



University of Calcutta

Annual Quality Assurance Report (AQAR)

PART -A

The Internal Quality Assurance Cell (IQAC) of the University of Calcutta was re-constituted by the Hon'ble Vice-Chancellor on 30.06.06 as per the Revised Guidelines issued by the NAAC. The IQAC comprises the following members:

- * Prof. Asis Kumar Banerjee, Vice-Chancellor (Chairperson)
- * Prof. Suranjan Das, Pro-Vice-Chancellor for Academic Affairs
- * Prof. Tapan Kumar Mukherjee, Pro-Vice-Chancellor for Business Affairs and Finance
- * Registrar
- * Controller of Examinations
- * University Librarian
- * Inspector of Colleges
- * Dean, Faculty Council for P.G. Studies in Science
- * Dean, Faculty Council for P.G. Studies in Engineering and Technology
- * Dean, Faculty Council for P.G. Studies in Arts
- * Dean, Faculty Council for P.G. Studies in Law
- * Dean, Faculty Council for P.G. Studies in Commerce, Social Welfare and Business Management
- * Dean, Faculty Council for P.G. Studies in Education, Journalism and Mass Communication, and Library and Information Science
- * Dean, Faculty Council for P.G. Studies in Agriculture & Veterinary Science
- * Dean, Faculty Council for P.G. Studies in Fine Arts, Music, and Home Science
- * Prof. Asish Kumar Roy, Member, Syndicate
- * Prof. Shyamapada Pal, Member, Syndicate
- * Dr. Biplab Chakrabarti, Member, Syndicate
- * Prof. Arunava Basumajumdar, Dept. of Chemical Technology
- * Prof. Sudipti Banerjea, Dept. of Commerce (Co-ordinator)
- * Sri Joydeep Sil, Development and Planning Officer (Deputy Co-ordinator & Secretary)

A meeting of the IQAC was held on 26th July 2006 to discuss the Revised Guidelines and chalk out a plan of action.

The following core areas, *inter alia*, were identified for quality improvement by the IQAC:

- Modernisation of Curricula / Syllabi
- Examination System Reforms
- Focus on Faculty Development
- Training and Development of Administrative Staff
- Emphasis on National and International Research Collaborations
- Move towards Digitisation of Library
- More and more Computerisation in the University Administration

As the IQAC was re-constituted only on 30.06.06, there was not enough time to develop a full-fledged quality-enhancement plan for the year 2006-2007. Therefore, for the purpose of furnishing the relevant information under the Part B of the AQAR, the year 2005-06 has been taken into consideration.

Outcome achieved

- ❖ Curricula/syllabi modernization has taken place in all the PG and UG courses. However, the process started in 2002-03.
- ❖ Semester system has been introduced in many PG departments, particularly in the Engineering & Technology and the Science departments.
- ❖ A good number of Orientation Programmes and Refresher Courses were conducted by the Academic Staff College supported by the use of modern teaching aids.
- ❖ Authorities have started encouraging the administrative staff to go for Professional Development Programmes in their respective fields of functioning.
- ❖ A number of research collaborations at the National and International levels have been initiated by some of the PG departments.
- ❖ Apart from continuous efforts to modernize, digitisation of books and journals has started taking place in the Central Library. The Central Library is also looking after the updating of the University website.
- ❖ Much of the administrative functions are being computerized by using suitable software packages. In this connection, the Tata Consultancy Services (TCS) is playing a major role.

PART-B

1. Activities reflecting the goals and objectives of the institution

The university has always tried to tune itself to the new and emerging areas of knowledge in the national and international levels. In the coming years, the endeavour will be to

- 1) consolidate its position in the conventional areas of *Basic Sciences* and *Humanities*;
- 2) develop research potential in the areas of *Social Sciences*, *Basic Sciences* and *Technologies* mentioned below.

