Annexure 9
Summary of Survey Findings – Institution-wise

A. Indian Statistical Institute
   (Category : Research based Institute)

Summary of Activities at a Glance
(as per Annual Report 2012-13)

- MoU with other organisations (9 Nos.) : Indo-German Max Planck Center for Computer Science; Tata Consultancy Service Ltd.; The University of Warwick, UK; London School of Economics; FICO, San Jose, USA; Mex Stock-Exchange Ltd., USA; Biomedical Devices of Kansas, LLC, USA; IISCO, Steel Plant; Institute of Asia Pacific Studies, Wasada University, Japan

- Number of books published : 39
- Number of papers published : 691
- Number of Conferences, Workshops and Seminars held: 16 (Conference), 132 (Workshop), 264 (Seminar), (Total – 412)

Number of workers in the Institute
(as on 31st March 2013)
Scientific and Technical Workers : 444
Non-Scientific Workers : 606
Total : 1050

Major Infrastructure/ Divisions
Statistical Quality Control and Operations Research Division
The Division comprises of eight SQC & OR Units located at Bangalore, Chennai, Coimbatore, Delhi, Hyderabad, Kolkata, Mumbai and Pune and the Central SQC (CSQC) Office located in the main campus at Baranagore. The CSQC Office functions as the office of the elected Head of the Division and co-ordinates various activities of the Division.

The activities of the division consist of consultancy and training, research with a focus on the applied one, academic teaching including conducting M.Tech. (QROR) programme at Kolkata and Part-Time Certificate Course at Bangalore and Hyderabad. The faculty members of the division also teach in other academic programmes like B.Stat. and M.Stat. Supervision of Ph.D. thesis along with the dissertation and project work by M.Tech. (QROR) and M.Stat. students are another part of the responsibilities discharged by the divisional members.

Library, Documentation and Information Sciences Division
The Library, Documentation and Information Science Division comprises of:
- Central Library, Kolkata
- ISI Delhi Centre Library, Delhi
- ISI Bangalore Centre Library, Bangalore
- ISI Chennai Centre Library, Chennai
- ISI North-East Centre Library, Tezpur
- Prasanta Chandra Mahalanobis Memorial Museum and Archives, Kolkata

Central Library, Kolkata
The Central Library occupies a unique place in academic and research activities of the Institute. The Central Library moved to its present location in 1978, and it occupies 4 floors (56000sq.ft) of a tenstoried building at Calcutta. The Central Library seeks to:

- Meet the informational, educational, recreational, and cultural interests and needs of the user community by providing timely access to print and non-print resources appropriate to those needs.
- Encourage and facilitate reading, literacy and lifelong learning by supplying resources in a variety of formats designed to interest, inform, and enlighten.
- Protect the public's right to know by providing equal access to information needed for informed and effective daily living, decision making, problem solving and thoughtful participation in civic/community affairs.
- Provide the highest quality service and to organize and display the collection for easy, open access by all.
Maintain publication exchange programme of the Institute with regional, international, national, and foreign institutions and organizations.

Continue to function as the Eastern Regional Library of the National Board of Higher Mathematics [NBHM], Department of Atomic Energy, Government of India since 1989.

**E-Resources**
The library has a good collection of electronic resources on different media and has access to several online journals/databases. The library has provided the online access to about 2500+ full-text journals. It has renewed the online database like MathSciNet, ScienceDirect, and Springer Link through consortia. It has also subscribed to the IEL online of the IEEE/IEE publications, ACM Digital Library and Current Index to Statistics (CIS) on Web. The library has also subscribed to few statistical data sources available on CDs. The library maintains the publication exchange programme of Sankhya - the Indian Journal of Statistics‘ with 57 national and 23 international institutions/organizations. The 23 international agencies are from various countries of the world such as Bangladesh, Belgium, Brazil, Canada, China, Taiwan, Croatia, Czech Republic, Denmark, France, Hungary, Italy, Japan, Pakistan, Poland, Romania, Russia, Slovakia, Spain, Switzerland, Thailand, UK, and USA.

**Computer and Statistical Services Centre**
Throughout the year CSSC managed the central computing facilities of ISI, Kolkata. It served approximately 700 users. Software packages available at the centre are – Arc GIS and MatLab. The centers at Bangalore and Tezpur were also given access to Matlab software.

The Centre managed campus-wide network and Internet facilities at ISI, Kolkata and Tezpur and also managed (a) secure wifi network of ISI, Kolkata and Tezpur and (b) Video Conference facility of all the centres of ISI. IP telephone infrastructure at ISI, Kolkata and Tezpur was installed by CSSC and IP telephones were provided to all the centres. The Centre provided Internet facilities and e-mail services to all the users of ISI, Kolkata and Tezpur.

CSSC provided statistical and numerical consultancy services to scientists and research scholars, including non-ISI scientists. Members of CSSC took part in teaching different courses of the institute and also supervised project work of non-ISI students studying MCA, B-Tech, etc. In addition, it organized the following activities:
(i) workshops for training ISI officials on using of computers.
(ii) courses for North-eastern states of India.

