manner as indicated below:

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<sup>10</sup> For further information on Bloom's Taxonomy please refer to <http://www.officeport.com/edu/blooms.htm>

- formative/continuous-student
  - summative-student
  - institutional performance
  - departmental performance
  - state wide performance
- It would be appropriately illustrative to include, that assessment and evaluation leading to 'Accreditation' and the related 'Regulation/ Audit' should:
    - have a critical role in measuring the programme's/institution's current state of educational effectiveness against specified benchmarks and also help identify suggestions for improvement
    - decide and articulate the dimensions of institutional and programme quality, effective only when all stakeholders of education are involved, including management, faculty members, employers, government., peers, alumni, parents/public
    - be based on parameters encompassing enrollment, academic and extracurricular offering, governance (leadership team, professional faculty), financial information, accessibility (special educational needs), physical resources, learning and technological resources (classrooms, labs, network infrastructure, buildings and grounds)
    - focus on student outcomes along with experiential learning which is multidimensional in nature and involves elements of learning from the course, additional curricula etc, to name a few
- However, it is recommended that assessments leading to 'Regulation/ Audit' declarations with respect to 'Accreditation' should be ongoing and not sporadic;
- In the process of developing a new system or revisions in the existing 'Accreditation' and 'Regulation/ Audit' system, pertinent to the Indian context, a number of questions have to be taken into consideration:
    - do the same assessment mechanisms hold true for a spectrum of institutions, for example a standalone engineering college (a deemed university) verses a university technical school (Example a VIT v/s a JNTU School of IT)?
    - would it be dependent on size, curriculum offerings etc. i.e. regular, distance, twinning, and targeted audience?
    - how do we ensure that the assessment and evaluation process is used for institutional improvement?
    - what happens when an institution adds a new course or additional seats are allocated to them – will the evaluation be done immediately within 6 months or we allow self regulation/voluntary compliance?
    - how will institutions conduct qualitative assessment besides quantitative assessment?
    - to what extent will the evaluation (Regulation/ Audit) results be made available in the public domain?
    - will uniform accreditation procedures ensure credit transfers for students, between universities national and international?

## **h. Placement -National & International**

- A key parameter in ensuring institutional accreditation is the structured approach undertaken in ascertaining employment skills and opportunities to all learners;
- It also underpins the efficacy of programmes in the institution, in empowering its learners to be gainfully employed;
- The weightage advocated to the placement process must be relevant and appropriate, to tip the scales in the allocation of the status of “Accredited” with reference to the ‘Institution’ and or ‘Programme/Curriculum’;
- Employment as a natural consequence of a learning programme must be considered a mandatory responsibility of the institution or as one of the key deliverables/outcomes of the programme concerned;
- In centres of learning, placement officers and their role and responsibilities needs clarity and focused training too. Other aspects related to the placement process, with respect to the below mentioned, requires urgent attention to make our programmes/curricula efficient and effective.
  - career counseling;
  - employment skills awareness and training (Soft skills and Professional skills);
  - career awareness and recruitment drives;
  - employability assessment (Education to Employment).

All developed countries have demonstrated mature placement processes wherein there is immense synergy between academia, industry and government. Often, public funding is directly related to the placement process and is applicable at all levels of education.

## **Part VII Guideline Norms for Empanelling Outsourced Accreditation and Regulation Agencies**

### **Essential Parameters for the Empanelment of Outsourced Accreditation and Regulation Agencies**

This section covers as recommendations, some general characteristics and parameters to be considered while outsourcing the processes of ‘Accreditation’ and ‘Regulation /Audit’ regarding course/program/curriculum and institutional certification, w.r.t the quality standards addressed and maintained, as per the established norms in the education ecosystem.

Outsourced agencies for the purpose of educational accreditation and audit must clearly understand the principles of assessment and evaluation regarding quality with reference to educational institutions and programs of learning and research.

The field of assessment of ‘quality’ like all other specialized disciplines has many important concepts, principles, and methods to guide the evaluation process. The need for evaluation and rating and the

subsequent accrediting / auditing of educational institutions and various programmes cannot be over-emphasized.

While choosing accrediting and audit agencies it is essential to make performance evaluations, based on findings that are evidence-based, generated through thorough assessment to encourage judgments and improve perception of relative value.

These agencies must indicate, if in the development of a customized process for accreditation and regulation they have taken into consideration the appropriate answers to the following questions:

- What kind of evaluation system does India need?
- What should be the rating process and the nature of rating?
- How do we make our rating system robust and fool proof?
- What should be the role of rating agencies?
- What should be the role of the regulator?
- Who and how are the standards to be developed?
- What should be the modus operandi for rolling out the rating service?
- Should we re-engineer or develop standards de novo?
- What should we expect from our rating system?

NAAE and NBER would provide the guideline answers to the above stated questions. To empanel accrediting and regulatory /auditing agencies to evaluate and grade/rank educational institutions and programmes of instruction, we need great clarity as a nation, regarding the aspirations of our educational framework.

Inconsideration of the required quality to be demonstrated by the agencies regarding their assessment and evaluation processes, coupled with desired requirement for scale, we need to:

- Clearly articulate the role and responsibilities of the agencies concerned;
- Identify the experiences, processes and resources that an agency must have to evaluate and rank to the desired scale;

To short list and select the most eligible agencies it is essential to:

- Prepare and float an RFP( Request for Proposal) to the desired effect;
- Establish a qualified body to render the tender process;
- Test these agencies through a pilot process ;
- Provisionally accredit the agencies to perform;

- Post a trial period, they could be certified to be the official accrediting and auditing/regulatory bodies;
- The agreement is signed to offer the agencies full status to evaluate, rank and certify as directed;
- KPIs (Key performance Indicators) and EMs (Ensuring Measures) for these accrediting and auditing agencies/firms are identified, and applicable in measuring their performance by the SSC and NAAE/NBER as appropriate;

The above points could be designed and developed by a team of experts who are from ranking and rating agencies the world over. They should have the responsibility to prepare the standards and the criteria required for the empanelment of agencies. The standards and criteria should be framed under the triple framework of input, process and outcome that includes the requisite knowledge of and to show evidence of improvement under the following broad segments:

- Knowledge of multiple educational systems and the continuity of education and research;
- Care of student outcomes;
- Faculty and trainers;
- Training facilities;
- Teaching/research methodology and feedback;
- Faculty resource;
- Adequate academic support;
- Research facilities;
- Regular updates in call areas pertinent ;
- Facility management.;
- Infrastructure;
- Course equipment;
- Student quality and assessment;
- Continuous quality improvement;
- Information management;
- Management quality;
- Track record;
- Sustainability of operations.

Though the above list is not exhaustive it is important to note that the benchmarks developed by the individual agencies should capture both adequacy (both in terms of numbers and value) and appropriateness in each of the above areas, to ensure reliability, reproducibility and validity of quality standards. The rating process developed by the agency should include, rating of individual courses (multiple streams) as well as the entire education institute

The agencies to be empanelled should have enough experience in identifying and or developing benchmarks, making available the same, in the form of a quality manual, which would be upgraded on a regular basis.

The standards and the benchmarks developed should be available in the public domain so that anybody can evaluate the educational institutes (including self-evaluation) and arrive at a similar rating as awarded by the chosen body/agency.

The agency should have enough experience of having awarded ratings and monitoring performance to improvement on a yearly basis for a minimum of 3 consecutive years.

Empanelled institutes should have enough experience independently rating “Educational Institutes” and their “Programmes of Study” that would help students in their decision making process of choosing an institute for a particular course.

Further, the certifying agency /body should be able to rank and compare the rating benchmarks of the various institutes and courses/programmes against the best domestic and international practices and also rank them vis-à-vis each other. This assists the institutes in adopting the best industry practices and also provides a strong impetus to further improve their educational standards. Apart from the above, rating provides an independent and unbiased third-party opinion to other stakeholders such as government bodies, regulating agencies, funding agencies etc.

Some of the challenges in the achieving the desired outcomes of ‘Accreditation’ and ‘Regulation’ through appropriate evaluation and rating are dependent on the:

- Appropriate weightage afforded to the quality parameter;
- The ability of the process to demonstrate the actual improvement through evaluation;
- Provide verifiable evidence of evaluation and ranking;
- The agency’s ability to effectively and systematically collect , measure and make information available on the outcomes of education. i.e. the quality of students' learning.
- The fact if ‘outcome based assessment ‘ by itself produce enough evidence to permit thorough understanding of the behavior of an educational system ;
- Ability of how can rating be used to assess the quality of input ;
- Quality indicators identified and how they can capture the accountability, effectiveness, and intent of design;



**SECTION D**  
**THE WAY FORWARD**

## 4. Section D-The way forward

### Implementing the Recommendations

As the India grows as a knowledge economy and competes internationally, it is faced with the realization that our base of skilled and knowledge workers is particularly narrow. It has been noted that, in order to sustain a high level of economic growth, it is essential to have a reservoir of skilled, trained workforce with the requisite skills – in terms of nature, quality and numbers.

Skills and knowledge are the driving forces of economic growth and social development of any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of globalization. Shortages have already emerged in a number of sectors in our country that constitutes a major handicap. To address the emerging knowledge economy various measures have to be developed and executed in parallel.

This calls for a national education framework that realigns, repositions and links K-12, VET and HE (Higher Education) for the organized, the unorganized and the formal and non formal sectors. Simultaneously academic skills, generic employment skills at all levels, specific domain competencies and skills for employment opportunities (exhaustive) regarding the identified Sector Skill Councils, has also to be developed.