The teaching programme options offered to the students cover the conventional areas in Basic Sciences and Humanities as well as the career-oriented/ professional programmes in the fields like Technology & Engineering, Management, Law Journalism & Mass communication, and Library & Information Science. The syllabi and the structures of the courses are updated at regular interval to keep pace with the advancement of knowledge. The University has introduced courses like Electronic Science, Computer Science, Computer Applications, Environmental Studies, Microbiology, Business Administration, etc., at the U.G. level and courses like Information Science, Information Technology, Computer Applications, Microbiology, Biotechnology, Bioinformatics, Environmental Science, Seed Science and Technology, etc., at the P.G. level.

Research schemes and projects undertaken by the University reflect its moral and continuing commitment to its institutional goal of *advancement of learning*. Responding to the developments in the frontiers of knowledge, inter-disciplinary research, cutting across different types of boundaries, have been undertaken. In recognition to the research contributions made by a good number of teachers, several departments have been provided assistance by the UGC in form of CAS, DSA, DRS, COSIST, ASIHSS, etc.

2. New academic programmes initiated (UG and PG):

U.G. Courses

- ✓ Human Rights
- ✓ Human Development
- ✓ Russian
- ✓ Oriya
- ✓ Mass Communication and Video Production
- ✓ Film Studies
- ✓ Business Administration
- ✓ Food Science and Quality Control
- ✓ Forestry and Wildlife Management

P.G. Courses

- M.A. in Human Rights
- M.A. in Comparative Indian Language and Literature
- M.B.A. in Finance
- M. Sc. in Bioinformatics and Biophysics
- M.Sc. in Biomedical Instrumentation
- M.Tech. in VLSI Design
- M.Tech. in Instrumentation Engineering
- M.Tech. in Computer and Information Science
- P.G. Diploma in Book Publishing
- P.G. Diploma in Clinical Psychology.
- 1Year Advanced Diploma in Medical Instrumentation
- P.G. Certificate Course in Forensic Anthropology

M.Phil. Courses

- ⇒ Clinical Psychology
- ⇒ Library and Information Science
- ⇒ Fishery Technology
- ⇒ Atmospheric Science

3. Innovations in curricular design and transaction

- ✓ Introduction of field work/ project work in a number of papers in some of the Social Science courses
- ✓ Computer-aided instructions and programmed teaching in Science and Engineering & Technology departments
- ✓ Introduction of semester system at different levels in Science, Engineering & Technology, and Commerce departments
- ✓ Introduction of new and modified syllabus in all major courses/disciplines

4. Inter-disciplinary programmes started

1. M. Phil. in Development Studies
2. M.A. in Human Rights
3. P.G. Diploma in Applied Economics & Information Management

5. Examination reforms implemented

1. The two- part examination system with Part-I examination at the end of 2nd year and Part-II examination at the end of 3rd (final) year of studies in respect of B.A./ B.Sc./ B.Com.(Honours & General) courses of studies has been replaced by a three-part (i.e., annual) examination system from 2005-06.
2. In some of the post-graduate programmes, grade- point award system has been effectively introduced.
3. While most of the pre- and post-examination works pertaining to the U.G. and P.G. examinations have been computerized over the years, viz., issuance of admit cards, mark sheets and certificates, etc., assignment of examiners for theoretical and practical examinations and allotment of seats for examinations at U.G. level have been successfully computerized in the recent past.
4. A common server-based system is now in operation for the U.G. examinations in a LINUX environment.
5. A process of digitization of the old tabulation registers of marks of different examinations right from the year 1860 has been initiated to facilitate proper record keeping and speedy disposal of verification reports.

6. Candidates qualified: NET/ SLATE/ GATE, etc.

NET –

June 2005

- ✓ JRF and Lectureship –11
- ✓ Only Lectureship- 91

December 2006

- ✓ JRF and Lectureship –12
- ✓ Only Lectureship- 164

SLATE (2005-06) – 284

GATE (2005-06) --15

7. Initiative towards faculty development programme

The Academic Staff College has successfully conducted a good number of Refresher Courses / Orientation Programmes for the P.G. and U.G. teachers of the university and the colleges affiliated to the university. Modern teaching aids and technologies have been used in an increasing manner.