**Administrative Services Division**
The Administrative Services Division at the Headquarters caters to the various needs of the scientific workers in all the scientific units of the Institute engaged in various scientific, research and academic activities and provides them with necessary infrastructural facilities in their pursuit of excellence. The centres at Delhi, Bangalore, Chennai and Tezpur, each having a number of science units are, by and large, getting administrative support from the administrative units/sections there. The Administrative Services Division has the following units at the Headquarters in Kolkata:

<table>
<thead>
<tr>
<th>1. Accounts Section</th>
<th>7. Central Office &amp; Despatch Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Audio-Visual Unit</td>
<td>8. Central Stores &amp; Tailoring Unit</td>
</tr>
<tr>
<td>3. Binding Unit</td>
<td>9. Council Section</td>
</tr>
<tr>
<td>4. Canteen Reimbursement Unit</td>
<td>10. Director’s Office</td>
</tr>
<tr>
<td>5. Cash</td>
<td>11. Electrical Maintenance Unit</td>
</tr>
<tr>
<td></td>
<td>13. Estate Office</td>
</tr>
<tr>
<td></td>
<td>14. Guest House</td>
</tr>
<tr>
<td></td>
<td>15. Hostels</td>
</tr>
<tr>
<td></td>
<td>16. House Building Cell</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Import &amp; Travel Cell</td>
<td>18. Internal Audit Cell</td>
</tr>
<tr>
<td>19. Legal Cell</td>
<td>20. Medical Expenses</td>
</tr>
<tr>
<td>21. Medical Welfare Unit</td>
<td>22. Personnel Unit</td>
</tr>
<tr>
<td>23. Provident Fund Unit</td>
<td>24. Public Relations Unit</td>
</tr>
<tr>
<td>25. Publication and Printing Unit</td>
<td>26. Rajbhasha / Hindi Cell</td>
</tr>
<tr>
<td>27. Retirement Benefit Cell</td>
<td>28. Sankhya Office</td>
</tr>
<tr>
<td>29. Security Unit</td>
<td>30. Telephone Unit</td>
</tr>
<tr>
<td>31. Transport Unit</td>
<td>32. SC / ST / OBC Cell</td>
</tr>
</tbody>
</table>

Apart from the Units mentioned above, there are some small cells dealing with Budget, and other issues to take care of the specific needs of the Institute. The Administrative Services Division also looks after the running of hostels for students, research scholars and International Statistical Education Centre (ISEC) trainees and also the running of Canteen for the workers and students of the Institute.
The other outlying Units are controlled directly by the Headquarters at Kolkata. The Administrative Services Division takes the responsibility for all new constructional activities of the Institute at its Headquarters and also at outlying centres/branches.

B. Indira Gandhi National Open University

(Category: Multi location based Open University)

The apex national body to promote distance education standards in the country, and acts as a coordinating, monitoring and funding agency for the distance education system in the country.

Academic programmes

The growth in academic programmes is from 03 to 39 programmes and student enrolment from 4500 to 430 thousand during 1987 to 1998 which is manifold (Table 1). The pattern of academic programmes and student enrolment reveals that there is a gradual shift from traditional programmes and diplomas to professional and vocational degrees, and diplomas as exhibited in Tables 1, 2, 3.

Table 1: Academic Programmes and Student Enrolment at IGNOU

<table>
<thead>
<tr>
<th>Year</th>
<th>Programmes (Cumulative)</th>
<th>Courses (Cumulative)</th>
<th>Students enrolled</th>
<th>Students on roll</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>2</td>
<td>13</td>
<td>4521</td>
<td>4521</td>
</tr>
<tr>
<td>1988</td>
<td>5</td>
<td>43</td>
<td>16800</td>
<td>20810</td>
</tr>
<tr>
<td>1989</td>
<td>13</td>
<td>89</td>
<td>42300</td>
<td>61724</td>
</tr>
<tr>
<td>1990</td>
<td>19</td>
<td>128</td>
<td>49281</td>
<td>103873</td>
</tr>
<tr>
<td>1991</td>
<td>34</td>
<td>205</td>
<td>52376</td>
<td>112192</td>
</tr>
<tr>
<td>1992</td>
<td>39</td>
<td>256</td>
<td>62375</td>
<td>145000</td>
</tr>
<tr>
<td>1993</td>
<td>47</td>
<td>296</td>
<td>75666</td>
<td>182366</td>
</tr>
<tr>
<td>1994</td>
<td>57</td>
<td>368</td>
<td>84200</td>
<td>222815</td>
</tr>
<tr>
<td>1995</td>
<td>58 (36)</td>
<td>372</td>
<td>91400</td>
<td>242000</td>
</tr>
<tr>
<td>1996</td>
<td>64 (39)</td>
<td>435</td>
<td>130354</td>
<td>310000</td>
</tr>
<tr>
<td>1997</td>
<td>64 (39)</td>
<td>482</td>
<td>162540</td>
<td>394388</td>
</tr>
<tr>
<td>1998</td>
<td>64 (39)</td>
<td>486</td>
<td>163390</td>
<td>430830</td>
</tr>
</tbody>
</table>

Note: 1. Cumulative including national/ regional language programmes.
2. Figures in brackets are academic programmes on offer in English.