It is essential that all industry sectors and their verticals provide exhaustive lists of employment opportunities within and identify the qualification, skills and competencies and experience required for short, medium and long term growth of that particular industry /vertical.

In conjunction, learning experiences and outcomes based curricula must be penned, accredited and published on a common domain:

- presently as an industry training initiative;
- subsequently to be developed as an
  - add-on at all types of educational institutes
  - as electives and
  - self –financing courses

at relevant centers of learning.

In the interim, it is advisable that the recommended new accreditation and regulation structure be detailed along with a guidance framework for all accrediting and audit agencies, to be set up by the SSCs and ratified by NAAE and NBER respectively.

In view of linkages between employment, economic growth and skills, it is important that the policies in the area of skills development be linked to policies in economic, employment and social development arenas. Likewise the stakeholders and the Sector Skill Councils identified in this recommendation document are to be formalized at the earliest and made operational within the next three years, in a in a PPP mode .

As indicated in the 11<sup>th</sup> 5 Year plan, the challenges in skill development are many. These are of:

- The size of the task in building a system of adequate capacity;
- Ensuring equitable access to all, in particular, the youth, the disadvantaged communities, the minorities, the poor, the women, the disabled, the dropouts, and those working in the non-formal economy;
- Reducing skill mismatch between supply and demand of skills;
- Diversifying skills development programmes to meet the changing;
- Ensuring quality and relevance of training,;
- Building true market place competencies rather than mere qualifications;
- Providing mobility between education and training, different learning pathways to higher levels, and establishing a national qualifications framework;
- Providing opportunities for life-long learning for skill development;
- Promoting greater and active involvement of social partners and forging a strong, symbiotic, public-private partnership in skills development;
- Establishing institutional arrangements for planning, quality assurance and involvement of stakeholders;
- Coordination of skills development across the country,
- Governance of skills development system that promotes initiative, excellence, innovation, autonomy, and participation, while ensuring that the legitimate interests of all beneficiaries are protected;
- Strengthening the physical and intellectual resources available to the skills development system, and mobilizing adequate investments for financing skills development sustainably.

It is advisable that the 'National Skills Development Authority', set up as an autonomous apex authority, should:

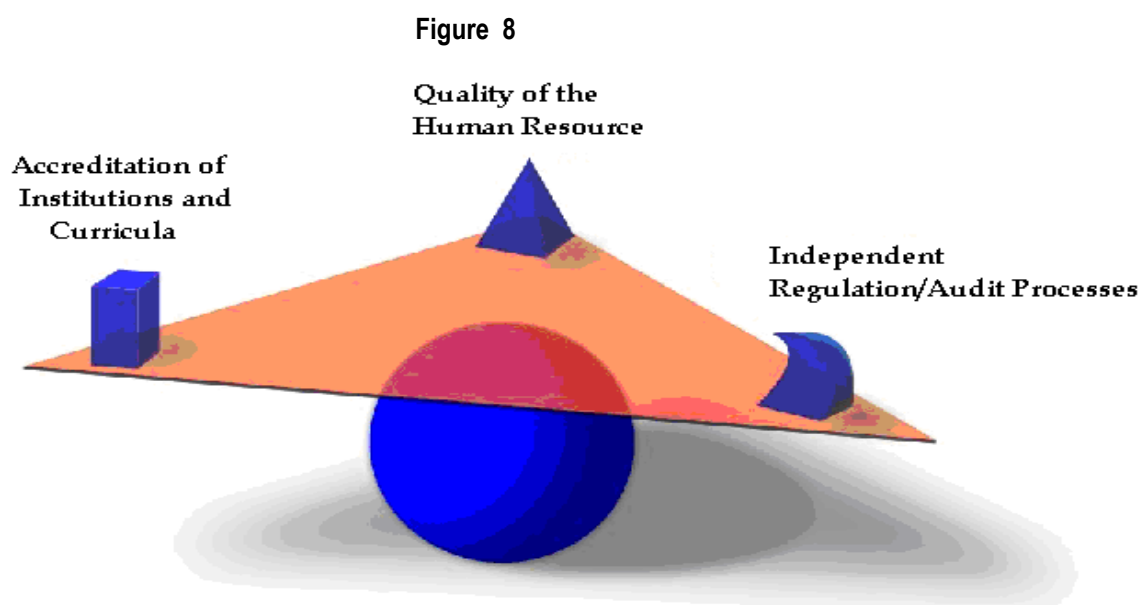
- Study and consult with the authors of this document and approve the recommended new system for accreditation and certification;
- Refine if required and approve the Sector Skills Councils identified;
- Formalise NAAE and NBER.

Sector Skill Councils in conjunction with the existing industry associations, regulatory and statutory bodies and established centers of learning (academia) must move full hilt into the preparation of outcomes based curricula. Other services too, for example, the “Security Services” (all types and at all levels) could be appropriately included.

Outcome-based education focuses on the ability of students to demonstrate that they know and are able to perform some stated learning outcomes. Based on the needs of society, outcome targets that must be met are set relevant to the SSCs requirement. Thus, as societal priorities and technology evolve, the targets are changed accordingly. The curriculum should therefore be designed backward, first by determining the intended outcomes and then shaping the curriculum to achieve them.

Thus in keeping with the key requirements of ‘Suitability’, ‘Scalability’ and ‘Sustainability’ it is imperative that all stakeholders concerned, seek the right balance, in developing the requisite quality in our human resource, at all levels of education. This would be pertinent to enable the requisite parity between the supply–demand outcomes in the short, medium and long term.

The right balance will empower a change management system in the Indian educational platform, in response to the employment trends reflected in the domestic and global arenas.



**Source: Dr Sandhya Chintala (NASSCOM) & Ms. Nirupama Soundararajan (ICRIER)**

Thus as a direct consequence of the acceptance of this recommendations document-

- Detailed Project Report (DPR) is to be sanctioned to be delivered in a specific time frame. Subsequently a detailed strategy and operations manual must be authored addressing the governance, management and implementation issues at all levels of operation;
- In parallel, it is essential to capture the topology of all Indian educational institutions, at all levels, formal and non-formal, inclusive of all the relevant details as indicated below:

- status (accredited, affiliation, private/aided/autonomous/minority etc)
- growth ( slow/rapid)
- intake capacity
- output numbers and details (Distinction,1<sup>st</sup> class 2<sup>nd</sup> class)
- streams available
- faculty strength, total and departmental
- departmental student strength and faculty : student ratios
- collaborations with industry national and international
- collaboration with national and international academic institutions

In moving forward the bigger challenge would be to develop an inclusive educational framework, relevant nationally and internationally. International models espousing similar reforms have indicated that, within flexible, friendly and supportive educational environments, students from all backgrounds can achieve the requisite skills, facilitating appropriate, faster and sustained 'Education-Employment' conversions.

In consideration of all educational institutions and programmes of learning, NAAE and NBER must encompass all the existing regulatory and statutory bodies with reference to various educational verticals. However, to move towards an effective 'Education – Employment' platform, encouraging lifelong learning, NAAE and NBER must be decentralised with respect to operations, offering flexibility and autonomy (under apex body guidelines) reflecting local needs.

A collective national effort is now necessary for scale and sustainability. The relevance of such investment is hampered by the 'Supply Chain' constraint that curtails the private sector from investing in expanding high quality education, in the Indian context. Higher order generic skills of analysis, synthesis, conceptualization, managing, strategic thinking, communication, problem solving, creativity, team-working, learning to learn, and meta-cognitive learning and reflection, will be required more and more in the skill spectrum of knowledge workers. It would be imperative to move up the skill-ladder and produce much larger numbers with higher education and generic training for new types of knowledge work, both in high skill services and high technology industrial production. Knowledge professionals will need supporting by middle-skilled workers in new knowledge and technology areas. The skill development system will have to meet this challenge. The time for response is limited as the rate of change is high and accelerating.

NAAE, NBER and SSCs should offer a cohesive plan to espouse a change management process addressing domestic and global employment trends including the above mentioned skills and competencies.. The change management processes instituted in all educational institutions must facilitate a continuous adoption of innovation in educational infrastructure, content and delivery methodologies for the same.

Accreditation agencies are tasked with the responsibility of assuring high quality in the product delivery of higher educational institutions. In most developing and transition countries, the responsibility of keeping a close eye on the quality of every program in each institution poses an awesome challenge especially because of the potentially unsustainable growth in the number of institutions and in the corresponding explosion in student population

The accreditation and regulation process is founded on several criteria, including the quality of students, program educational objectives, program outcomes, curriculum, quality and adequacy of teaching faculty, available facilities, and the collective will of society.

High quality education on par with international standards, that sustains innovation in productive technologies, augments productivity and increases the range and variety of products, delivers sustainable employment skills, must strive for equity of access, for scale and a significant global impact that directly relates to economic growth.

Unless the Government, Academia and Industry, together present a united front, to influence and reform the Indian education platform, it would be difficult, if not impossible, to officiate systemic changes to transform our educational system, to empower students to be lifelong learners, towards gainful employment at all levels.

