Guidance Note On Cost Management In Higher Education

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Foreword to the 2nd Edition

Higher education is very essential for active participation in the knowledge societies which in turn accelerates economic growth. Quality education is a prerequisite to gain access to knowledge which guarantees economic development. Recognizing this, the Institute of Cost Accountants of India (ICAI) is committed to quality assurance and enhancement of higher education institutions. To achieve the defined standards, quality assessment and continuous improvement are the necessary ingredients. This includes the accreditation of academic programmes and quality assessment of the university/ institution.

The second edition of the guidance manual for cost management in higher education, brings together and consolidates the guidance and definitions of modern education system in an updated form. It is intended as a comprehensive technical manual to support cost accounting operations, development of cost accounting systems, and also management information system. Costing is not an end in itself, but it is a key enabling tool for management in the higher education sector.

I recommend the governing bodies of educational institutions to take advantage of this guidance manual and refer it for their internal review and use it as a basis of arriving at costs higher education system management. I also urge each CMA professional associated with the education sector to ensure that the document is shared within their establishments and with all other working professionals in order to make them aware of its importance of cost management in institutions imparting higher education. This manual will also help practicing CMAs who are involved in cost audit of education sector, which has been brought under The Companies Act, 2013, to enable them to assess the cost accounting system, in order to provide the assurance services of the system..

I thank CMA M. Gopalakrishnan, Chairman, CMA Committee and members of CMA Committee,

under whose auspices this publication is brought out,, for their expert inputs that were required at various occasions during preparation of this guidance manual.

With this, I am confident that higher education sector will be assured of better and reasonable internal cost management system. Hopefully, this guidance note will provide the impetus for the further growth and development of the higher education with effective cost management system.

31-01-2015

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Preface to the 2nd Edition

Education is one of the primary thrust area where the Government of India has focused for providing quality education at reasonable cost to the youth of the country. While there is a robust school education system managed by the Govt. as well as Private Sector, the higher education needs a size able impetus for development. With the service sectors such as software becoming one of the major contributors to the GDP, they also require large no. of qualified employable professionals to sustain the growth of the services they offer. The manufacturing industry are also adopting the latest global technologies for maintaining cost and quality leadership for their products and India is becoming the preferred manufacturing destination for global multinationals and transnational business combines. The entry and growth of private sector in the education sector has to some extent satisfied the huge appetite for qualified professionals. At the same time, the cost of providing education is also going up year by year. On one side the young aspirants have to be provided with quality education at the optimal cost and on the other hand, the promoters of educational institutions should also get a reasonable return their investments, which will trigger further investments and growth of these institutions.

The initiatives on establishing educational institutions have been mainly emanating from Government, charitable trusts of either large business houses and persons/groups of eminence. Many religious establishments have also been involved in these activities for a long time. Since these initiatives depend more on budgetary allocations or voluntary contributions the growth has been only gradual. Unless the education sector becomes a commercially viable proposition, it may not be able to serve the ultimate aim of converting the youth of the country to face the knowledge economy of the future.

Education enterprises consume resources. Conventionally, accountants identify four categories of resources: human resources, infrastructure, equipment and facilities, books, supplies, consumables

and other expenses. Although the expenditure under these heads are available in the normal financial accounting system, they have to be channeled into a Cost and Management Accounting system to arrive the cost of various types of courses and services. The fee structure of each course will be decided by the cost of providing such course after factoring a reasonable return on investment.

The Technical Directorate Extension Centre-Chennai of The Institute of Cost Accountants of India, under the Technical Directorate has updated the second edition of the Publication in the form of "Guidance Manual for Cost Management in Education Sector" which will be of immense use to the institutions which impart professional higher education. This manual does not cover medical education, which has a completely different business model. The publication also gives a model cost sheet of a representative educational institution, in engineering and arts and science streams. The publication also contains a model MIS, which will be of immense use to the top management of any educational institution.

The main input for the publication which was provided by Mr. N. Baskaran, B.A., FICWA, a practicing cost accountant, Trichy, Tamil Nadu, in the First Edition has been updated by the TDEC, with the current AICTE and other relevant norms. The manual has been brought out under the auspices of the CMA Committee, which is coming up with a series of publications on the service sector. This will also help the practicing CMAs, who undertake the cost audit of educational institutions, which has been brought under the purview of the The Cost Accounting Records and Audit Rules, 2014.

I am sure that the manual will be a timely initiative which will help the professional educational institutions to have an idea about the cost of providing the services and also plan additional income generating investments into this core sector.

I would like to place on record the initiatives taken by TDEC, Chennai and efforts put in by the CMA Nisha Dewan, Secretary, CMA Committee which has made the issuance of this Guidance Manual possible.

I thank CMA Dr. A S Durga Prasad, President and CMA P V Bhattad,Vice President in guiding the Committee and providing unstinted support in this exercise.

31-01-2015

CMA M Gopalakrishnan
Chairman
Cost and Management Accounting Committee

CONTENTS

INTRODUCTION

Education imparts knowledge and skills and shapes values and attitudes. Education is vital for progress of a civil society. Education forms the backbone of a nation and is one of the most important key indicators of a country's growth and development. The rise of knowledge economy at a global level has reinforced education, in all its forms (elementary, secondary, higher, vocational, and adult), as the key economic and business driver.

Education acts as a driver for technological innovation and facilitates absorption of developed technology for the benefit of the mankind. It is now widely accepted that knowledge capital, holds the key to development of economy.

With the emergence of India as a knowledge-based economy human capital has now become its major strength. This has put the spotlight on severe inadequacies of India's infrastructure for delivery of education, particularly higher education.

The social rates of return on investments in all levels of education much exceed the long-term opportunity cost of capital. At the same time, since it is difficult to measure the social rate of return, the financial ROI, becomes a key driver for sustaining and enhancing the investments in education sector.

With the stupendous growth of the education sector, educational institutions are becoming complex organisations. Educational institutes are confronted with managing a wide range of activities encompassing marketing of institutes to students for admissions and corporates for placement, managing internal operations, sophistical financial and cash flow planning, co-ordination in regulatory and statutory authorities etc. In addition, educational institutes are also subject to be vagaries of market forces due to stiff competition and demanding customers.

The emphasis by the Government of India on providing adequate practical education and training to the youth to make them employable both in the technical as well as non technical streams has also grown many folds.

For the year 2014-15, the government has allocated Rs 27,656 crore to the department of higher education under the human resource development (HRD) ministry compared to Rs 24,485 crore in 2013-14, registering an increase of 12.9 per cent.

Educational highlights of Union Budget 2014-15

- Rs 4,727 crore to be allocated for medical education and research;
- Rs 1,650 crore allocated for the purpose of setting up of medical colleges in six more AIIMS-like institutions;
- Proposes 12 more Government Medical colleges with dental facilities
- Rs 500 crore for 5 new IITs and 5 new IIMs
- Rs 13,215 crore for mid-day meal programme;
- Rs 28,635 crore to Sarva Shikhsa Abhiyaan.
- Two new institutes for farming and Agro technology to be set up in Assam and Jharkhand.
- Lok Nayak National Centre for Higher Education to be established.

Policy Framework of Constitution relating to Education:

India's commitment to the spread of knowledge and freedom of thought among its citizens is reflected in its Constitution. The Directive Principle contained in Article 45 enjoins that "the State shall endeavour to provide within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years". Article 29 (i) provides that any citizen having a distinct language, script, special care of the economic and educational interests of the underprivileged sections, particularly, the Scheduled Castes and Scheduled Tribes is laid down as an obligation of the State under article 46.

Source: www.education.nic.in

SECTOR OVERVIEW

Sector Objectives

The three following strategic objectives define the context for imparting education:

- Promoting education as a fundamental human right in accordance with the Universal Declaration of Human Rights
- Improving the quality of education through the diversification of contents and methods, and the promotion of universally shared values; and
- Promoting experimentation, innovation and the diffusion and sharing of information and best practices as well as policy dialogue in education

Sector Strategies

- To improve the excellence in education by contributing to quality-capacity building in educational planning and administration, training the Trainers in formal and non formal education.
- To focus on resources on eliminating gender gaps in primary and secondary education

Educational institutions all over India are controlled by University grants Commission and All India Council for Technical Education (AICTE) to ensure imparting of quality education.

The entire sector of higher education can be divided in to two broad categories viz., Arts& Science colleges and those of Professional Educational Institutions.

The Eleventh Plan recognised and responded to the rising demand for higher education. Enrolment increased in government as well as private institutions. Table below provides the enrollment numbers for the Tenth and the Eleventh Plan, the increase in enrollment and the compounded annual growth rate (CAGR).

Growth of enrollment in the Eleventh Plan

(Enrollment in number lakhs)

Category	2006-07		2011-12		Increase	Growth
	Total	Percent (CAGR) %	Total	Percent (CAGR) %		
by type of Institutions						
Government	63.38	45.8%	89.63	41.1%	26.25	7.2%
Central	3.10	2.2%	5.63	2.6%	2.35	12.7%
State	60.28	43.6%	84.00	38.5%	23.72	6.9%
Private	75.12	54.2%	128.23	58.9%	53.11	11.3%
Total	201.88		307.49		105.43	
by Degree/Diploma						
Degree	123.54	89.2%	184.84	84.8%	61.30	8.4%
Diploma	14.96	10.8%	33.02	15.2%	18.06	10.8%
Total	138.50	100.00%	217.86	100.00%	79.36	9.5%

Source: University Grants Commission, All India Council for Technical Education, Indian Nursing Council.

The number of institutions has increased significantly over the years which are displayed below.

Number of Universities States-Wise as on Dec 2014

Sl.no.	States	Number of Universities
1	Andhra Pradesh	47
2	Bihar	20
3	Gujarat	41
4	Karnataka	45
5	Madhya Pradesh	36
6	Maharashtra	45
7	Tamilnadu	56
8	Uttarpradesh	59
9	West Bengal	26
10	Delhi	26

Sl.no.	States	Number of Universities
11	Kerala	17
12	Others	196
	Total	665

Source:www.indiaeducation.net

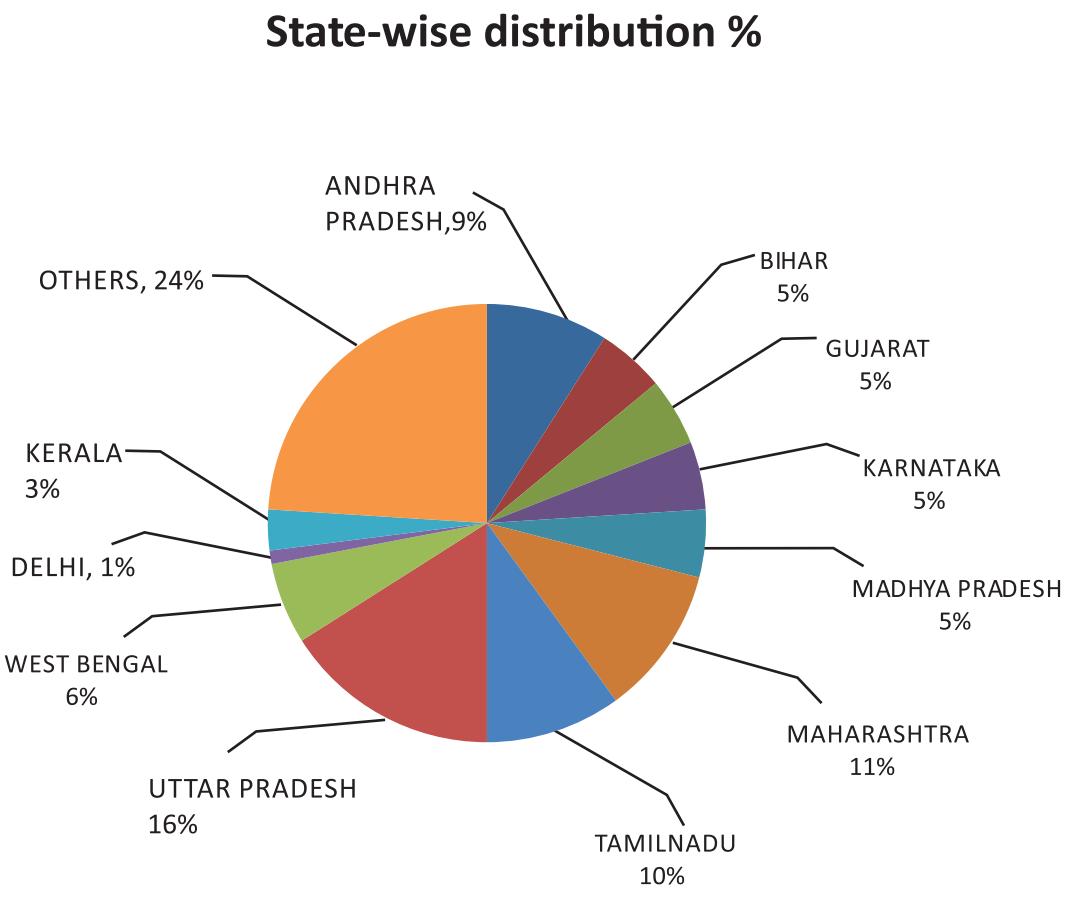
This massive development has been guided by a process of planning and recommendations of several national commissions set up by the Government of India. The objectives of higher education have gradually become more and more precise and a system of governance is developing in the direction of increasing autonomy and accountability.

Enrolment-Numbers for Higher Education in Major States

For 2012-2013

Slno	States and Union Terrritories	Total (Lakhs)	State-wise distribution
1	Andhra Pradesh	28	9.09%
2	Bihar	14	4.54%
3	Gujarat	16	5.19%
4	Karnataka	16	5.19%
5	Madhya Pradesh	16	5.19%
6	Maharashtra	36	11.68%
7	Tamilnadu	30	9.74%
8	Uttarpradesh	48	15.58%
9	West Bengal	17	5.51%
10	Delhi	4	1.29%
11	Kerala	8	2.59%
12	Others	73	23.70%
	Total	**308**	**100%**

The pictorial representation of the above table is shown below:



Source: www.ugc.ac.in

ROLE OF UGC

In order to determine and maintain standards in universities, the University Grants Commission (UGC) was established in 1952 and was constituted as a statutory body under the Act of Parliament in 1956. In performing its basic functions, the UGC allocates and disburses grants placed at its disposal by the Central Government to the universities, after an assessment of their needs.

The major initiatives taken by the UGC in improving the quality and standards of higher education are:

- Improvements in the quality and standards of teaching and research through programmes for setting up Centers of Advanced Study and Research, improvements in college teaching, strengthening research and infrastructure, etc.
- Periodic review and renewal of curricular content of courses in various disciplines, and special schemes for introduction of emerging areas of education and training.
- Establishment of common facilities for research networking of resources for information and documentation.
- Induction of electronic media in higher education.
- Provision of scholarships and fellowships to students.
- Launching of special programmes for greater participation of women, disadvantaged groups and the weaker sections in higher education.

The UGC will adopt a multi-layered funding strategy, which will focus on the following key elements:

1. Pursue, with enhanced funding, normal development grant to colleges and universities.
2. Provide special funding for backward area locations as well as young colleges and universities.
3. Identify colleges and universities with potential and fund them so they can attain excellence in teaching and research with greater academic, administrative and financial flexibility.
4. Cultivate and support a credit-based "cafeteria" approach to education especially

in autonomous colleges as well as colleges and universities with potential for excellence.

5. Promote effective clubbing of open and conventional systems to address the increasing demand in higher education.
6. Intensify fundamental education and fortify it with add on-utility specialisation.
7. Propagate the parallel education concept to obtain a degree and diploma or a dual degree in purely conventional and/or clubbed open and conventional systems.
8. Promote a college-university joint degree conferring concept.
9. Create an information flow network between colleges and universities.
10. Promote the creation and effective use of multimedia to supplement classroom and laboratory teaching.
11. Create institutions, in collaboration with research laboratories, for promoting an integrated five-year teaching in science disciplines with an inherent research component.
12. Pursue skill improvement activity for teachers.
13. Reward innovativeness in teaching and research.
14. Strengthen individual research and support activities that create an atmosphere for research.
15. Identify and support institutions for focused research in traditional and emerging interdisciplinary subjects.
16. Support outreach activities.
17. Focus on programmes for women, SC/ST and differently-abled groups in society.
18. Develop an ambience and culture for professional management of higher education institutions through the use of computers and training of administrators.
19. Promote internationalisation and export of higher education.
20. Give incentives for academic, administrative and financial reforms.
21. Encourage resource mobilisation.

Source: Extracts from www.ugc.ac.in

Role of All-India Council of Technical Education

All India Council for Technical Education (AICTE) has been established by an Act of Parliament (Act 52 of 1987) for proper planning and coordinated and integrated Development of technical education and regulation and maintenance of standards in the technical education system in the Country.

The major function of AICTE is the planned and coordinated development of technical education in the country. The major programmes are related to review and renewal of the curriculum for education and training of engineers and technicians, modernisation of the laboratories and workshops and removal of obsolescence and establishment of community polytechnics. It supports engineering colleges, management of educational institutions and polytechnics engaged in training of technicians.

The AICTE is also empowered by the Parliament Act to grant approval for establishment of institutions for conduct of technical course. No institution is permitted to conduct technical courses without prior approval from the AICTE.

For an Institution to offer a Course in Engineering and Technology, MCA etc. the following three conditions are essential:

(a) Approval/recognition of AICTE

(b) No objection Certificate from the respective State Government

(c) Affiliation from a local University/SCTE.

Source: www.aicte.ernet

ACCREDITATION OF INSTITUTIONS

In order to ensure a measure of accountability and to evaluate the performance of institutions on the basis of objective criteria, a system of accreditation of institutions of higher learning was laid down in the 1986 Policy statement.

Higher education accreditation is quality assurance process under which services and operations of universities/educational institutions or programs are evaluated by the governing body namely AICTE/UGC to determine if applicable standards are met. If standards are met, accredited status is granted by the governing body AICTE.

As far as universities are concerned, the UGC took the initiative and established a mechanism called National Accreditation and Assessment Council (NAAC) as an autonomous council under the aegis of the UGC to carry out periodical assessment of universities and colleges in the country. The methodology developed by NAAC for assessment involves:

- A self-appraisal by each university/college on the basis of specified parameters and documenting its performance with reference to each of them;
- An assessment of the performance by an Expert Committee on the basis of probes identified in respect of each parameter;
- A peer review of the self-appraisal and expert's evaluation; and a judgment of the performance.

The NAAC has developed the instruments for carrying out the evaluation studies and several universities and colleges have offered themselves for this assessment.

The AICTE Act of 1988 envisages the establishment of accreditation mechanisms for institutions offering technical education programmes. The AICTE has since established a National Board of Accreditation (NBA) to initiate the accreditation of technical institutions.

Source: www.ugc.ac.in

CURRENT SCENARIO

Significant progress has been made in recent years not only in the development and strengthening of higher education in terms of improved student access, strengthened research and postgraduate programmes, more equitable representation of different social groups, renewed curricula, but in enhanced institutional management and strategic planning capacity as well.

The higher education system has been experimenting with management approaches to deal with challenges arising from internal factors, such as changes in academic disciplines and new instructional methods, and external factors such as population growth, diverse clienteles and changing labour market requirements.

Involvement in decision-making by all key stakeholders of higher education institutions is recognised as imperative. To this end, a large measure of autonomy is being stimulated in the system to encourage freedom to select staff and students, determine curriculum and degree standards and to allocate funds; while at the same time being accountable to the system.

Higher education in India is coordinated by several agencies. While the university system falls within the jurisdiction of the UGC, professional institutions are coordinated by different bodies. The All India Council for Technical Education (AICTE) is responsible for coordination of technical and management education institutions. The other statutory bodies are:

Medical Council of India (MCI)-www.mohfw.nic.in

Central Council of Indian Medicine-www.mohfw.nic.in

The Homeopathy Central Council- www.mohfw.nic.in

The Indian Council of Medical Research (ICMR)-www.icmr.nic.in

Indian Nursing Council- www.ndc-nihfw.org

The Dental Council- www.dciindia.org

The Pharmacy Council- www.pci.nic.in

The Bar Council of India- www.lawmin.nic.in

The Indian Council of Agricultural Research (ICAR), etc. www.ias.ac.in

There are also bodies at the state level, such as State Councils of Higher Education that were established long ago. There is yet another type of coordinating agency called Association of Indian Universities (AIU), which was earlier known as Inter-University Board of India. All the universities and other equivalent institutions of higher education are members of the AIU. The AIU has no executive powers, but plays an important role as an agency of dissemination of information and as an advisor both to the government and/or UGC and universities.

Grants-in-aid for Education Sector over the years

Recommended Grants for Education as estimated by the Thirteenth Finance Commission for the eligible States are given below:

(Rs. in crore)

State	2010-11	2011-12	2012-13	2013-14	2014-15	Total (2010-15)
Assam	31	40	49	59	59	238
Bihar	585	699	818	946	970	4018
Jharkhand	223	266	311	359	369	1528
Madhya Pradesh	320	384	452	523	537	2216
Orissa	170	187	204	223	232	1016
Rajasthan	287	320	356	394	409	1766
Uttar Pradesh	723	871	1027	1192	1227	5040
West Bengal	355	416	480	548	560	2359
Tamil Nadu	111	126	141	158	164	700
Kerala	25	27	28	29	31	140
Gujarat	72	85	98	113	115	483
Maharashtra	131	140	149	159	165	744
Others	642	703	768	837	870	3820
Total	2694	3183	3697	4244	4363	24068

Source: www.mse.ac.in

Twelfth Five Year Plan

Raising the enrolment of the population for higher education from 15 per cent at the beginning of Twelfth Plan to 21 per cent by the end of 2017 is a key objective of the Twelfth Plan.

Growth of Higher Education in India

Items	Status up to end of 9th Plan (1997-2002)	Status up to end of 11th Plan (2007-2012)	% Increase
State/Central Universities (Nos.)	133	378	184.21%
Deemed Universities (Nos.)	27	110	307.40%
No. of Colleges	12342	18064	46.36%
Women's Colleges (Nos.)	1500	1902	26.8%
No. of Students Enrolled	75,00,000	140,00,000	86.66%

Other objectives are as follows:

- Improving the quality of education
- Adoption of state-specific strategies
- Liberalisation of the higher education system
- Vocationalisation
- Relevance of the curriculum
- Networking through information technology
- Convergence of formal, non-formal education
- Increase in private participation
- Research in frontier areas of knowledge and meeting the challenges of internationalisation of Indian education.

Initiatives taken in Twelfth Plan

The UGC has taken several steps in the Twelfth Plan period to improve the quality of education in universities and colleges.

- Strategic Support for State Higher Education
- Develop Central Institutions as Quality-Leading Institutions
- Reforming Institutional Organisation
- Deepening Academic Reforms
- Focus on Teachers and Teaching
- Re-Crafting Undergraduate Education
- Creation of a Comprehensive Student Financial Aid Programme
- Expansion of Skill-Based Programmes
- Open and Distance Learning Initiatives

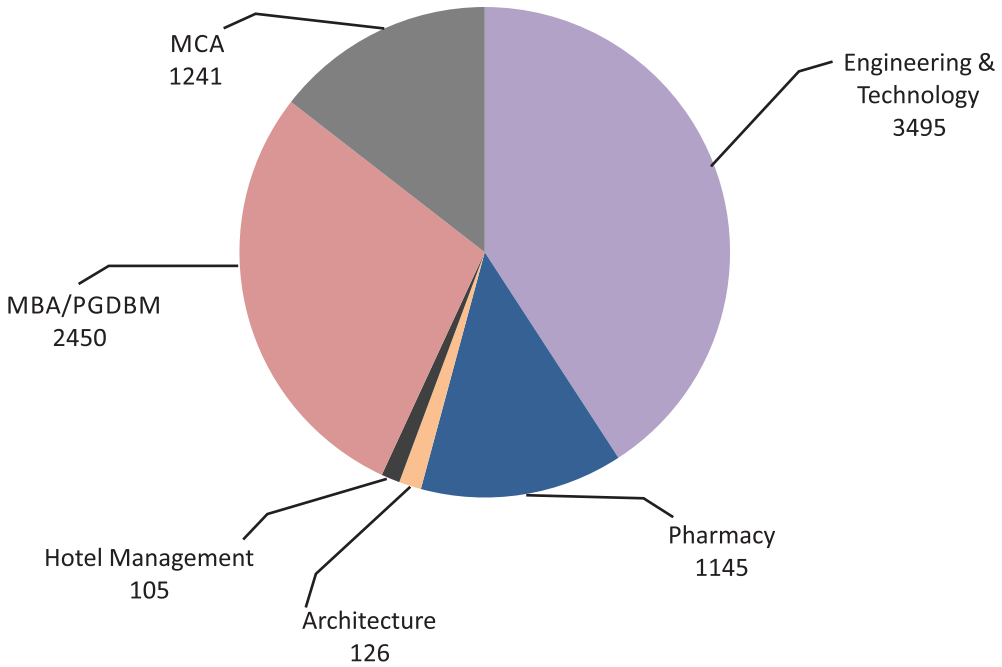
Source: www.planningcommission.nic.in

Twelfth Plan Objectives for Technical Education:

The key issues relating to technical and management education during the Twelfth Plan are:

- A continuing focus on increased intake capacity;
- Improving quality;
- Faculty development/ training to faculty and support staff;
- Optimisation of resources through networking;
- Development of information technology education;
- Improving the quality and quantity of
- Research in technologies and initiating research programs.
- Starting new PG courses

No. of Technical Institutions as on 2012-13



Source: www.aicte.ernet

ELECTRONIC MEDIA IN EDUCATION

E-Learning

E-Learning is an emerging technology and various people are developing content and tools in this area. A common interface between various components of e-Learning to interchange data is Interoperability. In a heterogeneous environment where content, delivery, management & analysis tools are being produced parallel by a number of sources interchanging data and developing a common interface between various components calls for development of standards. Interoperability implies standardization.

E-Learning is more than delivering content over the web. It should be capable of managing off-line instructional activities, on-line content, and data collection and analysis. In a conventional learning system, there are three activities of planning, teaching, and evaluation. Planning and teaching are closely integrated activities (usually done by an individual) where data is interchanged between them freely. This data is shared for evaluation (data analysis) usually maintained by a separate body. When applied to e-Learning these three activities are sourced independently and therefore there is a need to interchange information amongst them through a common interface to establish interoperability.