Table 2: Profile of distance learners(%)  

<table>
<thead>
<tr>
<th>Category</th>
<th>1987 (%)</th>
<th>1988 %</th>
<th>1999 %</th>
<th>1982 (%)</th>
<th>1995 (%)</th>
<th>1996 (%)</th>
<th>1997 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>5.2</td>
<td>27.8</td>
<td>17.0</td>
<td>14.6</td>
<td>22.5</td>
<td>22.5</td>
<td>22.0</td>
</tr>
<tr>
<td>SC/ST</td>
<td>5.2</td>
<td>9.3</td>
<td>11.6</td>
<td>6.1</td>
<td>7.0</td>
<td>6.0</td>
<td>06.0</td>
</tr>
<tr>
<td>Rural and Tribal</td>
<td>13.5</td>
<td>21.9</td>
<td>23.0</td>
<td>8.3</td>
<td>16.5</td>
<td>16.5</td>
<td>16.5</td>
</tr>
<tr>
<td>Employed</td>
<td>55.7</td>
<td>62.0</td>
<td>57.0</td>
<td>67.5</td>
<td>67.5</td>
<td>67.5</td>
<td>67.5</td>
</tr>
<tr>
<td>Unemployed</td>
<td>34.3</td>
<td>38.0</td>
<td>43.0</td>
<td>32.5</td>
<td>32.5</td>
<td>32.5</td>
<td>32.5</td>
</tr>
<tr>
<td>Below 25 Years</td>
<td>39.0</td>
<td>36.9</td>
<td>41.0</td>
<td>39.0</td>
<td>39.0</td>
<td>39.0</td>
<td>39.0</td>
</tr>
<tr>
<td>Between 26-35 years</td>
<td>34.0</td>
<td>47.1</td>
<td>45.0</td>
<td>40.6</td>
<td>40.6</td>
<td>40.6</td>
<td>40.6</td>
</tr>
</tbody>
</table>

Sources: IGNOU, Annual Reports, and IGNOU New Delhi, IGNOU, Convocation Reports, IGNOU, New Delhi, 1998

Shift in instructional system

IGNOU has adopted multimedia approach to instruction such as self-instructional (print) materials (SIMs), distance tuition through assignments, video and audio programmes, teleconference sessions, limited face-to-face counselling sessions, limited television and radio programmes (on national network of Doordarshan), video programmes through cable network, and library facilities. For courses in Science, Computer, Nursing, and Engineering arrangements have been made to enable students to undertake practicals at selected study centres and programme study centres/work centres. An analysis of multi-media instructional system of IGNOU reveals interesting developments in the use of instructional media for imparting distance education to its learners. As other open universities in the
world, IGNOU also uses SIMs as its major medium. Apart from SIMs, it has also adopted audio and videocassettes, assignments, face-to-face in the first phase (1987-1989). In the second phase (1990-1992) a few more courses, especially science and basic computer programmes have been added. During this period it has introduced practicals to meet the needs of computer and science based programmes. In addition it has also added limited broadcasting (television) into its multimedia package to take distance education to all parts of the country taking the advantage of extensive television network (To-day in India television has low power transmitters in most of the district headquarters and high power transmitters in almost all state capitals except in North-Eastern Region). In the third phase (1993 onwards) the University added a number of science, computers health and technological and professional programmes. Extensive use of labs (for practicals) and specialised institutions (for fieldwork and hands on experience) were introduced taking the diverse needs of courses (Manjulika and Reddy, 1998). The technological shift in instructional systems is illustrated in Diagram 2 at the end of this paper. Teleconferencing also has been added realising the need for reaching out to remote and rural areas, especially in the disadvantaged sections of the society. The university has provided down link facility initially in the Regional Centres mostly in state capitals, however, the facility is being extended to 163 locations by 1998. The university is the process of connecting RCs with its Headquarters through Wide Area Network (WAN). A few VSATS have already been installed at two of IGNOU's Regional Centres and a few more are under consideration. This facility would facilitate two-way audio and video tele-conference from a few Regional/Study Centres in the coming years. From these VSATS, the programme and information can reach every house and work place, which has access to local cable TV or computer.

**Delivery system**

There are 9 Schools of Studies which are responsible for the preparation and development of course materials. The University has decentralised a year back the composing and printing activities and as a result the Schools have been entrusted with the responsibility of not only writing the course materials, which is their academic activity, but also the technical job of composing and printing (IGNOU Profile, 1997). Of course, in printing the Schools depend on outside printing agencies. The delivery of distance education is effected through the combined operations of many Divisions and a few Schools namely Student Registration and Evaluation, Computer, Materials Production and Distribution, Regional Services, International Schools, STRIDE and Electronic Media and Production Centre (EMPC) and Library and Documentation Centre. These divisions are supported by various other units such as Administration, and Finance Divisions, etc. However, on the forefront it is the Regional Services Division, which coordinates the support service network established across the length and breadth of the country.

**Support Services Network**

The IGNOU students are spread all over the country and are served through Regional Centres and Study Centres. Study Centres (SC) support students in independent learning by various means of educational technologies and human support. SCs are established mostly by the University at conventional universities and colleges, and in some cases a few recognised study centres have also been setup at private/semi-government institutions and NGOS. The University has also established a few sub study centres and work centres attached to a major study centres. A few of them are established at three Central jails in different provinces. The work centre was added only for conducting practical courses. There were 77 SCs in 1989, and it has gone up to 164 in 1990 and (234) in 1996 (Table 4). A concept viz, programme study centre has also been added in the year 1997 where both practicals and theory counselling can be organised. In brief, these are single programme based centres. Profile of Study centres reveal that most of the centres are established in major cities/ towns or District headquarters.