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**SECTION E**  
**REFERENCES, ANNEXURES, ABBREVIATIONS**

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## Annexure 1

### ABET Criterion 3- Programme Outcomes

Engineering programmes must demonstrate that their graduates have:

- a. An ability to apply knowledge of mathematics, science, and engineering appropriate to the discipline;
- b. An ability to design and conduct experiments, analyse and interpret data;
- c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- d. An ability to function in multi-disciplinary teams;
- e. An ability to identify, formulate, and solve engineering problems;
- f. An understanding of professional and ethical responsibility;
- g. An ability to communicate effectively;
- h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
- i. A recognition of the need for, and an ability to engage in, life-long learning;
- j. A knowledge of contemporary issues;
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

## Annexure 2

### Topology and Growth Trends of Higher Education Institutions

SI No	Type	Ownership	Financing	Number of institutions*	Number of students*	Growth trends
1	Universities under the Government	Public	Public	240	1,000,000	Not growing
2	Private Universities	Private	Private	7	10,000	Emerging on the scene
3	Deemed Universities (Aided)	Private or Public	Public	38	40,000	Growing slowly
4	Deemed Universities (Unaided)	Private	Private	63	60,000	Growing rapidly
5	Colleges under the Govt	Public	Public	4,225	2,750,000	Not growing
6	Private Colleges (Aided)	Private	Public	5,750	3,450,000	Not growing
7	Private Colleges (Unaided)	Private	Private	7,650	3,150,000	Growing rapidly
8	Foreign Institutions	Private	Private	150	8,000	Emerging on the scene
9	Total			<b>18,123</b>	<b>10,468,000</b>	

*[\*these are approximate figures based on analysis of primary data for the year 2005/06]*

*[Compiled with information from the respective websites and also via interactions with officials of various bodies including ICRIER]*

### Annexure 3

#### Present Accreditation Criteria and Weightages – NAAC<sup>11</sup>

Criteria	Key Aspects	University	Autonomous College	Affiliated/ Constituent College
		Weightages		
1. Curricular Aspects	1.1 Curricular design and development	90	50	10
	1.2 Academic flexibility	30	20	15
	1.3 Feedback on curriculum	10	10	10
	1.4 Curriculum update	10	10	05
	1.5 Best practices in curricular aspects	10	10	10
	<b>Total</b>	<b>150</b>	<b>100</b>	<b>50</b>
2. Teaching-Learning and Evaluation	2.1 Admission process and student profile	20	30	30
	2.2 Catering to diverse needs	20	35	45
	2.3 Teaching-learning process	90	170	270
	2.4 Teacher quality	60	65	65
	2.5 Evaluation process and Reforms	50	40	30
	2.6 Best practices in teaching, learning and evaluation	10	10	10
	<b>Total</b>	<b>250</b>	<b>350</b>	<b>450</b>

<sup>11</sup> Source: <http://naacindia.org/process.asp>

3. Research, Consultancy and Extension	3.1 Promotion of research	40	30	15
	3.2 Research and publication output	90	50	25
	3.3 Consultancy	20	10	05
	3.4 Extension activities	30	40	40
	3.5 Collaborations	10	10	05
	3.6 Best practices in research, consultancy & extension	10	10	10
	<b>Total</b>	<b>200</b>	<b>150</b>	<b>100</b>
4. Infrastructure and Learning Resources	4.1 Physical facilities for learning	20	20	20
	4.2 Maintenance of infrastructure	10	10	10
	4.3 Library as a learning resource	35	35	35
	4.4 ICT as learning resources	15	15	15
	4.5 Other facilities	10	10	10
	4.6 Best practices in the development of Infrastructure and learning resources	10	10	10
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>
5. Student Support and Progression	5. 1 Student progression	30	30	30
	5. 2 Student support	30	30	30
	5. 3 Student activities	30	30	30
	5. 4 Best practices in student support and progression	10	10	10
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

<b>6. Governance and Leadership</b>	6.1 Institutional vision and leadership	15	15	15
	6.2 Organizational arrangements	20	20	20
	6.3 Strategy development and deployment	30	30	30
	6.4 Human resource management	40	40	40
	6.5 Financial management and resource mobilization	35	35	35
	6.6 Best practices in governance and leadership	10	10	10
	<b>Total</b>	<b>150</b>	<b>150</b>	<b>150</b>
<b>7. Innovative Practices</b>	7.1 Internal quality assurance system	20	20	20
	7.2 Inclusive practices	15	15	15
	7.3 Stakeholder relationships	15	15	15
	<b>Total</b>	<b>50</b>	<b>50</b>	<b>50</b>
	<b>TOTAL SCORE</b>	<b>1000</b>	<b>1000</b>	<b>1000</b>

## Annexure 4

### **NBA Accreditation Parameters and Weightages<sup>12</sup>**

#### **CRITERIA FOR ACCREDITATION**

One of the major objectives of NBA is to encourage the institutions to continually strive towards the attainment of excellence. The NBA evaluation processes are so designed as to facilitate identification of the strengths and weaknesses of the programmes under accreditation. The NBA hopes that this will help the institutions in improving the quality and effectiveness of their programmes.

As indicated in an earlier paragraph, the evaluation process is based on a set of eight broad-based criteria developed through a lengthy participatory process involving more than 1000 participants concerned with Technical Education all over India. These criteria are being described here in some detail. Each criterion serves to assess a principal feature on the institutional activities and programme effectiveness. Hence, each of them is described in terms of carefully identified parameters, amenable to a substantially objective and quantitative assessment.

Institutions seeking accreditation of their programmes are expected to satisfy each of the criteria individually. They are expected to adhere to these criteria during the validity period of accreditation granted. They are also encouraged to periodically review the strengths and weaknesses of their programme and strive for their continuous improvement.

#### **Criterion I: ORGANISATION AND GOVERNANCE**

This criterion applies to Institutional Management, Organisation and Governance. Every institution should have a mission and a set of goals. Every programme offered by the institution should also have its objectives and goals. The mission and goals should be articulated and made known to every one in the institution.

The successful pursuit and realisation of the mission and goals and the means adopted to accomplish them brings out the quality of the institution and its programmes. The goals should be concrete and realistic within the context of the committed resources. They should define the educational and other dimensions, including scholarship, research, public service and customer satisfaction. The effectiveness and extent of achievement of goals depend on the commitment, attitude, planning and monitoring capacity, incentives and self-appraisal policies of the Management. Similarly, Organisation and Governance depend on the qualities of leadership, motivation, transparency of the operation, decentralisation and delegation of powers, participation of faculty in the management, planning, and general efficiency indices.

#### **Criterion II: FINANCIAL RESOURCES, ALLOCATION AND UTILISATION**

There is a need for the institution to be financially stable. The financial resources should be adequate to sustain not only the achievement of current educational objectives, but also provide for improvements in the foreseeable future. There should be a mechanism to ensure proper financial management and a well-organised process. Not only the allocation of adequate budget for capital (non-recurring) works (including infrastructure, and equipment ) and Operational (Maintenance) budget and development budget of recurring type are important, but also their utilisation for institutional/departmental activities besides, generation/mobilisation of finances are also important for the future of institution/programmes.

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<sup>12</sup> Source: <http://www.nba-aicte.ernet.in/parameter.doc>

### **Criterion III: PHYSICAL RESOURCES (CENTRAL FACILITIES)**

There must be available adequate space and appropriate physical resources, including buildings, laboratories, equipment, material, library and other ancillary facilities. While examining the physical resources, there is a need to ensure provisions for safety, security and hygiene. Besides, the availability of a language laboratory, counselling and guidance cell, medical facilities, canteen, transport and other units etc. will go a long way in gaining the confidence and respect of students and faculty/staff alike, leading to considerable improvements in the quality of the programmes.

### **Criterion IV: HUMAN RESOURCES: FACULTY AND STAFF**

The faculty strength, cadres, qualification and level of competence and performance should be adequate to accomplish the institutional mission and goals. The commitment, attitudes and communication skills of the faculty play an important and crucial role in successfully running the academic programmes. This, in turn, depends upon the recruitment procedures, incentives, exposure to industrial activities, faculty development programmes and workload of the faculty. Each institution should have self-appraisal and in-house performance -appraisal mechanisms to monitor and ensure their continued effectiveness.

The qualifications of the faculty relevant to the programme area are generally measured by the advanced Degrees held by them, and their scholarship, creative activities and professional experience. The faculty is expected to act not only as instructors, but also as student advisors, academic planners and curriculum developers, and also to assist in institutional administration.

Faculty selection reflects the effectiveness of the management's commitment. The institution is expected to adopt an open process for recruiting its faculty members. Adequate employment security, salaries and benefits to commensurate with the position, provision for continued professional development, and periodic evaluation for their vertical mobility should be ensured and made known to the faculty.

The workload of the faculty should be such that it should not hinder their effective performance. The institution should protect and foster academic freedom for each member of the faculty and develop mechanisms to ensure that the faculty act responsibly, ethically and in conformity with the prescribed conditions of employment. The faculty members should strive to maintain professional competence and scholarly pursuits.

In the case of supporting staff, besides adequate numbers and appropriate qualifications, the requirements are: hands-on experience, skills, attitudes, commitment and involvement with the institutional objectives. The recruitment procedures, performance appraisal, incentives skill development possibilities and rewards should be transparent and objective. The inter-personal relations and interactions among and between faculty, supporting staff and students constitute an important ingredient in achieving the institutional goals.

### **Criterion V: HUMAN RESOURCES: STUDENTS**

The administrative policies and procedures should be objective and transparent. The number of qualified candidates in national/state level tests, the number admitted and dropouts, their ranking in the overall merit list of candidates seeking admission, are some of the factors that reflect the institutional effectiveness. The evaluation procedures, academic results and time taken for completion of these requirements are important parameters. The graduation requirements should be made known to every student. The Diploma/Degree awarded should appropriately reflect the student's attainments. Information with regard to employment of the graduates and feedback from the employers help the institution to reorient its goals so as to enhance effectiveness.