Usage of E-learning has tremendously increased over the period of time. One of the routes is E-library and second is webinar.

E-Library

An electronic library (also referred to as digital library or digital repository) is a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, micro form, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or institutions, or with academic institutions. The electronic content may be stored locally, or accessed remotely via computer networks across the globe.

Advantages of the Digital/e-Library

A digital library is not confined to a particular location or so called building. It is virtually distributed all over the world. The user of a digital library need not to go to the library physically, people from all over the world could gain access to the same information, as long as an Internet connection is available. The education system can enhance the knowledge of their users and the user can get his/ her information on his own computer screen by using the Internet which can be accessed at any time. Actually it is a network of multimedia system, which provides fingertip access. The same resources can be used at the same time by a number of users. With e-library the user is able to use any search term bellowing to the word or phrase of the entire collection. Digital library will provide very user friendly interfaces, giving click able access to its resources and also allows creating an exact copy of the original any number of times without any degradation in quality. The advantage of digital libraries is that it has the potential to store much more information as compared to traditional libraries, simply because digital information requires very little physical space to contain them. When the library had no space for extension digitization is the only solution. The main advantage is that the cost of maintaining a digital library is much lower than that of a traditional library. A traditional library must spend large sums of money paying for staff, book maintains, rent, and additional books. Digital libraries do away with these fees.

Webinar

Web conferencing is a process by which it facilitates the student faculty interaction via electronic media. The student and faculty are at liberty to choose the place of the teaching/ presentation being rendered or used. It creates a live interaction between the faculty and the student. In addition, this webinar allows conferencing events to be shared with remote locations. In general, the service is made possible by Internet technologies, particularly on TCP/IP (Transmission Control Protocol/Internet Protocol) connections. The service allows real-time point-to-point communications as well as multi cast communications from one sender to many receivers. It offers data streams of text-based messages, voice and video chat to be shared simultaneously, across geographically dispersed locations. Applications for web conferencing include meetings, training events, lectures, or short presentations from any computer.

Advantages of Webinar in Higher Education System - Benefits to education stream through webinar

Webinars can play a vital part in flourishing and spreading education system across the geographical boundaries. Using this system, it will be easy and convenient for education bodies to spread their education system to their students. As webinars is based on internet technology, there will be no long distance travelling to attend the lectures on daily basis, which will save time, money and other resources. The major advantage of webinars is that its total cost is based on number of participants and sites where the webinar will be conducted. One more added advantage is that webinars can be recorded and can be kept in archives.

The Institute of Cost Accountants of India (ICAI) is a pioneer institute in providing education in Cost and Management accountancy across the country and the globe via e-media also. One of the channel namely webinar is extensively used by the students, faculty and members in industries to get themselves educated in this profession and this has become a change agent in educational institutions.

This media of education has immense potential in bringing out the hidden skills of students/faculty on employability in the business world.

The below mentioned website address can be used to get educated on cost accountancy.

http://icmai.in/icmai/featuredlinks/webinar.php

Management Information Systems

In today's world an educational institute is no less complex than a fledging corporate house. Therefore it goes without saying that educational institutes deserve the best in terms of modern management practices and state-of-the-art technology for managing their internal and external operations.

In these days of information overdrive, what is most critical is an efficient Management Information System (MIS) that facilitates cost reduction, responsive & effective decisions and brand image enhancement. No wonder, most progressive corporate spend heavily in beefing up their MIS.

Some of the key features of Educational ERP are

- Facilitates automation of all key processes of an institute and forms the backbone of a comprehensive MIS.
- Encompasses and integrates all three pillars of an institute's activity-academic, administrative and finance.
- Addresses the information and data processing needs of all the partners of and institute students, teachers, parents, support staff and management.
- Access through the internet enables wider and convenient usage.

FUTURE SCENARIO

The vision for education in India would be "TO CREATE A COMPETITIVE, YET CO-OPERATIVE, KNOWLEDGE BASED SOCIETY."

Several STRATEGIC OBJECTIVES would have to be pursued in order to realise this vision.

- Provide quality primary education facilities to every citizen of India.
- Encourage the establishment of world class higher education facilities at every district head quarters.
- Encourage the creation of state-of-the-art professional research based education institutions in all disciplines.
- Encourage institutes of education for physical education and education for the challenged.
- Integrate education with information and communication technologies to create smart schools network and deliver education and training.
- Institutionalise distance education.
- Create and maintain data bases, and continuously analyse trends. Develop human resources required for the education process.
- Continuously upgrade educational content in multiple media.
- Create institutional linkages to other sectors of social development such as health and rural development.
- Motivate non-resident Indians to participate in India's education programmes on a voluntary or sabbatical basis.
- Market India as a destination for affordable, high quality education.

A new strategy of providing quality education through the information highway will emerge in future which in turn will create information flow network thereby creating inter-connectivity in all universities. Each university would have an assured reliable bandwidth for uploading and downloading so as to get them on the Intranet and Internet.

Each university would be encouraged to establish a local area network so as to enable connectivity within the campus. Universities would also be helped to establish a college-network for connecting all the colleges under the jurisdiction of the university. There would be thus a network for information flow in each university and a network connecting Each university in the country.

A knowledge connectivity map will thus emerge for the entire country. It would facilitate flow of information to support the teaching and learning process through multimedia material, computer graphics support material, reference material (in print form) and audio material. This would enhance the academic infrastructure in each classroom.

In future, the recurring expenditure on education in the year 2015 would be Rs 1, 80,000 crores. The capital expenditure would be Rs 88,900 crores spread over the next 15 years.

This is based on population projections to the year 2015 and working on the basis that the goals of an education policy would be to universalize education in the age group 5-14, achieve a 75 % enrolment rate in higher secondary (age group 15–19) and a 20 % enrolment in colleges and professional education (age group 20-24).

The projected expenditure on education to meet the above goals works out to three times the current expenditure. The Government's share would amount to Rs.117, 099 crores. At a projected growth rate of 8 % GDP, the total education expenditure would be 3.15 % of the GNP in 2015. The public spend would account for 1.98 % of the GNP. The total population that would have achieved tertiary education will between 5.6 % and 9.8 % depending on a GDP growth rate of 6% or 10% per year respectively. The total number of teachers in all sectors would have to more than double from the existing 49.25 lakhs to a range of 93.47 lakhs to 119.15 lakhs.

Funding the huge expenditure demand will be by increase in quantum of public spending and also through increase in efficiency of public spending on education. The arena is open to Private institutions to go in hand with the publicly funded institutions.

There are basically three mutually reinforcing methods that could overcome some of the problems in financing education.

The first method is to recover the public cost of higher education and reallocate government spending on education towards the level with the highest social returns, i.e. in primary education.

The second method is to develop a credit market for education, together with selective scholarships, especially in higher education.

The third method is to decentralise the management of public education and encourage the expansion of private and community-supported schools.

In all three approaches, the cost management becomes a key factor, as it conserves monetary resources and making it available for future investment. It also encourages spread of education by attracting investment from the private sector, and expansion of educational institutions. In developed countries many of the Universities and colleges are financially supported by Business Groups, for whom the institutions ensure a steady supply of knowledge workers for manning their businesses. The institutions also act as a repository of Research knowledge as high quality academic input necessary for fundamental research is readily available with these institutions.

EMERGING SCENERIO

Open Education system

There is a new concept namely the Open Education system via Consortium mechanism and is being applied to worldwide community of higher education institutions and universities. It commits for advancing open education and its impact on global education. Its purpose is that everyone and everywhere has access to the education they need,with help of which it will build the futures. The system seek to instill openness as a feature of education around the world, allowing greatly expanded access to education while providing a shared body of knowledge upon which innovative and effective approaches to today's social problems can be built. The Open Education Consortium realizes change by leveraging its sources of expert opinion, its global network and its position as the principal voice of open education.

Open Education seeks to scale educational opportunities by taking advantage of the power of the internet, allowing rapid and essentially free dissemination, and enabling people around the world to access knowledge, connect and collaborate.

Importance of Open Education

By providing free and open access to education and knowledge, people can fulfill this desire. Students can get additional information, viewpoints and materials to help them succeed. Workers can learn something that will help them on the job. Faculty can exchange material and draw on resources from all around the world. Researchers can share data and develop new networks. Teachers can find new ways to help students learn. People can connect with others they wouldn't otherwise meet to share information and ideas. Materials can be translated, mixed together, broken apart and openly shared again, increasing access and allowing new approaches. Anyone can access educational materials, scholarly articles, and supportive learning communities anytime they want to. Thus, education is available, accessible, and flexible and becomes free for all.

Universities are reacting with determination and creativity to the new challenges they face. Budget deficits have mushroomed following sudden declines in endowment values, deep cuts in education funding and limits on tuition increases.

Distance Learning in Education Sector

Distance education or distance learning is a mode of delivering education and instruction, often on an individual basis, to students who are not physically present in a traditional setting such as a classroom. Distance learning provides "access to learning when the source of information and the learners are separated by time and distance, or both. Distance education courses that require a physical on-site presence for any reason (excluding taking examinations) have been referred to as hybrid or blended courses of study. Massive open online courses, aimed at large-scale interactive participation and open access via the web or other network technologies, are a recent development in distance education.

The distance education is able to deal with large numbers of learners in a cost-effective manner. As compared to the traditional rationale, distance education has more flexibility. Learners who cannot be reached by traditional delivery methods remain a captive market for distance education. However, it has also been claimed that distance education is the more cost-effective means for allocating educational resources, and that it is especially capable of reaching large numbers. Costs can be spread over large numbers, lowering the cost per student.

Benefits of Distance Learning in Education Sector

- Distance learning can expand access to education and training for both general populace and businesses since its flexible scheduling structure lessens the effects of the many time-constraints imposed by personal responsibilities and commitments.
- Distance education can also provide a broader method of communication within the realm of education. With the many tools and programs that technological advancements have to offer, communication appears to increase in distance education amongst students and their professors, as well as students and their classmates.
- The high cost of education affects students in higher education, to which distance education may be an alternative in order to provide some relief. Distance education has been a more cost-effective form of learning, and can sometimes save students a significant amount of money as opposed to traditional education. Distance education may be able to help to save students a considerable amount

financially by removing the cost of transportation.

- Within the class, students are able to learn in ways that traditional classrooms would not be able to provide. It is able to promote good learning experiences and therefore, allow students to obtain higher satisfaction with their online learning.
- Distance learning may enable students who are unable to attend a traditional school setting, due to disability or illness such as decreased mobility and immune system suppression, to get a good education. Children who are sick or are unable to attend classes are now able to attend them in "person" through the use of robot proxies.
- Distance Learning may also offer a final opportunity for adolescences that are no longer permitted in the General Education population due to behavior disorders. Instead of these students having no other academic opportunities, they may continue their education from their homes and earn their diplomas, offering them another chance to be an integral part of society.

Activities In Distance Education Systems

- Creating or acquiring, producing and delivering learning materials
- Providing administrative and pedagogic student support services
- Providing institutional management to support the above.

Types of Resources Used

- Human resources: staff salaries and wages,
- Premises and accommodation:
    - Land, construction of new buildings and their infrastructure
    - Existing premises and adapting/renovating it
    - Rented accommodation
    - Running costs of buildings and grounds (e.g. utilities, repairs and maintenance)
- Equipment and furniture: note, small durable items such as staplers and hole–punches are consumables

- Stocks, supplies, consumables and expenses as follows:
  - Stocks such as –books (paper, audio cassettes, texts)
  - Consumables are materials used by the organisation but not incorporated into its products (e.g. office stationery)
  - Expenses are the cost of something other than stocks, supplies, and consumables (travel, postage, fees to non–payroll consultants).

Effect of changes in Number of Students /Taught on Fixed and Variable Costs in a Distance Education System

		Activity Increases	Activity Decreases
Fixed Costs:	In Total	Unchanged	Unchanged
	Per Unit	Decrease	Increase
Variable Costs:	In Total	Increase- directly proportional	Decrease-ie directly proportional
	Variable Cost / Unit	Remains Unchanged	Remains Unchanged

The concepts of fixed and variable costs are central to budgeting and cost analysis, in particular to understanding the behavior of average costs and in particular on the cross over cost points . When teaching small numbers of students, face–to–face teaching almost invariably has a lower average cost per student. At high activity levels, distance education tends to have the lower average cost.

Measuring the Benefits of Distance Education

Quantitative access: education can increase enrolment at all levels of formal education, in non–formal settings, and for training. Measure its contribution by establishing a proportion of total national places provided through distance means at an institution.

Equal access: Distance education can meet the needs of remote communities, those whose jobs prevent them from attending regular classes, or those who are tied to the home. Survey students and potential learners to find out how many cannot study by traditional means.

Quality of the educational experience: Distance education students may have access to teaching materials and lecturers not otherwise available, and student support services can

provide high quality advice and support. The major drawback is the lack of opportunity for teacher–student or student–to–student dialogue, but electronic conferencing systems (email, computer conferencing and computer–based video conferencing) make e–education increasingly attractive. Distance education learning materials may seem limited without access to a library, but e–libraries can help with this.

Cost–efficiency: Distance education may have a lower cost per student/ per graduate than traditional approaches.

Economies of scale and scope: Distance education provides economies of scale at the early stages of programme expansion, as fixed costs are spread across more and more students. Thereafter, economies tend to come from economies of course coverage

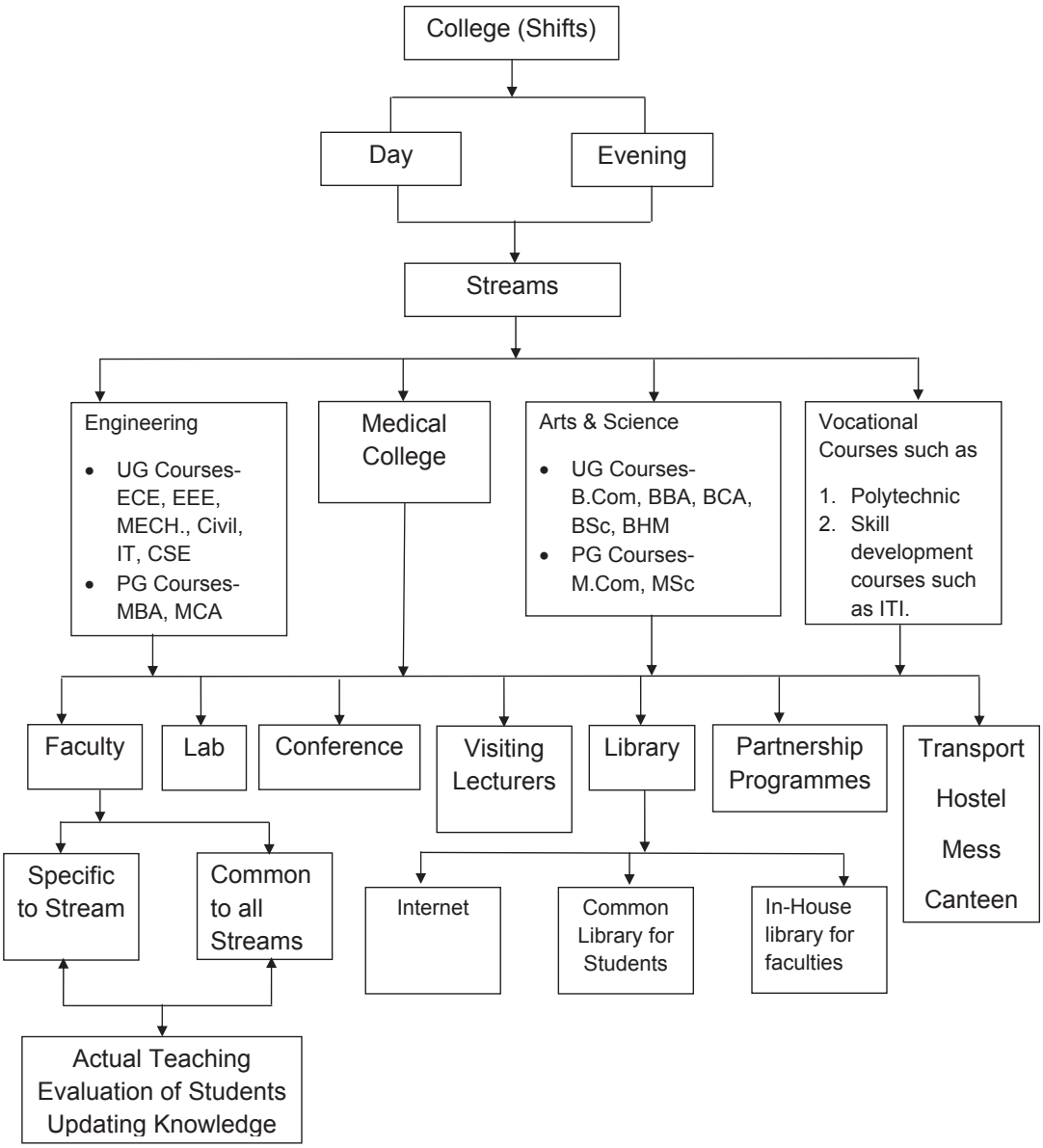
Benefits to students: This part remains little researched area. Are the lifetime earnings of distance education students the same, more, or less than their counterparts from traditional institutions? Distance education students can earn as they study but may their education later in life, when they have fewer years to earn at a higher level. The ability of distance education institutions to garner higher paid jobs for their graduates has been questioned. What studies exist, however, suggest that distance students do benefit financially.

Cost Sheet representing Cost factors per student in Distance Learning Education Scheme

Cost Items	Traceability of costs -Unit (Cost Base)	Total Cost	Cost per Student
Investment cost			
Television related			
Scripts	Direct to the course	XXX	XXX
Program production	Direct to the course	XXX	XXX
Printed materials, preparation	Direct to the course	XXX	XXX
Satellite antenna (including decoder)	School	XXX	XXX
TV receivers	School	XXX	XXX
VCRs	School	XXX	XXX
Sub total		XXX	XXX
Start-up costs (planning, training)	Subject	XXX	XXX
Other facilities and equipment-			

Cost Items	Traceability of costs -Unit (Cost Base)	Total Cost	Cost per Student
Basic classroom space	Student	XXX	XXX
Library and books	School	XXX	XXX
Video library and materials	School	XXX	XXX
Renovation, wiring, laboratory	School	XXX	XXX
Total investment cost		XXX	XXX
Recurrent cost			
Continuing program			
Development	Subject	XXX	XXX
Teachers/Faculty salaries	Teacher/subject	XXX	XXX
Non-Teacher salaries	School	XXX	XXX
Maintenance and operation			
Equipment maintenance	School	XXX	XXX
Print materials	Student	XXX	XXX
Distribution of print	Student	XXX	XXX
Distribution blank cassettes	School	XXX	XXX
Electricity, phone, water	School	XXX	XXX
Insurance Cost	School	XXX	XXX
Total recurrent cost	School	XXX	XXX
Total annual investment and recurrent cost		XXX	XXX

BUSINESS PROCESS COMMON FOR ALL HIGHER EDUCATION COLLEGES



FINANCIAL STATEMENTS OF AN EDUCATIONAL INSTITUTIONS

Model A – Non Corporate Form

Particulars	Schedule*	Current Year	Previous Year
Sources of Funds	1	XXX	XXX
a) Share Capital			
b) Reserves & Surplus			
c) General Fund			
Term Laibilities/Loan Fund	2	XXX	XXX
a) Other Funds *			
b) Current Liabilities			
	Total	XXX	XXX
OTHER FUNDS *			
i) Building Fund	3	XXX	XXX
ii) Equipment and Furniture fund	4	XXX	XXX
iii) Electrical Equipments and sub-station Fund	5	XXX	XXX
iv) Research fund	6	XXX	XXX
v) Book & Journal fund	7	XXX	XXX
vi) Projects Fund	8	XXX	XXX
vii) Development Fund	9	XXX	XXX
	Total	XXX	XXX
		XXX	XXX
APPLICATION OF FUNDS			
a) Fixed assets	10		
Gross Block		XXX	XXX
Less: Accumulated Depreciation		XXX	XXX
Net Block	Total	XXX	XXX
b) Current assets, Loans & Advances			
i) Cash & Bank balances	11	XXX	XXX
ii) Fixed Deposits with banks	12	XXX	XXX
iii) Loans	13	XXX	XXX
iv) Advances	14	XXX	XXX
	Total	XXX	XXX

*Schedules are not given.

Model financial statements of a Typical Educational Institution

Model - A

Balance Sheet as at 31st March ------

Particulars	Schedule*	Current Year	Previous Year
		(Rs in Millions)	(Rs in Millions)
Liabilities:			
i) Amount received for disbursement of Scholarship	15	Quantitative Factors	XXX
ii)Amount received for disbursement for Others	16	XXX	XXX
iii) Other liabilities	17	XXX	XXX
	Total	XXX	XXX
Net Current Assets	D-E	XXX	XXX
	Total	XXX	XXX

Model Financial Statements of a Typical Educational Institution

Model-A

Income and Expenditure Statements as at 31 March, -----

Particulars	Schedule*	Current Year	Previous Year
		(Rs in Millions)	(Rs in Millions)
Income:			
Collection from students	A	XXX	XXX
Other Receipts	B	XXX	XXX
Grant Received	C	XXX	XXX
Interest on Fixed Deposit		XXX	XXX
Receipts from P.A.O	D	XXX	XXX
		XXX	XXX
		XXX	XXX
Expenditure :			

Particulars	Schedule*	Current Year	Previous Year
		(Rs in Millions)	(Rs in Millions)
Pay & Allowances	E	XXX	XXX
Other Expenses	F	XXX	XXX
Office Expenses	G	XXX	XXX
Dept. Expenses	H	XXX	XXX
Payment made against Projects	I	XXX	XXX
Excess of Income over Expenditure		XXX	XXX
transferred to General Fund		XXX	XXX

*Schedules are not given.

Receipts and Payments for the year ended 31March, ------

Particulars	Schedule *	Current Year	Previous Year
		(Rs in Millions)	(Rs in Millions)
Receipts:			
Cash and Bank Balances			
Opening	I	XXX	XXX
Collection from Students	II	XXX	XXX
Other revenue receipts	III	XXX	XXX
Other capital receipts	III	XXX	XXX
Interest on Fixed deposits		XXX	XXX
Grant received	IV	XXX	XXX
Receipts from P.A.O	V	XXX	XXX
Receipts of scholarships	VI	XXX	XXX
Deductions from salaries	VII	XXX	XXX
Payments:			
Pay and Allowances	VIII	XXX	XXX
Office expenses	IX	XXX	XXX

Particulars	Schedule *	Current Year	Previous Year
		(Rs in Millions)	(Rs in Millions)
Department expenses	X	XXX	XXX
Equipment and furniture	XI	XXX	XXX
Other expenses	XII	XXX	XXX
Advances and deposits	XIII	XXX	XXX
Payment made against projects	XIV	XXX	XXX
Payment against U.G.C. unassigned and Dev. Assistant	XV	XXX	XXX
Payment made against receipts from Treasury	XVI	XXX	XXX
Disbursement of scholarships	XVII	XXX	XXX
Deposits of deductions from salaries	XVIII	XXX	XXX
Cash and bank balances (closing)	XIX	XXX	XXX
		XXX	XXX

*Schedules are not given.

GUIDELINES NOTE ON COST MANAGEMENT IN EDUCATIONAL INSTITUTIONS

Introduction

This study relates to Higher Education in Engineering and Technology, Arts and Science and other disciplines.

The study of cost management is generally considered more relevant to the manufacturing organizations in order to reduce the cost and maximize the profit besides utilizing the available resources to the optimum benefits. However, the cost of higher education has increased manifold and the cost to establish and create infrastructural facilities in the institutions has also increased substantially. There is social obligation to reduce the cost of higher education to bring it to the reach of all sections of the society. Therefore the study of cost management is vital and important at the present scenario.

In order to expand the reach of affordable higher education to all sections of the society specially belonging to the marginalized sections of the society, the Government is planning to introduce public private partnership mode involving both infrastructure as well as revenue funding. Some states have already started involving their Government colleges with reputed educational institutions who will admit students selected from the Government selected students along with the regular students. Some states such as Kerala have already launched Additional Skill Acquisition Project under the aegis of national skill development programs under which professional institutions will conduct the education and training in specifically designated Government colleges for students who opt for various skills enhancement courses. The entire fees are funded by the Government.

The following aspects relevant to the above study are explained in this note.

1. The cost of establishment and creating infrastructure facilities in the new educational institutions for higher studies.
2. The operational cost and revenue of the institutions.
3. The Financial accounting methods to account and control cost.
4. The Cost accounting methods and records for cost management of educational institutions.

5. Operational Control Mechanism.
6. Conclusion part of the study.

Guidelines on Performance Management in Educational Institutions

Evaluation of Higher education institutions is to be done on various quantitative and qualitative indicators.

Traditionally higher education institutions have emphasized on academic performance measures such as student enrolment, teacher student ratio, retention rates, faculty publications, physical resources, library resources, scores of students, grade point average, etc. There are numerous other indicators that could be considered for measuring performance of academic institutions. They include student and faculty satisfaction level, accessibility, knowledge value addition.

Following measures are used as performance indicators in education sector:

1. Enrollment/Graduate rates by gender, ethnicity and program
2. Degree completion time
3. Persistence/Retention rates by grade, ethnicity and program
4. Remediation activities and indicators of their effectiveness
5. Pass rates on professional exams
6. Job placement data on graduates and graduate satisfaction with their jobs
7. Faculty workload and productivity in the form of student/ faculty ratios

Performance Drivers

Customer Perspective

1. Students & Parents assess Quality education, proper placement, proper scheduling
2. Faculty & Staff consider growth prospects, hike in salary & stability in job
3. Corporate Sector focuses on recruitment
4. Society looks at overall contribution of the institution

Internal Business Perspective

1. Improvements
2. Cost Control
3. Quality

Learning & Innovation Perspective

1. Training & Development of faculty
2. Use of Information Technology
3. Professional growth of faculty

Financial Perspective

1. Growth
2. Survival
3. Value Enhancement

Outcome Measures

- Student satisfaction surveys, Proportion of students getting job in campus placement, Number of companies for campus placement
- The amount of salary hike, Promotions, Knowledge enhancement
- Number of employees hired during campus placement
- Community Service
- New courses, Syllabus, Pedagogy & Curriculum
- Student Teacher ratio, Expenses
- Evaluation of student competency
- Amount spent on training programs
- Number of IT based courses, IT training sessions of faculty
- Number of research papers published & presented in conferences & Seminars

- Grants from Government
- Input Output Ratio
- Increase in the number of students

Cost Management in Education Sector

Today, the aim of the top management of colleges and universities is to improve transparency into their services, operations and finances for their stakeholder and the public. There is also a growing interest among the institutions of higher education to enhance risk management through better controls over their entity systems, policies and procedures, and to promote the importance of accountability among professionals. Within these organizations, management information system, performance management and cost review plays a pivotal role in working with administrators, management and boards to establish strong cost spending controls and derive the many resulting benefits in terms of organizational performance and cost efficiencies.