**Diversified Delivery System**

The concept of study centres has been thoroughly reviewed during 1995-96 and diversified approach has been adopted. Besides the regular Study Centres and recognised Study Centres the University has also proposed to have new types of Study Centres such as Programmes Study Centre (PSC), Multimedia Learning Centre (MMLC), Distance learning Facilitator (DLF). Partner Institution(PI) etc. The diversified approach is essentially planned to reach all sections of people including those living in rural and remote areas. Various reasons can be cited for diversified approach through which the University can fulfil its objectives, especially the mandate of "Social".

The process of growth has led to the emergence of several new issues and concerns, such as :

- The growth in enrolment has not been uniform across all programmes and study centres; attachment of a small number of students with study centres which has made some of these study...
centres non-viable.
• The present study centre network is urban biased, leaving small towns and rural areas out of reach.
• Distance to study centres and their rigid timings have in many cases made access difficult or impossible for students.

Thus the Study Centre approach alone cannot take education to the doorsteps of the students. It is therefore, necessary to rationalise and diversify the existing centres and add new channels of delivery to reach out to all sections and parts of the country.

The purpose of diversification of delivery methods is not necessarily to establish more and different ways of delivery for specific programmes only. On the other hand, the purpose is to ensure how IGNOU can reach its students who are registered on any programme irrespective of their location and the facilities to which they have access. It would follow therefore that there is no delivery mechanism that is unique to any particular programme; all programmes will attempt a combination of approaches starting with course development efforts to delivery of programmes and services. In short the emphasis in the approach and strategies towards diversification is to develop a flexible policy framework that permit a combination of different approaches accepted by the University to reach students and provide better services to them and to establish the principle that the location of a student is not a disability in accessing higher education facilities, through the distance mode and improving the quality of services through a variety of means of value addition.

For a large number of programmes offered by the IGNOU, easy access to materials and services by students remains a major problem. Admittedly, it will not be possible to bridge this gap between the University and each of its students. It would follow therefore that a large number of access points have to be set across the country so that a large number of students can avail of the services provided by the University. Such access points will have to be essentially on a scale much lower than that visualised in the study centre concept. It is in this context, that the mechanism of distance learning facilitator (DLF) becomes significant. Conceptually, therefore the Distance Learning Facilitator will correspond to a single man study centre as against the present concept of an institution as the study centre (IGNOU, 1997). The delivery of IGNOU programmes through the diversified delivery mechanisms is illustrated in Diagrams 3 a and 3b at the end of this paper. The University has appointed 28 DLFs in 1997 and established 24 PIs in the year 1998. PIs are recognised institutions by the IGNOU and have become partners in offering IGNOU’s management and Computers programmes.

Teleconferencing Network
In addition to the diversified delivery channels the University has also expanded its teleconferencing network across the country in a big way, in the years 1997 and 1998. The objective of this mammoth expansion was to reach its large numbers of students in no time, provide an opportunity for direct interaction, with faculty and other experts for immediate feedback. Before, 1997 the University had provided this facility only at its 15 Regional Centres (with two-way interactive facility using STD telephone) and 20 study centres. Mostly these receiving-end nodes were located in provincial capitals/major cities (except 4 study centres which are located in Outback and far flung areas in four different provinces). The teleconferencing method of instruction has created a great interest and enthusiasm among students, academic counsellors and other academic and administrative staff posted at Regional Centres and study centres.

Realizing the role and the power of the media (teleconferencing) in delivering services, the University has decided to establish 127 more nodes across the country, especially for management and computer programmes in the year 1996. Accordingly a feasibility report was prepared and 125 regular study centres and two new Regional Centres were identified. The proposal mentioned that 100% of management programme activated study centres (119 study centres) and 42 Computer programme (BCA/CIC/MCA/CNOC/CWDM) activated study centres would be covered (based on 1996 figures). Incidentally, many of the study centres activated for management programmes are also activated for number of other programmes including computer programmes. Thus, the proposed expansion planned to cover 50% of the total regular study centres and 60% of the total students enrolled for all programmes. Of course, 100% coverage facility has been planned for management programme. The proposal has been executed in the year 1997 and 1998. Currently, in addition to 18 Regional Centers, 145 study centres are also in operation in the year 1998. In the next phase the University may cover all other locations, hitherto not covered.

On an average IGNOU and other agencies are using teleconferencing 10-20 days in a month for various programmes (5 hours in a day with 60/90 minutes slots). The University has used approximately 495 hours in 1997 and the School of Management has used extensively (190 hours),
followed by Social Sciences, Continuing Education and Humanities. Other agencies such as government, non-government and private organisations have used TC apart from IGNOU (approximately 700 hours since 1995) (Rao and Khan, 1998). The recent major expansion made by the School of Management to divert 40% of its regular counselling sessions to tele-counselling in the year 1998 may lead other Schools also to resort to tele-counselling in the academic years 1999 and 2000 onwards.

