

# QUALITY IMPROVEMENT PROGRAMME

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

**STATUS REPORT**  
**2014-2015**



**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 2014-2015.

During this year 03 numbers of teachers have joined the M. Tech. programme, and 03 numbers of teachers have joined the Ph. D. programme of the institute.

Under QIP 22 nos. of Short-Term courses were conducted on different topics during the year and 02 nos. of CD Cell projects were conducted

The overall guidance of the Director, IIT Guwahati and Dean (Academic), IITG in the QIP 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.

## 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 base documents by many institutions. Besides, faculty members of the institute are given a small grant to develop lecture notes, presentation slides and to write text books on various subjects.

The following activities took place in the financial year 2014-2015:

### Short Term Courses

List of Short Term Courses done under the financial year 2014-2015 are:

Sl. No.	Topic	Period	Department	Principal Faculty	No. of Participants
1	Teaching Data Structures and Algorithms	1.12.14 to 5.12.14	CSE	Dr. Benny George K & Dr. Saswata Shannigrahi	14
2	Intellectual Property Rights and Innovation	11.12.14 to 12.12.14	HSS	Dr. Sambit Mallick	32
3	Multiphase Flow Reactors Insights through Experimental and CFD Techniques	16.12.14 to 20.12.14	Chemical	Dr. Rajesh Kumar Upadhyay & Dr. Raghvendra Gupta	25
4	Workshop on Advance in Biomedical Engineering	25.02.15 to 01.03.15	Biotechnology	Dr. Biman B. Mandal & Dr. Piruthivi Sukumar	20
5	Micro-manufacturing	22.12.14 to 26.12.14	Mechanical	Dr. Manas Das & Dr. Sukhomoy Pal	30
6	Smart materials and their application in nanotechnology	23.12.14 to 27.12.14	Physics	Dr. A. Perumal & Dr. D. Pamu	35
7	Genetic Algorithms for Engineering Optimization	28.12.14 to 01.01.15	Mechanical	Dr. Deepak Sharma	35
8	Impact and Blast Resistant Design of Structures	January 2015	Civil	Dr. Hrishikesh Sharma	22
9	DESIGN: Education, Research & Innovation (DERI)	2.02.15 to 6.02.15	Design	Asst. Prof. Charu Monga	25
10	Advances in Environment Health	09.02.15 to 13.02.15	CET	Dr. Utpal Bora & Prof. Chandan Mahanta	35
11	Recent Trends in Networks and Distributed Computin	10.02.15 to 14.02.15	Mathematics	Dr. Partha Sarathi Mandal	20
12	Micro-manufacturing Technology	23.03.15 to 27.03.15	Mechanical	Dr. S.N Joshi & Prof. U.S Dixit	37
13	Micro-manufacturing for Biomedical Applications	23.02.15 to 27.02.15	Mechanical	Dr. Mamilla Ravi Sankar	25
14	Innovative Technologies in Transportation Engineering	23.02.15 to 27.02.15	Civil	Prof. Ranjan Choudhary & Prof. Akhilesh Kumar Maurya	23
15	RF and Photonics: Fundamentals & Advances	23.02.15 to 27.02.15	EEE	Dr. Ramesh Kumar Sonkar & Dr. Kshetrimayum Rakhesh Singh	27
16	Recent Advances in Energy Research	23.03.15 to 27.03.15	Chemical	Dr. V V Goud & Dr. Pankaj Tiwari	25
17	Advancement in Renewable Energy and Utilisation Technology	02.03.15 to 06.03.15	Mechanical	Dr. Chandramohan Somayaji & Dr. P. 18Muthukumar	30
18	Computational Methods for Smart Grids	9.03.15 to 13.03.15	CSE	Dr. Arnab Sarkar & Dr. Santosh Biswas	32
19	Recent Advances and Challenges in Geotechnical Engineering Research and Practices	9.03.15 to 13.03.15	Civil	Dr. Anil Kumar Mishra & Dr. T V Bhat	17
20	Modern Scenario in Welding Technology	16.03.15 to 20.03.15	Mechanical	Dr. Pankaj Biswas & Dr. Sachin D. Kore	42
21	Algorithm and Game Theory	10.03.15 to 14.03.15	CSE	Dr. Sushanta Karmakar	24
22	Theory and Applications of Finite Element Analysis	23.03.15 to 27.03.15	Mechanical	Dr. A. Narayana Reddy & Dr. K.S.R.K Murthy	31
<b>Total No. of Participants</b>					<b>606</b>