8. Total numbers of seminars /workshops conducted

41

9. Research projects

- a) Newly implemented— 91
- b) Completed— 32

10. Patents generated, if any

Nil for the year under consideration

11. New collaborative research programmes

FACULTY OF SCIENCE			
<u>Sl.No.</u>	<u>Name of the Department/ Centre</u>	<u>Name of the Foreign University/Centre/ Institution</u>	<u>Proposed Collaboration</u>
1	Genetics	a) Centre de Versailles INRA, Versailles, France b) The First IFCPAR funded project under University of Calcutta	
2	Dr B.C. guha Centre for Genetic Engineering and Biotechnology	a) Nihon University, Tokyo, Japan b) Indo-Japan Co-operative Science Programme	
3	Biochemistry	a) Sackler Graduate School of Biomedical Science, Tufts University, USA	
4	Marine Science	a) NORFEED (A Denmark- based company)	
5	Biophysics, Molecular Biology and Genetics	a) IRRI, Manila, Philippines	
6	Anthropology		La Trobe University, Australia
7	Pure Mathematics	a) University of Wollongong, Australia b) University of Rome, Italy	

FACULTY OF ENGINEERING TECHNOLOGY			
<u>Sl.No.</u>	<u>Name of the Department/ Centre</u>	<u>Name of the Foreign University/Centre/ Institution</u>	<u>Proposed Collaboration</u>
1	Polymer Science and Technology	a) University of Durham, UK	
2	Radiophysics and Electronics	a) Lawrence Berkeley National Laboratory, University of California, Berkeley, USA	
3	Applied Physics	a) Centre d' optique, Photonique et Lasers, Laval university, Quebec, Canada	

FACULTY OF ARTS			
<u>Sl.No.</u>	<u>Name of the Department/Centre</u>	<u>Name of the Foreign University/Centre/ Institution</u>	<u>Proposed Collaboration</u>
1	History	a) University of Uppsala, Sweden b) School of Oriental and African Studies, UK c) Maison des sciences de L'Homme, Paris d) De Montfort University, UK e) Institute of Oriental Culture, University of Tokyo, Japan	University of Edinburgh, UK
2	Peace Studies Group, History Department	Institute of South Asian studies, Singapore University, Singapore	
3	Economics	London Metropolitan University, UK	a) University of California, Los Angeles, USA b) University of Glasgow, UK
4	English	a) University of Leeds, UK b) Monash University, Australia	University of Punjab, Lahore, Pakistan

12. Research grants received from various agencies

13. Details of research scholars

About 500 research scholars (funded by UGC, DST, DBT, DAE, CSIR, ICMR, AICTE, ICSSR, ICHR, Endowments, etc.) are there in the P.G. departments taken together.

14. citation index of faculty members and impact factor

Not available

15. Honors , awards to the Faculty

13 faculty members in different departments have obtained honours/ rewards in the form of Bhatnagar Award; Membership of National Science Academy; Membership of National Academy of Agricultural Science; Rabindra Puraskar; Visiting Fellowship, Research Fellowship, and Fellowship abroad and in India; International Patent-holding; AICTE Award; Associate Editorship of International Journal, etc.

16. Internal resources generated

18. Community Services

National Service Scheme (NSS)

UGC-sponsored Coaching programmes for SC/ST Students

'Legal Aid Clinic' run by the Dept. of Law

Social activities like blood donation camp, environmental awareness programmes, collection of fund for relief to the distressed people after natural calamities , etc., are undertaken by the teachers, officers, non-teaching staff and students from time to time and as and when necessary.