## **Criterion VI: TEACHING-LEARNING PROCESSES**

Each Diploma programme should be comprehensive to provide the student sufficient inputs in basic sciences, technical subjects (including general and specific/chosen), different technologies and training in relevant experimental/technical skills, so as to embark on a technical career as a Diploma holder or to enter into a professional engineering stream.

Each undergraduate Degree programme should embody general and specialised professional content of adequate depth and breadth, and should include appropriate Humanities and Science components. The core of the main programme should concentrate on acquisition of knowledge and skills in the specific discipline, and also ensure exposure to inter-disciplinary areas. There should also be an effective relationship between the curricular content and practice in the field of specialisation. In addition, the students successfully completing the programme should demonstrate their competence in oral communication, scientific and quantitative reasoning, critical analysis, logical thinking, creativity and capacity for self-learning.

Postgraduate degree programmes should be designed to give students mastery in their specialised field of study. They should have coherent curricula and should enable the students to advance substantially beyond the educational requirements of the undergraduate Degree level.

The institutions offering both undergraduate and postgraduate Degree programmes should assess the relationship and interdependence of the two levels, and utilise the resources of both for collective improvement. Postgraduate programmes should not be offered unless resources and expectations greatly exceed those required for the corresponding undergraduate programme.

The academic calendar, number of instructional days, contact hours per week, delivery of syllabus, student evaluation and feedback are some of the important aspects in evaluating the teaching-learning processes. Effective teaching-learning processes include the development of practical skills through laboratory experiments, workshop practice and operation of modern equipment. They also require the inculcation of computing skills which make the availability of extensive library, internet and educational technology facilities a major necessity. The budget provision to meet the expenditure for the consumables required in the laboratories and the workshops is one of the indicators of the extent of hands-on practice that can be given. Implementation of the instructional programmes, lectures, tutorials, student-teacher interactions, group discussions, student centric learning initiatives, seminars and laboratory work have a direct bearing on the effectiveness of the teaching-learning processes. Maintenance of the course files by the teachers will help in assessing the effectiveness of the teaching and learning processes.

## **Criterion VII: SUPPLEMENTARY PROCESSES**

The institution should provide the environment, which fosters not only the intellectual, but also the personality development of its students. It should have personality development opportunities provided through co-curricular and extra-curricular activities and student services. These opportunities are to enable the students to become responsible members of the society. The services and facilities should be readily accessible to the students.

The students undergoing the programme should have access to facilities for career development, counselling and health education. Opportunities to develop leadership qualities and participation in seminars and group discussions should be created.

The institution offering the programme should ensure that individuals responsible for co-curricular activities are well trained with work experience and possess personal qualities required to deal with the needs of students effectively. Facilities and funding should be adequate to create and maintain these student services. Policies concerning student responsibilities and grievance procedures are to be clearly stated and publicised. There should be a mechanism for regular and systematic evaluation to assess the fulfilment of the co-curricular goals and student needs.

Counselling and Guidance, professional society activities and entrepreneurship development, business ethics are some of the supplementary processes, which need to be promoted. Substantial feedback from employers and alumni should be obtained to assess the effectiveness of the academic programmes.

### **Criterion VIII: RESEARCH & DEVELOPMENT AND INTERACTION EFFORT**

In the case of Diploma and undergraduate Degree programmes, teachers should participate in projects and quality improvement programmes in research institutions/ University departments. Such an involvement will not only improve the teaching- learning processes, but also enhance the quality of project work.

In the case of Postgraduate Degree programmes, the aim should be to attain the stature of a Centre of Excellence. Grant of the status of Special Assistance Programme/ COSIST or other such support from UGC and other Agencies of the Government is an indication of the quality of the postgraduate Degree Programmes. The department should also undertake academic/ sponsored industrial R & D projects. Joint guidance with industry/ R & D laboratory/ other institutions for Ph. D theses / M Tech. Projects will not only develop close interaction between the department, industry and R & D laboratories, but will also enhance the quality of research. The criteria for evaluation of the Ph. D theses and M Tech. projects are important indicators of the quality of research work. Publications, citations, patents and resource allocation are the other indicators of the effectiveness of research work relevant to the postgraduate programmes

Industry participation in curriculum planning, consultancy, project work and extension lectures are essential to achieve the professional goals of the academic programmes in Engineering and Technology. At the same time, the knowledge and experience of the teachers can be utilised by the industry for technical advice. This, in turn, will help the teachers to gain insight into the latest industrial practices.

The fast-changing technologies also call for Continuing Education Programmes for personnel from industry. Similarly, industrial-internship for faculty will give them a sound exposure to the industrial practices.

Industrial visits and industrial training are essential for creating professionalism among the students, and will help them in securing placement at appropriate levels in industries and other employment sectors.

### ACCREDITATION PARAMETERS AND THEIR WEIGHTAGES

Each of the criteria described above has been broken down into parameters, and weightages have been assigned to these parameters by the NBA. The parameters and the weightages assigned to them, which are different for Diploma, undergraduate (UG) Degree and postgraduate (PG) Degree programmes are given below:

#### **PARAMETERS**

	<b>MARKS</b>		
	<b>Dip</b>	<b>UG</b>	<b>PG</b>
<b>I. ORGANISATION AND GOVERNANCE</b>	<b>(30)</b>	<b>(80)</b>	<b>(50)</b>
A Planning and Monitoring			
B Recruitment Procedure & its Effectiveness			
C Promotional Policies/Procedure			
D Leadership			
E Motivational Initiatives			

F	Transparency			
G	Decentralization and Delegation & participation of faculty			
H	Constitution of GC/GB			
		<b>Dip</b>	<b>UG</b>	<b>PG</b>
<b>II. FINANCIAL RESOURCES, ALLOCATION &amp; UTILIZATION</b>		<b>(70)</b>	<b>(70)</b>	<b>(50)</b>
<b>II.1 Budget allocated to the Institution &amp; Utilization</b>		<b>35</b>	<b>35</b>	<b>25</b>
A	Recurring budget			
B	Non-recurring Budget			
<b>II.2 Budget allocated to the Department &amp; Utilization</b>		<b>35</b>	<b>35</b>	<b>25</b>
A	Recurring budget			
B	Non-recurring Budget			
		<b>Dip</b>	<b>UG</b>	<b>PG</b>
<b>III. PHYSICAL RESOURCES (CENTRAL FACILITIES)</b>		<b>(50)</b>	<b>(50)</b>	<b>(50)</b>
A	Students' Hostel (Men & Women)			
B	Power back up: Institution/Department/Hostels			
C	Reprographic facilities			
D	Bank			
E	Post Office			
F	Counseling and Guidance, Language Lab.			
G	Medical Facility			
H	Internet Facility			
I	Canteen			
J	Transport			
		<b>Dip</b>	<b>UG</b>	<b>PG</b>

<b>IV. HUMAN RESOURCES (FACULTY &amp; STAFF)</b>	<b>(200)</b>	<b>(200)</b>	<b>(200)</b>
<b>IV.1 Faculty</b>	<b>160</b>	<b>160</b>	<b>160</b>
A Numbers, Student Faculty :Ratio, Cadre ratio, Avg. experience, faculty retention, Turnover			
B Qualifications			
C Participation of faculty in Institutional development/ Departmental development/ Academic matters/ Students' Development/ Self growth			
D Implementation and Impact of Faculty Development initiatives			
E Analysis and Follow-up of Performance appraisal			
F Service rules, pay package, incentives			
	<b>Dip</b>	<b>UG</b>	<b>PG</b>
<b>IV.2 Support Staff(Tech./Adm.)</b>	<b>40</b>	<b>40</b>	<b>40</b>
A Numbers			
B Qualification/ skills (Lab., Office, Computer centre etc.)			
C Skill up gradation			
	<b>Dip</b>	<b>UG</b>	<b>PG</b>
<b>V. HUMAN RESOURCES-STUDENTS</b>	<b>(100)</b>	<b>(100)</b>	<b>(100)</b>
A Student admissions			
B Academic results			
C Performance in competitive examinations			
D Placement			
	<b>Dip</b>	<b>UG</b>	<b>PG</b>
<b>VI. TEACHING-LEARNING PROCESSES</b>	<b>(450)</b>	<b>(350)</b>	<b>(250)</b>
A Delivery of syllabus, contents			

- B Contents beyond the syllabus
- C Academic calendar
- D Continuous evaluation procedure
- E Utilization of Laboratories/ Equipment
- F Information access facilities
- G Student centric learning initiatives
- H Students feedback

**Dip                      UG                      PG**

**VII. SUPPLEMENTARY PROCESSES**

**(50)                      (50)                      (50)**

- A Extra & co-curricular activities
- B Personality Development initiatives
- C Professional society activities
- D Entrepreneurship Development
- E Alumni Interaction
- F Ethics
- G Students Publications/ Awards

