

# QUALITY IMPROVEMENT PROGRAMME

Sponsored by  
ALL INDIA COUNCIL FOR TECHNICAL EDUCATION  
(A Statutory Body of the Government of India)

STATUS REPORT  
2007-2008



CENTRE FOR EDUCATIONAL TECHNOLOGY  
INDIAN INSTITUTE OF TECHNOLOGY, GUWAHATI

## PREFACE

The present report briefs about the activities of the overall Curriculum Development Cell and the Quality Improvement Programme at IIT Guwahati during the year 2007-2008.

During this year 02 numbers of teachers have joined the M. Tech. programme, and 03 numbers of teachers have joined for the advance and final admissions in Ph. D. Programme of the institute.

Fourteen nos. of QIP short-term courses were conducted during the year on different topics.

From this year IIT Guwahati has been given principal coordinatorship for the duration of two years. The major activities of QIP cell for this was to coordinate the all over India admission process for the academic year July 2008.

The overall guidance of the Director IIT Guwahati in the CDC activities is highly appreciated. The valuable support of the members of the Advisory Committee is also greatly acknowledged. Thanks are also due to staff of the QIP and the administrative and accounts staff of the Institute, without their active cooperation, the activities of the QIP/CDC would not have been successfully carried out. The support of AICTE is also gratefully acknowledged.

(Dr. R. Tiwari)

Coordinator, QIP

## Quality Improvement Programme

### Objectives & Programmes

Quality Improvement Programme (QIP) of the Ministry of Human Resource Development, Department of Education, Government of India, under the sponsorship of All India Council for Technical Education, New Delhi has been in operation at the IIT Guwahati since 2003-2004.

**Quality Improvement Programme** is being implemented with the objective of upgrading the expertise, qualification and capabilities of the faculty members of degree level technical institutions. The major activities under the QIP include:

- **Masters and Doctoral Programme** :Under this scheme, faculty member of AICTE approved institutions are given opportunity to upgrade their qualifications. Certain selected institutions offer Masters and Ph.D Programmes to the faculty members and they are paid scholarships and contingency grant by the Council. Recently, the facility of pursuing Masters Degree programmes has been extended to approved polytechnic teachers also.
- **Short Term Programme** :In order to upgrade the knowledge and skills of the teachers working in the different institutions in the country, AICTE provides Financial Assistance for organizing short term training programmes in the emerging areas of Engineering Technology / Pharmacy / Management etc.
- **Curriculum Development** :The major QIP Centres are provided assistance to organize workshops for Curriculum Development. This leads to Model Curriculum, which is used as a base documents by many institutions.

The following activities took place in the financial year 2007-2008:

## Short Term Courses

List of Short Term Courses done under the financial year 2007-2008 are

	Topic	Period	Department	Principal Faculty
1	Mobile Communications: Systems and Applications	04-08 June	Electronics and Communication Engineering	P.R.Sahu R.Sinha
2	Engineering Aspects of Engyme and Microbial Processes	04-08 June	Biotechnology	V.V.Dasu K.Pakhirajan
3	Sensors: From Fabrication to Application	18-22 June	Chemistry	G. Das B. Mandal
4	Digital Techniques for Control and Instrumentation	09-13 July	Electronics and Communication Engineering	S. Majhi C. Mahanta H.Nemade
5	A Roadmap of Quantum Mechanics to String Theory	03-07 Sept	Physics	S. Basu K.L. Panigrahi
6	ICT (Information & Communication Technologies) and Development: A Human Interface	12-16 Nov	Humanities & Social Sciences	Deepthi Shanker
7	Industrial Applications of Turbomachines	26-30 Nov	Energy	U.K. Saha M.M. Pandey
8	Fibre Optics Technology, Components and Applications	03-07 Dec	Physics	S.Khijwania
9	Advanced Engineering Polymers	03-07 Dec	Mechanical & Chemical Engineering	S. Senthilvelan (ME) G. Pugazhenthii (CE)
10	Recent Trends & Technologies in Industrial Waste Treatment and Management	03-07 Dec	Civil Engineering	P.K. Ghosh S. Gokhale
11	Advances of Membrane Separations Technology	10-14 Dec	Chemical Engineering	M.K. Purkait
12	Theory, Numerics and Applications of Differential Equations	10-14 Dec	Mathematics	S.Natesan
13	Introduction to Linear Elastic Fracture Machanics	3-7 Mar	Mechanical Engineering	K.S.R.K.Murthy
14	Introduction to Micro-Manufacturing Technologies	24-28 Feb	Mechanical Engineering	S.Deb,U.S.Dixit

## Curriculum Development Projects

The following CD Cell projects for financial year 2007-2008 under QIP Scheme were undertaken:

Sl.No.	Name of the Proposer & Dept.	Type of project	Title of the project
1	Dr. K.S.R.K. Murthy, ME	Computer Aided Instruction Package	Fracture, Fatigue and Failure Analysis
2	Dr. U. K. Saha,, ME	Slides	Experimental Methods
3	Dr. Saurabh Basu, Physics	Lecture notes Preparatory to a Textbook	An Introduction to Quantum Mechanics
4	Dr. Uday Shanker Dixit, , ME	Preparation of Textbook	Finite Element Methods in Engineering
5	Dr. P. K. Bora, ECE	Preparation of Textbook	Probability and Random Process
6	Dr. Somnath Majhi , ECE	Preparation of Textbook	Limit Cycle Approach for Identification and Control
7	Dr. Rakesh K. Singh and Dr. R. Bhattacharjee , ECE	Preparation of Textbook	Microwave Engineering: Principles and Applications
8	Dr. Mriganka Madhukaillya , DOD	Other: Development of Curriculum	New Media: A User Guide
9	Dr. R. Tiwari , ME	Preparation of Textbook	Analysis and Identification in Rotor Bearing Systems
10	Dr. Abhijit Mitra , ECE	Lecture notes Preparatory to a Textbook	Mobile Communication
11	Dr. Robi Sreedharan P, M.E	Computer Aided Instruction Package, Slides	Mechanical Engineering-III: Engg Drawing
12	Dr. S. K. Dwivedy, M.E	Computer Aided Instruction Package	Control System Engineering
13	Dr. U. Barua, D	Lecture notes Preparatory to a Textbook	Color Theory and its Application; Context Design
14	Dr. G. Saravana Kumar , M.E	Computer Aided Instruction Package	Computer Problems for Engineering Mechanics

**Ph.D. and M. Tech. Admissions:**

The following students have been joined to different departments:

**A. Advance admission to Ph. D. programme for July 2007**

<b>Sl. No.</b>	<b>Name</b>	<b>Department</b>	<b>Name of the Parent Institute</b>
1	Sachindra Mahato	Mechanical Engg.	NERIST, ME Department, Nirijuli, Itanagar, Arunachal Pradesh-791109
2	Utkal Vinodchandra Mehta	Electronics & Communication Engg.	Charotar Institute of Technology Ta Petlad, Dist-Anand, At- Changa, Gujarat-388421
3	Hrushikesh Sarangi	Mechanical Engg.	ITER, Jagamohan Nagar, Post- Khandagiri, Bhubaneswar-751030

**Summary Information of The Number of Teachers Admitted to Ph.D Programme Under QIP at Indian Institute of Technology, Guwahati State-wise for the Year 2007-2008**

<b>Sno.</b>	<b>State</b>	<b>No. Of Candidates Admitted to Ph.D</b>
1.	Orissa	<b>01</b>
2.	Arunachal Pradesh	<b>01</b>
3.	Gujarat	<b>01</b>
	<b>Total:</b>	<b>03</b>

**B. Admission to M. Tech. Programme for July 2007**

1	<b>Mr. Alok Mishra</b>	CSE	Shri Ramswaroop Memorial College of Engineering and Management, Lucknow, UP
2	<b>Gayadhar Pradhan</b>	ECE	E.A.S.T. At Prachi vihar, Anantapur, Phulnakhare, Bhubaneswar , Orissa

**Summary Information of The Number of Teachers Admitted to M.Tech Programme Under QIP at Indian Institute of Technology, Guwahati State-wise for the Year 2007-2008**

Sno.	State	No. Of Candidates Admitted In M.Tech
1.	Uttar Pradesh	01
2.	Orissa	01
	<b>Total:</b>	<b>02</b>

During the financial year 2007-08 admissions activities for the PhD and M.Tech. under QIP scheme took place and results were declared in month of April so it has not been reported in the present report.

**Year-Wise and Cumulative Data of the Number of M.Techs and Ph.Ds who have joined the QIP Programmes since inception**

Year	No. Of Candidates			
	Admitted		Completed	
	M.Tech.	Ph.D.	M.Tech.	Ph.D.
2003-2004	--	--	--	--
2004-2005	05	03	--	--
2005-2006	06	07	--	--
2006-2007	12	08	--	--
2007-2008	02	03	--	--
<b>Total:</b>	<b>25</b>	<b>21</b>		

**Year-Wise and Cumulative Number of Short Term Courses**

Year	No. Of Courses	No. Of Participants
2003-2004	04	
2004-2005	11	
2005-2006	12	
2006-2007	12	
2007-2008	14	
<b>Total:</b>	<b>53</b>	

### State-Wise Distribution of M.Tech and Ph.D Students.

Sno.	State	No. Of Candidates Admitted In M.Tech	No. Of Candidates Admitted In Ph.D
1.	Assam	06	12
2.	Andhra Pradesh	--	01
3.	Arunachal Pradesh	--	02
4.	Jharkhand	01	--
5.	Karnataka	01	01
6.	Kerala	01	--
7.	Manipur	01	01
8.	Orissa	11	02
9.	Tamilnadu	01	01
10.	Uttar Pradesh	03	--
11.	Gujarat	--	01
	<b>Total:</b>	<b>25</b>	<b>21</b>

#### National QIP Coordination Committee (NQCC) meeting

Since this year IIT Guwahati was the coordinating Institute for all over India QIP MTech/PhD admissions for academic year July 2008. The 133<sup>rd</sup> NQCC meeting was held at IIT Guwahati on 28<sup>th</sup> March 2008 for the finalization of the results, in which all the QIP coordinators of IITs and IISc were present.