19. Teachers and Officers newly recruited

Teacher- 46

Officer - 4

20. Teaching –Non teaching staff ratio

1:4

21. Improvements in the library service

- ☞ Computerisation and networking of the Central Library has been undertaken under the UGC- INFLIBNET.
 - ☞ Automation of the Central Library activities has been started, using SOUL, a versatile and user-friendly software from INFLIBNET Centre.
 - ☞ It has its own local Network connected with a server with terminals inside the library.
 - ☞ Its Online Public Access Catalogue (OPAC) has databases of books, journals, theses, CD-ROMs and microfilms , apart from access to nearly 4000 electronic journals from all the campuses under the UGC- INFONET programme.
 - ☞ It has posted an on-line catalogue in the University Website consisting of records of books, doctoral theses, many valuable collections, etc.
 - ☞ The speed of the Internet Connectivity in the University College of Science(Ballygunge Campus) has been increased to 3 mbps.
 - ☞ It provides, *inter alia*, services like:
 1. Bibliographic Service,
 2. Documentation Service,
 3. Internet Service, and
 4. Inter-Library Loan
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- It is developing a separate section to house the rare publications of the University .
 - It is organizing a separate wing career-related literature for the benefit of the students appearing in the various competitive examinations.
 - The University has been identified by the UGC-INFLIBNET for access to *Chemical Abstracts* and *Biological Abstracts* under UGC-INFONET programme through *Sci-Finder Scholar*(offered by the Chemical Abstract Service(CAS) – a division of the American Chemical Society) which is the world's most comprehensive collection of published Scientific Research, covering many disciplines such as Physics, Chemistry, Environment, Biotechnology, Chemical/Biomedical Engineering, Material Sciences, etc. This help electronic access to:

1. more than 22 million Abstracts (1907 – till date)
2. 21 million organic and inorganic substances,
3. over 2 million Bio-sequences,
4. over 8 million single/multi-step reactions,
5. over 14 million biochemical references, and
6. abstracts from 9000 journals and 45 patent offices.
7.
 - ❖ The Central Library, in collaboration with the UGC-INFLIBNET, has organized several user-awareness programmes in different campuses on electronic journals.
 - ❖ Preliminary work relating to digitization of rare books is complete and bar coding of documents has been taken up.

22. New books/ journals subscribed and their value

- ⇒ 11956 new books
- ⇒ 4000 electronic journals under the UGC INFONET programme
- ⇒ 525 periodical titles(including 285 foreign journals)

Value: Rs. 2,65,47,332 (approx.)

23. Courses in which student assessment of teachers is introduced and the action taken on student feedback

Student assessment of teachers has been introduced in

13 (thirteen) 3-year **B.Tech.** programmes (viz., Chemical Engineering, Chemical Technology, Ceramic Engineering., Oil Technology, Petrochemicals & Petroleum Refinery Engineering, Pharmaceuticals & Fine Chemical Technology, Polymer Science & Technology, Radiophysics & Electronics, Information Technology, Instrumentation Engineering, Electrical Engineering, Optics & Optoelectronics, Computer Science & Engineering),

13 (thirteen) 2-year **M.Tech.** Programmes (viz., Chemical Engineering, Ceramic Engineering, Oil Technology, Petrochemicals & Petroleum Refinery Engineering, Pharmaceuticals & Fine Chemical Technology, Polymer Science & Technology, Radiophysics & Electronics, Information Technology, Instrumentation Engineering, Electrical Engineering, Optics & Optoelectronics, Computer Science & Engineering, VLSI Design),

2(two) 3-year **M.Tech.** evening programme (viz., Electrical Engineering [Electrical Power], Instrumental Engineering and Control), and

3- year **M.C.A.** course

Every student confidentially assesses (with or without disclosing identity) his/her teachers at the end of each session/ semester. A *Proforma* is given to the students and they assess their faculty members in terms of their teaching competence, availability, etc. Such assessment is strictly used in a confidential manner by the concerned authorities with a view to improving the performance of the faculty members concerned.

24. Unit cost of education

Total annual expenditure budget (actuals) **divided** by number of students enrolled

25. Computerization of administration and the process of admissions and 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.