**Dip                      UG                      PG**

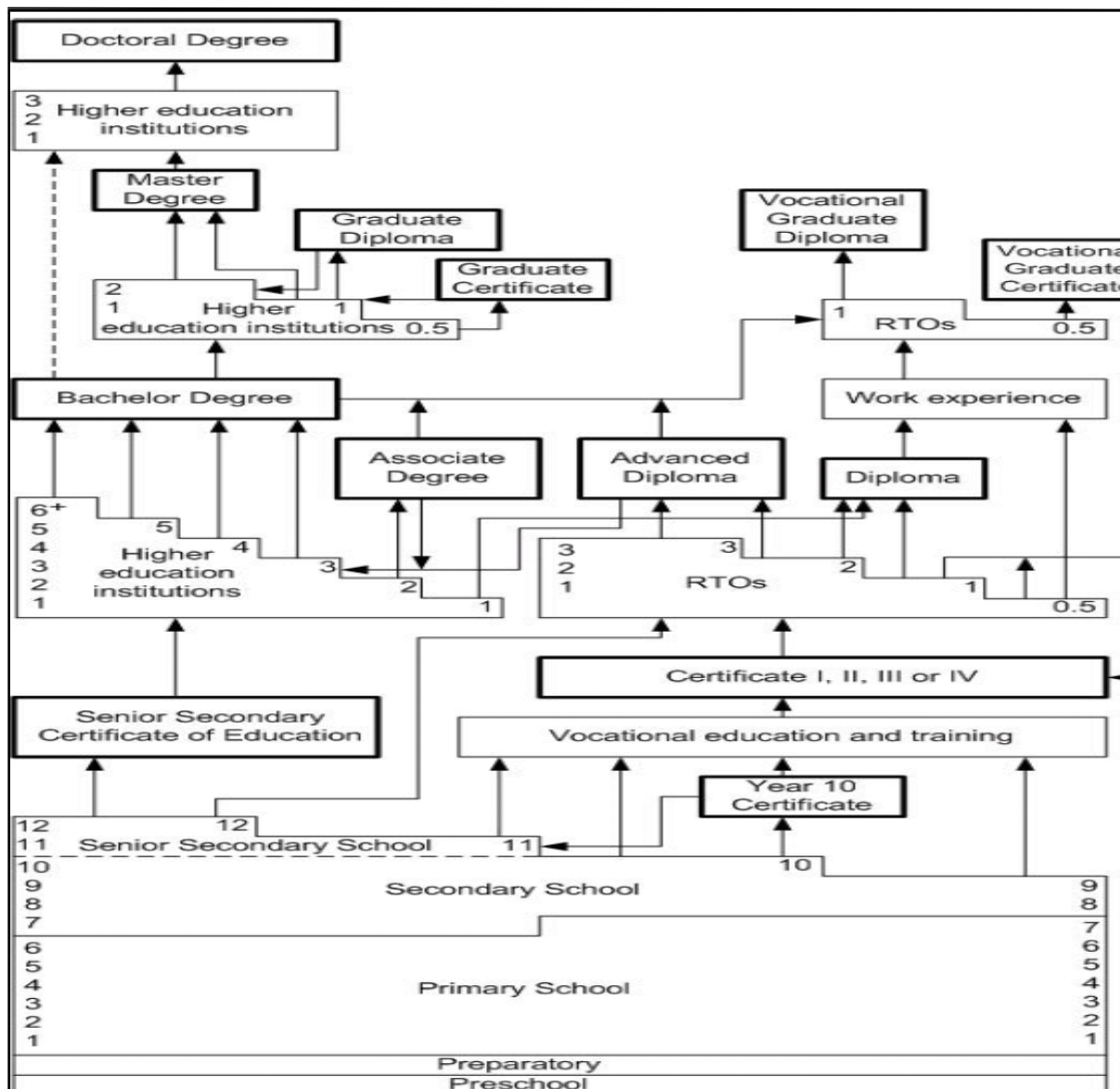
**VIII. R&D AND INTERACTION EFFORT**

**(50)                      (100)                      (250)**

- A Budget for in house R&D activities and its utilization
- B Academic/ Sponsored/Industrial research and development
- C Publications and Patents
- D Industry participation in developmental and student related activities
- E Continuing Education (organizing & attending)
- F Consultancy and Testing
- G Students' Project Work

## Annexure -5

### Australian Educational Framework



Source: Australia (2008)

### Graduate Certificate

Programmes leading to the Graduate Certificate are designed to develop skills in a specialised area. Graduate Certificate programmes are coursework-based and normally require one semester of full-time study, or part-time equivalent.

### **Graduate Diploma/Postgraduate Diploma**

Like the Graduate Certificate, the Graduate Diploma is a specialised, often vocationally-orientated award. Graduate Diplomas either develop new professional or vocational skills for graduates or extend the knowledge and skills gained in the first degree. Graduate Diplomas normally require one year of full-time study, or part-time equivalent.

Some institutions distinguish between Graduate Diplomas and Postgraduate Diplomas. In this case Graduate Diplomas involve the development of new skills, with courses that may not be at a postgraduate level academically. Postgraduate Diplomas are intended to build on knowledge gained in the first degree.

A Graduate Certificate or Graduate Diploma may be awarded if a student completes postgraduate preparatory work such as a Master Degree qualifying year, but does not proceed to the degree course.

### **Master Degree**

There are three types of Master Degree programmes: coursework, research and professional. Most Master Degrees require two years of full-time study after a three-year Bachelor Degree or one year of full-time study after a Bachelor Honours Degree or four-year (or longer) Bachelor Degree.

#### **Master Degree by coursework**

A Master Degree may be undertaken by coursework, project work and research in varying combinations. Coursework Master Degrees are often structured in a three to four semester articulation arrangement, with the Graduate Certificate (one semester), Graduate Diploma (a further semester) and Master Degree (a further two semesters).

#### **Master Degree by research**

The research Master Degree programme is at least two-thirds research with a substantial thesis, which is externally examined. It normally requires a minimum of one year of full-time study. The research Master Degree often leads to a Doctoral programme.

#### **Professional Master Degree**

The professional Master Degree programme may involve a work-based project and coursework. Professional coursework Master Degrees are often undertaken on a part-time basis.

### **Doctoral Degree**

There are three types of Doctoral Degree programmes:

- Research Doctorate;
- Professional Doctorate; and
- Higher Doctorate.

A typical programme requires three to four years of full-time study. Students are expected to make a substantial original contribution to knowledge in the form of new knowledge or significant and original adaptation, application and interpretation of existing knowledge.

#### **Research Doctorate**

Research Doctorates are by supervised research and an original thesis. The thesis is usually examined by two or three expert academics, at least two of which must be external.

### **Professional Doctorate**

Professional Doctorates require significant professional practice either prior to or as part of the programme. Students undertake a programme consisting of both coursework and research.

Some universities award Professional Doctorates for programmes with an orientation towards advanced professional practice, typically in fields such as education (DEd), business administration (DBA), psychology (DPsych), and law where the degree is often a Doctor of Juridical Science (SJD) to distinguish it from the higher Doctor of Laws (LLD).

### **Higher Doctorate**

Most universities in Australia award Higher Doctorates such as the Doctor of Letters (DLitt), Doctor of Science (DSc), Doctor of Laws (LLD), Doctor of Medicine (MD). Regulations for the award vary between institutions, and in many universities the award is restricted to scholars with a substantial connection with the institution.

In most disciplines, Higher Doctorates are awarded on the basis of published or unpublished work considered constituting a significant original contribution to the field of study. However, Higher Doctorates may be awarded on the basis of a thesis, especially in medicine, dentistry and law. Few Higher Doctorates are awarded in Australia, with the Doctor of Medicine the most common.

### **Accreditation and Quality Assurance Framework**

Quality assurance in Australia's higher education system is based on a strong partnership between the Australian Government, state and territory governments and the higher education sector.

The following are the principal elements of the quality assurance framework for higher education.

### **National Protocols**

The National Protocols for Higher Education Approval Processes have been designed to ensure consistent criteria and standards across Australia in the following areas:

- The recognition of new universities and protection of the title 'university';
- The operation of overseas higher education institutions in Australia;
- The accreditation of higher education courses to be offered by non-self-accrediting institutions;
- Programme delivery arrangements for higher education institutions involving other organisations; and
- The endorsement of courses for overseas students.

The National Protocols were first approved by the Australian Government and state and territory governments in 2000. Revised National Protocols were approved in 2007 along with detailed *National Guidelines* for approval and accreditation processes.

### **The Australian Qualifications Framework**

Australia has a single national and comprehensive system of qualifications within the Australian Qualifications Framework (AQF). The AQF is a national system covering 17 different qualifications and linking universities, vocational education and training, and school education. The AQF specifies the required learning outcomes for each qualification achieved and shows pathways to further education. The AQF also maintains a public register of approved institutions and accreditation authorities.



### **Australian Universities Quality Agency (AUQA)**

The Australian Universities Quality Agency (AUQA) conducts quality assurance audits of higher education institutions. The focus of these audits includes teaching, learning, research and management. AUQA also conducts quality assurance audits of the state and territory higher education accreditation authorities.

Audits are conducted every five years. Quality audits are undertaken by panels of experts with substantial senior academic and administrative experience in higher education.

Institutional higher education audits assess the internal quality assurance mechanisms of each institution and the maintenance and improvement of standards. Audits also examine the offshore operations of Australian universities, if applicable. The outcomes of audits are made public.

### **Australian Government responsibilities**

The Australian Government provides significant funding to higher education institutions. As a condition of funding, institutions must meet a range of quality and accountability requirements that are set out in the Higher Education Support Act 2003. The legislation requires that an institution must:

- operate at an appropriate level of quality;
- comply with an authorised accreditation authority listed on the Australian Qualification Framework Register; and
- be audited by an independent quality agency

The Australian Government also monitors the provision of education and training services to international students in Australia through the *Education Services for Overseas Students (ESOS) Act 2000* and associated legislation.