OPENET

India has a strong network of distance/open education system wherein 8 provincial open universities and a National Open University are in operation. Many more are in the pipeline and according to the National Policy of Education (1998) each Provincial government is expected to establish an Open University. In this direction, IGNOU has already established Distance Education Council to coordinate all provincial open Universities and correspondence institutes. Currently, all other universities (except Nalanda Open University in Bihar province) has established their own network of Regional Centres, study centres, work centres, etc. which would be fulfilling their requirements. Similarly, a few CCIs too have established their own network of centres, especially in their operational areas. Thus all Open Universities have established approximately more than 1000 study centres. Many more study centres in different forms may come up in future. An OPENET a network of Open Universities has already been created by the IGNOU (DEC), in the Ninth Five Year Plan. This is essentially a network of physical intellectual and academic resources of all OUs in India, developed and managed in such a way that becomes the knowledge resource for all aspiring learners in the country. In this direction the DEC using the OPENET should identify priority areas to take distance education, especially professional vocational and technical education to disadvantaged sections.

References

IGNOU (1996), Distance Education: Vision and Strategies, Planning and Development Division, IGNOU, New Delhi.

C. Indian Institute of Technology, Kharagpur

(Category : Technology Institute)

Academic Programmes 2012-13

Introduced several academic programmes include:

• M. Arch : Master of Architecture in Sustainable Built Environments is being taken up in the Department of Architecture and Regional Planning
• Dual-degree programme on Quality Engineering design and Manufacturing coordinated by the Department of Industrial Engineering and Management
• M. Tech programme on Embedded Software and Control coordinated by the Advanced Technology Development Centre
• M. Tech. Programme in Water Management in School of Water Resources.
• M.Tech in Infrastructure Design and Management in the Ranbir and Chitra Gupta School of Infrastructure Design and Management.
• M.Tech in Media and Sound Engineering in Centre for Education Technology
• Introduction of a specialized M. Tech. programme on Telecommunication Network Engineering in the GS Sanyal School of Telecommunication.
• The Department of Mathematics is in the process of reviewing its already existing programs though a change of course content of different topics as per the present day requirements
• A new Programme in the area of Marine Resource Development and Management is being launched in the Centre for Ocean, River, Atmosphere and Land Sciences
• Dual Degree Postgraduate programme in Financial Engineering involving various departments.
• 3-Year Executive MBA (EMBA) Programme in Kolkata and Bhubaneswar Campus introduced by the Vinod Gupta School of Management.

The Institute is presently offering B.Tech (Hons) programmes in seventeen different branches of engineering, a B.Arch. (Hons.) programme in Architecture, fifteen Dual Degree programmes, seven Integrated M.Sc. programmes, four two-year Joint M.Sc.-Ph.D. programmes, fifty-three postgraduate degree programmes leading to Joint M.Tech. / MCP-Ph.D., MBM, MHRM and MMST degrees besides an LLB degree. The curricula and syllabi of these programmes are constantly updated to meet the...
needs of the changing world with focus on quality and excellence.

A noteworthy recent addition is the implementation of the ERP System. All academic issues including faculty recruitment, student’s registration, enrollment, course allocation, examination results, students feedback and sponsored project details are now available on-line through this system.

**Infrastructure Developments**

Apart from the purchases and installation of various types of machinery for its different departments, various construction projects have been taken up by Estate Civil Head Office, as follows:

- Students accommodation : for Boy and Girl students.
- Nalanda Classroom Complex : 44 class rooms
- J. C. Ghosh Science Block and P. C. Roy Laboratory Block
- Residential apartments for faculty and staff
- Sir A. J. C. Bose Laboratory Complex
- New water supply project
- Construction of new Kendriya Vidyalaya
- New market complex behind B. C. Roy Hospital : Four shops have been newly constructed and the old shops near Electric Overhead Office have been demolished. A new block has also been constructed.
- Development of children parks at campus : Six children parks at Campus have been developed.
- Expansion work in academic buildings.

**Sponsored Research and Industrial Consultancy : IIT Kharagpur** is highly rated for the quality and breadth of its research enterprise, for the innovation of its faculty, for the excellence of its Ph.D programs, and for the amount of funding received in support of its research initiatives.

**The Entrepreneur Cell under SRIC :** Supports a variety of incubation programmes funded by the Government. Students are encouraged and supported to take up innovative challenging problems. STEP IIT Kharagpur, the core of IIT Kharagpur entrepreneurship ecosystem is dedicated to extend every possible support to promote and development of innovation and entrepreneurship in this country. Since inception over 25 years ago, STEP has been engaged in various kind of activity to enhance the economic condition of this part of country through innovation and enterprise creation and gradually transformed itself as a sustaining innovation & entrepreneurship ecosystem as well as enterprise creation platform. It is the most active innovation and incubation activity within the entire IIT system. STEP in association with Rajendra Mishra School of Engineering Entrepreneurship, provides leading edge financial, managerial, technical, legal and expert mentoring support as well as coinubcation facilities to innovators and entrepreneurs in and around eastern India. In association with various departments of state and central governments and nodal agencies, it facilitates various kind of financial support i.e., financial grants and seed loan facilities for product development and enterprise creation. At present around 60 startup companies are incubated at STEP IIT Kharagpur, in various domains such as information & communication technology, health care, manufacturing, agriculture, electrical, electronics and chemical domain.