The cost/finance controller can help the Higher Educational Institutions in overcoming the threats and weaknesses of their internal management and system. And can also open and widen the areas according to their strengths and visible opportunities.

The Management of Higher Educational Institutions shall undertake the following review to evaluate and improve the effectiveness of risk management, cost control and governance processes:

- **Systems evaluation –** assessing the control systems in place within a specific area, to support the achievement of the areas objectives;
- **Stock evaluation –** undertake stock take of library books, IT equipment, laboratory equipment, stationary, college furniture etc.
- **Compliance evaluation –** assessing compliance against an agreed set of standards, e.g. UGC norms, AICTE norms ;
- **Contract evaluation and cost review–** auditing procurement projects and capital programmes, assessing compliance with best practice (policies and procedures), cost reviews for expenditure on institution infrastructure, staff payroll, administration etc.;

- **Thematic work reviews –** to be undertaken across a number of departments, identifying areas of good practice and producing an overall report for all areas of Institution with respect to budgetary controls, spending analysis, achieving value for money etc.;
- **Revenue assurance –** undertaking assurance review to confirm that departments have appropriate controls in place for fee collections, timely deposits, etc.;
- **Grant reviews –** to ensure that the grants are used for the intended purpose.

ROLE OF CMA IN EDUCATION SECTOR

In Education Sector, knowledge is power and is one of the most important driving forces of Economies of the World. For any economy to achieve meaningful economic growth, it is essential to gear up skill based activities through a potential, vibrant and dynamic higher education system.

Looking at the deficiencies in most of the key areas of higher education system of India like accessibility, quality, financing and governance, there is a need for a shift in the approach in terms of policy and also look at the affordability as the critical factor given the cost of education from Junior grades to higher grades increased manifold and where there is a compromise the quality has taken a beating.

The proportion of Fixed Costs to Total Costs is very high in Educational Institutions as the Infrastructure cost is high and many of the costs are fixed due to various norms fixed by the Regulating agencies such as UGC, AICTE and other bodies. Due to this factor, when there is a drop in admissions, the fall in income will be very steep and the existence of the Institution is challenged.

Many Professional colleges due to these factors could not sustain the operations. This has double effect, one the students who take admission will not have the right quality of education and two the investments that have gone into the venture would be dead .With the fee structure and intake capacity regulated by the Regulation, the only way the educational institution can sustain, is by keeping the costs under check.

Ever increasing cost inflation, there is a need to maintain/control the fees that are to be collected from students. Since education sector is Non-profit organization, the pricing is not based on profit model. However, to accumulate the increasing cost, there is a necessity to have cost inspection/ cost control/ cost reduction. And hence cost management is essential.

CMA plays an effective role in the following activities-

1. Aiding in Fee fixation mechanism/model design
2. Can play an effective role in cost maintenance model
3. Designing practical costing systems that can facilitate cost management

4. Suggesting systems for cost control and cost reduction
5. Can play the role in internal management in education industry

The Cost Management is a powerful management tool permitting the understanding of the relationship between the costs and the benefits; obtaining results that were otherwise unavailable.

Introduction of cost management in education system will also support the financial audit to overcome its limitations. Further both cost and quality are strategic issues related with education. These two issues are independent and also interrelated with each other. Role of cost management would not be restricted to mere fair cost ascertainment. But it is expected that it can influence and improve quality of education.

Cost management is imperative for institutions that operate within resource constraint. India institutions of higher learning operate with resource constraint. Cost management helps to cut wastes and to appropriately allocate resources to different activities. I am not sure whether cost management plays an important role in growth because the actual capacity in India falls short of demand. Therefore, there is always a space for new institutions.

With cost management, institutions will be able to improve the quality of learning, and in some cases, to provide education at an affordable price.

On the level of the system of higher education in general, the development of a system of this kind allows for the comparison of the results, both between the various institutions, as well as in different periods.

Employment opportunities for CMAs in Higher Education

Competition in the global job market is making new programs, new training and new models of instruction essential in order for students to earn gainful employment after graduation. And amidst a fluctuating student population, universities are harnessing new technologies, such as e-learning, as a way to reach even more students.

These pressures place core academic missions of teaching, research and outreach at risk. To help bring the focus back to schools core missions, cost management process can help institutions to be on the path to success:

- A CMA person can work to redesign the university model to make higher education a reality for more students.
- CMA can examine school operations and organizations to determine which administrative support functions, and redundancies, are diverting scarce resources away from higher education's core purpose.

NORMS PRESCRIBED BY AICTE

The cost of establishment and creating infrastructure facilities in the new educational institutions for higher studies.

All India Council for Technical Education (AICTE) has set specific norms for establishment of new and existing technical institutions. The essential requirements of Land, Built up area, Computers and Library are insisted. The desirable norms for approach roads, water supply systems, generators, students' canteen, and hostels are also suggested by the council. Therefore, the promoters and the management have to provide necessary funds for capital expenditure to satisfy the norms of AICTE. As the management is not permitted to charge any capitation fee from the students and as the income from tuition fees may not generate adequate funds for capital expenditure, the management has to look for borrowed funds from Banks and Financial Institutions which in turn throws heavy burden of financial charges.

Similar conditions apply for Medical education and Agricultural education. Where such specific norms are not stipulated as in the case of technical institutions, the controlling universities are giving guidelines to Arts and Science Colleges for creating necessary infrastructure facilities.

The AICTE has stipulated the minimum funds requirement for starting an Engineering and Technology educational institution as below.

(in Lacs)

Category of new Institution	Building Construction, Furniture, Equipment & Library and other facilities	Fixed Deposit With AICTE	Total
Engineering & Technology	100	35	135
Pharmacy	50	15	65
Hotel Management & Catering			
Technology	50	15	65
Architecture	50	15	65
Applied Arts & Crafts	50	15	65
MCA	50	15	65
PGDM / MBA	50	15	65

Source: http://www.academics-india.com/UGC_Regulations_2014.pdf

However, the actual requirement of funds may depend on the capacity of sanctioned strength of seats for the courses of study of the institutions and their future plan for expansion. The requirement of funds will be similar to the Medical and Agricultural institutions and depend on their specific needs peculiar to such type of institutions. The source of funds may be promoters own funds or borrowed funds.

The normal procedure for evaluating the capex proposals has to be followed for taking decisions. However, the Return on Capital employed cannot be taken as the ultimate criteria for decision making as the educational institutions are not established for making profit but for satisfying noble objectives of providing quality education, so that the qualified students may serve better to make our country a developed nation.

The AICTE has also prescribed various operational norms such as teaching faculty student ratio, gross enrollment ratio etc.

This manual has taken the extant guidelines for working out the cost sheets. But this may undergo the changes from time to time as and when the norms are revised by AICTE.

EDUCATION BUSINESS PROCESS

The operational cost and revenue of the institutions

a. Income of the Educational Institutions

The source of income is the tuition fees from the students. Tuition fees may include the admission fee, special fee, laboratory, computer and internet fee, library fee, development fee, placement and training fee, amenities fee, sports fee, extracurricular activities fee etc., The controlling Universities, Government and orders of Hon'ble courts stipulate norms and quantum of fees to be collected by the Government colleges, Private aided and unaided institutions for engineering, medical and agriculture studies. These institutions are not permitted to collect capitation fee. The tuition fees in the Arts and Science Colleges are fixed with reference to the availability of seats for various courses of studies and the demand for them. The infrastructure facilities, the reputation and the statistics of students' success in the examinations also help to determine the fee structure in the Arts and Science colleges.

Unlike the Trading and Manufacturing organizations, it is not possible to increase the income due to the restrictions explained above. However, the technical institutions are permitted to collect extra tuition fees to the extent of Rs.7500/- p.a. for the courses accredited by the National Bureau of Accreditation (NBA). Further, the institutions may take the following steps to increase the income.

a. Admit the students to fill up the entire sanctioned strength for each course of study.

b. Apply and obtain sanction for additional courses of study or to enhance the strength in the existing courses.

c. Provide all basic infrastructural and other facilities and update the methods of imparting education.

d. Have qualified, experienced, committed, self motivated, result oriented faculties to provide quality education and ensure best results in the examinations.

e. Enhance the reputation of the institutions by maintaining students' discipline, getting higher percentage of pass in the University examinations and many top rank holders.

The indirect income like transport, hostel, mess and canteen for the students and staff are provided by the educational institutions normally on no profit no loss basis and therefore the income and expenditure of these services are dealt separately.

b. Expenditure

1. The Gross salary of the teaching and non-teaching staff is the major recurring expenditure of the educational institutions. AICTE has stipulated faculty – student ratio at 1:15. There will be similar requirement of faculty in Medical and Agricultural Institutions. The staff welfare benefits help to retain the experienced faculty in the same institutions. The review of the performance of the faculty with reference to the achievements of the students in their semester examinations is to be made for taking corrective steps.

2. The laboratory maintenance charges, computer maintenance and internet charges, building maintenance, repairs and maintenance of equipments are other major recurring expenses. The administrative expenses listed in the annexure are of recurring nature. The method of control of recurring expenditures is indicated in the annexure.

The AICTE has estimated that the minimum requirement of operational funds for an engineering college will be Rs.0.30 lakhs per student. The budget estimate is to be prepared by the respective institution and funds made available from the income generated. Normally the tuition fees are collected in the professional colleges annually in the beginning of the academic year and in two semesters in Arts and Science Colleges. Therefore the inflow of funds in the beginning of the academic year may be kept in Short term bank deposits so that this can be drawn as and when required during the academic year. This will ensure free flow of funds besides earning interest on short term funds.

The Financial accounting methods to account and control cost.

a. Income :

The income of the educational institutions mainly consists of Tuition fees from the students and other income like interest on fixed deposits, profit on sale of equipments, etc. The annual income budgets are prepared, compared with the actuals and the variations are analysed to take appropriate action. The variations may arise in the following areas.

1. Capacity variation: Actual students admitted compared to total sanctioned

strength in each course of study.

2. Rate variation: There should not normally be any rate variation as it is fixed by the University / Government.

However, rate variation may be in respect of the students admitted in the management quota of the institutions.

b. Expenditure:

The Expenses are grouped as personnel expenses, administrative expenses and financial charges. The expenses are compared with the budget estimates and the variance are periodically analysed to take corrective action. Separate budget comparative statements are prepared for income and expenditure of Transport, Hostel, Mess and Canteen.

c. Financial Ratios and non financial ratios

The financial ratios relating to performance of the institutions and the assets/liabilities of the institutions are given in the annexure. The desirable ratios with reference to technical institutions are also indicated. However, this may change for other types of institutions namely, Medical, Agriculture and Arts & Science.

The non-financial ratios indicating the student faculty ratio, computer terminal ratio are also included in the Annexure-5.

The Cost accounting methods and records for cost management of educational institutions.

Cost Accounting Records:

The cost Centres relevant to the educational institutions and the basis of allocation are given below:

S.No.	Cost Centres	Basis of Allocation/Apportionment
A	**Direct Cost (According to the Course of study)**	
1	Civil Engineering	Direct
2	Mechanical Engineering	Direct
3	Electronics (ECE)	Direct
4	Electricals (EEE)	Direct

S.No.	Cost Centres	Basis of Allocation/Apportionment
5	Computer Science (CSE)	Direct
6	Information Technology	Direct
B	**Service Cost**	**With due weight-age where ever applicable**
1	Computer	
	a) Hardware	No. of Students (with due weight-age as applicable)
	b) Software	Direct for specific subject
2	Laboratory	Direct for specific subject Lab and No. of students for common lab
3	Library	Direct No. of Students
	a. Course related	
	b. Non- Course related	
4	Health Centre	No. of Students & Staff
5	Sports	No. of Students
C	**Student's Self-Supporting Services**	**With due weight-age where ever applicable**
1	Transport	Direct& Staff
2	Hostel & Mess	Direct& Staff
3	Canteen	Direct& Staff
D	**Administration Cost**	**With due weight-age where ever applicable**
1	Advertisement	No. of Students
2	Audit Fees	No. of Students
3	Printing & Stationery	No. of Students
4	Postage & Telephone	No. of Students
5	Insurance Charges	No. of Students
6	Repairs & Maintenance	No. of Students
7	Rates & Taxes	No. of Students
8	Vehicle Maintenance	No. of Students
9	Security Charges	No. of Students
10	Non-teaching & Supervisory salary	No. of Students
11	Books & Periodicals	No. of Students
12	Electricity charges	No. of Students
13	Fuel (Diesel & petrol)	No. of Students
14	Seminar & Conference	Direct/No. of Students
15	College Function Expenses	No. of Students

S.No.	Cost Centres	Basis of Allocation/Apportionment
16	Research & Improvement Cost (pertaining to current teaching process)	No. of Students
17	Examination Costs	No. of Students
18	Legal & professional Charges	No. of Students
19	Accreditation Cost	Direct
20	Miscellaneous	No. of Students
E	**Depreciation**	**Floor area**

Note: The above classification relates to Engineering & Technology institutions. Corresponding changes are to be made for Medical, Agriculture, Arts and Science and other institutions.

The Performa Cost sheets subject wise and also for Library, Lab and Computers are given in Annexure-6, 7, 8, 9 & 10.

Cost of Free Education

In institutes/colleges, there may be a statutory guidelines or a policy to provide free education to those students who fulfills certain criteria (such as who belong to poor class, SC class, are physically disabled etc).

Cost of such free education cannot be recovered from that particular student or from other such students; however the cost of free education has to absorb by trust account.

Example:

- Number of students in a class- 100
- Students getting free education- 10
- Fees- Rs 10,000
- Cost per student- Rs 9,000
- Total fees which should be received from the students- Rs 10,00,000
- Total cost incurred for 100 students- Rs 9,00,000
- Absorption = Total cost/ Number of students receiving the benefit = 900000/100 = Rs 9000.

- But if this absorption was done taking the basis as 90 students, then = 900000/90 = Rs 10000, this will amount to over costing.

Though Actual fees received from the students = Rs 9,00,000, and the balance of Rs 1,00,000 can be treated as follows:-

- Waived off or Charge the amount to the trust account
- Set off against the subsidy/grant received from Government body

Research and Development Cost

It is a normal practice that in each educational institution activities of academic research are undertaken. The costs of such research such as personal/staff costs / books etc are to be collected through a cost center approach All costs incurred in that cost center can be pooled and set off against the revenue generatable from such research projects. If any balance is left out as undistributed, then such balance costs can be collectively distributed to all other course cost center as a separate cost element namely "Research costs "This is mainly on the assumption that during the course of special subject research, incidental and ancillary benefits would be derived for the main stream subjects as well such as improvement in methods of teaching, any other innovative measures identified etc

Research publication Cost

Any expenses associated with the research publication under statutory guidelines laid for the company.

In an institute/college, there is a separate department for conducting research publication related exercise; the cost incurred should be allocated to that department directly.

Management Consultancy Cost

In addition to imparting education, there is a possibility that such institution renders services to business houses in the form of management consultancy .Since the costs are pertaining to a specific activity of management consultancy , it can be directly charged to respective beneficiary /business house (instead of charging under "cost /student ") Any unabsorbed costs can be apportioned to student cost sheet –(this is on the assumption

that there would be incidental and intangible benefits to the student fraternity in the form of innovation in education process).

The essence of the cost management techniques

1. As the establishment of new institutions involves huge capital outlay, the source of funds (own vs. borrowed) is to be decided with reference to capex evaluation techniques.
2. The existing institutions also require capital expenditure on computers lab and other equipments to keep abreast of the modern teaching techniques besides equipments for additional strength of students and new courses of studies introduced.
3. The budgetary control of income and expenditure including the control through financial and non - financial ratios.
4. The cost control by working out the cost of each course of study per student. The cost analysis relating to transport, hostel, mess and canteen healthcare costs Annexure - 11, 12, 13 and 14.

Conclusion

Though the object of Educational Institutions is not to make profit, the study of cost and income has relevance as the Institutions are necessarily to earn surplus for the following reasons.

1. The establishment of institutions for higher education involves huge outlay of capital expenditure on buildings, Computer, Lab Equipments, Library, Furniture & Fittings etc. If this is met from borrowed funds, the institutions must be in a position to service the interest and repayment of loans. This is possible only by earning surplus.
2. The institutions have to catch up with the modern techniques of educations such as e-learning, learning through the education satellite. The modern education is totally based on Computers. Therefore the institutions have to invest huge amounts for purchase of Equipments and provision of modern learning techniques and state- of- the -art education.
3. There is need to provide post graduate and research education in the new avenues

of power sector and electronic sector. Apart from creating infrastructural facilities for these courses of studies, suitable faculties are to be employed with higher remuneration.

Therefore, it is all the more important to analyse the cost of education and take necessary steps to control and reduce the cost wherever feasible. It is not out of context to mention that the revenue derived by way of collection of tuition fees is not entirely at the discretion of the institutions as the various social aspects are brought into play and considered by the controlling bodies of education and Government.

FEE FIXATION MODEL IN EDUCATIONAL INSTITUTIONS

Introduction:

This note discusses ONE of the possible methods that could be used to arrive at the cost per student in an educational institution. We have taken an example of an Engineering College to explain the method of making the cost calculations. The same method could be used for other kinds of institutions. The rupee figures shown in the calculations are for the purpose of illustrating the principles and may have no relation to the actual figures that may be available from the records of an engineering college.

The Main Elements of Cost:

The costs in an educational institution could be classified under the following three heads:

(a) Manpower costs

(b) Activity/Operational costs

(c) Infrastructure and facilities costs.

Let us discuss these in some details:

Manpower Costs:

This would include the salary payments to the teaching and non-teaching personnel. In a factory, the proportion of manpower costs to total costs would be very small. In an educational institution, the cost of manpower would be the largest single element of cost. Besides, we use brainpower (which is more expensive) in contrast with muscle power that is used in a factory.

Suppose, an engineering college would have an intake of 180 students per year. This means a total student-strength of 720 students when all the four years of the undergraduate engineering course are put together. If we take a student: teacher ratio of 15: 1 as feasible, it would mean that the institution must have about 48 teachers to be appointed for student strength of 720. Assuming that the teachers would be appointed in the ratio of 1:2:4 for Professors: Readers (Associate Professors) : Lecturers (Assistant

Professors), the institution will have 6 Professors, 12 Readers and 30 Lecturers. Taking the present (unrevised) pay scales, assuming that all the teachers are appointed at the start of the grades, and assuming the present rate of Dearness Allowance, we get an annual expenditure of salary payment per year to the teaching staff of Rs. 58 lakhs. (Note: The detailed calculations have not been made to arrive at this figure since the purpose of this note is to put forward a methodology that could be used to work out the cost per student).

Let us now turn to the salary payable to the non-teaching personnel. Assuming a norm of 1: 1.7 for teachers: non-teaching staff, teaching faculty strength of 48 would need about 82 persons as non-teaching employees to support the academic activities of the institution. These employees would be in various categories. Assuming that they are paid, on an average, Rs 45,000 each per annum, the total payment to the non-teaching staff would be about Rs 37 lakhs. (Again, please note that these figures are merely illustrative).

Based on the calculations made above, the total manpower cost would be Rs 95 lakhs (or Rs 58 lakhs plus Rs 37 lakhs). If we add to the 10 % to cover provident fund and other benefits, the total manpower cost would be about Rs 104.50 lakhs.

On the assumption of 720 students, this works out to Rs 14,500 per student per year.

Activity / Operational Costs: An educational institution is likely to spend about Rs 2.00 lakhs per month or Rs 24 lakhs per year on expenses other than salaries. A substantial portion of this cost would be the electricity charges to run the machines in the laboratories and computer room and spares and consumables for the equipment. (This, again, is an estimate; the actual costs could easily be worked out). If we divide this amount over the 720 students, the cost per student per year works out to Rs 3,300 under this head.

Infrastructure and Facilities Cost: This is the cost incurred towards depreciation of assets and the replacement of worn out assets.

If we assume that the cost of the building is Rs 300 lakhs (again, an estimate) and that the cost of depreciation and maintenance is 5 % per annum, we get Rs 15 lakhs as the cost under this head.

Let us assume that the engineering college has the following other assets:-

Assets	Value (Rs lakhs)	Annual depreciation/ Replacement	Amount of Depreciation/ Maintenance (Rs lakhs)
Equipment	200	10%	20.00
Computers	75	20%	15.00
Furniture	75	10%	7.50
Library books	100	10%	10.00
Total	450		52.50

The total cost of infrastructure and facilities would, therefore, work out to Rs 67.50 lakhs (or Rs 15.00 lakhs plus Rs 52.50 lakhs). This gives us a cost per student per year of Rs 9,375.

Please remember that all these figures are estimates; the actual expenditure can easily be ascertained from the records of the institution.

Let us summarise the cost figures calculated as above:

Details	Rs
Manpower costs	14,500
Activity/Operational costs	3,300
Infrastructure and facilities costs	9,375
Total cost per student per year	27,175

Please note that these cost estimates do not include the following:-

(a) increases in salary costs that would arise on account of the upward revision in pay scales;

(b) annual cost increases over the next few years on account of inflation.

To take care of these two factors, suppose we add 30 % to the manpower cost, or (30 % of Rs 14,500) or Rs 4,350. The cost per student per year will then work out to Rs 31,125 (or Rs 27,175 plus Rs 4,350). To facilitate further calculations, let us take this figure at Rs 32,000.

It should be noted that the largest component of the total cost is the manpower cost. In some cases, particularly after the recent pay revision, the manpower costs are as high as 75% of the total costs!

Another disturbing feature is that the proportion of the cost of non-teaching staff in the total manpower cost is increasing year by year, particularly in the Universities.

This poses two questions

* Are we utilizing our teachers effectively in our system?

The teachers form the backbone of the educational system; not the "babus" who look after the "back office" activities!

* Are we frittering away human energies in non-academic pursuits – particularly in managing the college/university "administration"?

A Point to Note

In fixing the fees, it is assumed that the institution will recover the ACTUAL COST that it would incur: it will not be permitted to have a SURPLUS (or profit). If the objective is to make the institution on "commercial " lines, then a certain percentage of the INVESTMENT would be allowed as a return on investment. Thus, a return of 10 % on the investment would mean that the institution would be permitted to recover 10 % of Rs 750 lakhs or Rs 75 lakhs per year from the students. This works out to Rs 10,417 per student per year as an addition to the fee.

Such a possibility is unlikely to happen today. However, in the not-too-distant future, when corporates enter the field of higher education in a big way, such a scenario is a clear possibility.

However, if we assume that this extra component is to be recovered from the students and will be used to fund the development of the Institution and also to meet the replacement of computers and other equipment in the laboratories, then this can be treated as a DEVELOPMENT FEE. This should be shown in the balance sheet of the institution. It will not be treated as current income to be credited to the Income and Expenditure Account.

Breakeven Analysis

It should be noted that at a level of 180 students admitted each year, with the fees charged as above, the income derived by the institution by way of fees will just meet the total costs incurred by the institution each year. In other words, the institution will just break-even.

If the enrolment drops below 180 for a year (or below 720 for a full year for the entire institution, taking all the four years of the undergraduate course together), the income from fees will DROP while the expenses WILL REMAIN THE SAME. Therefore, when the enrolment drops, the institution will incur DEFICITS. Likewise, even if the enrolment remains unchanged, but there is an increase in the expenses incurred by the institution, there will be a DEFICIT.

Cost Management: The Key to Survival

It must be remembered that for educational institutions, the proportion of FIXED COSTS to TOTAL COSTS is very high. (In fact, very few costs are really VARIABLE). When enrolments drop, the fall in income is very steep; there would be practically no reduction in costs. (And, if the institution does not manage costs effectively, the costs would, in fact, go up!) With the fee structure and intake capacity regulated by the Government, the only way the educational institution can SURVIVE is by keeping the costs under check.

Post-Script

This note outlines a method that could be used for computing the cost per student per year. It is important for every educational administrator to work out this figure every year, only then will you whether you have been able to manage your costs effectively. As already stated, the figures used in this note to explain the concepts are fictitious. You can get the REAL numbers from your accountant – or better still – work out the numbers yourself with his help.

MODEL COST SHEETS FOR PROFESSIONAL EDUCATIONAL INSTITUTIONS

Engineering College

Note

In order to hand hold the reader through the Cost Sheet preparation, a model cost sheet has been prepared based on shadow figures, which represent the actual expenses or as near to as possible, in the form a case study.

The case study for the Engineering College is based on the norms fixed by All India Council for Technical Education (AICTE) for establishment of technical institutions. This hand book contains the approval process for establishment of new Technical Institution and introduction of additional courses/increase in intake/Extension of approval in Engineering Colleges. It is a legal document as per sec(5) of Gazetted policy resolution No.F.37-3/Legal (IV)/2002 of AICTE dated 20.11.2002 published on 25.11.2002 in Gazette of India, Extraordinary part III section 4 with latest amendments in 2006.

Capital Cost

The establishment of Engineering College envisages huge outlay of capital expenditure as per the norms fixed by AICTE for Land, Buildings, Computers, Lab Equipments, Library and other assets. However there is no indication by AICTE regarding the source of capital namely capital to be brought in by the promoters (in the case of self financing and Aided colleges) and the borrowed capital. The cost of running of the Engineering College mainly depends on the incidence of interest on borrowed capital. Therefore the interest on term loan is separately indicated without including it in the cost statement itself, as there can be wide variation in the interest cost for the various promoters of the Educational institutions.