### **State and territory government responsibilities**

State and territory governments are responsible for the administration of university legislation, accrediting new universities and accrediting higher education courses offered by non-self-accrediting institutions. Higher education in Australia's external territories, such as Norfolk Island, is regulated by the Australian Government. Once a higher education institution is accredited, it is listed on the Australian Qualifications Framework (AQF) Register of Recognised Education Institutions and Authorised Accreditation Authorities in Australia. The state and territory higher education accreditation authorities are also listed on the AQF Register.

### **University responsibilities**

Universities are self-accrediting and have authority to accredit their own programmes and are primarily responsible for their own quality assurance. Universities have internal processes for assessing new courses. Accreditation of new courses usually involves consultation with relevant industry or professional bodies, accreditation by these bodies, and formal consideration and approval by Academic Boards. Normally courses are reviewed for reaccreditation every five years.

### **External bodies in quality assurance and accreditation**

External bodies play an integral role in assuring the continuing high quality of higher education in Australia. Professional bodies accredit higher education courses in certain professions, higher degrees by research are externally evaluated, and universities cooperate to provide peer reviews in the competitive grants process.

## Annexure 6

### Times of India Article on Yashpal Committee Report<sup>13</sup>

#### Turn IITs, IIMs into model varsities: Govt panel

11 Mar 2009, 0343 hrs IST, Akshaya Mukul, TNN

NEW DELHI: A high-level committee on renovation and rejuvenation of universities headed by noted educationist Yashpal has recommended that IITs and IIMs be converted into full-fledged universities so that they act as pace-setters and models for all such institutions of higher education. Yashpal said the report would be given to the government soon. The committee has suggested that regulatory bodies like All India Council for Technical Education (AICTE), National Council for Teacher Education (NCTE), Medical Council of India (MCI) and the Bar Council of India (BCI) be divested of their academic functions, which should be restored to the universities. It has also said that all universities have full range of knowledge areas and that no single discipline or specialized university be created. The committee has also said the practice of according status of deemed university be stopped forthwith. It would be mandatory for all existing deemed universities to submit to the new accreditation norms within a period of three years failing which the status of university should be withdrawn. A single accreditation window for all institutes of higher education has also been suggested. Yashpal said the idea to change the name of the committee — originally meant to review UGC/AICTE — was his and there was no pressure to do so from the HRD ministry.

Though HRD ministry's attempt to set up a commission for higher education failed, the committee has suggested creation of an all-encompassing Higher Education Commission, a central statutory body to replace the existing regulatory bodies like UGC, AICTE and NCTE. This commission, it has said, should be free of all ministries and have complete autonomy. The proposed HEC will create a curricular framework based on the principles of mobility within a full range of curricular areas and integration of skills with academic depth. This will imply that a student of any stream can do a short course in an unrelated subject and get credits. HEC, committee said, will initially consist of five divisions dealing with future directions, accreditation management, funding and development, new institutions and incubation, and information and governance. An eminent individual with a tenure of five years will head each division. The chairperson of the HEC will be appointed by a search committee comprising the Prime Minister, the leader of the opposition in Lok Sabha and the Chief Justice of India.

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<sup>13</sup> Source: <http://timesofindia.indiatimes.com/India/Turn-IITs-IIMs-into-model-varsities-Govt-panel/articleshow/4251100.cms>

## Annexure 7

**Table 1**

Growth of Universities in 10<sup>th</sup> Plan (4 years only)

S. No.	Category	As on 31.3. 2002	As on 31.3. 2006	Universities funded by UGC	Funded Directly by Central Govt.
1	Central	18	20	18	2
2	State	178	217	158	-
3	Deemed	52	104	25	-
4.	Institutions (Est. by State Legislative Act)	05	05	03	-
5	Institutions of National Importance (Est. by Central Legislation)	12	13	-	13
6	Private Universities	-	8	1	
7	Total	265	367	205	15

Source: UGC

**Table 2**

Distribution of Central and State Universities by Discipline

Discipline	Number of universities	Percentage
General	126	54
Agricultural	35	15
Technological	14	6
Language	11	5
Medical	9	4
Law	6	2.6
Woman	5	1

Animal & Fishery	4	1.7
Open	11	5
Others	16	5.7
Total	237	100

Source: UGC Annual Report, 2004-05

**Table 3**

Growth in Number of Higher Educational Institutions in India

<b>Number of Institutions of Higher Education by Type in India (2002-2003 and 2004-2005)</b>			
<b>Type of Institutions</b>	<b>Number of Institutions</b>		
	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>
Central Universities	18*	18*	18*
State Universities	183	195	211
Institutions Deemed to be Universities	81	89	96
Institutions Established under State Legislature Act	15	5	5
Institutes of National Importance	13	13	13
Colleges	15343**	16885**	17625**

Note: \*: Includes Indira Gandhi National Open University and Central Agricultural University, Imphal. \*\*: Provisional. Source: University Grants Commission.

Source: UGC

**Table 4**Number of Colleges in 2002 & 2006

S.No.	Category	As on January 1, 2002	As on March 31, 2005	% of previous row	March 31, 2006	% of previous row
1	<i>Total</i>	15,437	17,625		18,064	
2	Under UGC purview (Arts, Science & Commerce)	11,128	14,000	79.4	14400	79.72
3	Included u/s 2(f) UGC Act		5,589	39.9	6109	42.42
4.	Included u/s 12(B) UGC Act		5,273	94.4	5525	90.44
5	Funded by UGC X <sup>th</sup> plan		4,870	92.4	5068	91.73
6	Accredited by NAAC		2,780		3492	

Source: UGC

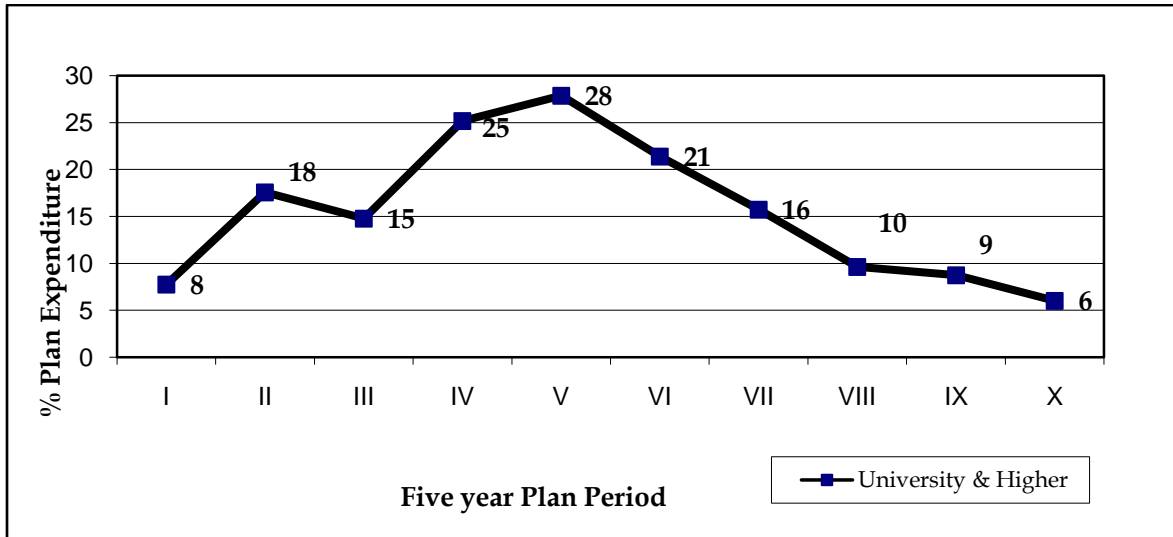
**Table 5**Current Quality Status of Universities in India (As in 2007)

Details	Total Number
Total Number of University Level Institutions	367
Total Number of Universities under UGC Purview	317
Number of Universities actually funded by the UGC	164
Number of Universities accredited by the NAAC	128
Number of Universities accredited by the NAAC and scoring above 60%	128
Number of Universities accredited by the NAAC by 2007	140

Source: Draft Report on Working Group on Higher Education 11<sup>th</sup> Five Year Plan

Figure 1

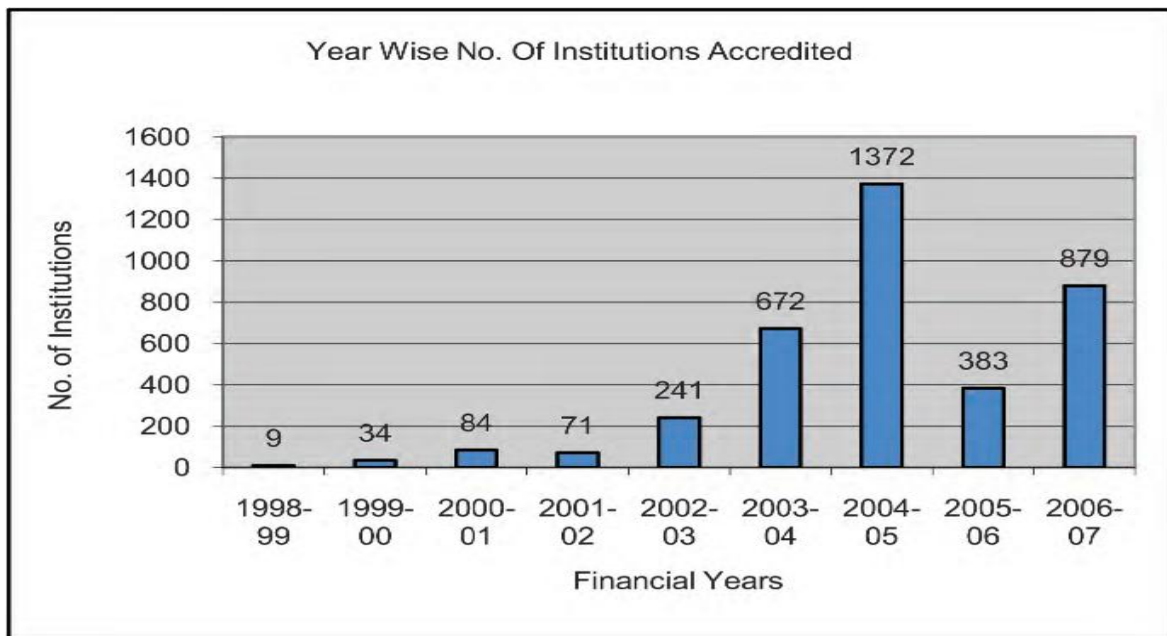
Percentage Plan Expenditure in University and Higher Education



Source: Draft Report of Working Group on Higher Education 11<sup>th</sup> Five Year Plan, Government of India, Planning Commission, New Delhi.