**Technology Transfer Group (TTG)** is a students' initiative under the aegis of SRIC, IIT Kharagpur, which believes in the potential of the Institute as a premier Research & Development centre. TTG acts as a link between the industry and the academia to facilitate transfer of industry ready technologies and presenting IIT Kharagpur as a research consultant.

**Continuing Education Programme**

The Continuing Education Programme is a significant academic domain of the Institute. Over the years, it has diversified in terms of coverage of disciplines, duration and level of the programmes and industries served. The activities includes providing continuing education and training to professionals from industries – large and small, providing opportunities to teachers of Engineering Colleges to update their knowledge through short term courses and pursuing M.Tech. and Ph.D programme under QIP. Also, CEP promotes teaching-learning resource materials in the form of printed text, CDs and computer aided instruction packages etc.

**Central Library**

The Central Library, IIT Kharagpur is one of the largest technological libraries in Asia which is fully automated and facilitates more than 10,000 users from students, research scholars, faculty and staff of the Institute. As a core member of INDEST-AICTE Consortium, Central Library has been getting access to all the full-text databases, journals subscribed by the consortium. Newly Library Service introduced is the ‘Online Document Delivery Services’. The Central Library has developed an Institutional Digital Repository using open source software namely DSpace. The IDR collects,
preserves and disseminates in digital format the research output (PhD theses, Technical reports, Faculty publications, etc.) of IIT Kharagpur research community. It enables the Institute community to deposit (self archiving) their preprints, post prints and other scholarly publications using a web interface, and organize these publications for easy retrieval. At present, the access of 'Institutional Repository' is restricted within the IIT Kharagpur campus LAN only and submission of documents to this repository is also limited to the IIT Kharagpur research community only.

D. Calcutta University

(Category: Affiliating multi-location based University)

The Calcutta University affiliates colleges mostly at the under-graduate level and also offers courses directly at the post-graduate level. The university is now being governed by the Calcutta University Act, 1979 which came into force on February 10, 1983.

Various departments of the university as located in different campuses are indicated below:
(A) Ashutosh Shikshya Prangan, (College Street)
(B) Rashbehari Shikshya Prangan, (Rajabazar)
(C) Taraknath Shikshya Prangan, (Ballygunge Circular Road)
(D) Hazra Road Campus, (Ballygunge Phari)
(E) Sahid Khudiram Shikshya Prangan, (Alipore)
(F) B. T. Road Campus, (B.T. Road)
(G) College Of Medicine Campus, (A.J.C. Bose Road)
(H) Judges Court Road Campus, (Judges Court Road, Alipore)

Faculties & departments council for undergraduate studies:
(ii) Council for Under-Graduate Studies in Medicine, Dental Science, Homoeopathy, Veterinary Science, Nursing and Ayurved.
(iii) Council for Under-Graduate Studies in Engineering and Technology.

There are departments of the University that have been recognized by the UGC as Centres of Advanced Study (CAS), Departments for Special Assistance (DSA) and COSIST Scheme in different trust areas.

The following areas were identified for quality improvement by the IQAC in 2009:
- Renewed focus on academic collaborations, both at the national and international levels
- Training and development of the administrative manpower
- Enhanced computerization and networking throughout the University
- Continuation of the University library system modernization
- Continuation of the faculty development exercise

Outcome achieved (Ref.: AQAR 2008-09)

The initiatives taken by some PG departments, well-supported by the University authorities, have led to quite a good number of collaborations with leading academic/research institutions in India and abroad.

The Administrative Staff College has started conducting varied types of programmes for the administrative staff (i.e., officers and non-teaching employees) of the University and conducting faculty development programmes.

All the administrative departments are fully equipped with required number of computers. The Accounts Department and the Cash Department have been computerized specially for recording of transactions and maintaining financial records. Registration of around 1,00,000 students is done every year with the help of a software, developed by the University. The University is in the process of developing a data bank with the support of appropriate program. A common server-based system is now working in the Examination Department for the UG examinations in a LINUX environment. The process of digitization of the old Tabulation Registers of Marks of different examinations (starting from the year 1860) has been initiated to facilitate proper record keeping and speedy despatch of verification reports.

Centralized and departmental computing and internet facilities, digital library, e-resources, etc., positively contribute to the students' learning experience. All the Engineering and Technology and Science Departments and many Social Science and some Humanities Departments have good number
of computers and printers in air-conditioned computer laboratories/rooms. In most of the cases, those are connected through LAN and internet facilities are available in all the campuses/departments. Apart from the standard softwares, some specific/tailor-made softwares are in use in different departments.

Internet bandwidth has been increased from 4 mbps to 16 mbps. To facilitate the access to on-line and internet service provided by the University, a space has been separated out in all the campuses, apart from in the Central Library, so that the students, research scholars and teachers can access e-books and e-journals. The University Library has completed the digitisation of the certain rare documents. The process of computerisation of all the departmental and campus libraries of the University has been initiated. All the departmental libraries are provided with a computer each. The University Library has set up a Digital Repository on the first floor of the Central Library. Digitzed documents are preserved there. Bibliographical records of books of all campuses are now available in the University Website. Work for setting up of a Braille Library, in collaboration with the National Association for the Blind, in the second floor of the Central Library for visually-challenged students is in the completion stage. The Central Library is paying special attention to procurement and building up of career literature for the students appearing in the various competitive examinations like IAS, WBCS, NET, SET, CAT, GMAT, UPSC, SSC, etc.