Revenue Income and Expenditure

The AICTE stipulates the maximum number of students to be admitted in each course of study and approves the intake for individual institutions. The tuition fees is also uniformly fixed by the universities/ Government. Therefore there is not much

of flexibility in the number of admissions as well as collection of fees. The source of income is mainly the tuition fees as other income such as transport, hostel, mess and canteen normally compensate the expenditure involved. The successful running of the institutions depends on admission of maximum number of sanctioned seats of the students for the various courses of studies. The case study presented here indicates the viability of the institution as it is assumed 100% of the seats will be filled up in the courses for which there is potential demand for employment and atleast 80% of the seats are filled up for other courses of studies. The institution which fails to get admission to the extent indicated above runs the risk of incurring losses.

As already mentioned above the main items of expenditure is the interest on borrowed capital, depreciation and personnel expenses. The AICTE norms fixed the student faculty ratio, computer terminal ratio requirement of library books and lab equipments. The personnel expenses constitute about 30% of the total expenditure. The transport, hostel, mess and canteen are normally operated on no profit or loss basis.

Control of Income and Expenditure

The details of Income and Expenditure items are given in the annexure to facilitate budgetary control. The cost statements indicating the total expenses and expenses per student for the individual courses of study (both under graduate courses and post graduate courses) are included in the case study. The indirect expenses of computer, common lab, library, transport, hostel, health Centre are worked out in separate cost sheets and allocated to each course of study based on the number of students studying in those courses. The cost study indicates better surplus in the courses of studies where the admission percentage is higher. Though it may not be possible to reduce the incidence of personnel cost as it is to conform to the norms of the AICTE, the study will indicate the areas where cost reduction is possible (for instance electricity charges, diesel and petrol charges, maintenance charges etc.).

Many medicines are not for profit public sector organizations and therefore do not seek to maximize their financial surplus. However, universities are expected to balance their revenues with expenditures and a positive return on investment is sought by most education institutions. Therefore, it has to focus on use of break-even concept analysis as a minimum justification for cut-off point and it should work out in such a way that cost of all resources has to be recovered. The university's financial deficit is used as the

measure of inefficiency.

NOTE: In order to bring in clarity in computation of Cost sheets, representative numbers have been used in the cost model. The actual figures may vary between institutions.

Capital Cost of Existing Engineering College

Intake of Students

As per the previous norms of the AICTE intake of students is permitted as below:

	No. of Students	No. of UG Courses	MCA No. of Students	MBA No. of Students
I Year	240	4	60	60
II Year	300	5	60	60
III Year	360	6	60	120
IV Year onwards	420	6	120	120

From the above table, it may be noted that the students strength reaches maximum after 7 years. The strength will be as below:

	I Year	II year	III Year	IV Year	Total
UG Courses	420	420	420	420	1680
MCA	120	120	120	-	360
MBA	120	120	-	-	240
Total	660	660	540	420	2280

The capital cost is worked out for the fully established Engineering College with the total strength of 2280 students.

Location of the college Rural (Other than Metro/State Capital/ District HQ)

I. Land	Acres	Rs.in Lacs	Rs. in Lacs
Under Graduate Degree courses	10.00		
MCA & MBA	2.50		
Total	12.50		
Land cost assumed at @ Rs.4 lakhs per Acre.			
Total Land cost (Rs. in lakhs) 12.50 X 4		50.00	50

II. Building (UG courses and MBA & MCA)

(a). Instructional Area:				
	Basis	Area Sq. M	Rs. in Lakhs	Rs. in Lakhs
	6 Sq. M. per			
UG Courses	student	10080		
	4 Sq. M. per			
MCA	student	1440		
	5 Sq. M. per			
MBA	student	1200		
		12720		
(b). Administrative Area:				
	1 Sq. M. Per			
UG/MCA/MBA	Student	2280		
(c). Amenities Area:				
	2 Sq. M. Per			
UG/MCA/MBA	Student	4560		
		19560		
(d). Circulation and others (30% of 19560)		5868		
TOTAL		25428 Sq. M. or 273704.4 Sq. ft.		
Total Building Cost @ Rs.600 per Sq. ft.		1642.23		1642

III. Computers

Computer Terminal to Student Ratio				
UG Courses	1:4			
MCA & MBA	1:2			
	No. of Students	No. of Computers		
UG Courses	1680	420		
MCA	360	180		
MBA	240	120		
	2280	720		
Cost of 720 Computers @ Rs.28700 per computer (including P4 processors)		206.64		
LAN/WAN Terminals - 360		19.50		

Computer Terminal to Student Ratio				
Software - 6 system packages, 16 Application Packages			15.00	
Printers - 72 Numbers @ Rs.17000			12.24	
			253.38	
Total computer cost				253

IV. Library

		No. of Titles	No. of volumes	Total volumes	Cost per book	Total cost	
	Course	per course					
UG Courses	24	250	1000	24000	350	84.00	
MCA	3	150	1000	3000	350	10.50	
MBA	2	150	1000	2000	350	7.00	
						101.50	
Digital Library							
8 computers with networking and multi-media facilities (Rs.40000 X 8)						3.20	
Library Furniture (Shelf and other Furniture)						24.00	
Photo Copier						6.00	
Total Library Cost						134.70	135

V. Lab Equipments

Eight Department labs & 2 Common lab : 10 labs (10 labs X 15 lakhs)	150.00	150

VI. Furniture & Fittings	44.39	44

VII. Motor Cars (Rs. 5 lakhs X 3)	15	15

VIII. Students/ Staff Buses (Rs.12 lakhs X 15)	180	180

IX. Health Centre (Building)	0.72	1

X. Students' Canteen		
(As per AICTE norms Students canteen and hostels are desirable requirement)		
Building 1200 Sq. M or 12917 Sq. ft. @550 : 71.04	71.00	
Kitchen Equipment and Accessories	10.00	
Total Cost of Students' Canteen	81.00	81

25% of Boys strength (2280X 60% X 25%) : 342		
50% of Girls strength (2280 X40% X 50%) : 456		
Total Students : 798		
Construction Cost (42000 Sq. ft. @ Rs.550 per Sq. ft.)	231.00	
Furniture (798 X 2500 per cot, table, chairs)	19.95	
Total Cost of Students' Hostel	250.95	251
Total Cost		2801

Profit and Loss Account of Existing Engineering College for The Year Ended 200X

Dr.			Cr.
Particulars	**Amount (Rs. in lakhs)**	**Particulars**	**Amount (Rs. in lakhs)**
Salary and Wages:			
Staff salary – 207.01		By Income – Tuition Fees	715.20
Provident fund – 17.47		By interest on Fixed Deposits	5.20
Staff welfare – 9.71	234.19	by Sale of scrap	1.00
Advertisement	15.00		
Audit fees & Expenses	3.00		
Books & periodicals	1.00		
Electricity charges	25.57		
Postage & telephone	5.00		
Printing & stationery	8.00		
Study material	10.00		

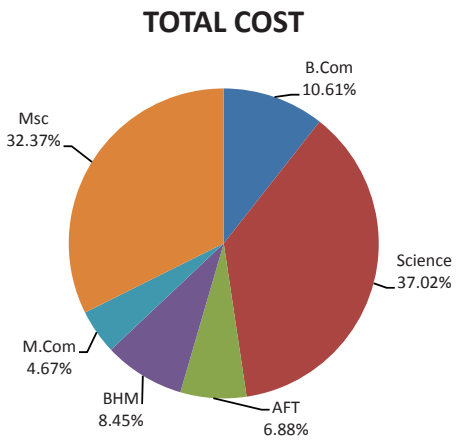
Dr.			Cr.
Particulars	**Amount (Rs. in lakhs)**	**Particulars**	**Amount (Rs. in lakhs)**
Rates & taxes	3.00		
Repairs & maintenance	23.40		
Vehicle Maintenance	7.50		
Insurance	4.00		
Travelling & conveyance	5.00		
Seminar & Conference	4.00		
College Function expenses	5.00		
AICTE fees	1.20		
Affiliation fees	2.00		
Professional fees	3.00		
Security Fees	18.00		
Internet Charges	3.00		
Lab Maintenance	8.00		
Sports Materials	3.00		
Miscellaneous expenses	4.66		
To Purchases of Materials	9.45		
To Depreciation	91.28		
To Financial Expenses	91.00		
To Net profit c/d	133.15		
Total	721.40	Total	721.40

College of Engineering and Technology Statement Showing the Net Surplus / Deficit for the Year 20--- (In Rupees)

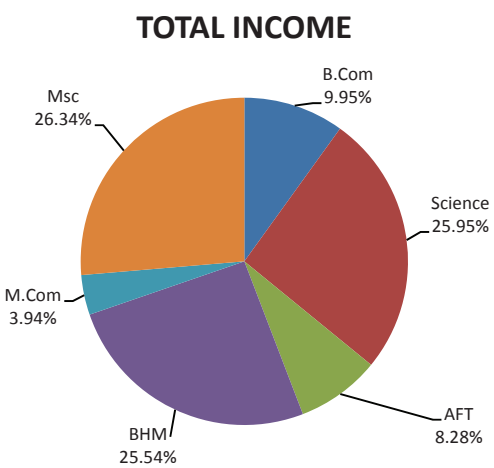
Course of Study	No of Students	Total Cost	Financial Cost	Cost Per Student	Income From Fees	Other Income Allocation	Total Income	Income Per Student	Net Surplus / Deficit Total	Net Surplus / Deficit Per Student
ECE	360	7551147	1137500	24135	11700000	77500	11777500	32715	4226353	8580
CSE	360	7551147	1137500	24135	11700000	77500	11777500	32715	4226353	8580
IT	240	6065848	1137500	30014	7800000	77500	7877500	32823	1811652	2809
EEE	192	5393903	1137500	34018	6240000	77500	6317500	32904	923597	-1114
Mechan-ical	192	5393903	1137500	34018	6240000	77500	6317500	32904	923597	-1114
Civil	192	5393903	1137500	34018	6240000	77500	6317500	32904	923597	-1114

Course of Study	No of Students	Total Cost	Financial Cost	Cost Per Student	Income From Fees	Other Income Allocation	Total Income	Income Per Student	Net Surplus / Deficit Total	Net Surplus / Deficit Per Student
Sub- Total (A)	1536	37349852	6825000	28760	49920000	465000	50385000	32803	13035148	4043
MCA	288	6980991	1137500	24240	12960000	77500	13037500	45269	6056509	21030
MBA	192	5393902	1137500	28093	8640000	77500	8717500	45404	3323598	17310
(B)	480	12374893	2275000	25781	21600000	155000	21755000	45323	9380107	19542
Trand Total	2016	49724745	9100000	24665	71520000	620000	72140000	35784	13315255	6605

Course-wise Cost to Total Cost



Course-wise Income to Total Income



Sample Cost Sheet- Performa

Driver Cost/ Subject	Schedules	EEE	ECE	CSE	IT	MECH.	CIVIL	MCA	MBA
Employee Cost	A	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Operational Cost	B	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Administrative Cost	C	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Finance Cost	D	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Total		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Revenue		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Margin		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Schedule A: Employee Cost

Salary Base			
Professional	XXX	XXX	XXX
Assistant Professional	XXX	XXX	XXX
Teaching	XXX	XXX	XXX
Non-teaching	XXX	XXX	XXX
Administrative	XXX	XXX	XXX
Total	XXX	XXX	XXX

Schedule B: Operational Cost

Cost Base			
Computer	XXX	XXX	XXX
Library	XXX	XXX	XXX
Laboratory	XXX	XXX	XXX
Health Centre	XXX	XXX	XXX
Sports	XXX	XXX	XXX
Total	XXX	XXX	XXX

Schedule C: Administrative Cost

Cost Base			
Maintenance	(in Lacs)	XXX	XXX
Fuel & electricity	XXX	XXX	XXX
Printing & stationary	XXX	XXX	XXX
Security charges	XXX	XXX	XXX
Misc.	XXX	XXX	XXX
Total	XXX	XXX	XXX

Schedule D: Finance Cost

Finance Cost Base			
Interest	XXX	XXX	XXX
Loan	XXX	XXX	XXX
Bank charges	XXX	XXX	XXX
Total	XXX	XXX	XXX

EXISTING ENGINEERING COLLEGE

Annexure - I

Income - Tuition Fees

Assumptions: 80% of seats filled up for EEE, Mechanical, Civil, MCA and MBA 100% seats filled up for other Courses

UG Courses				
Course of Study	**Maximum No. of seats Permitted**	**Actual No of Seats**	**Tuition Fees @Rs. 32500/- Per Annum**	
			I Year	**I to IV(Final) Years**
			Rs. Lakhs	Rs. Lakhs
ECE	90	90	29.25	117.00
CSE	90	90	29.25	117.00
IT	60	60	19.50	78.00
EEE	60	48	15.60	62.40
MECHANICAL	60	48	15.60	62.40
CIVIL	60	48	15.60	62.40
Sub total	420	384	124.80	499.20
PG COURSES				@ Rs.45000/-
			Per Annum	I to III Years
MCA (3 Years)	120	96	43.20	129.60
MBA (2 Years)	120	96	43.20	86.40
Sub total	240	192	86.40	216.00
Total Tuition Fees				715.20
Other Income				
FDR Interest				5.20
Rs.65 lakhs - @				1.00
8% per year				6.20
Sale of scrap				721.40
Total Income				

Students Strength

	Sanctioned	Actual
UG Courses	1680	1536
MCA	360	288
MBA	240	192
Total	2280	2016

ENGINEERING COLLEGE: Faculty: As per AICTE norms

For UG Courses:				
Principal			1	
Professors	Total Students/15 x 9	1680/135	12	
Asst. Professors	2 X Total Students/15 x9	2 X 1680/135	25	
Lecturers	6X Total Students/15 x9	6X 1680/135	75	113
For PG Courses:(MCA & MBA)				
Professors	Total Students/15 x9 600/135		4	
	2 X Total Students/15 x			
Asst. Professors	9	2 X 600/135	9	
	6 X Total	Students/15		
Lecturers	x9	6X 600/135	27	40
Total Number of Teaching Staff				153

Non - Teaching staff (UG & PG Courses)		
Lab Assistants (AICTE norms) 1 X (6 + 2)	8	
Lab Assistants for common lab	4	
Maintenance Staff (AICTE norms)	12	
Finance Manager	1	
Accounts Staff	9	
Administration Officer	1	
Administration Staff	6	41
Total		194
Computer Section		
HOD - Computer section	1	
Assistants	4	

Non - Teaching staff (UG & PG Courses)		
Library Section		
Librarian	1	
Assistants	4	
Transport		
Drivers	15	
Conductors	15	
Hostel, Mess and canteen		
Warden	2	
Assistants	4	
Workers	8	
Health Centre		
Medical officer (part time)	1	
Assistant	1	56
Total Number of Staff		250

Engineering College: Expenditure

Annexure - 2

I. Personnel Expenses

Teaching Staff Salary

Teaching Staff Salary

Staff	No.	Salary Per Month for 1 post (As per AICTE Norms)	Total Per Month Rs.	Total Per Annum Rs. Lakhs
Principal	1	20500	20500	
Professors(12+5)	17	14000	238000	
Asst. Professors(25+9)	34	10000	340000	
Lecturers(75+27)	102	8000	816000	
Total		**52500**	**1414500**	**169.74**
Total Salary as per Cost Sheet				
ECE & CSE	6052830			60.53
IT	2369775			23.70
EEE, MECH & Civil	6087885			60.88
MBA	2029295			20.29

Staff	No.	Salary Per Month for 1 post (As per AICTE Norms)	Total Per Month Rs.	Total Per Annum Rs. Lakhs
MCA	2953455			29.53
Non - Teaching Staff				194.93
Salary				
Lab Assistants	8	6000	48000	
Maintenance Staff	12	4000	48000	
Finance Manager	1	12000	12000	
Accounts Staff	9	5000	45000	
Administration Officer	1	10000	10000	
Administration Staff	6	5000	30000	
Total		**42000**	**193000**	**23.16**
Total Salary				**218.09**
Guest Lecturers				3.00
Provident Fund	23.16X 75% (Basic) X 12% 23.16X			2.08
Staff Welfare	5%			1.16
Sub total				**224.33**
Computer Section (as per annexure)		3.01		
Lab (Common)				3.28
Library				2.67
Health Centre				0.90
Total				**234.19**

II. Administrative Expenses (Including College Expenses)

		Rs. lakhs
Advertisement	15.00	
Audit fees & Expenses	3.00	
Books and Periodicals	1.00	
Electricity charges	25.57	
Postage and Telephone	5.00	

		Rs. lakhs
Printing and Stationery	8.00	
Study material	10.00	
Rates and Taxes	3.00	
Repairs and Maintenance	23.40	
Vehicle Maintenance	7.50	
Insurance	4.00	
Traveling and conveyance	5.00	
Seminar and Conferences	4.00	
Misc. Expenses	4.66	
College Function exps.	5.00	
AICTE fees	1.20	
Affiliation fees	2.00	
Professional fee	3.00	
Security fees	18.00	
Internet charges	3.00	
Lab Maintenance	8.00	
Sports Materials	3.00	162.33
Purchases (Materials)	9.45	9.45

III. Depreciation		91.28
Total Expenses excluding Financial charges		497.25

IV. Financial Expenses		
Interest long term (50% of		91.00
Rs.2800 lakhs X 13%/2)	91.00	
Total Expenditure		588.25
Total Income	721.40	
Total Expenditure (Excluding Financial charges)	497.25	
Surplus (Before Financial charges)	**224.15**	
Financial Charges	**91.00**	
Net Surplus	**133.15**	

Details of Expenses

Electricity Charges	**Rs.**
Electricity charges (general)	2400000
Library	12000
Lab Section	24000
Computer Section	120000
Health Centre	1000
Total	2557000

Repairs & Maintenance	
Repairs & Maintenance(general)	1300000
Library Section	40000
Lab Section	100000
Computer Section	200000
Total	1640000

Purchases(Materials)	
Lab Materials, Chemicals	300000
Computer & Accessories	600000
Medicines(Health centre)	45000
Total	945000

Miscellaneous	
Library Section	15000
Lab Section	50000
Computer Section	100000
Health Centre	1000
General	300004
Total	466004
Rates & Taxes	
General	300000
Total	300000

Insurance	
General	400000
Total	400000
Traveling Expenses	500000
Total	500000
Depreciation	
Buildings	2676000
Lab Equipments	713000
Furniture & Fittings	418000
Motor Cars	143000
Library Section	932000
Lab Section(Common lab)	142500
Computer section	4101130
Health centre	2000
Total	**9127630**

Expenses (Abstract)	**Amount Rs.**
Personnel Expenses	23419658
Admn. Expenses	16233000
Purchases(materials)	945000
Depreciation	9127630
Total	**49725288**

Transport- Income and Expenditure

Annexure – 3

INCOME	**Amount Rs. Lakhs**
Transport fees	
Students (741 x 8000)	59.28
Staff (165 X 5000)	8.25
Total Collections	67.53
EXPENDITURE - Direct	
Diesel (22500/6 X 12 X 38)	17.10
Maintenance - Day to Day(0.5 X 15)	7.50

EXPENDITURE - Indirect	
Salary of Drivers/Conductors	9.00
Uniform, livery and welfare	0.70
Insurance	1.40
Rates and Taxes	2.25
Depreciation (12 X 15 X 16.21%)	29.18
Total Expenditures	67.13
SURPLUS	**0.40**

NOTE: Marginal Surplus of Rs. 0.40 lakh not considered for allocation to Course of studies.

Hostel, Mess and Canteen Income and Expenditure:

Annexure – 4

INCOME	Amount Rs. lakhs
Annual Hostel fee (600 X 11 X 798)	52.67
Monthly Mess fee (1300 x 11 x 798)	114.11
Daily cafeteria income(4000 x 25 x12)	12.00
Total Income	**178.78**
EXPENDITURE	
Hostel maintenance	5.00
Electricity(1.50 lakhs X 12)	18.00
Municipal taxes(1.50 lakhs X 2 HY)	3.00
Purchase of provisions	79.00
Purchase of vegetables	13.17
Purchase of snacks, Cool drinks	10.00
Salary	
Warden(2), Assistants (4) Workers (8)	3.31
Fuel	26.33
Depreciation - Kitchen Equipments	1.03
Depreciation - Buildings	4.92
Depreciation - Furniture & Fittings	1.80
Local Conveyance	2.00
Freight	5.00
House keeping	5.71
Total of Expenditure	**178.27**
Surplus	**0.51**

NOTE: Marginal Surplus of Rs.0.51lakh not considered for allocation to Course of studies.

Model Cost Sheet for Examination in Institutes/Colleges

Cost Items	Unit (Cost Base)	Total Cost	Cost per Student
Examination Hall Cost	Per Examination centre	XXX	XXX
Examiner's fees	Per student per exam	XXX	XXX
Faculty/Invigilator fees	Per student per room	XXX	XXX
Printing & Stationary	Per student per exam	XXX	XXX
Support Staff fees/salary	Per student per exam	XXX	XXX
Distribution cost	Per student per exam		
Revaluation fees	Per student per exam	XXX	XXX
Legal expenses	Per student per exam	XXX	XXX
Total		XXX	XXX

Model -Cost Sheet for E-Library

Particulars	Cost per Year (Rs)	Cost per Student (Rs)
Operator fees	XXX	XXX
Infrastructure cost	XXX	XXX
Digital Repository/Database cost	XXX	XXX
Software fees	XXX	XXX
E-Security fees	XXX	XXX
Management system fees	XXX	XXX
Copywriting	XXX	XXX
Internet/connectivity charges	XXX	XXX
Equipment Set-up/Rental	XXX	XXX
Other extra charges	XXX	XXX
TOTAL COST	**XXX**	**XXX**

Model Cost Sheet for Webinar

Particulars	Cost per Year (Rs)	Cost per Student (Rs)
Operator fees/Employee Salary	XXX	XXX
Faculty/Speaker fees	XXX	XXX

Travel expenses for Faculty/Speaker	XXX	XXX
Documentation fees	XXX	XXX
Recording fees/Cost	XXX	XXX
Audio/video fees/Cost	XXX	XXX
Copywriting	XXX	XXX
Location Rental	XXX	XXX
Equipment Set-up/Rental	XXX	XXX
Other extra charges	XXX	XXX
TOTAL COST PER EVENT	**XXX**	**XXX**

Particulars	**Current Year (Rs)**
Software purchases	XXX
Equipment purchases	XXX
Other one-time expenses	XXX
TOTAL COST ONE-TIME EXPENSES	XXX

Particulars	**Current Year (Rs)**
Software purchases	XXX
Equipment purchases	XXX
Other one-time expenses	XXX
TOTAL COST ONE-TIME EXPENSES	XXX

COST SHEET (Subject wise)

Annexure 5

Subject: Electronics and Computer Engineering Number of Students: 90 X 4=360

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	3026415	8407
	Salary - Visiting Lecturer	37500	104

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
2	Lab facilities (for dept.)	100000	278
3	Repairs & Maintenance of Equipment in the dept.	50000	139
4	Repairs & Maintenance of Furniture & Fittings	37500	104
5	AICTE Fees	15000	42
6	Affiliation Fees	25000	69
7	Study Materials & Stationery, etc.,	178571	496
B	Indirect Expenses		
I. Service Cost:			
1	Computer	1021802	2838
2	Laboratory	168718	469
3	Library	243886	677
4	Health Centre	24791	69
5	Sports	53571	149
II. Administration Cost			
1	Audit Fees	37500	104
2	Electricity Charges	300000	833
3	Printing & Stationery	100000	278
4	Postage & Telephone	62500	174
5	Insurance Charges	50000	139
6	Repairs & Maintenance	162500	451
7	Rates & Taxes	37500	104
8	Vehicle maintenance	93750	260
9	Security Charges	225000	625
10	Non teaching and Supervisory Salary	330000	917
11	Miscellaneous	37500	104
12	Advertisement	187500	521
13	Travelling and Conveyance	62500	174
14	Seminar and conference	50000	139
15	College function expenses	89286	248
16	Professional fee	37500	104
III. Depreciation		705357	1959
	Total Cost	7551147	20975

Details		
Salary		**Rs.**
1	Principal 20500/8 X 12	30750
2	Professors 360/15 X9X Rs.14000 X 12	448000
3	Asst. Professors 360X 2/15 X 9 X 10000X12	640000
4	Lecturers (360X6 /15 X9)XRs.8000 X 12	1536000
	Sub total	**2654750**
1	PF 2654750 x 75% (Basic + DA) X 12%	238928
2	Staff welfare Rs.2654750 X 5%	132738
	Total Salary	**3026415**

Lab facilities Rs.800000/ 8 Courses	100000
Repairs & Maintenance (Equipments) Rs.400000/ 8 Courses	50000
Repairs & Maintenance Furniture -300000/8	37500
Study Materials & Stationery(1000000/2016 x 360)	178571
Audit fees Rs. 300000/8	37500
Electricity charges Rs.2400000/8	300000
Printing and Stationery Rs.800000/8	100000
Postage and telephone Rs.500000/8	62500
Insurance Rs.400000/8	50000
Repairs and Maintenance Rs.1300000/8	162500
Rates & Taxes Rs.300000/8	37500
Vehicle Maintenance Rs.750000/8	93750
Security charges RS.1800000/8	225000
Non- teaching salary:	
Salary 23.16 Rs. lakhs	
PF 23.16 Lakhs X 75% X 12% =2.08 Rs. lakhs	
Staff welfare Rs.23.16 X 5% = 1.16 Rs. lakhs	
26.40	
Rs.2640000/8	330000
Miscellaneous Rs.300000/8	37500
Advertisement Rs.1500000/8	187500
Travelling and conveyance Rs.500000/8	62500
Seminar and conference Rs.400000/8	50000
College function expenses Rs.500000/2016 X 360	93750
Professional fee Rs.300000/8	37500

Engineering College: Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	5722090	No. of Students = 360 /2016	1021802
Laboratory	944820	No. of Students = 360 /2016	168718
Library	1365760	No. of Students = 360 /2016	243886
Health Centre	138830	No. of Courses of = 360 /2016	24791
Sports	300000	No. of Students = 360 /2016	53571
Depreciation	3950000	No. of Courses of = 360 /2016	705357
ENGINEERING COLLEGE : Workings			
Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	1642	1.63%	26.77
Lab Equipments	150	4.75%	7.13
Furniture & Fittings	44	9.50%	4.18
Motor Cars	15	9.50%	1.43
Depreciation		Rs. 39,50,000	