26. Increase in the Infrastructural facilities

- ❖ A new **Technology Campus** of the University is under construction at a **4 acre** land in Salt Lake.
- ❖ A modern Seminar Hall has been created in the Centre for Social Science and Humanities along with a Teachers' Lounge in the Alipore Campus.
- ❖ A floor has been renovated for the B.C .Guha Centre for Genetic Engineering and Biotechnology in the University college of Science (Ballygunge Campus).
- ❖ The back side of the Goenka Hospital and Diagnostic Centre building has been restored to good condition.

27. 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.

- a. 2MbPS Internet facility in the University College of Science(Ballygunge campus)
- b. 2MbPS Internet facility in the University College of Science(Rajabazar campus) through the Central Library
- c. 2MbPS Internet facility in the University College of Science(Rajabazar campus) through the UGC- INFLIBNET

28. Computer and internet access and training to teachers and students

University Computer Centre(UCC) in the University College of Science(Rajabazar Campus) have latest- make 100 Desktop Computers(with necessary software) connected through LAN with servers and other high- end computers. All PCs are connected with Internet with a 2 Mbps leased line The UCC, apart from helping the teachers, research scholars and students by providing e-mail and Internet facilities in each department through a LAN , offers some useful courses for them

- ❖ The whole of the University community has now been brought under the Internet services and has access to the electronic journals. The speed of the Internet connectivity has been increased in three campuses. The work for the provision of LAN facility to the academic departments in two campuses has been undertaken. Space has been earmarked in the libraries in all campuses of the University so that the teachers, research scholars and students can use electronic journals and surf Internet.
- ❖ The Central Library, in collaboration with the UGC-INFLIBNET, has organized several user- awareness programmes in different campuses on electronic journals.
- ❖ The Central Library has also undertaken the task of holding computer- awareness programme for all members of the staff. of the University.

In particular, the facilities mentioned below have been created.

- a. 2MbPS Internet facility in the University College of Science(Ballygunge campus)
- b. 2MbPS Internet facility in the University College of Science(Rajabazar campus) through the Central Library
- c. 2MbPS Internet facility in the University College of Science(Rajabazar campus) through the UGC-INFLIBNET

29. Financial aid to students

30. Activities and support from the Alumni association

Many of the P.G. departments have Alumni Association which, however, differ in terms of their activities and performance. Alumni Associations of some of the departments like Applied physics, Radiophysics and electronics, and Commerce have found to be quite active, particularly in terms of holding seminars, awarding meritorious students, bringing out bulletins, organising re-unions etc.

31. Activities and support from the Parent-teacher association

There is no such association in the University till now.

32. Health Services

University of Calcutta has its own Health Centre, viz., **Goenka Hospital Diagnostic Research Centre** with the following specialities:

1. Dentistry
2. General Surgery
3. Dermatology
4. Sonology
5. Electroencephalogram (E.E.G.)
6. Tonometer, Ophthalmoscope & Colorimeter
8. C.T.Scanner (Spiral)

33. Performance in the Sport activities

Please see Annexure 1

34. Incentives to outstanding sportspersons

In the convocation every year "*Gosha Paul Medal*" is awarded to an outstanding sportsperson.

35. Student achievement and awards

36. Activities of the Guidance and Counselling unit

There is no formal Guidance and Counselling Unit in the University. However, at the time of admission, guidance and counselling is provided, to the extent possible, to the students who are in need of it.

37.Placement services provided to students

The Placement Cell of the University organizes Industry-Institute Interaction Programmes in association with Calcutta University Industry Institute Partnership Programme Cell (CUIIPP) for the purpose of providing the students with industrial exposure placement services.

A good number of our students in different departments, viz., the Science, Engineering and Technology, and Social Science departments, get placement in reputed organizations in different parts of the country . Notable among such organizations are mentioned below.