The University provides access to 4,000 foreign e-journals to the users in all campuses under the UGC-INFONET programme under the TEQIP, and the University Library has procured:

- The full Springer Online Journal Archives of 800 Journals titles and Springer E-Books collections of more than 10000 E-Books from the copyright year 1999 to 2008
- IEL Online Level II (Full package of IEEE and IEE Journals)
- Science Direct Journals and SCOPUS.

Library users can search books and other documents in OPAC and can avail of the facility of automated library circulation. The software the library is using for automation purpose is SOUL (Software for University Libraries) which is prepared by the INFLIBNET Centre. The University has been identified by the INFLIBNET-UGC for access to Chemical Abstracts and Biological Abstracts under the UGC-INFONET programme through the 'Sci-Finder-Scholar'. The work relating to digitization of the title and table of contents of all Ph.D. theses and medical dissertations (21000 approx.) has been completed. Now users from across the globe can access the same through the University website. Barcoding of books of the Central Library has been completed. IP-based access to e-books and e-journals is provided for which user demand is growing. The University, from its own fund, has developed well-integrated internet connections for all its campuses.

**Computerization of Administration Process** (admissions, examination results, issue of certificates)

Much of the administrative functions are being computerized by using suitable software packages. In this connection, the Tata Consultancy Services (TCS), a leading consultant, is playing a major role. The entire work relating to registration of students has been computerized.

While most of the pre- and post-examination works pertaining to U.G. and P.G. examinations have been computerized over the years, viz., issuance of admit cards, marksheets and certificate, assignment of examiners for theoretical and practical examination and allotment of seats for examinations at U.G. level have been successfully computerized in the recent past.

A common server-based system is now working in the examination department for the UG examinations in a LINUX environment.

A process of digitization of the old Tabulation Registers of marks of different examinations starting from the year 1860 has been taken up to facilitate proper record keeping and speedy despatch of verification reports.

**Technology Upgradation**

State of the art laboratories have been established in some of the Departments/ Centres in the Faculty of Engineering and Technology and the Faculty of Science. In particular following facilities mentioned below have been created.

- 2MbPS Internet facility in the University College of Science (Ballygunge campus)
- 2MbPS Internet facility in the University College of Science (Rajabazar campus) through the Central Library
- 2MbPS Internet facility in the University College of Science (Rajabazar campus) through the UGC- INFLIBNET.
E. St. Xavier's College  
(Category : Autonomous College in urban area)  

Accredited by NAAC as a Grade "A" college in 2003, St. Xavier's was granted the status of an Autonomous College on March 6th 2006 and was conferred with the honour 'College with Potential for Excellence' (CPE) in May 2006 by UGC.

Curricular Aspects  
The College conducts various courses in three shifts. It offers a wide range of programmes providing adequate academic flexibility in the choice of core and elective options. In UG level there are 15 Honours courses and one B.A. General course. There are four PG courses and one integrated five year M.Sc. Biotechnology course. The IGNOU convergence programme allows students to combine conventional and distance mode of education. The College also offer course in Multimedia & Animation (BMM) and five certificate courses and two diploma courses under Career Oriented Programme. The Career Oriented Programmes have linkages with various organizations like Credai Bengal, Advertising Club Calcutta, National Stock Exchange and Fact International. The Entrepreneurship Development Cell trains students for entrepreneurship in collaboration with DST.

Teaching, Learning and Evaluation  
The admission process, complying with all the government norms pertaining to religious minority institutions, is online and transparent. The college admits students of different backgrounds and with varying abilities. Learning methods encourage students' participation through project work, microteaching, internship, guided library work, training in relevant softwares and e-learning. Teaching innovations through modern teaching aids and ICT facilities. The academic progress of the students is monitored through Continuous Internal Assessment (CIA) in its various components.

Research, Consultancy and Extension  
A Central Research Facility has been set up in the college to assist research activities. There is budgetary allocation for the above. The college is the only undergraduate college in India with a responsibility of managing an EMMRC of UGC. In 2010 the EMMRC produced 124 programs. Collaborative research has been taken up by the faculty members with some Universities and Research Institutes.

The college ensures participation of all students in extra and co-curricular activities through NSS, NCC, Sports, various cultural and departmental societies and Extension Programmes. Community and extension service is integrated with the curriculum through NSS. Students have to earn one non academic credit (30 hours) through community service in field trips, village camps, blood donation camps, regular visit to old age homes and imparting elementary education to under privileged children in villages as part of the "PRAYAS" initiative, The College also run an 'Earn while you learn' and 'college to village and village to college' programmes.

Infrastructure and Learning Resource  
In the last five years about 50,000 square feet space has been added to the college infrastructure. The Jubilee Building with G+3 floors was completed in 2009. All of these have led to additional classrooms, Central Research Facility room and a well equipped Central Library etc. A new wing for the Biotechnology department with audio-visual facilities has been added. The EMMRC has been shifted to the EM Bypass campus.