Cost Sheet (Subject Wise):

Annexure 6

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	2369775	9874
	Salary - Visiting Lecturer	37500	156
2	Lab facilities (for dept.)	100000	417
3	Repairs & Maintenance of		
	Equipment in the dept.	50000	208
4	Repairs & Maintenance of		
	Furniture & Fittings	37500	156
5	AICTE Fees	15000	63
6	Affiliation Fees	25000	104
7	Study Materials & Stationery, etc.,	119048	496
B	Indirect Expenses		

Sl.No.	Particulars	Total cost	Cost per Student
I. Service Cost:			
1	Computer	681201	2838
2	Laboratory	112479	469
3	Library	162590	677
4	Health Centre	16527	69
5	Sports	35714	149
II. Administration Cost			
1	Audit Fees	37500	156
2	Electricity charges	300000	1250
3	Printing & Stationery	100000	417
4	Postage & Telephone	62500	260
5	Insurance Charges	50000	208
6	Repairs & Maintenance	162500	677
7	Rates & Taxes	37500	156
8	Vehicle maintenance	93750	391
9	Security Charges	225000	938
10	Non teaching & Supervisory Salary	330000	1375
11	Miscellaneous	37500	156
12	Advertisement	187500	781
13	Travelling and Conveyance	62500	260
14	Seminar and conference	50000	208
15	College function expenses	59524	248
16	Professional fee	37500	156
III. Depreciation		470238	1959
	Total Cost	6065848	25274

INFORMATION TECHNOLOGY		
Details Salary		Rs.
1	Principal 20500/8 X 12	30750
2	Professors 240x2/15 X 9X Rs.14000 X 12	597333
3	Asst. Professors 240X 2/15 X9 X 10000X12	426667

4	Lecturers (240X6 /15 X9)XRs.8000 X 12	1024000
	Sub total	2078750
1	PF 2078750x 75% (Basic + DA) X 12%	187088
2	Staff welfare Rs.2078750X 5%	103938
	Total Salary	2369775

Lab facilities Rs. 800000/ 8 Courses		100000
Repairs & Maintenance (Equipments) Rs. 400000/ 8 Courses		50000
Repairs & Maintenance Furniture -300000/8		37500
Study Materials & Stationery (1000000 / 2016 X 240)		119048
Audit fees Rs. 300000/8		37500
Electricity charges Rs.2400000/8		300000
Printing and Stationery Rs.800000/8		100000
Postage and telephone Rs.500000/8		62500
Insurance Rs.400000/8		50000
Repairs and Maintenance Rs.1300000/8		162500
Rates & Taxes Rs.300000/8		37500
Vehicle Maintenance Rs.750000/8		93750
Security charges RS.1800000/8		225000
Non- teaching salary:		
	Rs. lakhs	
Salary	23.16	
PF 23.16 Lakhs X 75% X 12% =	2.08	
Staff welfare Rs.23.16 X 5% =	1.16	
	26.40	
	Rs.2640000/8	330000
Miscellaneous Rs.300000/8		37500

Advertisement Rs.1500000/8	187500
Travelling and conveyance Rs.500000/8	62500
Seminar and conference Rs.400000/8	50000
College function expenses Rs.500000/2016 X 240	59524
Professional fee Rs.300000/8	37500

Engineering College: Indirect Expenses Subject: IT

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	5722090	No. of Students = 240 /2016	681201
Laboratory	944820	No. of Students = 240 /2016	112479
Library	1365760	No. of Students = 240 /2016	162590
Health Centre	138830	No. of Students = 240 /2016	16527
Sports	300000	No. of Students = 240 /2016	35714
Depreciation	3950000	No. of Students = 240 /2016	470238
ENGINEERING COLLEGE: Workings			
Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	1642	1.63%	26.77
Lab Equipments	150	4.75%	7.13
Furniture & Fittings	44	9.50%	4.18
Motor Cars	15	9.50%	1.43
			39.50
Depreciation		Rs. 39,50,000	

Cost Sheet (Subject wise)

Annexure 7

Subject: Electrical and Electronics Engineering/Mechanical Engineering/Civil Engineering Number of Students: 48 X 4=192

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
A	Direct Expenses:		
1	Salary - Teaching Staff	2029295	10569
	Salary - Visiting Lecturer	37500	195
2	Lab facilities (for dept.)	100000	521
3	Repairs & Maintenance of Equipment in the dept.	50000	260
4	Repairs & Maintenance of Furniture & Fittings	37500	195

Sl.No.	Particulars	Total cost	Cost per Student
5	AICTE Fees	15000	78
6	Affiliation Fees	25000	130
7	Study Materials & Stationery, etc.,	95238	496
B	Indirect Expenses		
I. Service Cost:			
1	Computer	544961	2838
2	Laboratory	89983	469
3	Library	130072	677
4	Health Centre	13222	69
5	Sports	28571	149
II. Administration Cost			
1	Audit Fees	37500	195
2	Electricity charges	300000	1563
3	Printing & Stationery	100000	521
4	Postage & Telephone	62500	326
5	Insurance Charges	50000	260
6	Repairs & Maintenance	162500	846
7	Rates & Taxes	37500	195
8	Vehicle maintenance	93750	488
9	Security Charges	225000	1172
10	Non teaching and Supervisory Salary	330000	1719
11	Miscellaneous	37500	195
12	Advertisement	187500	977
13	Travelling and Conveyance	62500	326
14	Seminar and conference	5000	260
15	College function expenses	47619	248
16	Professional fee	37500	195
	III. Depreciation	376190	1959
	Total Cost	5393903	28093

Subject: EEE			
Details			**Rs.**
Salary			
1	Principal 20500/8 X 12		30750

Subject: EEE			
Details			**Rs.**
Salary			
2	Professors 240/15 X9X Rs.14000 X 12		298667
3	Asst. Professors 240X 2/15 X9X 10000X12		426667
4	Lecturers (240X6 /15 X9)XRs.8000 X 12		1024000
	Sub total		1780083
1	PF 1780083x 75% (Basic + DA) X 12%		160208
2	Staff welfare Rs.1780083 X 5%		89004
	Total Salary		2029295
Lab facilities Rs.800000/ 8 Courses			100000
Repairs & Maintenance (Equipments) Rs.400000/ 8 Courses			50000
Repairs & Maintenance Furniture Rs.300000/8			37500
Study Materials & Stationery(1000000/2016 X 192)			95238
Audit fees Rs. 300000/8			37500
Electricity charges Rs.2400000/8			300000
Printing and Stationery Rs.800000/8			100000
Postage and telephone Rs.500000/8			62500
Insurance Rs.400000/8			50000
Repairs and Maintenance Rs.1300000/8			
Rates & Taxes Rs.300000/8			37500
Vehicle Maintenance Rs.750000/8			93750
Security charges RS.1800000/8			225000
Non- teaching salary:		Rs. lakhs	
Salary		23.16	
PF 23.16 Lakhs X 75% X 12% =		2.08	
Staff welfare Rs.23.16 X 5%=		1.16	
		26.40	
		Rs.2640000/8	
Miscellaneous Rs.300000/8			37500
Advertisement Rs.1500000/8			187500
Travelling and conveyance Rs.500000/8			62500
Seminar and conference Rs.400000/8			50000
College function expenses Rs.500000/2016 X 192			47619
Professional fee Rs.300000/8			37500

Engineering College: Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	5722090	No.of Students = 192 /2016	544961
Laboratory	944820	No.of Students = 192 /2016	89983
Library	1365760	No.of Students = 192 /2016	130072
Health Centre	138830	No.of Students = 192 /2016	13222
Sports	300000	No.of Students = 192 /2016	28571
Depreciation	3950000	No.of Students = 192 /2016	376190
ENGINEERING COLLEGE Workings			
Depreciation	Rs. lakhs	Rate of Depn.	Depn.
Building	1642	1.63%	26.77
Lab Equipments	150	4.75%	7.13
Furniture & Fittings	44	9.50%	4.18
Motor Cars	15	9.50%	1.43
			39.50
Depreciation	Rs. 39,50,000		

Cost Sheet (Subject wise):

Annexure 8

Subject: Master of Computer Applications
Number of Students: 96 X 3=288
Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	2953455	10255
	Salary - Visiting Lecturer	37500	130
2	Lab facilities (for dept.)	100000	347
3	Repairs & Maintenance of Equipment in the dept.	50000	174

Sl.No.	Particulars	Total cost	Cost per Student
4	Repairs & Maintenance of Furniture & Fittings	37500	130
5	AICTE Fees	15000	52
6	Affiliation Fees	25000	87
7	Study Materials & Stationery, etc.,	142857	496
B	Indirect Expenses		
I. Service Cost:			
1	Computer	817441	2838
2	Laboratory	134974	469
3	Library	195109	677
4	Health Centre	19833	69
5	Sports	42857	149
II. Administration Cost			
1	Audit Fees	37500	130
2	Electricity charges	300000	1042
3	Printing & Stationery	100000	347
4	Postage & Telephone	62500	217
5	Insurance Charges	50000	174
6	Repairs & Maintenance	162500	564
7	Rates & Taxes	37500	130
8	Vehicle maintenance	93750	326
9	Security Charges	225000	781
10	Non teaching and Supervisory Salary	330000	1146
11	Miscellaneous	37500	130
12	Advertisement	187500	651
13	Travelling and Conveyance	62500	217
14	Seminar and conference	50000	174
15	College function expenses	71429	248
16	Professional fee		37500
	III. Depreciation	564286	1959
	Total Cost	**6980991**	**24239**

Subject:	**MCA**		
Details			
Salary			**Rs.**
1	Principal 20500 8 X12		30750

Subject:	**MCA**		
Details			
Salary			**Rs.**
2	Professors360/135 X 14000 X 12		896000
3	Asst. Professors 360/135*2 X 10000 X 12		640000
4	Lecturers 360/135*6 X 8000 X 12		1024000
	Sub total		2590750
1	PF2590750x 75% (Basic + DA) X 12%		233168
2	Staff welfare Rs.2590750X 5%		129538
	Total Salary		2953455
Lab facilities Rs.800000/ 8 Courses			100000
Repairs & Maintenance (Equipments) Rs.400000/ 8 Courses			50000
Repairs & Maintenance Furniture -300000/8			37500
Study Materials & Stationery(1000000/2016 X 288)			142857
Audit fees Rs. 300000/8			37500
Electricity charges Rs.2400000/8			300000
Printing and Stationery Rs.800000/8			100000
Postage and telephone Rs.500000/8			62500
Insurance Rs.400000/8			50000
Repairs and Maintenance Rs.1300000/8			162500
Rates & Taxes Rs.300000/8			37500
Vehicle Maintenance Rs.750000/8			93750
Security charges Rs.1800000/8			225000
Non- teaching salary:		Rs. Lakhs	
Salary		23.16	
PF 23.16 Lakhs X 75% X 12% =		2.08	
Staff welfare Rs.23.16 X 5% =		1.16	
		26.40	
		Rs.2640000/8	330000
Miscellaneous Rs.300000/8			37500
Advertisement Rs. 1500000/8			187500
Travelling and conveyance Rs. 500000/8			62500
Seminar and conference Rs. 400000/8			50000
College function expenses Rs. 500000/2016 X 288			71429
Professional fee Rs.300000/8			37500

Engineering College : Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	5722090	No. of Students = 288/2016	817441
Laboratory	944820	No. of Students = 288/2016	134974
Library	1365760	No. of Students = 288/2016	195109
Health Centre	138830	No. of Students = 288/2016	19833
Sports	300000	No. of Students = 288/2016	42857
Depreciation	3950000	No. of Students = 288/2016	564286
ENGINEERING COLLEGE: Workings			
Depreciation	**Rs. Lakhs**	**Rate of Depn.**	**Depn. Allocated**
Building	1642	1.63%	26.77
Lab Equipments	150	4.75%	7.13
Furniture & Fittings	44	9.50%	4.18
Motor Cars	15	9.50%	1.43
			39.50
Depreciation Rs. 39,50,000			

Cost Sheet (Subject wise)

Annexure 9

Subject: Master of Business Administration Number of Students: 96 X 2=192

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	**Direct Expenses:**		
1	Salary - Teaching Staff	2029295	10569
	Salary - Visiting Lecturer	37500	195
2	Lab facilities (for dept.)	100000	521
3	Repairs & Maintenance of Equipment in the dept.	50000	260
4	Repairs & Maintenance of Furniture & Fittings	37500	195
5	AICTE Fees	15000	78

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
6	Affiliation Fees	25000	130
7	Study Materials & Stationery, etc.,	95238	496
B	**Indirect Expenses**		
I. Service Cost:			
1	Computer	544961	2838
2	Laboratory	89983	469
3	Library	130072	677
4	Health Centre	13222	69
5	Sports	28571	149
II. Administration Cost			
1	Audit Fees	37500	195
2	Electricity charges	300000	1563
3	Printing & Stationery	100000	521
4	Postage & Telephone	62500	326
5	Insurance Charges	50000	260
6	Repairs & Maintenance	162500	846
7	Rates & Taxes	37500	195
8	Vehicle maintenance	93750	488
9	Security Charges	225000	1172
10	Non teaching and Supervisory Salary	330000	1719
11	Miscellaneous	37500	195
12	Advertisement	187500	977
13	Travelling and Conveyance	62500	326
14	Seminar and conference	50000	260
15	College function expenses	47619	248
16	Professional fee	37500	195
	III. Depreciation	376190	1959
	Total Cost	**5393902**	**28092**

Details			
Salary			**Rs.**
1	Principal 20500 */8 X12		30750

Details			
Salary			**Rs.**
2	Professors 240/135X 14000 X 12		298667
3	Asst. Professors 240x2/135 X 10000 X 12		426667
4	Lecturers 240/135x6 X 8000 X 12		1024000
	Sub total		**1780083**
1	PF 1780083x 75% (Basic + DA) X 12%		160208
2	Staff welfare Rs.1780083 X 5%		89004
	Total Salary		2029295
Lab facilities Rs. 800000/ 8 Courses			100000
Repairs & Maintenance (Equipments) Rs. 400000/ 8 Courses			50000
Repairs & Maintenance Furniture -300000/8			37500
Study Materials & Stationery (1000000/2016 X 192)			95238
Audit fees Rs. 300000/8			37500
Electricity charges Rs. 2400000/8			300000
Printing and Stationery Rs. 800000/8			100000
Postage and telephone Rs. 500000/8			62500
Insurance Rs. 400000/8			50000
Repairs and Maintenance Rs. 1300000/8			162500
Rates & Taxes Rs. 300000/8			37500
Vehicle Maintenance Rs. 750000/8			93750
Security charges Rs. 1800000/8			225000
Non- teaching salary:		Rs. lakhs	
Salary		23.16	
PF 23.16 Lakhs X 75% X 12% =		2.08	
Staff welfare Rs. 23.16 X 5% =		1.16	
		26.40	
		Rs. 2640000/8	330000
Miscellaneous Rs. 300000/8			37500
Advertisement Rs. 1500000/8			187500
Travelling and conveyance Rs. 500000/8			62500
Seminar and conference Rs. 400000/8			50000
College function expenses Rs. 500000/2016 X 192			47619
Professional fee Rs. 300000/8			37500

Engineering College: Indirect Expenses

Particulars	Basis of Total Cost	Amount Allocation	Allocated
Computer	5722090	No. of Students = 192/2016	544961
Laboratory	944820	No. of Students = 192/2016	89983
Library	1365760	No. of Students = 192/2016	130072
Health Centre	138830	No. of Students = 192/2016	13222
Sports	300000	No. of Students = 192/2016	28571
Depreciation	3950000	No. of Students = 192/2016	376190

Cost Sheet for Library:

Annexure 10

Sl.No.	Particulars	Total Cost Per Annum
(1)	(2)	(3)
1	Salaries and wages	266760
2	Subscription for Journals & Periodicals	100000
3	Electricity Charges	12000
4	Repairs and maintenance	40000
5	Miscellaneous	15000
6	Depreciation (Books, Equipments & Furniture)	932000
	Total	1365760

Details:	Per Month	Per Annum
1.Salaries and wages	Rs.	Rs.
Librarian	7500	90000
Assistants (4 person X Rs.3000)	12000	144000
Total		234000
PF 234000 X .75(Basic + DA) X 12%		21060
Staff welfare 234000 X 5%		11700
Total		266760
Depreciation:		
Books 93 lakhs X 4.75%		441750
Furniture 24 lakhs X 9.5%		228000
Computers & Printers 15 lakhs X 16.21%		243150
Total		912900

Cost Sheet for Laboratory used by all Departments

Annexure 11

Sl.No.	Particulars	Total Cost Per Annum
(1)	(2)	(3)
1	Salaries and wages	328320
2	Lab materials, Chemicals and accessories	300000
3	Electricity Charges	24000
4	Repairs and maintenance	100000
5	Miscellaneous	50000
6	Depreciation	142500
	Total	944820

Details:	Per Month Rs.	Per Annum Rs.
1. Salaries and wages		
Lab Assistants -4 Rs.6000 x 4	24000	288000
PF 288000 X .75(Basic + DA) X 12%		25920
Staff welfare 288000 X 5%		14400
Total		**328320**
Depreciation:		
Cost of the Laboratory (2 labs X 15 lakhs)		3000000
Rate of Depreciation(SLM)		4.75%
Depreciation (Per annum)		142500

Cost Sheet for Computers

Annexure 12

Sl.No.	Particulars	Total Cost Per Annum
(1)	(2)	(3)
1	Salaries and wages	300960
2	Internet charges	300000
3	Computer Accessories	600000
4	Electricity Charges(with AC consumption)	120000
5	Repairs and maintenance	200000
6	Miscellaneous	100000
7	Depreciation	4101130
	Total	**5722090**

Details:	Per Month	Per Annum
1. Salaries and wages	Rs.	Rs.
HOD -1	10000	120000
Assistants - 4 Rs. 3000 x 4	12000	144000
Total		**264000**
PF 264000 X .75(Basic + DA) X 12%		23760
Staff welfare 264000 X 5%		13200
		300960
Depreciation:		**Rs.**
Cost of the computer		25300000
Rate of Depreciation(SLM)		16.21%
Depreciation (Per annum)		4101130

Engineering College Cost Centre: Transport – Income and Expenditure

Annexure 13

Assumptions:	
Total No. of Students	2280
Less: Hostel Students @35%	798
	1482
Students availing	
Transport @ 50%	741
Staff availing Transport	
220 X 75%	165
Total	**906**
60 Numbers per bus (906/60)	15
INCOME FROM OPERATIONS	**Rs. in lakhs**
Transport fees	
Students 741 X Rs. 8000	59.28
Staff 165 X Rs.6000	8.25
Total Collections	**67.53**
Expenditure – Direct	
(Assumptions: Distance for each pickup 30 Kms. & 2 pickup per day)	
60 Kms. X 15 Buses per day X 25 Days = 22500 Kms. Per month	
Diesel (22500/6 X 12 X 38)	17.10
Maintenance – Day to Day (0.5 X 15)	7.50

Expenditure – Indirect	
Salary of Drivers/Conductor	
(15 X Rs.3500 X 12)	6.30
(15 X Rs.1500 X 12)	2.70
Uniform, livery and welfare	0.70
Insurance	1.40
Rates and Taxes	2.25
Depreciation (12X 15 X 16.21%)	29.18
Total Expenditure	67.13
Surplus / (Deficit)	0.40

Engineering College Cost Centre: Hostel, Mess and Canteen – Income and Expenditure

Annexure 14

Assumptions	
Total No. of students	2280
Hostel students @ 35%	798
INCOME FROM OPERATIONS	**Rs. in lakhs**
Annual Hostel fee (600 X 11 X 798)	52.67
Annual Mess fee (1500 X 11 X 798)	114.11
Daily cafeteria income (4000 X 25 X 12)	12.00
Total of Income	**178.78**
EXPENDITURE	
Hostel maintenance	5.00
Electricity (1.50 lakh X 12 months)	18.00
Municipal taxes (1.5 lakhs X 2 HY)	3.00
Purchase of provisions	79.00
Purchase of vegetables	13.17
Purchase of Snacks, Cool drinks, etc.,	10.00
Salary	
Warden(2), Assistants (4) & Workers (8)	
(4000 X 2 + 2500 X 4 + 1200 X 8) X 12	3.31
Fuel	26.33
Depreciation – Buildings	4.92

Assumptions	
Depreciation – Kitchen Equipments	1.03
Depreciation – Furniture & Fittings	1.80
Local Conveyance	2.00
Freight	5.00
House keeping	5.71
Total Expenditure	**178.26**
Surplus	0.51

Engineering College
Cost Sheet for Health Centre

Annexure 15

Particulars	Amount Rs. lakhs
Visiting Medical Officer fees (Daily 1 Hour)	0.60
Salary – Assistant (Full time)	0.30
Purchase of Medicines, First aid and accessories	0.25
Disposable surgical & Medical instruments	0.20
Electricity charges	0.01
Miscellaneous	0.01
Depreciation (Rs.100000 X 1.63%)	0.02
Total Cost	1.39

Cost of Establishment of New Engineering College (I Year only)

Assumptions:

1. With reference to the norms of AICTE			
2. Intake of students (I Year)			
UG Courses	240		
MCA	60		
MBA	60		
	360		
3. Location: Place other than Metro/State Capital			

4. Cost of construction and Equipment; at reasonable current rates			
I. Land		**Acres**	
Under Graduate Degree courses		10.00	
MCA & MBA		2.50	
	Total	12.50	Rs. in
Land cost assumed at @ Rs. 4 lakhs per Acre.			Lakhs
Total Land cost	12.5 X 4		50.00

II. Building (UG courses and MBA & MCA)

(a). Instructional Area:						
		No.	Area	Total Area Sq. M		
Class Rooms		5	66	330		
Tutorial		4	36	144		
Drawing Hall	Engineering	1	175	175		
Drawing Hall	MBA	2	75	150		
Computer Centre	Engineering	2	150	300		
Computer Centre	MBA	1	200	200		
Library		1	400	400		
		2	100	200		
Lab / Work shop		3	250	750		
		1	150	150		
(b). Administrative Area:						
	(535+ 310)			845		
(c). Circulation and others						
	(995+230)			1225		
				4869 Sq.M		
			Or	52409 Sq.ft.		
Total Building Cost sq.ft.	@ Rs.600 per				314.45	314

III. Computers

Computer Terminal to Student Ratio			
UG Courses	1:4		
MCA & MBA	1:2		

	No. of Students	No. of Computers	
UG Courses	240	60	
MCA	60	30	
MBA	60	30	
	360	120	
Cost of 120 Computers @ Rs.28700 per computer (including P4 processors)		34.40	
LAN/WAN Terminals - 60		3.25	
Software - 2 system packages			
4 Application packages		3.64	
Printers - 12 Numbers @ Rs.17000		2.04	
		43.33	
Total computer cost			43.00

IV. Library

	Course	No. of Titles per course	No. of volumes	Total volumes	Cost per book	Total cost	
UG Courses	6	250	1000	6000	350	21.00	
MCA	1	150	1000	1000	350	3.5	
MBA	1	150	1000	1000	350	3.5	
						28.00	
Digital Library							
8 computers with networking and multi-media facilities (Rs.40000 X 8)						3.20	
Library Furniture (Shelf and other Furniture)						4.00	
Photo Copier						1.00	
						8.20	
Total Library Cost						36.20	36.00

V. Students' Canteen

Building 200 Sq.M or 2153 Sq.ft. @550	11.84	12.00	
Kitchen Equipment and Accessories		3.00	
Total Cost of Students' Canteen		15.00	15.00

VI. Students' Hostel

25% of Boys strength (180 X 25%)	45		
50% of Girls strength (180 X 50%)	90		
Total Students	135		
Construction Cost 7500 Sq.f t. @ Rs. 550 per Sq. ft.		41.25	
Furniture (135 X 2500 per cot, table, chairs)		4.73	
Total Cost of Students' Hostel		45.98	46.00
Total Cost			504.00

ARTS AND SCIENCE COLLEGE

NOTE

Establishment of Arts and Science College:

The proposal for starting Arts and Science Colleges emanate from the Government department and promoters of Self financing and Aided colleges. The universities concerned examine the proposals, conduct spot inspection and decide on the setting up of the colleges. The courses of study, strength of intake of students and the requirement of infrastructure facility are approved by the universities. The universities also conduct periodical inspection of the colleges to ensure that the institutions maintain the required facilities advised by the universities and also the academic achievements.

The case study of capital expenditure of the Arts and Science College indicate that substantial outlay is required for computers, lab equipments, hostel and mess facilities, and transport besides construction of building. The source of capital expenditure may include borrowed funds in respect of Self Financing and Aided Colleges. The University Grants Commission (UGC) grants financial assistance to the deserving cases. The interest on borrowed funds will be one of the major expenses for running of the colleges.

Unlike the Engineering colleges where uniform tuition fees is fixed by the University/ Government, the Arts and science colleges are not collecting the uniform tuition fees for the same course of study, though the Director of Collegiate Education advises the colleges on tuition fees structure.

The Arts and Science colleges are generally following the pay scale prescribed by the UGC for teaching and non-teaching staff's. The faculty normally includes Principal, Lecturers in the selection grade, senior grade and junior grade in addition to Librarian, Demonstrators and Director of Physical education. The entire case study pertaining to Arts and Science colleges are based on the pay scale given by UGC.

The courses of studies are grouped under six categories. They are enumerated below. Viz.,
Arts UG
Science UG
Arts PG

Science PG
Special Course BHM
Special Course AFT

The above said six cost statements are worked out to evaluate the cost per student for each course of study. The income generated for the respective courses are compared with the cost. The study shows that the special course BHM now – a - days is generating maximum surplus. The Study of Apparel and Fashion Technology is also generating surplus income.