Figure 2

Year Wise Number of Institutions Accredited



Source: NAAC Annual Report 2006-07, Annexure 7.6, pg120

### Quote 1

#### Draft Report of Working Group on Higher Education on Accreditation

*“It is proposed to consider multiple accreditation bodies for validating and giving recognition for assessment and accreditation. NAAC will validate the accrediting agencies and set the standards for quality assessment in higher education for these agencies, to function within the framework laid down by NAAC.”*

**Source: Pg 87-88, Draft Report of Working Group on Higher Education 11<sup>th</sup> Five Year Plan, Government of India, Planning Commission, New Delhi.**

### Quote 2

#### The 11<sup>th</sup> Five Year Plan on Accreditation

The 11<sup>th</sup> Five Year Plan strongly recommends that accreditation be made mandatory for all institutions.

*“(ii) ACCREDITATION AND RATINGS*

- *Introduction of a mandatory accreditation system for all educational institutions*
- *Creation of multiple rating agencies with a body to rate these agencies*
- *Department-wise ratings in addition to institutional rating”*

**Source: Pg 25, 11<sup>th</sup> Five Year Plan, Section on Education, Planning Commission**

### Quote 3

#### The 11<sup>th</sup> Five Year Plan on the Three Skill Development Bodies to be Created

#### **The National Skill Development Corporation/Trust (NSDC):**

NSDC will be set up as a non-profit company under the Companies Act with appropriate governance structure (board of directors being drawn from the outstanding professionals/experts). The head of the corporation will be a person of eminence/reputed professional in the field of Skill Development. The Chairperson may also be the Chief Executive Officer of the Corporation, in which case she/he shall be known as the Chairperson-cum-Chief Executive Officer. The National Skill Development Corporation will be set up with Government Equity with a view to obtaining about Rs 15,000 Crore as capital from governments, the public and private sector, and bilateral and multilateral sources for the promotion of skill development. The Corporation will be a public private partnership on skill development conceived as a non-profit Corporation. It will make periodic as well as an annual report of its plans and activities and put them in the public domain. There may also be a National Skill Development Trust which can receive funds to be managed by the National Skill Development Corporation. The corporation/trust will be a flexible institutional arrangement to be able to deliver on jobs required by the market, related to its skill deficit, through training programmes operated or partnered by it.

**National Council on Skill Development:**

The Council will comprise of Prime Minister as Chairman, Minister of Finance, HRD, Industries, Rural Development, Labour & Employment and Housing & Urban Poverty Alleviation, Deputy Chairman, Planning Commission, Chairperson, National Manufacturing Competitive Council, Chairperson of the National Skill Development Corporation, six experts in the area of Skill Development as Members and Pr. Secretary to Prime Minister as Member Secretary.

**National Skill Development Coordination Board:**

This Committee will comprise of Deputy Chairman, Planning Commission as Chairman, Chairperson/Chief Executive Officer of the National Skill Development Corporation, Secretaries of Ministries of Finance, Human Resource Development, Labour and Employment, Rural Development, Housing and Employment, Rural Development, Housing & Urban Poverty Alleviation. The Secretaries of Four States, by rotation, for a period of two years, three Distinguished Academicians/Subject Area Specialists as Members and Secretary, Planning Commission as the Member Secretary.

**Source: Pg 93-97, 11<sup>th</sup> Five Year Plan, Section on Skill Development and Training, Planning Commission**



## Annexure 8

### Regulatory and Statutory Bodies for Higher Education in India

S No	Name, Statute & Year, Ministry & Website	Statutory Mandate	Primary Function	Other Functions	Overlaps with Functions of*
1.	<p><b>University Grants Commission (UGC)</b></p> <p>The UGC Act, 1956</p> <p>Ministry of HRD</p> <p><a href="http://www.ugc.ac.in">www.ugc.ac.in</a></p>	<p>Co-ordination and determination of standards in higher education and research in the country</p>	<p>Release of grants to universities and colleges</p>	<p>Recognition of universities and college (including eligibility for central grants);; Specification of degrees; Minimum standards of instruction;</p> <p>Common pay scales; Common facilities, and institutional accreditation through NAAC (National Assessment &amp; Accreditation Council)</p> <p>*Note- UGC Funds new courses and related expenditure to the tune of 80% for 5 years with a 20% contribution from the related State Govt.</p> <p>Post the 5 year period the total expenditure is the responsibility of the State Govt concerned</p>	<p>Other professional councils and DEC</p>
2.	<p><b>Distance Education Council (DEC)</b></p> <p>under Section 25 of the IGNOU Act, 1985</p> <p>Ministry of HRD</p> <p><a href="http://www.ignou.ac.in/dec/">www.ignou.ac.in/dec/</a></p>	<p>Promotion, coordination and determination of standards of the open universities and distance education systems in the country</p>	<p>Release of grants to open universities and correspondence course institutes</p>	<p>Initiates assessment and accreditation activities</p>	<p>Other professional Councils and the UGC</p>
3.	<p><b>All India Council for Technical Education (AICTE)</b></p> <p>AICTE Act, 1987</p> <p>Ministry of HRD</p> <p><a href="http://www.aicte.ernet.in">www.aicte.ernet.in</a></p>	<p>Planning and coordinating the development of technical education in the country</p>	<p>Approval of degree &amp; diploma programs in:</p> <ol style="list-style-type: none"> <li>1. Engineering,</li> <li>2. Architecture.</li> <li>3. Pharmacy &amp;</li> <li>4. Hotel management</li> </ol>	<p>Funding for institutional and faculty development;</p> <p>Pay scales &amp; qualifications of teachers;</p> <p>Accreditation through NBA</p>	<p>UGC, DEC, Pharmacy Council of India, Council of Architecture &amp; the State Councils for Technical Education</p>

4.	<p><b>Medical Council of India (MCI)</b></p> <p>MCI Act, 1953</p> <p>Ministry of Health</p> <p><a href="http://www.mciindia.org">www.mciindia.org</a></p>	<p>To establish standards in medical education and to define medical qualifications in India and abroad</p>	<p>Registration of medical practitioners &amp; recognition of medical institutions</p>	<p>Eligibility criteria for admissions; Exam for recognition of foreign qualifications for practice in India</p>	<p>State Medical Councils and the State Governments;</p> <p>UGC and DEC to a limited extent</p>
5.	<p><b>The Council of Architecture (COA)</b></p> <p>The Architects Act, 1972 Ministry of Urban Development</p> <p><a href="http://www.coa-india.org">www.coa-india.org</a></p>	<p>Regulate the profession and the practice of architects and town planners in India</p>	<p>Registration of architects, maintaining standards of education, recognizes qualifications and standards of practice</p>	<p>Maintaining the register of architects and make recommendations with reference to recognition and de-recognition of a qualification</p>	<p>AICTE</p>
6.	<p><b>Pharmacy Council of India (PCI)</b></p> <p>The Pharmacy Act 1948</p> <p>Ministry of Health</p> <p><a href="http://www.pci.nic.in">www.pci.nic.in</a></p>	<p>Regulate the profession and practice of pharmacy in India</p>	<p>Registration of pharmacists and approval of pharmacy institutions</p>	<p>Prescribe curriculum and requirement of practical training</p>	<p>AICTE and State Pharmacy Councils</p>
<b>S No</b>	<b>Name, Statute &amp; Year, Ministry &amp; Website</b>	<b>Statutory Mandate</b>	<b>Primary Function</b>	<b>Other Functions</b>	<b>Overlaps with Functions of*</b>
7.	<p><b>Indian Nursing Council</b></p> <p>INC Act, 1947</p> <p>Ministry of Health</p> <p><a href="http://www.mohfw.nic.in/inc/">www.mohfw.nic.in/inc/</a></p>	<p>Uniform standards of training for Nurses</p>	<p>Accepts qualifications awarded by universities within and outside India</p>	<p>Collection and compilation of data relating to nurses, mid wives, health visitors</p>	<p>22 State Nursing Councils with different Acts having registering powers</p>
8.	<p><b>Dental Council of India (DCI)</b></p> <p>The Dentists Act, 1948</p> <p>Ministry of Health</p> <p><a href="http://www.dciindia.org">www.dciindia.org</a></p>	<p>To regulate dental education and the profession of dentistry in the country</p>	<p>Recommends to the central government to accord permission to start a dental college, start courses and wrt the increase of seats.</p>	<p>Lay down course curriculum for various courses in dentistry</p>	<p>Ministry of Health</p>