Library software - LIBSYS, the computers, equipments and other network facilities are under the Annual Maintenance Contract. A "System Incharge" takes care of the daily maintenance of the ICT facilities. The institution has an excellent library and computer facilities with easy access to all its constituents. With 12,000 square feet of carpet area and a little over 42000 titles, the library is accessible to e-learning, INFLIBNET, DELNET, Foreign and Indian research journals/magazines and research cubicles with internet connections.

ICT facilities are adequately available in the institution for academic purposes. There are 540 desktops and 13 laptops in the college. The departments have their own computer facilities with 50 desktops. Apart from computer facilities in PG departments, there are Central Computer Laboratories with 230 computers having internet connection facilities. 10 MBPS leased line for internet access is extended to the entire campus. Campus networking is with Fiber Optic backbone.
F. Krishnanagar Government College  
*(Category : Government College with CPE Status in urban area)*

The college has been awarded the ‘College with Potential for Excellence’ status by UGC and accredited by NAAC with ‘A Grade’. The College is affiliated with University of Kalyani.

**Examination reforms implemented**
The University of Kalyani to which the College is affiliated has introduced major changes in the examination system from the academic session 2007–2008 with the approval of its Council for Undergraduate Studies where the College has a few representatives. Consequently, the College has adopted the pattern of internal marking in final examination on individual papers in Honours courses based on three unit tests in an academic session and other parameters like attendance, class performance etc. Apart from that each department organize regular class tests and seminar presentations of the students.

Teaching – Non-teaching Staff ratio: 71 : 43

**Improvements in the library services**
- Library resources are being computerized.
- Reprographic facility
- Introduction of e-library facilities

**Computerization of administration and the process of admission, examination results, issue of certificates:**
The entire College administration is computerized with LAN and partial Internet facilities. Each section is equipped with computer and printer and most of the information is stored in computer database. The entire admission process, fees collection, student database, salary bills of teaching and non-teaching staff, maintenance of financial accounts are carried out using specific software like COSA (developed by NIC, Govt. of India), TALLY etc.

**Technology upgradation**
- Installation of office software COSA for preparation of salary bills of the staff of the College.
- Installation of FAX machine.
- Purchase of new sophisticated instruments like UV-Vis Spectrophotometer, high resolution microscope etc. for central instrument room.
- Language Laboratory

**Computer and internet access and training to teachers and students**
Every department has computer with internet facilities. There is a Network Resource Center in Physics block where the students have free access to internet. A well equipped Computer Lab is available for the UG students. Geography department provides a separate small computer lab where UG and PG students get training on GIS (Geomatica) software related to digitization of maps and Remote Sensing.

G. Baruipur College  
*(Category : Affiliated UG College in semi-urban area)*

UG College affiliated with University of Calcutta and NACC accredited with C+ grade. Multi departmental college with the departments of Bengali, English, History, Political Science, Philosophy, Geography, Commerce, Education, Bio-Science (Botany Zoology and Physiology), Journalism and Mass Communication. A regional center of Netaji Subhash Open University is also located within the campus.

Teaching - Non-Teaching Staff Ratio: 2:1  
Students strength (in the academic year 2010-11) : 1334

**Linkages Developed with National / International, Academic / Research Bodies:**
- No.
- New collaborative research programme: No.
- Research grants received from various agencies: No.
- Departments getting SAP / DST / FIST assistance/recognition: No.

**Computerization of Administration and the Process of Admission and Examination Results, Issue of Certificates**
Admission process, publication of results, issue of certificates and some of the administrative works
are partially computerized. Accounting works are partially computerized.

**Technology Upgradation**

16 computers installed with internet connectivity. Updated Software, Windows7 and Office 2010 were purchased. The college has launched its own website.

Riso Duplicating Machine, Refrigerator, LCD Projector, Digital Colorimeters, Submersion Water Pump, Kirlosker Green Silent Generator Set (3 Phased, 3K.G.) were installed.

**H. Sree Chaitanya Mahavidyalaya**  
*(Category : UG/PG affiliated morning college in semi-urban area)*

UG College affiliated with West Bengal State University (formerly with Calcutta University) and NACC accredited with B+ grade. Recognized by UGC u/s 12B and 2F. Multi departmental college with the departments of Bengali, English, Commerce, History, Computer Science, Food & Nutrition and Physical Education.

Teaching and Non-teaching Staff ratio : 1:2


New collaborative research programme : No.

Research grants received from various agencies: UGC sponsored Minor Research Projects

Departments getting SAP / DST / FIST assistance/recognition: No.

**Computerization of administration and the process of admission and examination results, issue of certificates :**

The functions like Payroll, PF, Accounts and Examination Result have been fully computerized. LAN system installed. Latest Windows based software installed. The college has launched its own website.

**Linkages developed with national/international academic/research bodies:**

Developed linkage with MSME Development Institute (G.I.O.) in the field of entrepreneurship development.

**Development of Library Facilities**

Digitalization of records: in progress, Network Resource Centre installed. Other administrative works partially computerized.

**Infrastructure**

Library with rich collection of reference and text books, journals and magazines.

Computer Lab with 24 computers.

Science Laboratories : 3 (one for Food & Nutrition and two for Chemistry)

Auditorium and Seminar room: one each

Gymnasium: one for students of Physical Education

Hostels : one for boys’ and another for girls’.