The Arts courses for both UG and PG generate marginal income only. However, the income and cost statements of Science courses for both UG and PG indicate adverse financial results. The income is not adequate as the rates of tuition fees appear to be too low compared to the expenditure involved in operating these courses. The high cost of maintaining the Laboratories and the faculty at higher grades including the demonstrators are the reasons for the higher expenditure for the science courses of studies. Further the number of students in the science courses is generally less as compared to Arts courses. When compared with Engineering Courses, the tuition fees for the science courses are low whereas the intake of students for each science course is also less. Therefore, certain reforms are required in the tuition fees structure of science courses and also the number of intake of students. Besides the increase in tuition fees for all the Arts and Science courses is necessary to fulfill the norms of UGC pay scale for the faculty and to increase the margin.

NOTE: In order to bring in clarity in computation of Cost sheets, representative numbers have been used in the cost model. The actual figures, may vary between institutions.

Capital Cost of Existing Arts and Science College:

Assumptions:

(a). The Capital cost is worked out for the total strength of 1790 students as below:

UG Courses: 450 students X 3 Years =	1350
PG Courses: 220 Students X 2 Years =	440
Total	1790

(b). Location of the college - Rural (other than Metro / State Capital / District HQ)	

1. Land

	Acres	Rs. in lakhs	Rs. In lakhs
UG Courses		10	
PG Courses		5	
Total		15	
Land cost @ Rs.4 lakhs per Acre= 15 X 4	60	60	

2. Building

(a) Instructional Area	Area Sq.m.	Area Sq.m.	
UG Courses 6 Sq. M. per student for 1350 students	8100		
PG Courses 4 Sq. M. Per student for 440 students	1760	9860	
(b) Administrative Area			
1 Sq.M. per student for 1790 students	1790	1790	
		11650	
(c) Circulation and Others			
30% of 11650		3495	
		15145 Sq.m. Or 163019 Sq.ft	
Building Cost @ Rs.600/- Per Sq.ft. 600 =	163019 X		978

3. Computers

Ratio to Students:	1 : 10			
	No. of Students	No. of Computers		
UG Courses	1350	135		

Ratio to Students:	1 : 10			
	No. of Students	No. of Computers		
PG Courses	440	44		
	1790	179		
Computer & Accessories	179 X 28700		51.37	
Software			10.00	
Printers	18 X 17000		3.06	
Total			64.43	64

4. Lab Equipments

	No. of Courses	Cost Per Dept.		
	8	15	120	
Common Lab (4 X 15 lakhs)			60	180

5. Library

	No. of Volumes	Average Cost per Volume		
	12000	250	30.00	
Furniture & Fittings			12.00	
Computers (0.50 X 1)			0.50	42.50

6. Furniture

	NO.	Price per unit		
Students Desk	450	4150	19	
Computer table	200	4100	8	
Table & Chairs	100	2500	3	
Furniture for Lab	50	8750	4	34

7. Student Canteen

	sq.ft.	cost per sq.ft.		
Building	12000	550	66	
Kitchen Equipment & Accessories			10	76

8. Student Hostel

25% of Boys Strength	1074 X 25%	269		
50% of Girls Strength				
716 X 50%		358	627	
Construction Cost				
35000 Sq. ft. X Rs.550 =		193		
Furniture				
627 X Rs.2500=		16		
		208		208

9. Transport- students/staff buses

11 buses X Rs.12 lakhs	132

10. Motor Cars

3 Cars X Rs.5 lakhs	15
Total Capital Cost	1790

Profit and Loss Account of Existing Arts & Science College

For The Year Ended 200X

Dr.			Cr.
Particulars	Amount (Rs. in lakhs)	Particulars	Amount (Rs. in lakhs)
Salaries & Wages :		Income from fees	244.65
Staff Salaries – 97.00		Income from sale of scrap	4.00

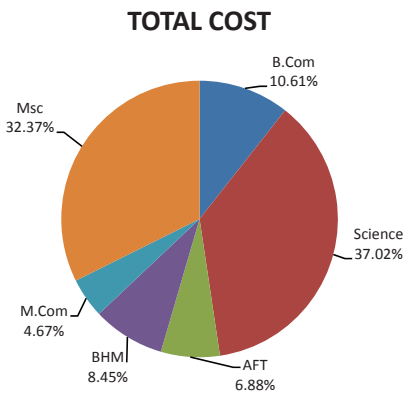
Dr.			Cr.
Particulars	Amount (Rs. in lakhs)	Particulars	Amount (Rs. in lakhs)
Provident Fund – 9.52		P & L a/c (Deficit)	39.15
Staff Welfare Expenses – 3.97	110.49		
Advertisement	4.00		
Audit Fees & Expenses	2.00		
Books & Periodicals	0.75		
Electricity charges	10.60		
Fuel	1.94		
Rates & taxes	1.25		
Repairs & Maintenance	9.50		
Travelling & Conveyance	3.00		
Seminar & Conferences	1.00		
College function expenses	3.00		
Professional fees	1.00		
Security fees	6.00		
Internet charges	1.00		
Lab maintenance	11.25		
Printing & Stationery	5.00		
Sports expenses	2.00		
Postage & Telephone	5.00		
Insurance	1.90		
Miscellaneous expenses	2.00		
Purchases of Materials	4.77		
Depreciation	42.2		
Interest on Term Loan	58.18		
	287.80		287.80

Statement Showing the Net Surplus / Deficit for the Year 2005-06 (In Rupees)

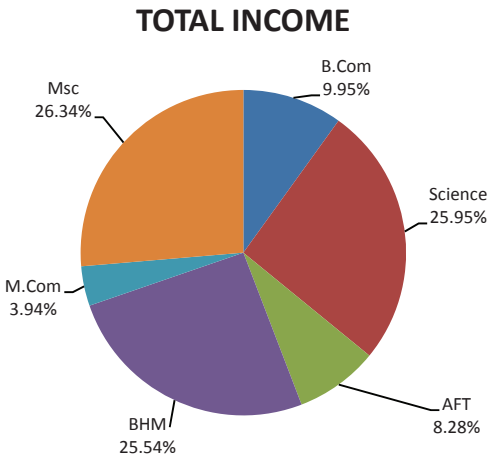
Course of Study	No of Students	Total Cost	Financial Cost	Cost Per Student	Income From Fees	Other Income Alloca Tion (Basis-No. of Students)	Total Income	Income Per Student	Net Surplus /Deficit Total	Net Surplus / Deficit Per Student
UG Arts Courses										
B.Com & BBA	300	2437179	684412	19117	2400000	73037	2473037	8243	-648554	-10874
UG Science Courses										
BCA, Bsc Physics, Maths, CS, Bio Chem & Bio-Tech	630	8501381	2053235	24571	6300000	153378	6453378	10243	-4101238	-14328
AFT	135	1580525	342206	22722	2025000	32867	2057867	15243	135136	-7479
BHM	210	1939765	342206	20174	6300000	51126	6351126	30243	4069155	10069
PG Arts Courses										
M.Com	80	1071519	342206	24558	960000	19477	979477	12243	-434248	-12315
PG Science Courses										
Msc Physics, Chemistry, Maths, Bio-chem, Bio-Tech and IT	288	7431800	2053235	37214	6480000	70116	6550116	22743	-2934920	-14471
Total	1643	22962169	5817500	13976	24465000	400000	24865000	15134	-3914669	-2383

Note: The interest on term loan (Rs. 58.50 lakhs) not considered in this statement. The Income generated is not sufficient to cover this liability of interest.

Course-wise Cost to Total Cost



Course-wise Income to Total Income



Existing Arts and Science College

Annexure – I

ASSUMPTIONS:

1. Individual colleges obtain sanction for the respective courses from the university and they are permitted to admit excess upto 10% of the sanctioned strength.
2. As the sanctioned seats may vary from one college to other, the normal strength is taken for our workings.
3. All the UG Courses/ PG Courses may not be available in the same college. However, the courses normally available are considered here.

INCOME					
UG COURSES					
Course of Study	**Normal No. of seats Permitted**	**Actual No. of Seats**	**Tuition Fees Per Annum Per Student (2 Semesters)**	**I Year**	**I to III Years**
B.COM	50	50	8000	400000	1200000
BBA	50	50	8000	400000	1200000
BCA	30	30	10000	300000	900000

INCOME					
UG COURSES					
Course of Study	**Normal No. of seats Permitted**	**Actual No. of Seats**	**Tuition Fees Per Annum Per Student (2 Semesters)**	**I Year**	**I to III Years**
BSC PHYSICS	40	36	10000	360000	1080000
BSC MATHS	40	36	10000	360000	1080000
BSC COMPUTER SCIENCE	40	36	10000	360000	1080000
BSC BIO-CHEMISTRY	40	36	10000	360000	1080000
BSC BIO-TECHNOLOGY	40	36	10000	360000	1080000
BSC APPAREL AND					
FASHION TECH.	50	45	15000	675000	2025000
BHM (HOTEL MANAGEMENT)	70	70	30000	2100000	6300000
Sub total	450	425	121000	5675000	17025000
PG COURSES					
M.COM	40	40	12000	480000	960000
MSC PHYSICS	30	27	20000	540000	1080000
MSC CHEMISTRY	30	27	20000	540000	1080000
MSC MATHS	30	27	20000	540000	1080000
MSC BIO CHEMISTRY	30	27	20000	540000	1080000
MSC BIO TECH	30	27	20000	540000	1080000
MSC IT	30	27	20000	540000	1080000
Sub total	220	202	132000	3720000	7440000
Total	670	627	253000	9395000	24465000
Other Income (Sale of scrap, etc.,)				400000	
Total Income					24865000

Expenditue

Annexure - 2

I. PERSONNEL EXPENSES							
Principal	1		(16400 + 700 HRA)		17100		205200
Course of study	Lecturer Senior Scale	Amount Rs. (10000 + 700)	Lecturer No.	Amount Rs. (8000 + 560)	Amount Rs.	Demon-strator	Amount Rs. (5500 + 500)
B.Com	1	10700	2	8560	17120	-	-
BBA	1	10700	2	8560	17120	-	-
BCA	1	10700	2	8560	17120	1	6000
Bsc Physics	1	10700	2	8560	17120	1	6000
Bsc Maths	1	10700	2	8560	17120	1	6000
Bsc Computer science	1	10700	2	8560	17120	1	6000
Bsc Bio chemistry	1	10700	2	8560	17120	1	6000
Bsc Bio Tech	1	10700	2	8560	17120	1	6000
Bsc Apparel Fashion Tech	1	10700	2	8560	17120	2	12000
BHM (Hotel Management)	1	10700	2	8560	17120	3	18000
English	1	10700	1	8560	8560	-	-
Tamil	1	10700	1	8560	8560	-	-
Total	12	128400	22		188320	11	66000

UG Courses

Personnel Expenses (Per Month)	= 128400 + 188320 + 66000	382720			
Personnel Expenses (Per Annum)	= 382720 X 12				4592640
PF	= (10000 * 12 + 8000 * 22 + 5500 * 11) *12% *12				513360
Staff welfare	= (10000 * 12 + 8000 * 22 + 5500 * 11) * 5% * 12				213900
Sub total					5319900

PG Courses

		Lecturer Selection Grade					
		(12000 + 700)					
M.Com	1	12700	2	8560	17120	-	-
Msc Physics	1	12700	2	8560	17120	1	6000
Msc Chemistry	1	12700	2	8560	17120	1	6000
Msc Maths	1	12700	2	8560	17120	1	6000
Msc Bio chemistry	1	12700	2	8560	17120	1	6000
Msc Bio- Tech	1	12700	2	8560	17120	1	6000
Msc - Information Technology	1	12700	2	8560	17120	1	6000
	7	88900	14		119840	6	36000
Personnel Expenses (Per Month)		= 88900 + 179760 + 36000		244740			
Personnel Expenses (Per Annum)		= 304660 X 12					2936880
PF		= (12000 * 7 + 8000 * 14 + 5500 * 6) * 12% * 12					329760
Staff welfare		= (12000 * 7 + 8000 * 14 + 5500 * 6) * 5% * 12					137400
Sub total							3404040
Total personnel Expenses (UG + PG Courses- Teaching staff)							8929140

NON Teaching

Accounts Officer/Finance Manager	1	6200	6200		
Superintendent/ Administration	1	6200	6200		
Assistant	2	4400	8800		
Junior Assistant/Typist	2	3550	7100		
Lab Assistant	9	3850	34650		
Library Assistant	2	3850	7700		
Physical Education	1	4400	4400		
Maintenance Staff	4	2750	11000		
			86050 (Per Month)		

Total	22				
Total Personnel Expenses per annum- Non teaching		=86050 X 12		1032600	1032600
PF	= (5700 * 2 + 4000 * 3 + 3200 * 11 + 3500 * 2 + 2500 * 4) * 12% * 12				108864
Staff welfare	= (5700 * 2 + 4000 * 3 + 3200 * 11 + 3500 * 2 + 2500 * 4) * 5% * 12				45360
Sub total					1186824
Total Personnel Expenses Per annum (Teaching & Non-Teaching and Prinicipal)					10115964
Salaries and wages - Others		Rs.			
Computer section		191520			
Common Lab		492480			
Library		164160			
Health centre		84000	932160		932160
Total Personnel Expenses Per Annum					11048124

II. Administrative Expenses (Including College Expenses)	Rs.	
Advertisement	400000	
Audit fees & Expenses	200000	
Books and Periodicals	75000	
Electricity charges	1060000	
Fuel (Diesel/Petrol)	194000	
Rates and Taxes	125000	
Repairs and Maintenance	950000	
Travelling and conveyance	300000	
Seminar and Conferences	100000	
Misc. Expenses	200000	
College Function exps.	300000	
Professional fee	100000	
Security fees	600000	
Internet Charges	100000	

II. Administrative Expenses (Including College Expenses)	Rs.	
Lab Maintenance	1125000	
Printing and Stationery	500000	
Sports Expenses	200000	
Postage and Telephone	500000	
Insurance	190000	7219000
Purchase of Materials		
Computer & Accessories	150000	
Lab materials / Chemicals	300000	
Medicines & Surgical Equipments	27000	
Depreciation		
Building, Furniture & others	2630000	
Computers	1037440	
Lab	285000	
Library	264605	
Health Centre	1000	4218045
Abstract		
Personnel Expenses	11048124	
Administrative Expenses	7219000	
Purchase of Materials	477000	
Depreciation	4218045	
		22962169
Total Income	24865000	
Less: Expenses (Abstract)	22962169	
Surplus before Interest on Term loan	1902831	
Less: Interest on Term Loan	5817500	
Net Surplus/(-) Deficit	-3914669	

	Rs. in Lakhs
UG Arts Courses	-648554
UG Science Courses	-4101238
PG Arts Courses	-434248
PG Science Courses	-2934920
Apparel & Fashion Tech.	135136
Hotel Management	4069155
	-3914669

Arts College Transport - Income and Expenditure

Annexure -3

Assumptions:	
Total No. of Students	1790
Less: Hostel Students	627
Students availing	
Transport @ 50%	582
Staff availing Transport	
65 X 75%	49
Total	631
60 Numbers per bus(631/60)	11
INCOME FROM OPERATIONS	Rs. in lakhs
Transport fees	
Students 582 X Rs.8000	46.56
Staff 49 X Rs.6000	2.94
Total Collections	49.50
Expenditure - Direct	
(Assumptions: Distance for each pickup	
30 Kms. & 2 pickup per day)	
60 Kms. X 11 Buses per day X 25 Days	
16500 Kms. Per month	
Diesel (16500/6 X 12 X 38)	12.54
Maintenance - Day to Day(0.5 X 11)	5.50
Expenditure - Indirect	
Salary of Drivers/Conductor	
(11 X Rs.2500 X 12)	3.30
(11 X Rs.1500 X 12)	1.98
Uniform, livery and welfare	0.10
Insurance	1.10
Rates and Taxes	1.75
Depreciation (12 X 11 X 16.21%)	21.40
Interest on borrowing (60 X 3%)	1.80
Total Expenditure	49.47
Surplus/(-Deficit)	0.03

NOTE: Marginal Surplus of Rs.0.03 lakh not considered for allocation to Course of studies.

Arts College Hostel, Mess and Canteen - Income and Expenditure

Annexure -4

Assumptions	
Total No. of students	1790
Hostel students	627
INCOME FROM OPERATIONS	Rs. in lakhs
Annual Hostel fee (600 X 11 X 627)	41.38
Annual Mess fee (1200 X 11 X 627)	82.76
Daily cafeteria income(1000 X 25 X 12)	3.00
Total of Income	127.15
EXPENDITURE	
Hostel maintenance	4.00
Electricity (1.20 lakh X 12 months)	14.40
Municipal taxes (1.2 lakhs X 2 HY)	2.40
Purchase of provisions	49.67
Purchase of vegetables	15.00
Purchase of Snacks, Cool drinks, etc.,	10.00
Salary	
Warden(2), Assistants(3) & Workers(6)	
(4000 X 2 + 2500 X 3 + 1200 X 6) X 12	2.72
Fuel	12.41
Depreciation - Buildings	4.21
Depreciation - Kitchen Equipments	1.03
Depreciation - Furniture & Fittings	1.49
Local Conveyance	1.00
Freight	4.00
House keeping	4.41
Total Expenditure	126.74
Surplus	0.40

NOTE: Marginal Surplus of Rs.0.40 lakh not considered for allocation to Course of studies.

Grouping schedule for Expenses

1	Electricity Charges	Rs.
	General	933000
	Computer Section	90000
	Lab Section	24000
	Library	12000
	Health Centre	1000
		1060000
2	Repairs and Maintenance	
	Equipment	395000
	Furniture & Fittings	200000
	Buildings	200000
	Computers	75000
	Lab	50000
	Library	30000
		950000
3	Miscellaneous	
	General	109000
	Computer	40000
	Lab	40000
	Library	10000
	Health Centre	1000
		200000
4	Rates & Taxes	
	General	125000
		125000
5	Insurance	
	General	190000
		190000
6	Diesel and Fuel	
	General-Motor cars etc.,	194000
		194000
7	Travel and conveyance	
	General	300000
		300000

Arts and Science College Cost Sheet (Subject wise)

Annexure 5

Subject: Bachelor Of Commerce & Bachelor of Business Administration

Number of Students: 300

50+50= 100*3 =300

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	905037	3017
	Salary - Visiting Lecturer	0	0
2	Lab facilities(for dept.)	0	0
3	Repairs & Maintenance of Equipment in the dept.	25484	85
4	Repairs & Maintenance of Furniture & Fittings	12903	43
5	University fees/Affiliation fees	0	0
B	Indirect Expenses		
I. Service Cost:			
1	Computer	307479	1025
2	Laboratory	0	0
3	Library	101479	338
4	Health Centre	20816	69
5	Sports	36519	122
II. Administration Cost			
1	Audit Fees	23529	78
2	Electricity Charges	109765	366
3	Printing & Stationery	58824	196
4	Postage & Telephone	58824	196
5	Insurance Charges	22353	75
6	Repairs & Maintenance	23529	78

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
7	Rates & Taxes	14706	49
8	Security Charges	70588	235
9	Non teaching & Supervisory Salary	139626	465
10	Miscellaneous	12824	43
11	Advertisement	47059	157
12	Travelling and Conveyance	35294	118
13	Seminar and conference	11765	39
14	College function expenses	54778	183
15	Professional fee	11765	39
16	Diesel	22824	76
III. Depreciation		309412	1031
	Total Cost	2437179	8124

Details		**Rs.**
Salary		
1	Principal 205200/17 X 2 Courses	24141
2	Sr. Lecturers (10700*2*12)	256800
3	Lecturers (8560*4*12)	410880
4	Language Lecturers (10700*2+8560*2)*12*2/10	92448
	Sub total	784269
1	PF(10000*2+8000*4)*12*12%	74880
2	Staff welfare (10000*2+8000*4)*12* 5%	31200
3	PF(10000*2+8000*2)*12*12%*2/10	10368
4	Staff welfare (10368*5/12)	4320
	Total Salary	905037
Repairs & Maintenance (Equipments) Rs. 395000 / 15.5 * 1		25484
Repairs & Maintenance Furniture - 200000 / 15.5 * 1		12903
Audit fees Rs. 200000 / 17 X 2		23529
Electricity charges Rs. 933000 / 17 X 2		109765
Printing and Stationery Rs. 500000/17 X 2		58824
Postage and telephone Rs. 500000 / 17 X 2		58824
Insurance Rs. 190000 * 2 / 17		22353
Repairs and Maintenance-Building Rs. 200000 * 2 / 17		23529
Rates & Taxes Rs. 125000 * 2 / 17		14706

Details		Rs.
Salary		
Security charges Rs. 600000 / 17 * 2		70588
Non- teaching salary:		
Salary	1032600	
PF	108864	
Staff welfare	45360	
	1186824	
Rs. 1186824 / 17 * 2		139626
Miscellaneous Rs. 109000 / 17 * 2		12824
Advertisement Rs. 400000 / 17 * 2		47059
Travelling and conveyance Rs. 300000 / 17 * 2		35294
Seminar and conference Rs. 100000 / 17 * 2		11765
College function expenses Rs. 300000 / 1643 X 300		54778
Professional fee Rs. 100000 / 17 * 2		11765
Diesel Rs. 194000 / 17 * 2		22824

Arts and Science College: Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	1683960	No. of Students (300/1643)	307479
Laboratory	1191480	Nil	Nil
Library	555765	No. of Students (300/1643)	101479
Health Centre	114000	No. of Students (300/1643)	20816
Sports	200000	No. of Students (300/1643)	36519

Arts and Science College: Workings

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	978.00	1.63%	15.94
Lab Equipments	120.00	4.75%	5.70
Furniture & Fittings	34.00	9.50%	3.23
Motor Cars	15.00	9.50%	1.43
Depreciation Rs. 26,30,000			
Depreciation per course Rs. 26, 30, 000/17			154706
B.com & BBA Rs.2630000/17*2			309412

Arts and Science College Cost Sheet (Subject wise)

Annexure 6

Subject : Bachelor of Computer Applications, Bachelor of Science (Physics, Maths, Computer Science, Bio-Chemistry & Bio-Tech)

Number of Students: 630

(30+36+36+36+36+36) X 3=630

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	3214432	5102
	Salary - Visiting Lecturer	0	0
2	Lab facilities (for dept.)	450000	714
3	Repairs & Maintenance of		
	Equipment in the dept.	152903	243
4	Repairs & Maintenance of		
	Furniture & Fittings	77419	123
5	University fees/Affiliation fees	0	0
B	Indirect Expenses		
I. Service Cost:			
1	Computer	645706	1025
2	Laboratory	594325	943
3	Library	213105	338
4	Health Centre	43713	69
5	Sports	76689	122
II. Administration Cost			
1	Audit Fees	70588	112
2	Electricity Charges	329294	523
3	Printing & Stationery	176471	280
4	Postage & Telephone	176471	280
5	Insurance Charges	67059	106

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
6	Repairs & Maintenance	70588	112
7	Rates & Taxes	44118	70
8	Security Charges	211765	336
9	Non teaching and Supervisory Salary	418879	665
10	Miscellaneous	38471	61
11	Advertisement	141176	224
12	Travelling and Conveyance	105882	168
	Seminar and conference	35294	56
	College function expenses	115033	183
	Professional fee	35294	56
	Diesel	68471	109
III. Depreciation		928235	1473
	Total Cost	8501381	13494

Details		Rs.
Salary		
1	Principal 205200/17 X 6 Courses	72424
2	Sr. Lecturers (10700 * 6 *12)	770400
3	Lecturers (8560 *12 *12)	1232640
4	Demonstrator (6000 *6 *12)	432000
5	Language Lecturers (10700 *2 + 8560 *2) *12 *6/10	277344
	Sub total	**2784808**
1	PF (10000 *6 + 8000 *12) *12 *12%	224640
2	Staff welfare (10000 *6 + 8000 *12) *12 * 5%	93600
3	PF(10000 *2 + 8000 *2) *12 *12% *6/10	31104
4	Staff welfare (259400/12 *5)	12960
5	PF (5500 *6 *12) *12% (Demonstrator)	47520
6	Staff Welfare (5500 *6 *12) *5% (Demons)	19800
	Total Salary	**3214432**
Repairs & Maintenance (Equipments) Rs. 395000/ 15.5 * 6		152903
Repairs & Maintenance Furniture -200000/15.5 *6		77419
Audit fees Rs. 200000/17 X 6		70588
Electricity charges Rs. 933000/17 X 6		329294
Printing and Stationery Rs. 500000/17 X 6		176471

Details		Rs.
Salary		
Postage and telephone Rs. 500000/17 X 6		176471
Insurance Rs. 190000 * 6/17		67059
Repairs and Maintenance-Building Rs. 200000 * 6/17		70588
Rates & Taxes Rs. 125000 * 6/17		44118
Security charges Rs. 600000/17 * 6		211765
Non- teaching salary:		
Salary		1032600
PF		108864
Staff welfare 45360		
1186824		
Rs. 1186824/17 * 6		418879
Miscellaneous Rs. 109000/17 * 6		38471
Advertisement Rs. 400000/17 * 6		141176
Travelling and conveyance Rs. 300000/17 * 6		105882
Seminar and conference Rs. 100000 / 17 * 6		35294
College function expenses Rs. 300000 / 1643 x 630		115033
Professional fee Rs. 100000 / 17 * 6		35294
Diesel Rs. 194000 / 17 * 6		68471

Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	1683960	No. of Students (630/1643)	645706
Laboratory	1191480	No. of Students (630/1263)	594325
Library	555765	No. of Students (630/1643)	213105
Health Centre	114000	No. of Students (630/1643)	43713
Sports	200000	No. of Students (630/1643)	76689

Arts and Science College: Workings

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	978.00	1.63%	15.94
Lab Equipments	120.00	4.75%	5.70
Furniture & Fittings	34.00	9.50%	3.23
Motor Cars	15.00	9.50%	1.43

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
			26.30
Depreciation Rs. 26, 30, 000			
Depreciation per course Rs. 26, 30, 000/17			154706
Rs. 154706 X 6 =			928235

Arts and Science College Cost Sheet (Subject wise)