1) Tata Consultancy Services 2) Cognizant Technology Solution India Pvt. Ltd. 3) Tata Elaxis Ltd. 4) Wipro Technologies 5) Sasken Communications Technology Ltd. 6) Syntrel India Ltd. 7) Dabur India Ltd. 8) Wacker Silicones 9) Reliance Telecom Ltd. 10) GKB Rx Lens Pvt. Ltd. 11) Indian Army 12) Aluminus Software Ltd. 13) Satyam Computer Service Ltd. 14) VXL Technologies Ltd. 15) Sarang Infotech & Software Ltd. 16) The West Bengal Power Development Corp. Ltd. 17) Syngene International Pvt. Ltd. 18) Tega Industries Ltd. 19) Nelco Ltd. 20) Tata Refecat 21) Burger Paints 22) Jubliant Organisation Ltd. 23) Accentury India 24) Haldia Petrochemicals 25) Essar Oil Ltd. 26) Asian Paints (India) Ltd. 27) Mechino-Baseball India Ltd. 28) Inspira Software 29) Alstom Ltd. 30) Crompton Greaves Ltd. 31) Metalogic System Pvt. Ltd. 32) Research Engineering Ltd. 33) Webfil Ltd. 34) Usha Commercial Ltd. 35) Skeytech Solution Pvt. Ltd. 36) Hindustan Lever Research Centre 37) Glaxo Smithkline Pharmaceutica Ltd. 38) Hutchisons Telecom East Ltd. 39) H & R Johnson (India) Ltd. 40) Orrisa Cement Ltd. 41) Somany Pilkington Ltd. 42) Orient Abrasives Ltd. 43) International Ferrite (I) Ltd. 44) Central Glass & Ceramic Research Institute 45) Bharat Refractories Ltd. 46) Matrix Infosystems 47) Chembioteck 48) Indian Aluminium Company Ltd. 49) ABP Pvt. Ltd. 50) SIEMENS Ltd. 51) Forbs Marshall 52) IBM, 53) Tata Motors, etc.

38. Development programme for Non-teaching staff

- ❖ **Training** on some **need-based soft skills** has been provided to a good number of employees in phases.
- ❖ Officers are also encouraged to participate in National /International **Professional Development Programmes** in their respective functional areas.

39. Healthy practices of the institution.

- ❖ The University encourages and helps the teachers, staff and students to participate in varied types of extra-curricular and community-service activities during their campus life. The concerned associations/unions play a positive role in this connection. Every year many cultural and sports programmes are organized, involving participation of a very large number of teachers, staff and students.
- ❖ The Students' Union also participates in the academic planning exercise in the University to a reasonable extent, e.g., students' representatives play a positive role in the functioning of teachers'-students' committees in developing academic calendars, examination schedules, etc.
- ❖ The Grievance Redressal Cell, the Cell for Prevention for Sexual Harassment and the Cell for Backward Class Welfare are functioning effectively.

40. Linkages developed with National/ International academic/ Research Bodies

- International Rice Research Institute, Philippines
- Chonbuk University, South Korea
- Oxford Brookes University, U. K.

41. Any other relevant information the institution wishes to add

The University thrives for excellence in teaching and research by way of continuous upgradation of knowledge bank. In the 150th year of the University of Calcutta, the UGC has identified it as a **Centre with Potential for Excellence**.

PART-C

As this AQAR has been prepared almost in the last quarter of the year 2006-07, the future quality-enhancement plan is, for all practical purpose, oriented towards the year 2007-08.

The quality-enhancement initiatives will mainly focus on the following areas:

- ✓ Organising Quality Awareness Programmes throughout the organization
- ✓ Initiating Quality Circle programmes in certain departments/ sections involving academic and administrative staff
- ✓ Organising seminars/ workshops on
 - (i) improving the effectiveness of teaching-learning process,
 - (ii) best practices in University governance, and
 - (iii) use of ICT in academic and administrative functions of the University.
- ✓ Encouraging e-reporting.

Name and signature of the Co-ordinator, IQAC Name and Signature of the Chairperson, IQAC