## Curriculum Development Projects

The following CD Cell projects for financial year 2014-2015 under QIP Scheme were undertaken:

Sl. No.	Name of the Proposer & Dept.	Type of project	Title of the project
1	Dr. Ravi Shankar, Dept. of Mechanical Engg.	Slide Preparation	Mechanics of Machining
2	Dr. Manish Kr. Goyal Dept. of Civil Engg.	Book Writing	Fluid Mechanics and Hydraulics Machine

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

The following students have been joined to different departments:

### A. Advance admission to Ph. D. programme for July 2014

Sl. No.	Name	Department	Name of the Parent Institute
1	Dilip P	EEE	Toc H Institute of Science & Technology, Ernakulam, Kerala
2	Maryom Dabi	ME	NERIST, Nirjuli, AP
3	Sudhir Wamanrao Burande	ME	Govt. College of Engg. Ballarpur, Maharashtra
4	Srikant Athanikar	CSE	Dr. M.S. Sheshgiri College of Engg. & Technology, Belgaun, Karnataka
5	Suchintya Sarkar	CSE	Govt. College of Engg. & Textile Technology, Murshidabad, West Bengal
6	Sisir Kr. Jena	CSE	Nalanda Institute of Technology, Bhubaneswar
7	Pranav Kr. Singh	CSE	CIT Kokrajhar, Assam
8	Dilip Kumar	Civil	G B Pant Engg. College, Ghurdauri Pauri, Uttarakhand

### B. Final Admission to Ph.D programme for July 2014

Sl. No.	Name	Department	Name of the Parent Institute
1	Rakesh Tripathi	CSE	NIT Raipur, Chhattisgarh
2	Ravi Lingenavar	Design	KLESCET, Belgum Karnataka
3	Satish Gunjati	Design	KLESCET, Belgum Karnataka

**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 2014-2015**

<b>Sl.No.</b>	<b>State</b>	<b>No. Of Candidates Admitted to Ph.D</b>
1.	Chattisgarh	01
2.	Karnataka	02
	<b>Total:</b>	<b>03</b>

**B. Admission to M. Tech. Programme for July 2014**

<b>Sl. No.</b>	<b>Name</b>	<b>Department</b>	<b>Name of the Parent Institute</b>
1	Rajpal singh	CSE	BSA College of Engg. & Tech., Mathura
2	Rajashree Konwar	CSE	AEC, Guwahati
3	Sukanta Das	CSE	TIT , Agartala

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

<b>Year</b>	<b>Admitted</b>	
	<b>M.Tech.</b>	<b>Ph.D.</b>
2003-2004	--	--
2004-2005	05	03
2005-2006	06	07
2006-2007	12	08
2007-2008	02	03
2008-2009	03	05
2009-2010	05	02
2010-2011	03	01
2011-2012	08	09
2012-2013	02	11
2013-2014	01	03
2014-2015	03	03
<b>Total:</b>	<b>50</b>	<b>55</b>

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

Year	No. Of Courses
2003-2004	04
2004-2005	11
2005-2006	12
2006-2007	12
2007-2008	14
2008-2009	13
2009-2010	09
2010-2011	13
2011-2012	12
2012-2013	-
2013-2014	08
2014-2015	22
<b>Total:</b>	<b>120</b>

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

Sl.No.	State	No. Of Candidates Admitted In M.Tech	No. Of Candidates Admitted In Ph.D
1.	Assam	16	22
2.	Andhra Pradesh	--	02
3.	Arunachal Pradesh	2	06
4.	Jharkhand	01	--
5.	Karnataka	01	09
6.	Kerala	01	02
7.	Manipur	01	02
8.	Orissa	17	05
9.	Tamil Nadu	01	01
10.	Uttar Pradesh	04	--
11.	Gujarat	01	02
12.	Sikkim	01	02
13.	Bihar	01	
14.	Rajasthan	01	
15.	West Bengal	01	
16.	Maharashtra		01
17.	Tripura	01	
18.	Chhattisgarh		01
	<b>Total:</b>	<b>50</b>	<b>55</b>

(Prof. P. Yammiyavar)

Zonal Coordinator, QIP