Annexure 7

Subject: Bsc Apparel & Fashion Technology Number of Students: 135

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	618959	4585
	Salary - Visiting Lecturer	0	0
2	Lab facilities (for dept.)	75000	556
3	Repairs & Maintenance of Equipment in the dept.	25484	189
4	Repairs & Maintenance of Furniture & Fittings	12903	96
5	University fees/Affiliation fees	0	0
B	Indirect Expenses		
I. Service Cost:			
1	Computer	138366	1025
2	Laboratory	127355	943
3	Library	45665	338
4	Health Centre	9367	69
5	Sports	16433	122
II. Administration Cost			
1	Audit Fees	11765	87
2	Electricity Charges	54882	407
3	Printing & Stationery	29412	218
4	Postage & Telephone	29412	218

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
5	Insurance Charges	11176	83
6	Repairs & Maintenance	11765	87
7	Rates & Taxes	7353	54
8	Security Charges	35294	261
9	Non teaching and		
10	Supervisory Salary	69813	517
	Miscellaneous	6412	47
11	Advertisement	23529	174
12	Travelling and Conveyance	17647	131
13	Seminar and conference	5882	44
14	College function expenses	24650	183
15	Professional fee	5882	44
16	Diesel	11412	85
III. Depreciation		154706	1146
	Total Cost	1580525	11708

Details			Rs.
Salary			
1	Principal 205200/17 X 1 Courses		12071
2	Sr. Lecturers (10700 *1 *12)		128400
3	Lecturers (8560 *2 *12)		205440
4	Demonstrator (6000 *2 *12)		144000
5	Language Lecturers (10700 *2 + 8560 *2) *12 *1/10		46224
	Sub total		**536135**
1	PF (10000 * 1 + 8000 * 2) * 12 * 12%		37440
2	Staff welfare (10000 * 1 + 8000 * 2) * 12 * 5%		15600
3	PF (10000 * 2 + 8000 * 2) * 12 *12% *1/10		5184
4	Staff welfare (5184/12 * 5)		2160
5	PF (5500 * 2 * 12) *12% (Demonstrator)		15840
6	Staff Welfare (5500 * 2 * 12) * 5% (Demonstrator)		6600
	Total Salary		**618959**
Repairs & Maintenance (Equipments) Rs.395000/ 15.5 *1			25484

Details			Rs.
Salary			
Repairs & Maintenance Furniture -200000/15.5*1			12903
Audit fees Rs. 200000/17 x 1			11765
Electricity charges Rs. 933000/17 x 1			54882
Printing and Stationery Rs. 500000/17 x 1			29412
Postage and telephone Rs. 500000/17 x 1			29412
Insurance Rs. 190000 * 1/17			11176
Repairs and Maintenance-Building Rs. 200000 * 1/17		11765	
Rates & Taxes Rs. 125000 * 1/17		7353	
Security charges Rs. 600000 / 17 * 1			35294

Non- teaching salary:			
Salary			1032600
PF			108864
Staff welfare			45360
			1186824
		Rs.1186824/17*1	69813
Miscellaneous Rs.109000/17*1		6412	
Advertisement Rs.400000/17*1		23529	
Travelling and conveyance Rs.300000/17*1		17647	
Seminar and conference Rs.100000/17*1		5882	
College function expenses Rs.300000/1643X 135		24650	
Professional fee Rs.100000/17*1		5882	
Diesel Rs.194000/17*1		11412	

Arts and Science College: Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	1683960	No. of Students (135/1643)	138366
Laboratory	1191480	No. of Students (135/1263)	127355
Library	555765	No. of Students (135/1643)	45665
Health Centre	114000	No. of Students (135/1643)	9367
Sports	200000	No. of Students (135/1643)	16433

Arts and Science College: Workings

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	978.00	1.63%	15.94
Lab Equipments	120.00	4.75%	5.70
Furniture & Fittings	34.00	9.50%	3.23
Motor Cars	15.00	9.50%	1.43
			26.30
Depreciation Rs. 26,30,000			
Depreciation per course Rs. 26,30,000/17			154706

Cost Sheet (Subject wise)

Annexure 8

Subject: BHM Hotel Management Number of Students: 210
Current year: 2005-06
Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	Direct Expenses:		
1	Salary - Teaching Staff	702179	3344
	Salary - Visiting Lecturer	0	0
2	Lab facilities (for dept.)	150000	714
3	Repairs & Maintenance of Equipment in the dept.	25484	121
4	Repairs & Maintenance of Furniture & Fittings	12903	61
5	University fees/Affiliation fees	0	0
B	Indirect Expenses		
I. Service Cost:			
1	Computer	215235	1025
2	Laboratory	198108	943
3	Library	71035	338
4	Health Centre	14571	69
5	Sports	25563	122

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
II. Administration Cost			
1	Audit Fees	11765	56
2	Electricity Charges	54882	261
3	Printing & Stationery	29412	140
4	Postage & Telephone	29412	140
5	Insurance Charges	11176	53
6	Repairs & Maintenance	11765	56
7	Rates & Taxes	7353	35
8	Security Charges	35294	168
9	Non teaching and Supervisory Salary	69813	332
10	Miscellaneous	6412	31
11	Advertisement	23529	112
12	Travelling and Conveyance	17647	84
13	Seminar and conference	5882	28
14	College function expenses	38344	183
15	Professional fee	5882	28
16	Diesel	11412	54
III. Depreciation		154706	737
Total Cost		1939765	9237

BHM – Hotel Management

Details			Rs.
Salary			
1	Principal 205200/17 X 1 Courses		12071
2	Sr. Lecturers (10700*1*12)		128400
3	Lecturers (8560*2*12)		205440
4	Demonstrator(6000*3*12)		216000
5	Language Lecturers (10700*2+8560*2)*12*1/10		46224
	Sub total		608135
1	PF(10000*1+8000*2)*12*12%		37440
2	Staff welfare (10000*1+8000*2)*12* 5%		15600

Details			Rs.
Salary			
3	PF(10000*2+8000*2)*12*12%*1/10		5184
4	Staff welfare (5184/12*5)		2160
5	PF(5500*3*12)*12%(Demonstrator)		23760
6	Staff Welfare(5500*3*12)*5%(Demons)		9900
	Total Salary		702179
Repairs & Maintenance (Equipments) Rs.395000/ 15.5 *1			25484
Repairs & Maintenance Furniture -200000/15.5*1			12903
Audit fees Rs. 200000/17 X 1			11765
Electricity charges Rs.933000/17 X 1			54882
Printing and Stationery Rs.500000/17 X 1			29412
Postage and telephone Rs.500000/17 X 1			29412
Insurance Rs. 190000*1/17			11176
Repairs and Maintenance-Building Rs.200000*1/17			11765
Rates & Taxes Rs.125000*1/17			7353
Security charges Rs.600000/17*1			35294
Non- teaching salary:			
Salary		1032600	
PF		108864	
Staff welfare		45360	
		1186824	
		Rs. 186824/17*1	69813
Miscellaneous Rs. 109000/17*1			6412
Advertisement Rs. 400000/17*1			23529
Travelling and conveyance Rs. 300000/17*1			17647
Seminar and conference Rs. 100000/17*1			5882
College function expenses Rs. 300000/1643X 135			24650
Professional fee Rs. 100000/17*1			5882
Diesel Rs. 194000/17*1			11412

Arts and Science College : Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	1683960	No. of Students (210/1643)	215235

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Laboratory	1191480	No. of Students (210/1263)	198108
Library	555765	No. of Students (210/1643)	71035
Health Centre	114000	No. of Students (210/1643)	14571
Sports	200000	No. of Students (210/1643)	25563

Arts and Science College: Workings

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	978.00	1.63%	15.94
Lab Equipments	120.00	4.75%	5.70
Furniture & Fittings	34.00	9.50%	3.23
Motor Cars	15.00	9.50%	1.43
			26.30
Depreciation Rs. 26,30,000			
Depreciation per course Rs. 26,30,000/17			154706

Cost Sheet (Subject wise)

Annexure 9

Subject: Master of Commerce Number of Students: 40+40=80

Current year: 2005-06

Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	**Direct Expenses:**		
1	Salary - Teaching Staff	427031	5338
	Salary - Visiting Lecturer	0	0
2	Lab facilities (for dept.)	0	0
3	Repairs & Maintenance of Equipment in the dept.	12742	159
4	Repairs & Maintenance of Furniture & Fittings	6452	81
5	University fees/Affiliation fees	0	0
B	**Indirect Expenses**		
I. Service Cost:			

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
1	Computer	81994	1025
2	Laboratory	0	0
3	Library	27061	338
4	Health Centre	5551	69
5	Sports	9738	122
II. Administration Cost			
1	Audit Fees	11765	147
2	Electricity Charges	54882	686
3	Printing & Stationery	29412	368
4	Postage & Telephone	29412	368
5	Insurance Charges	11176	140
6	Repairs & Maintenance	11765	147
7	Rates & Taxes	7353	92
8	Security Charges	35294	441
9	Non teaching and Supervisory Salary	69813	873
10	Miscellaneous	6412	80
11	Advertisement	23529	294
12	Travelling and Conveyance	17647	221
13	Seminar and conference	5882	74
14	College function expenses	14607	183
15	Professional fee	5882	74
16	Diesel	11412	143
III. Depreciation		154706	1934
	Total Cost	**1071519**	**13394**

Subject:	**M.Com**		
Details			**Rs.**
Salary			
1	Principal 205200/17 X 1 Courses		12071
2	Sr. Lecturers (12700 * 1 * 12)		152400
3	Lecturers (8560 * 2 * 12)		205440

Subject:	M.Com		
Details			**Rs.**
	Sub total		**369911**
1	PF(12000 * 1 + 8000 * 2) * 12 * 12%		40320
2	Staff welfare (12000 * 1 + 8000 * 2) * 12 * 5%		16800
	Total Salary		**427031**
Repairs & Maintenance (Equipments) Rs. 395000/ 15.5 * 0.5			12742
Repairs & Maintenance Furniture -200000/15.5 * 0.50			6452
Audit fees Rs. 200000/17 X 1			11765
Electricity charges Rs. 933000/17 X 1			54882
Printing and Stationery Rs. 500000/17 X 1			29412
Postage and telephone Rs. 500000/17 X 1			29412
Insurance Rs. 190000 * 1/17			11176
Repairs and Maintenance-Building Rs. 200000 * 1/17			11765
Rates & Taxes Rs. 125000 * 1/17			7353
Security charges Rs. 600000/17 * 1			35294
Non- teaching salary:			
Salary		1032600	
PF		108864	
Staff welfare		45360	
		1186824	
		Rs. 1186824 / 17 * 1	69813
Miscellaneous Rs. 109000/17*1			6412
Advertisement Rs. 400000/17*1			23529
Travelling and conveyance Rs. 300000/17*1			17647
Seminar and conference Rs. 100000/17*1			5882
College function expenses Rs. 300000/1643X 80			14607
Professional fee Rs. 100000/17*1			5882
Diesel Rs. 194000/17*1			11412

Arts and Science College: Indirect Expenses

		Basis of	Amount
Particulars	**Total Cost**	**Allocation**	**Allocated**
Computer	1683960	No. of Students (80/1643)	81994

Laboratory	1191480	Nil	Nil
Library	555765	No. of Students (80/1643)	27061
Health Centre	114000	No. of Students (80/1643)	5551
Sports	200000	No. of Students (80/1643)	9738

Arts and Science College: Workings

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	978.00	1.63%	15.94
Lab Equipments	120.00	4.75%	5.70
Furniture & Fittings	34.00	9.50%	3.23
Motor Cars	15.00	9.50%	1.43
			26.30
Depreciation Rs. 26,30,000			
Depreciation per course Rs. 26,30,000/17			154706

Cost Sheet (Subject wise)

Annexure 10

Subject: Master of Science (Physics, Chemistry, Maths, Bio- Chemistry, Bio-Tech and Information Technology)
Number of Students: 288
Current year: 2005-06
Statement showing the total cost incurred for student during the year ended …….

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
A	**Direct Expenses:**		
1	Salary - Teaching Staff	3061504	10630
	Salary - Visiting Lecturer	0	0
2	Lab facilities (for dept.)	450000	1563
3	Repairs & Maintenance of Equipment in the dept.	152903	531
4	Repairs & Maintenance of Furniture & Fittings	77419	269
5	University fees/Affiliation fees	0	0
B	**Indirect Expenses**		

Sl.No.	Particulars	Total cost	Cost per Student
(1)	(2)	(3)	(4)
I. Service Cost:			
1	Computer	295180	1025
2	Laboratory	271691	943
3	Library	97420	338
4	Health Centre	19983	69
5	Sports	35058	122
II. Administration Cost			
1	Audit Fees	70588	245
2	Electricity Charges	329294	1143
3	Printing & Stationery	176471	613
4	Postage & Telephone	176471	613
5	Insurance Charges	67059	233
6	Repairs & Maintenance	70588	245
7	Rates & Taxes	44118	153
8	Security Charges	211765	735
	Non teaching and Supervisory		
9	Salary	418879	1454
10	Miscellaneous	38471	134
11	Advertisement	141176	490
12	Travelling and Conveyance		
13	Seminar and conference	35294	123
14	College function expenses	52587	183
15	Professional fee	35294	123
16	Diesel	68471	238
III. Depreciation		928235	3223
	Total Cost	**7431800**	**25805**

Details		
Salary		**Rs.**
1	Principal 205200/17 X 6 Courses	72424
2	Sr. Lecturers (12700 * 6 * 12)	914400
3	Lecturers (8560 * 12 * 12)	1232640
4	Demonstrator (6000 * 6 *12)	432000
	Sub total	**2651464**

Details			
Salary			**Rs.**
1	PF (12000 * 6 + 8000 * 12) * 12 * 12%		241920
2	Staff welfare (12000 * 6 + 8000 * 12) * 12 * 5%		100800
3	Demonstrator (5500*6*12) * 12%-PF		47520
4	Demonstrator (5500 * 6 * 12) * 5% -Staff welfare		19800
	Total Salary		3061504
Repairs & Maintenance (Equipments) Rs. 395000/ 15.5*6			152903
Repairs & Maintenance Furniture - 200000/15.5 * 6			77419
Audit fees Rs. 200000/17 x 6			70588
Electricity charges Rs. 933000/17 x 6			329294
Printing and Stationery Rs. 500000/17 x 6			176471
Postage and telephone Rs. 500000/17 x 6			176471
Insurance Rs. 190000 * 6/17			67059
Repairs and Maintenance-Building Rs. 200000 * 6/17			70588
Rates & Taxes Rs. 125000 * 6/17			44118
Security charges Rs. 600000/17 * 6			211765
Non- teaching salary:			
Salary		1032600	
PF		108864	
Staff welfare		45360	
			1186824
Rs.1186824/17 * 6			418879
Miscellaneous Rs. 109000/17 * 6			38471
Advertisement Rs. 400000/17 * 6			141176
Travelling and conveyance Rs. 300000/17 * 6			105882
Seminar and conference Rs. 100000/17 * 6			35294
College function expenses Rs. 300000/1643 x 288			52587
Professional fee Rs. 100000/17 * 6			35294
Diesel Rs. 194000/17 * 6			68471

Arts and Science College: Indirect Expenses

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Computer	1683960	No. of Students (288/1643)	295180
Laboratory	1191480	No. of Students (288/1263)	271691

Particulars	Total Cost	Basis of Allocation	Amount Allocated
Library	555765	No. of Students (288/1643)	97420
Health Centre	114000	No. of Students (288/1643)	19983
Sports	200000	No. of Students (288/1643)	35058

Arts and Science College: Workings

Depreciation	Rs. lakhs	Rate of Depn.	Depn. Amount
Building	978.00	1.63%	15.94
Lab Equipments	120.00	4.75%	5.70
Furniture & Fittings	34.00	9.50%	3.23
Motor Cars	15.00	9.50%	1.43
			26.30
Depreciation Rs. 26,30,000			
Depreciation per course Rs. 26,30,000/17			154706
Subject: Msc Physics, Chemistry, Maths, Bio-Chemistry, Bio-Tech			
and Information Technology			
- Depreciation - Rs. 154706 x 6			928235

Arts and Science College Cost Sheet for Library

Annexure 11

Sl.No.	Particulars	Total Cost Per Annum	
(1)	(2)	(3)	
1	Salaries and wages	164160	
2	Subscription for Journals & Periodicals	75000	
3	Electricity Charges	12000	
4	Repairs and maintenance	30000	
5	Miscellaneous	10000	
6	Depreciation (Books, Equipments & Furniture)	264605	
	Total	**555765**	
Details:			
1. Salaries and wages		Per Month Rs.	Per Annum Rs.
Librarian		6000	72000

Sl.No.	Particulars	Total Cost Per Annum	
(1)	(2)	(3)	
Assistants (2 person x Rs. 3000)		6000	72000
Total			**144000**
PF 144000 x .75 (Basic + DA) X 12%			12960
Staff welfare 144000 X 5%			7200
Total			**164160**
Depreciation:			
Books 30 lakhs X 4.75%			142500
Furniture 12 lakhs X 9.5%			114000
Computers & Printers Rs. 50000 X 16.21%			8105
Total			**264605**

Arts and Science College Cost Sheet for Laboratary used by All Departments

Annexure 12

Sl.No.	Particulars	Total Cost Per Annum	
(1)	(2)	(3)	
1	Salaries and wages	492480	
2	Lab materials, Chemicals and accessories		
3	Electricity Charges	24000	
4	Repairs and maintenance	50000	
5	Miscellaneous	40000	
6	Depreciation	285000	
	Total	1191480	
Details:			
		Per Month	Per Annum
1. Salaries and wages		Rs.	Rs.
Lab Assistants -6 Rs. 6000 x 6		36000	432000
PF 432000 X .75 (Basic + DA) X 12%			38880
Staff welfare 432000 X 5%			21600
Total			**492480**
Depreciation :			
Cost of the Laboratory (4 labs x 15 lakhs)			6000000
Rate of Depreciation (SLM)			4.75%
Depreciation (Per annum)			285000

Arts and Science College Cost Sheet for Computers

Annexure 13

Sl.No.	Particulars	Total Cost Per Annum	
(1)	(2)	(3)	
1	Salaries and wages	191520	
2	Internet charges	100000	
3	Computer Accessories	150000	
4	Electricity Charges (with AC consumption)	90000	
5	Repairs and maintenance	75000	
6	Miscellaneous	40000	
7	Depreciation	1037440	
	Total	1683960	
Details:			
		Per Month	**Per Annum**
1. Salaries and wages		Rs.	Rs.
HOD -1		8000	96000
Assistants -2 Rs. 3000 x 2		6000	72000
Total			**168000**
PF 168000 X .75 (Basic + DA) X 12%			15120
Staff welfare 168000 X 5%			8400
			191520
Depreciation:			**Rs.**
Cost of the computer			6400000
Rate of Depreciation (SLM)			16.21%
Depreciation (Per annum)			1037440

Arts College Cost Sheet for Health Centre

Annexure-14

Particulars	Per Annum Amount Rs. lakhs
Visiting Medical Officer fees (Daily 1 Hour)	0.60
Salary - Assistant (Full time)	0.24
Purchase of Medicines, First aid and accessories	0.15
Disposable surgical & Medical instruments	0.12
Electricity charges	0.01
Miscellaneous	0.01
Depreciation (Rs.72000 X 1.63%)	0.01
Total cost	**1.14**

COST ACCOUNTING SYSTEM –A MODEL FOR ARTS & SCIENCE COLLEGE

Books of Accounts

Direct Costs	Service Costs	Overheads	Depreciation
1. Salary Teaching staff, Visiting Professors	1. Computer	1. Audit fees	1. Buildings
2. Specific Lab	2. Laboratory	2. Printing & stationery	2. Lab Equipments
3. Repairs & Maintenance Equipment, Furniture & Fittings	3. Library	3. Advertisement	3. Furniture & fittings
4. AICTE fees	4. Health Centre	4. Books & Periodicals	4. Motor cars
5. Study Materials & Stationery	5. Sports	5. Electricity Charges	5. Computer
		6. Fuel (Diesel/Petrol)	
		7. Postage & Telecom	
		8. Insurance Charges	
		9. Seminar & Conference	
		10. College Function Expenses	
		11. Vehicle Maintenance	
		12. Travelling & Conveyance	
		13. Security Charges	
		14. Non-teaching & supervisor's salary	
		15. Professional fees	
		16. Miscellaneous	

Basis of allocation			
No. of students	No. of Hostel students	Student Faculty Ratio	Floor area

UG COURSES		PG COURSES	Student's Services (Self-Supporting)
ARTS 1. B. Com 2. BBA 3. BHM 4. BA Eng. 5. BA Tamil 6. BA History 7. BA Economics	SCIENCE 1. BSc Physics 2. BSc Maths 3. BSc Comp.Sci. 4. BSc Chemistry 5. BSc Bio-Chemistry 6. BSc Apparel & Fashion Tech 7. BCA	1. MCom 2. Msc Physics 3. Msc Chemistry 4. MSc Maths 5. MSc Bio-Chemistry 6. Msc Bio-Tech 7. Msc IT 8. MA English 9. MA Economics	Transport Hostel, Mess Canteen

COST ACCOUNTING SYSTEM –A MODEL FOR ENGINEERING COLLEGE

Books of Accounts

Direct Costs	Service Costs	Overheads	Depreciation
1. Salary Teaching staff, Visiting Professors	1. Computer	1. Audit fees	1. Buildings
2. Specific Lab	2. Laboratory	2. Printing & stationery	2. Lab Equipments
3. Repairs & Maintenance Equipment, Furniture & Fittings	3. Library	3. Advertisement	3. Furniture & fittings
4. AICTE fees	4. Health Centre	4. Books & Periodicals	4. Motor cars
5. Study Materials & Stationery	5. Sports	5. Electricity Charges	5. Computer
		6. Fuel (Diesel/Petrol)	
		7. Postage & Telecom	
		8. Insurance Charges	
		9. Seminar & Conference	
		10. College Function Expenses	
		11. Vehicle Maintenance	
		12. Travelling & Conveyance	
		13. Security Charges	
		14. Non-teaching & supervisor's salary	
		15. Professional fees	
		16. Miscellaneous	

Basis of allocation			
No. of students	No. of Hostel students	Student Faculty Ratio	Floor area

COST CENTRES								
ECE	CSE	IT	EEE	Mech.	Civil	MBA	MCA	Student's Services (Self-Supporting) Transport Hostel, Mess Canteen

CURRENT PRACTICES IN COST MANAGEMENT:

Activity Based Costing:

Activity based costing analyses all activities to identify what drives the costs incurred that is, what causes the costs to increase. ABC systems reveal the total cost by assigning each type of costs to individual course of study. Such an analysis reveals which course incurs high cost and where opportunities exist for design and improvement in course structure. The cost drivers may be number of students, student faculty ratio, number of hostel students, and number of staff.

The Balanced Score Card:

The balanced score card provides with a comprehensive framework that translates the strategy and vision of the management into a set of performance measures.

The financial perspective of the BSC permits a balance between long term and short term financial requirements and their contribution to the purposes intended.

The customer perspective maintains a balance between the students and faculties ratios, quality of education imparted.

The internal business perspectives identify the critical factors like meeting maintenance cost, developing infrastructure etc.

The learning and growth perspective provides for research and development, technology upgradation to meet long term social benefits.

Total Cost Management:

Total cost management is the methodology by which the cost management philosophy permeates down to the lowest level in the organisational hierarchy.

The total cost management shifts the emphasis from cost control to cost management to the operational or process owners. It aligns the non-financial performance measures of the business to the cost of the process. Thus it provides an intelligent, meaningful and logical cost measure to the process owner, so that they can be a real time comparison of the cost of activities, and the benchmarks fixed. Instant action is also possible on deviation so the control of cost need not take place after a report is produced from the

costing department after the time gap.

In the total cost management process the cost management is managed by a gross function team approach.

The TCM concept is akin to TQM concept, where the cost control has been transformed into cost assurance.

Total Quality Management:

Quality can best be defined as 'conformity with requirements'. TQM may be defined as the continuous improvement in quality, productivity and effectiveness obtained by establishing responsibility for imparting of education. The idea of TQM quality should be a feature that is rooted in the structure of the institution. Quality should impact on the way that the institution is run and on the way that faculties are recruited, assessed and rewarded. This can also be measured from the quality of syllabus which determines the education content to be received by each student.

Business Process Re-Engineering:

The education process consists of various activities that are linked and coordinated in such a way to achieve institutional goals. BPR involves examining these processes and re-designing them in such a way to improve the quality to meet the increased demands in the field of knowledge. Basically, it avoids the duplication of processes, thereby bringing down the cycle time and workload of the operational executives. BPR is a must before implementing new IT initiatives such as ERP, etc.

Six-Sigma:

The term Sigma is a metric that indicates how well that process is performing. The higher the sigma values the better the performance. As sigma increases, costs go down, cycle time goes down and customer satisfaction goes up.

Six sigma has many facets: Metrics, Benchmark, Vision, Philosophy, Method, Value, Tool and Goal which Measures Everything That Results in Customer Satisfaction

Six Sigma focuses on system based quality and time management using Benchmarking and Metrics as direction.

Functional Organisation of Six Sigma encompasses identification of strategic objectives, identify core processes, identify process owners, and identify key performance indicators, process improvement, prioritization and continual management.

This will be extremely useful to knowledge based service organizations such as educational institutions, where the output quality can be benchmarked against the target and action taken to improve the quality of delivery systems.