9.	<p><b>Central Council of Homeopathy (CCH)</b></p> <p>HCC Act, 1973</p> <p>Ministry of Health</p> <p><a href="http://www.cchindia.com">www.cchindia.com</a></p>	Prescribe and recognize qualifications in homeopathy	Maintain the Central Register of Homoeopaths	Prescribe curriculum & courses; code of ethics, requirement of recognition	State Council of Homoeopathy
10.	<p><b>Central Council of Indian Medicine (CCIM)</b></p> <p>IMCC Act, 1970</p> <p>Ministry of Health</p> <p><a href="http://www.ccimindia.org">www.ccimindia.org</a></p>	Prescribe and recognize qualifications in homeopathy	Prescribes minimum standards of education in Indian Systems of Medicine Viz. Ayurved, Siddha, Unani Tibb and maintains a Central Register for the same	Prescribe curriculum & courses; standards of professional conduct, etiquette and code of ethics to be observed by the practitioners	State Councils
11.	<p><b>Rehabilitation Council of India (RCI)</b></p> <p>RCI Act, 1992</p> <p>Ministry of Social Justice</p> <p><a href="http://www.rehabcouncil.nic.in">www.rehabcouncil.nic.in</a></p>	Standardize and regulate the training of personnel and professionals in the field of rehabilitation and special education	Recognition of institutions for physiotherapy and related fields	Registration of professionals, assessments and accreditations; promotion of barrier free environment	-
12.	<p><b>National Council for Teacher Education (NCTE)</b></p> <p>NCTE Act, 1993</p> <p><a href="http://www.ncte-in.org">www.ncte-in.org</a></p>	Planned & coordinated development of teacher education in the country	Recognition of teacher education institutions	Lay down norms and standards	DEC
13.	<p><b>Indian Council for Agricultural Research (ICAR)</b></p> <p>Not a statutory body.</p> <p>Ministry of Agriculture</p> <p><a href="http://www.icar.org.in">www.icar.org.in</a></p>	Coordinate agricultural research and education	Coordinate and fund agricultural education and research in 30 state universities, 1 central and several deemed universities for agriculture	Accredit agriculture universities; hold joint admission tests	UGC

14.	<p><b>Bar Council of India (BCI)</b></p> <p>The Advocates Act, 1962</p> <p>Ministry of Law  <a href="http://barcouncilofindia.nic.in">http://barcouncilofindia.nic.in</a></p>	Lay down standards of professional conduct and standards of legal education	Lay down standards of professional conduct & standards of legal education	Listing of members of the bar; listing of foreign universities whose qualifications are approved in India	State Bar Council
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**Source:** Compiled with information from the respective websites and also via interactions with officials of various bodies including ICRIER.

### Professional Associations in India

S No	Name, Statute & Year, Ministry & Website	Statutory Mandate	Primary Function	Other Functions	Overlaps with Functions of*
1	<p><b>Institute of Chartered Accountants of India (ICAI)</b></p> <p>ICAI Act, 1949</p> <p>Ministry of Company Affairs  <a href="http://www.icai.org">www.icai.org</a></p>	Regulate the profession of chartered accountants in India	Conduct professional courses, coordinate practical training and hold examinations	Final Exam is equivalent to masters program if a bachelor's degree is obtained before completion of the ICAI course	-
2	<p><b>Institute of Company Secretaries of India (ICSI)</b></p> <p>CSI Act, 1980</p> <p>Ministry of Company Affairs  <a href="http://www.icsi.org">www.icsi.org</a></p>	Regulate the profession of company secretaries in India	Conduct professional courses, coordinate practical training and hold examination	Final Exam is equivalent to masters program if a bachelor's degree is obtained before completion of the ICSI course	-
3	<p><b>Institute of Cost and Works Accountants of India (ICWAI)</b></p> <p>ICWAI Act, 1994</p> <p>Ministry of Company Affairs  <a href="http://www.icwai.org">www.icwai.org</a></p>	Regulate and develop the profession of cost accountants in India	Conduct professional courses, coordinate practical training and hold examinations	Final Exam is equivalent to masters program if a bachelor's degree is obtained before completion of the ICWAI course	-

Other professional associations are – Institution of Engineers, India (IEI), Institute of Electronics and Communication Engineers (IETE), Institution of Mechanical Engineers (IME) etc.

S No	Name, Statute & Year, Ministry & Website	Statutory Mandate	Primary Function	Other Functions	Overlaps with Functions of*
1	<p><b>Association of Indian Universities (AIU)</b></p> <p>Set up in 1925 as a membership-based organization – a Registered Society</p> <p><a href="http://www.aiuweb.or">www.aiuweb.or</a></p>	Promote inter-university activities and cooperation in the field of education, culture, sports and allied areas.	Publish University News and Handbook of Indian Universities and various other publications	Organize academic, sports and cultural events, equivalence of Degree / Certificates awarded by the accredited foreign Universities / educational Institutions.	<b>UGC</b>

In addition, there is a National Council of Rural Institutes (NCRI) set up in 1995 as a nodal organization for development of rural institutions in the country.

*In most cases, there is some overlap in functions of professional councils and academic functions of the university concerned.*

**Source:** Compiled with information from the respective websites and also via interactions with officials of various bodies including ICRIER.

## Abbreviations

<b>ABET</b>	Accreditation Board for Engineering and Technology
<b>AICTE</b>	All India Council for Technical Education
<b>AQF</b>	Australian Qualifications Framework
<b>AUQA</b>	Australian Universities Quality Agency
<b>BAGS</b>	Board of Animation and Gaming Standards
<b>BCI</b>	Bar Council of India
<b>BFSI</b>	Banking, Financial Services and Insurance
<b>BCG</b>	Boston Consulting Group
<b>BPO</b>	Business Process Outsourcing
<b>CAI</b>	Chartered Accountants of India
<b>CCEA</b>	Council for Curriculum, Examination and Assessment
<b>CCH</b>	Central Council of Homeopathy
<b>CD</b>	Compact Disc
<b>CHEA</b>	Council for Higher Education Accreditation
<b>CII</b>	Confederation of Indian Industry
<b>COA</b>	Council of Architecture
<b>CTI</b>	Commission des Titers d' Ingenieur
<b>DCI</b>	Dental Council of India
<b>DELLS</b>	Department for Education, Lifelong Learning and Skills
<b>DOE</b>	Department of Education
<b>DPR</b>	Detailed Project Report
<b>EMF</b>	Engineering Mobility Forum
<b>ESOS</b>	Education Services for Overseas Students
<b>EUR-ACE</b>	Accreditation of European Engineering Programmes
<b>GATS</b>	General Agreement on Trade and Services
<b>GDP</b>	Gross Domestic Product
<b>HEC</b>	Higher Education Committee
<b>HEI</b>	Higher Education Institutions
<b>HR</b>	Higher Education
<b>ICAR</b>	Indian Council of Agricultural Research
<b>ICRIER</b>	Indian Council For Research on International Economic Relations

<b>ICS</b>	Institute of Company Secretaries
<b>ICT</b>	Integrated Communications Technology
<b>ICWAI</b>	Institute of Costs Works Accountants of India
<b>IIM</b>	Indian Institute of Management
<b>IISc</b>	Indian Institute of Science
<b>IIT</b>	Indian Institute of Technology
<b>INC</b>	Indian Nursing Council
<b>IT</b>	Information Technology
<b>ITES</b>	Information Technology Enabled Services
<b>JNTU</b>	Jawaharlal Nehru Technological University
<b>LAN</b>	Local Area Network
<b>LCD</b>	Liquid Crystal Display
<b>LCMS</b>	Learning Content Management Systems
<b>LTD.</b>	Limited
<b>MCI</b>	Medical Council of India
<b>MHRD</b>	Ministry of Human Resource Development
<b>NAAC</b>	National Assessment and Accreditation Council
<b>NAAE</b>	National Accreditation Authority for Education
<b>NASSCOM</b>	National Association of Software and Service Companies
<b>NBA</b>	National Board of Accreditation
<b>NBER</b>	National Board of Education Regulation
<b>NCDCB</b>	National Council Development Coordination Board
<b>NCSD</b>	National council on Skill Development
<b>NCTE</b>	National Council for Teacher Education
<b>NGO</b>	Non Government Organisation
<b>NIT</b>	National Institute of Technology
<b>NIIT</b>	National Institute of Information Technology
<b>NSDC</b>	National Skill Development Corporation
<b>ODL</b>	Open Distance Learning
<b>ODLQC</b>	Open and Distance Learning Quality Council
<b>PC</b>	Personal Computer
<b>PCI</b>	Pharmacy Council of India
<b>PG</b>	Post Graduate
<b>PVT.</b>	Private
<b>QAA</b>	Quality Assurance Agency for Higher Education

<b>QCA</b>	Qualifications and Curriculum Authority
<b>R&amp;D</b>	Research and Development
<b>RCI</b>	Rehabilitation Council of India
<b>Rs.</b>	Indian Rupees
<b>SA</b>	Sydney Accord
<b>SCORM</b>	Sharable Content Reference Object Model
<b>SSC</b>	Sector Skill Council
<b>TV</b>	Television
<b>UG</b>	Under Graduate
<b>UGC</b>	University Grants Commission
<b>UK</b>	United Kingdom
<b>USA/US</b>	United States of America
<b>VET</b>	Vocational Education and Training
<b>VIT</b>	Vishweshwaraya Institute of Technology
<b>VP</b>	Vice President
<b>WA</b>	Washington Accord
<b>WAN</b>	Wide Area Network
<b>WTO</b>	World Trade Organisation