MANAGEMENT INFORMATION SYSTEM

Ratio Analysis for Educational Institutions (Engineering)

Ratio	Workings	Desirable	Actual
Non- financial Ratio			
Admission ratio	No. of Students admitted / Sanctioned strength (576 / 660)	100%	87%
Student faculty ratio	No. of Students / No. of Faculty (2280 / 153)	15%	14%
Computer terminal ratio	No.of Computers / No.of Students	25%	
UG Courses	(440/1680)		26%
PG Courses	(240/600)		40%
Library adequacy ratio	No. of Volumes / No. of course of study (4 Years)	1000	
	UG- 24000 / 24	1000	1000
	MCA- 1000 / 3	500	333
	MBA- 1000 / 2	2000	500
Financial Ratio			
Profitability ratio	Surplus/Total income *100 (160.63 / 974.42)	10 to 15%	16%
Personnel expenses to Total Expenditure	Personnel Expenses * 100/Total Expenditure (250.85 / 816.51)	20 to 25%	31%
Purchases(Materials to Total Expenditure)	Purchases(Materials)/ Total Expenditure (116.62 / 816.51)		14%
Admn. expenses to Total Expenditure	Administrative Expenses*100/ Total Expenditure (257.50/816.51)	15 to 20%	32%
Financial expenses to Expenditure	Financial expenses*100/ Total Expenditure (89.90/816.51)	5 to 10%	11%
Debt - Equity ratio	Borrowed funds*100/Own funds	NA	NA
Cost of Free Education	Free Education to Total Cost		
Cost of R&D Cost	R&D Cost to Total Cost		
Cost of Examination	Examination Cost to Total Cost		
Fixed assets ratio	Net fixed assets*100/net worth	NA	NA

Note: Ratios worked out for sanctioned strength of students for four years

Arts and Science College Ratio Analysis for Educational Institutions

Annexure 15

Ratio	Workings	Desirable	Actual	Remarks
Non- financial Ratio				
Admission ratio	No. of Students admitted * 100/ Sanctioned strength (627/670)	% 100	% 94	
Student faculty ratio	No.of students / No. of faculty (1643/73)	1 :25	1 : 24	
Computer terminal ratio	No. of Computer terminals/No. of Students (1643/179)	1 : 10	1 : 9	
Library adequacy ratio	No. of Volumes / No. of course of study (12000/17)	750	705	
Financial Ratio				
Profitability ratio	Surplus/Total income *100 (Term loan interest excluded) (19.03/248.65)	10 to 15%	7.65	
Personnel expenses to Expenses	Personnel Expenses*100/Total Expenses (110.48/287.80)	25 to 30%	29.13 38.39	
Admn. expenses to Expenses	Administrative Expenses*100 / Total Expenses (72.19/287.80)	25% to 35%	25.08	
Purchase of Materials to Total Expenses Ratio	Purchase of Materials/ Total Expenses (4.77/287.80)		1.66	

CONCLUSION

Evolution of Indian education has tried to align itself with the growing needs of the population profile. Unlike the global education system, ours is supported to a major extent possible by Government funding, which has enabled the common man to afford education at a reasonable cost. The fee structure of Government run professional courses have been fixed at heavily subsidized rates. Even in Institutions of excellence, the same pattern is seen. On the other hand, seeing the need for an exponential growth that is needed to put India on the global knowledge map, private initiatives have also been encouraged to enable the middle and upper class of the society to contribute towards the investment in education. The social justice part is addressed, by requiring a certain percentage of seats is reserved for the common pool, so that the good infrastructure created by private investment is also available to the poorer strata of the society.

Since India has emerged as a global source of knowledge workers, the scale of outputs from the academic stream should be able to meet the demand. Such a development requires creation of millions of knowledge based human resources as part of a national mission. Enlargement of the pool of professionals demanded by a large knowledge economy is another task ahead. It would have to generate millions of new knowledge based jobs. On the other hand the new technologies, in information and communication, can work as a powerful cost effective medium for delivery of knowledge to the smallest and remotest of villages for social and economic development. As the Father of nation Gandhiji said, India lives in villages.

The efforts made by our leaders immediately after independence, has created a sustainable model for development of education. The seeds sown in the initial years has enabled India to emerge as a globally acknowledged knowledge bank.. While the current system is ideal for education upto a certain level, we need more and centers of excellence and research if we have to compete globally on new inventions and technologies. In developed countries, this has been funded entirely by private enterprise. For this it may be necessary to mix and match the private and government initiatives in the education sector.

Usage of technology related information and communication in the delivery of education will foster a milieu to cope with the forces of change globally. Future developments in Education may cover transparent accreditation process by the Bodies concerned,

Opening of new Universities and Colleges in new avenues to cope with the demanding population, Upgradation of Universities to make them globally competitive and on an overall perspective the 3Es of Cost Management viz., Effectiveness, Economies of operation and Efficiency.

Fixation of fees by an institution will and should take care of the Normal cost of providing such service (education), Scholarships and other subsidies after taking into due concern other sources of revenues and funds and cost of raising those funds which in turn includes the priorities to be considered in adoption of fund management.

A cost management model, will enable all the parties involved in this sector look at the ways in which the sector can sustain and grow.

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AICTE Norms for Establishment of
Technical Institutions
(Updated- Norms 2014)

Source: http://www.academics-india.com/UGC_Regulations_2014.pdf

AICTE Norms for the Establishment of New Technical Institutions (FOR FIRST YEAR TO START WITH)

(MBA, MCA, Under Graduate Degree Level courses in Engineering and Technology/ Pharmacy/Architecture/Town Planning/Hotel management and Catering Technology/ applied arts and Crafts).

Appendix 1

1. Duration and Entry Level Qualifications for the technical programmes

   The exhaustive list for the technical programmes with duration and eligibility is mentioned at the site. .http://www.academics-india.com/UGC_Regulations_2014.pdf

Appendix 2

2. Titles of Courses Approved by AICTE

   The exhaustive list of courses- under graduate and post graduate is mentioned at the site. http://www.academics-india.com/UGC_Regulations_2014.pdf.

Appendix 3

3. Intake:

   Maximum permissible annual intake for the institution and maximum number of courses are as given below. To start with first year:

Engineering and Technology		Architecture and Town Planning	Pharmacy	HMCT	Applied arts and Crafts	MCA	PGDM/ PGDBM/ MBA
Intake	Course	Intake	Intake	Intake	Intake	Intake	Intake
300	5	60	60	60	60	60	60

The size of the class shall be 60 for each course, except Architecture/Town Planning wherein it shall be 40.

Appendix 4

4. Land Requirements for Establishment of New Technical Institutions

	Land Area requirement in Acres					
	Other than Rural places (Competent Authority to certify that the place is not located in a rural area)			Rural Places as defined by Competent Authority		
	UG Programs	Diploma	Stand alone Post Graduate Programs	UG Programs Post Graduate Programs	Diploma	Stand alone Post Graduate Programs
Engineering & Technology	2.50	1.50	2.5	10.0	5.00	10.0
Pharmacy	0.75	0.75	0.75	2.00	2.00	2.00
Architecture & Town Planning	1.00	1.00	1.00	2.50	2.50	2.50
Applied	0.75	0.75	0.75	2.00	2.00	2.00
Arts & Crafts						
HMCT	1.00	1.00	1.00	2.50	2.50	2.50
MCA	-	-	0.50	-	-	1.50

4.1.1.	A	Land area shall cover hostel facilities, if any
	B	Land shall be in one continuous piece.
	C	Considering hilly nature of land in North Eastern States, land may be made available in 3 pieces which are not away from each other by more than 1 Km

4.1.2	Programme	Number of students generally allowed per acre land available when FSI = 1
a	Engineering & Technology	300
b	Pharmacy	250
c	Architecture & Town Planning	250
d	Applied Arts & Crafts	250
e	HMCT	300
f	MCA	300

4.2	Built-up Area Requirements	
4.2		
	a	The Institution area is divided in, Instructional area (INA, carpet area in sq. m.), Administrative area (ADA, carpet area in sq. m), Amenities area (AMA, carpet area in sq. m.).
	b	Circulation area (CIA) is equal to 0.25 X (INA+ADA+AMA).
	c	Total built up area in sq. m. is equal to (INA+ADA+AMA) + (CIA).

4.2.1 Instructional Area (Carpet Area) insqm Engineering/Technology (Degree Institute)

	Number of Divisions UG (Class of 60)	Duration of course in Yrs	Class Rooms (C)	Tutorial Rooms (D) PG Classrooms (H)	Laboratory (including additional WS/Lab sforcategory "X" courses)	Research Laboratory	Work Shop (for allcourses)	Additional WS/Labs for Category "X" courses	Computer Centre	Drawing Hall	Library & ReadingRoom	Seminar Halls
Carpet Area in sqm per room			66	33	66	66	200	200	150	13	400	132
Number of rooms required for new Institution	A	4	C =A	D = C/4	02 / Course	-	1	-	1	1	1	1
Total Number of rooms (UG)	A	4	C = A x 4	D = C/4	10 / Course							
Total Number of rooms (PG)	F	2	-	H=Fx2	1/ Spec-ialis-ation	1/ Spec-ialis-ation	1	2/Co urse (Maxi-mum 4)	1	1	1	1/Course

1	Category X of course: Mechanical, Production, Civil, Electrical, Chemical, Textile, Marine, Aeronautical and allied courses of each.
2	Classrooms, Tutorial rooms and Laboratories required for 2nd, 3rd and 4th year may be added progressively to achieve total number as stated.
3	Additional Library (Reading room) area of 50 sq m / per 60 student (UG+PG) intake beyond 420.

4	UG laboratories if shared for PG courses shall be upgraded to meet requirements of PG curriculum
5	#Progressive requirement, 2nd year onwards shall be calculated as 3+3+2 labs/course
6	#Additional 5 Labs/Course when number of divisions are more than 2/course.
7	Round off fraction in calculation to the next integer.

Pharmacy (Degree Institute)

	Number of Divisions UG (Class of 60) PG (Class of 18)	Duration of course in Yrs	Class Room	Tutorial Rooms	Laboratory (includes Machine rooms & Instrumentation room	Research Laboratory	Work Shop (for allcourses)	Animal House	Computer Centre	Drawing Hall	Library & Reading Room	Seminar Halls
Carpet Area in sqm per room			66	33	75	75	75	75	75	75	150	132
Number of rooms required for new Institution	A	4	C =A	D = C/4	12	-	1	-	1	1	1	1
Total Number of rooms (UG)	A	4	C = A* x 4	D = C/4	12							
Total Number of rooms (PG)	F	2	-	H=F*x2	1/ Specialisation	1/ Specialisation	1	1	1	1	1	1

1	Laboratories include Machine room & Instrumentation room
2	Classrooms, tutorial rooms and Laboratories required for 2nd, 3rd and 4th year may be added progressively (3+3+2) to achieve total number as stated.
3	UG Laboratories if shared for PG course shall be upgraded to meet requirements of PG curriculum.
4	Round off fraction in calculation to the next integer

Architecture & Town Planning (Degree Institute)

	Number of Divisions UG (Class of 60) PG (Class of 18)	Duration of course in Yrs	Class Room (C)	Tutorial Rooms (D) PG Class rooms (H)	Laboratory Including computer Laboratory	Research Laboratory	Model making & Carpentry Workshop	Studio/ Material Museum	Computer Centre	Library & Reading Room	Seminar Halls
Carpet Area in sqm per room			66	33	66	66	200	132	75	150	132
Number of rooms required for new Institution	A	5	C =A	D = C/4	12	-	1	1	1	1	1
Total Number of rooms (UG)	A	5	C = A* x 4	D = C/4	12						
Total Number of rooms (PG)	F	2	-	H=F*x2	1/ Specialisation	1/ Specialisation	1	5	1	1	1

1	Classrooms, Tutorial rooms and Laboratories required for 2nd, 3rd, 4th and 5th year may be added progressively (1+1+1) to achieve total number as stated. UG laboratories if shared for PG courses shall be upgraded to meet requirements of PG curriculum.
2	Round off fraction in calculation to the next integer.

Applied Arts & Crafts (Degree Institute)

	Number of Divisions UG (Class of 60) PG (Class of 18)	Duration of course in Yrs	Class Room (C)	Tutorial Rooms (D) PG Class rooms (H)	Laboratory Including computer Laboratory	Research Laboratory	Work Shop	Studio/ Material Museum	Computer Centre	Library & Reading Room	Seminar Halls
Carpet Area in sqm per room			66	33	66	66	200	132	75	150	132
Number of rooms required for new Institution	A	5	C =A	D = C/4	12	-	1	1	1	1	1
Total Number of rooms (UG)	A	5	C = A* x 4	D = C/4	12						
Total Number of rooms (PG)	F	2	-	H=F*x2	1/ Specialisation	1/ Specialisation	1	5	1	1	1

1	Classrooms, Tutorial rooms and Laboratories required for 2nd, 3rd, 4th and 5th year may be added progressively (1+1+1) to achieve total number as stated. UG laboratories if shared for PG courses shall be upgraded to meet requirements of PG curriculum.
2	Round off fraction in calculation to the next integer.

Hotel Management & Catering Technology (Degree Institute)

	Number of Divisions UG (Class of 60) PG (Class of 18)	Duration of course in Yrs	Class Room (C)	Tutorial Rooms (D) PG Class rooms (H)	Laboratory Guest Room	Kitchen	Resturant	Computer Centre	Library & Reading Room	Seminar Halls
Carpet Area in sqm per room			66	33	66	132	66	75	150	132
Number of rooms required for new Institution	A	4	C =A	D = C/4	3	1	1	1	1	1
Total Number of rooms (UG)	A	4	C = A* x 4	D = C/4	10	2				
Total Number of rooms (PG)	FG	2	-	H=FxG	1/ Specialisation	1/ Specialisation	2	1	1	1

1	Classrooms, Tutorial rooms and Laboratories required for 2nd, 3rd, 4th and 5th year may be added progressively (1+1+1) to achieve total number as stated. UG laboratories if shared for PG courses shall be upgraded to meet requirements of PG curriculum.
2	Round off fraction in calculation to the next integer.

Hotel Management & Catering Technology (Degree Institute)

	Number of Divisions UG (Class of 60)	Duration of course in Yrs	Class Rooms (C)	Tutorial Rooms (D)	Computer Laboratories	Computer Centre	Library & Reading Room	Seminar Halls (E)
Carpet Area in sqm per room			66	33	66	150	100	132
Number of rooms required for new Institution	A	4	C =A	D = C/4	2	1	1	1
Total Number of rooms	A	4	C = A x 3	D = C/4	4	2	1	E = C/4

1	Classrooms, Tutorial rooms and Laboratories required for 2nd,3rd) year may be added progressively (1+1) to achieve total number as stated.
2	Round off fraction in calculation to the next integer.

Pharmacy (Degree Institute)

	Principal Office	Board Room	Office all inclusive	Department Offices	Cabins for Head of Departments	Faculty Rooms	Central Stores	Maintenance	Security	Housekeeping	Pantry for staff	Examinations Control Office	Placement office
Carpet Area in sqm per room	30	20	1 5 0 * 300	20	10	5	30	10	10	10	10	30	30
Number of rooms required for new Technical College	1	1	1	-	-	First Year Student intake / 15	1	1	1	1	1		-
Total Number of rooms	1	1	1	1/Dept	1/ Dept	One per teaching faculty (as per norms) in the Institution	1	1	1	1	1	1	1

1	Technical College having more than one Program
2	Technical College having one Program

4.2.3 Amenities Area (Carpet Area) in sqm

	Toilets (Ladies & Gents)	Boys Common Room	Girls Common Room	Cafeteria	Stationery Store	First Aid cum Sick room	Principal's quarter	Guest House	Sports Club / Gymnasium	Auditorium / Amphi Theater	Boys Hostel	Girls Hostel
Carpet Area in sqm per room Technical College having more than one Program	350	100	100	150	10	10	150	30	200	400	Adequate	Adequate
Carpet Area sqm per room for Technical College having one Program	150	75	75	150	10	10	150	30	100	150		

	Toilets (Ladies & Gents)	Boys Common Room	Girls Common Room	Cafeteria	Stationery Store	First Aid cum Sick room	Principal's quarter	Guest House	Sports Club / Gymnasium	Auditorium / Amphi Theater	Boys Hostel	Girls Hostel
Number of rooms required for New Technical College	Adequ Ate	1	1	1	1	1	_	-	-	-		
Total Number of rooms	Adequ ate	1	1	1	1	1	De-sired	De-sired	De-sired	De-sired	De-sired	De-sired

4.2.4 Circulation Area in sqm

4.2.4 Circulation area of 25% of sum of Instructional, Administrative and Amenities area is desired covering common walk ways, staircases, entrance lobby.

Appendix 5

Norms for Books, Journals, Library facilities, Computers, Printers, Software, Internet and Laboratory Equipments for Technical Institution.

5.1 Computers, Printers Software and Internet

	Number of PCs to students ratio (Min 20 PCs)	Legal system software	Legal application software	LAN & Internet	Mail Server & Client	Internet Mbps/intake of 240 students with Bandwidth Contention of 1:1 (Min 1 Mbps)	Printers including color printer (% of total no. of PCs)	Seminar Halls (E)
Engineering / Technology			3	20	ALL	DESIRED	2	10%
	UG	1:4						
	PG	1:2						
Pharmacy			1	10	ALL	DESIRED	1	5%
	UG	1:6						
	PG	1:6						
Architecture & Town Planning			3	20	ALL	DESIRED	2	10%
	UG	1:4						
	PG	1:2						
Applied Arts & Crafts			1	10	ALL	DESIRED	1	5%
	UG	1:6						
	PG	1:6						
HMCT			3	20	ALL	DESIRED	2	10%
	UG	1:4						
	PG	1:2						
MCA			3	20	ALL	DESIRED	2	10%

A Utilization of Open Source Software may be encouraged

B Secured Wi Fi facility is highly recommended

C Purchase of most recent hardware is desired.

D Library, Administrative offices and Faculty members shall be provided with exclusive computing facilities along with LAN and Internet. This shall be considered as over and above the requirement meant for PCs to student's ratio.

E @Adequate number of software licenses is required

F #Central Xeroxing facility for students is preferred

5.2 Laboratory Equipments and Experiments

5.2 (a) The laboratories shall have equipments as appropriate for experiments as stated / suitable for the requirements of the affiliating University / Board's curriculum. It is desired that number of experiment set up be so arranged that maximum four students shall work on one set.

5.3 Books, Journals and Library facilities

Program	Total number of divisions	Titles	volumes	National Journals	Interna-tional Journals	E Journals	Reading Room Seating	Multimedia PCs for Digital
		Number					% of total students	% of total students
Engineering / Technology (UG)	B	100	500Xb	6xB	Desirable	As per ap-pendix 10	15% (Max150)	1% (Max 10)
		50 per course	250 per course – division				25%	
Pharmacy (UG)	B	100	500Xb	6xB				
		50 per course	500Xb					
Architecture & Town Planning (UG)	B	100	400Xb	6xB				
		50 per course	400Xb					
Applied Arts & Crafts (UG)	B	100	500Xb	6xB				
		50 per course	500Xb					
HMCT	B	100	500Xb	6xB				
		50 per course	500Xb					
MCA (PG)	B	100	500Xb	12xB				
		50 per course	500Xb					

Program	Total number of divisions	Titles	volumes	National Journals	Interna-tional Journals	E Journals	Reading Room Seating	Multimedia PCs for Digital
		Number					% of total students	% of total students
Engineering/ Technology/ Pharmacy/ Architecture & Town Planning / Applied Arts & Crafts (PG)	B	100	200	5xB				

B=Number of divisions at 1st year (shift 1+2) + number of 2nd year direct divisions (shift 1+2)

1 Book titles and volumes required at the time of starting new Institution.

2 Requirements of Book titles and volumes in Institutions started before 1950 shall be calculated considering starting year as 1950.

3 Yearly increment.

4 Component for additional division / course.

5 Hard Copy International Journals is desirable to procure. However subscription to E-Journals and National Journals as per Appendix 10 is essential.

6 Journals and Books may also include subjects of Science & Humanities

7 Digital Library facility with multimedia facility is essential.

8 Reprographic facility in the library is essential

9 Document printing facility in the library is essential

10 Document scanning facility in the library is essential.

11 Library books/non books classification as per standard classification methods is essential

12 Availability of NPTEL facility at the library is essential

13 Computerized indexing with bar coded / RF tagged book handling is desired

Appendix 6

Norms for Essential and Desired requirements for Technical College (marked as essential are needed to be made available at the time of the Expert Committee visit)

1.	Language Laboratory	
	The Language Laboratory is used for language tutorials. These are attended by students who voluntarily opt for Remedial English classes. Lessons and exercises are recorded on a weekly basis so that the students are exposed to a variety of listening and speaking drills. This especially benefits students who are deficient in English and also aims at confidence-building for interviews and competitive examinations. The Language Laboratory sessions also include word games, quizzes, extemporary speaking, debates, skits etc. These sessions are complemented by online learning sessions which take place in the Multi-Purpose Computer Lab. This Lab shall have 25 Computers For every 1000 students	Essential
2.	Potable Water supply and outlets for drinking water at strategic	Essential
	locations	
	Electric Supply	Essential
	Backup Electric Supply	Desirable
	Sewage Disposal	Essential
	Telephone and FAX	Essential
	Vehicle Parking	Essential
	Institution web site	Essential
	Barrier Free Built Environment for disabled and elderly persons including availability of specially designed toilets for ladies and gents separately. Refer guidelines and space standards for Barrier Free Built Environment for disabled and elderly persons by CPWD, Ministry of Urban Affairs & Employment, India.	Essential
	Safety provisions including fire and other calamities	Essential

	General Insurance provided for assets against fire, burglary and other calamities	Essential
	All weather approach road	Essential
	General Notice Board and Departmental Notice Boards	Essential
	First aid, Medical and Counseling Facilities	Essential
	Public announcement system at strategic locations for general announcements/paging and announcements in emergency.	Desirable
	Enterprise Resource Planning (ERP) Software for Student-Institution- Parent interaction	Essential
	Transport Desirable	Desirable
	Post, Banking Facility / ATM	Desirable
	CCTV Security System	Desirable
	LCD (or similar) projectors in classrooms	Desirable
	Group Insurance to be provided for the employees	Desirable
	Insurance for students	Desirable
	Staff Quarters	Desirable

Appendix 7

Norms for Faculty requirements and Cadre Ratio for Colleges offering technical education

7.1 Faculty Requirements and Cadre Ratio (UG)

	Faculty : Student ratio	Principal	Professor	Associate Professor	Assistant professor	Total A+B+C+D
		A	B	C	D	A+B+C+D
Engineering / Technology	1:15* (1:20)**	1	(S/15 XR) – 1	(S/15 XR) – 2	(S/15 XR) – 6	S/15
Pharmacy	1:15* (1:20)**	1	(S/15 XR) – 1	(S/15 XR) – 2	(S/15 XR) – 6	S/15
Architecture & Town Planning	1:10* (1:15)**	1	(S/10 XR) – 1	(S/10 XR) – 2	(S/10 XR) – 6	S/10
Applied Arts & Crafts	1:10* (1:15)**	1	(S/10 XR) – 1	(S/10 XR) – 2	(S/10 XR) – 6	S/10
HMCT	1:15* (1:20)**	1	(S/15 XR) – 1	(S/15 XR) – 2	(S/15 XR) – 6	S/15

7.1 (a) S = Sum of number of students as per Approved Student Strength at all years
R = (1+2+6)

*The Faculty Student Ratio must be reached at the earliest but not later than three academic years

**Minimum Faculty student ratio to be maintained

The stipulated cadre ratio of 1:2:6 must be reached at the earliest but not later than three academic sessions.

7.2 Faculty Requirements and Cadre Ratio (PG)

	Faculty : Student ratio	Principal / Director	Professor	Associate Professor	Assistant professor	Total A+B+C+D
		A	B	C	D	A+B+C+D
*Engineering / Technology	1:12	-	S/12XR	S/12XR	S/12XR	S/12
*Pharmacy	1:12	-	S/12XR	S/12XR	S/12XR	S/12
*Architecture & Town Planning	1:10	-	S/10XR	S/10XR	S/10XR	S/10
Applied Arts & Crafts	1:10	-	S/10XR	S/10XR	S/10XR	S/10
*HMCT	1:12	-	S/12XR	S/12XR	S/12XR	S/12
*MCA	1:15	1	(S/15XR) – 1	(S/15XR) – 2	(S/15XR) – 6	S/15

7.2 (a) S = Sum of number of students as per Approved Student Strength at all years *R = (1+2), #R=(1+2+6)

Appendix 8: Faculty Cadre and Qualifications

The essential and desirable qualifications of academic staff at different levels in various areas of technical education shall be as per the UGC Regulations (Minimum Qualifications for Appointment of Teachers and other Academic Staff for Universities and Colleges and Maintenance of Standards in Higher Education) 2010 as amended from time to time.

Appendix 9

Subscription of E-Journals (desirable)

Subscription of desirable e-journal packages for all engineering institutions conducting UG/PG courses:

S.No.	Publisher	Subjects	E-content	Annual Subscription Rate for AICTE Institutes
1.	IEEE	Computer Engineering + Computer Science + Electrical & Electronics engineering + Telecommunications & related disciplines	IEEE – All Society Periodicals E Package (ASPP) (145 e-Journals) (2011) (Back file Access – since 2000)	US $ 4980
2.	ASME	Mechanical Engineering	ASME e journals Package (25 e-journals) (2011) (Back file Access since 2000)	US $ 2156
3.	ASCE	Civil Engineering	ASCE e journals Package (33 e- journals) (2011) (Back file Access – since 1983)	US $ 2520
4.	Mc Graw Hill	General Engineering & Reference	Access Engineering Library	Us $ 1969
5.	ELSEVIER	Engineering + Computer Science (Electrical + Electronics + Mechanical + Civil and Structural + Aerospace + + Biomedical Industrial and Manufacturing + Ocean Engineering + Computational Mechanics and Safety Risk, Reliability and Quality + Computer Network and Communications, Artificial Intelligence, Computer Science, Computational Theory and Mathematics, Computer Graphics and Computer – Aided Design, Information Systems, Control and System Engineering and Software	Science direct 275 Journals (Back File Access from 2000 onwards)	US $ 6500

S.No.	Publisher	Subjects	E-content	Annual Subscription Rate for AICTE Institutes
6.	ASTM Digital Library Online version	Online dictionary of Engineering Science and Technology Electrical & Electronics Engineering Mechanical Civil, Engineering, Metallurgical, Petroleum, Instrumentation	ASTM DL (Digital Library) Over 1700 E-Book & Over 13,000 Journals and Articles	US$ 1100

NOTE

1. Institutions having only 1st and 2nd year UG students and institutions being established may subscribe to Elsevier & ASTM digital library packages only (at S.No. 5, 6)
2. All institutions other than Note point no. 1 above shall subscribe to all the packages from S. No. 1 to 6 given above.
3. Institutions not offering Civil Engineering courses need not subscribe to ASCE Package.
4. Institutions not offering Mechanical Engineering courses need not subscribe to ASME Package.
5. Institutions who have already subscribed to IEL online, need not subscribe to IEEE-ASPP package, until the subscription of the same is valid.