INDIAN INSTITUE OF TECHNOLOGY, ROORKEE

DEPARTMENTAL REVIEW TEMPLATE

1. Name of Department/Center : *Paper Technology, Polymer and Process Engineering with MBA, and Applied Sciences and Engineering*

2. Reviewers :

   (i) *Prof. I.K. VARMA (Retd.), IIT Delhi, Delhi.*

   (ii) *Dr. A.J. VARMA, Chair & Chief Scientist, Polymer Science and Engineering Division, CSIR - National Chemical Laboratory, Pune*

   (iii) *Mr. P. Dasgupta (Packing Technologist), Retd. Head of Packing, Hindustan Lever, Bangalore*

3. Date of Review: *28/4/2014*

GRID FOR ASSESSMENT

NOTE:

i.   Please grade in the box provided for the following parameters in the range of 1-10 with 10 being the highest.

ii. Leave 'blank' for 'No Comment'.

iii. Kindly give your opinion on the strength and weakness of the Department/ Center and your suggestions for future growth.

I.   ACADEMICS

I.1	Undergraduate	Score
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	7
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical iii. Projects(minor/major)	8
3.	Evaluation Process i. Continuing Evaluation ii. Mid-term Evaluation iii. End-term Evaluation	9

4.	Academic Ambience	7
5.	Opportunity for Peer-Based Learning	6
6.	Opportunity for Further Learning(Breadth and Depth) 　i.　Elective Courses Specialization 　ii.　Minor with Major Discipline 　iii.　Honors Programme in Major Discipline	5
7.	E-Assisted Learning 　i.　Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) 　ii.　Multi-Media Assisted Teaching	7
8.	In –Curriculum Research/Exploration Opportunity to Students	5
9.	Technical Societies/ Colloquium for Students 　i.　Departmental Society 　ii.　Student Chapter(s) of Professional Societies	6
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring of Students	8
12.	Faculty Advisor System for Students/Class of Students	6
13.	Self Study Courses for Student	5
14.	Effective Teaching Mechanism for Enhanced Number of Students in Various Classes	6
15.	Effectiveness of Assisted Learning: Tutorial System for B.Tech Students/ Seminars	6

I.2	Graduate Programmes (Masters)	Score
1.	Curriculum 　i.　Curricular Structure 　ii.　Course Syllabi 　iii.　Flexibility	8
2.	Formal Academic Load on Students 　i.　Teaching 　ii.　Laboratory/Practical 　iii.　Seminar/Dissertation	7
3.	Evaluation Process 　i.　Continuing Evaluation 　ii.　Mid-Term Evaluation 　iii.　End-Term Evaluation	9
4.	Academic Ambience	7
5.	Opportunity for Peer-Based Learning	7
6.	Opportunity for further Learning(Breadth and Depth) Elective Courses (Specialization Electives)	6
7.	E-Assisted Learning 　i.　Availability of Library Resources and Major Search Engines (like Scopus, Web of Science)	8

		ii. Multi-Media Assisted Teaching	8
	8.	In –Curriculum Research/Exploration Opportunity to Students	6
	9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	8
	10.	Faculty –Student Interaction	8
	11.	Faculty Mentoring/Supervising of Students	8
	12.	Faculty Advisor System for Students/Class of Students	8
	13.	Effectiveness of Assisted Learning: Home Assignments/Seminars/Presentations	7

I.3		Doctoral (Ph.D) Programmes	Score
	1.	Pre-Ph.D Courses and Evaluation Process	8
	2.	Comprehensive Courses Examination	8
	3.	Breadth and Depth of Knowledge of Students	6
	4.	Seminar/ Presentations and Technical Communication	7
	5.	Average No. of Research Students/Faculty	8
	6.	Average No. of Research Papers of Ph.D Students	7
	7.	Average Duration to Complete Ph.D (years)	8

II.   RESEARCH

			Score
	1.	Research Ambience in the Department	7
	2.	Research Awareness among Doctoral Students	7
	3.	Competence Level of Doctoral Students for Research	7
	4.	Quality of Research	6
	5.	Quality of Publications	6
	6.	Impact of Publications	5
	7.	Relevance of Research to Knowledge Generation	6
	8.	Societal Relevance of Research	6
	9.	Exposure of Researchers to the International State of Art	5
	10.	Student Exposure to Attending Quality Conferences/Symposia	6
	11.	Growth in Ph.D Programme	6
	12.	Quality of Research Infrastructure	7
	13.	Utilization of Existing Research Infrastructure	7
	14.	Department Initiative on Faculty Hiring	6
	15.	Breadth and Depth of Research in the Department	6
	16.	Research Intensity of Faculty Members	6

Futuristic Areas For Hiring Faculty Members
i) Food technologist with experience in packaging materials
ii) Polymer Technologist with experience in master batches
iii) Polymer Processing with mould design
iv) Cellulose chemist

Research Areas for Improvement
i) Paper Science and Technology
ii) Polymer Processing (iii) In-depth materials characterization

Comments (not more than 100 words for each given below)

Strength:
They have acquired several high quality equipment like FE-SEM etc.

Weakness:
i) Equipment like compression molding, blow molding, the thermo-forming, etc. not available
ii) Many equipment are not being utilized in full measure eg. DSC, TGA
iii) No provision for 24×7 use of equipment (iv) Uncertain power-supply

Suggestions for improvement:
(i) Students should have hands-on experience with instruments in practicals, and not mere demonstration.
(ii) Course contents should be up-dated frequently.
(iii) More electives should be introduce for increased flexibility & choice.
(iv) Availability of on-line journals should be strengthened.

III.   Departmental Infrastructure

		Score
1.	Adequacy of Class Rooms and Multi-Media Facility	8
2.	Availability of Laboratories	8
3.	Availability of Conference/Seminar Room, etc.	8
4.	Availability of Seating Space for Research Students	8
5.	Availability of Internet Services in Research Labs and Class Rooms	8
6.	Departmental Library and E-Resources	8
7.	Computing Facilities and Software	7
8.	Adequacy of Offices and Furnishing for Faculty	8
9.	Faculty- Student Ratio	7
10.	Support Staff (Technical/Administrative) Adequacy	5

Comments (not more than 100 words for each given below)

Strength:

Good number of up-to-date characterization equipment such as FE-SEM, XRD, etc.

Weakness:

Utilization of various campus facilities and equipment not satisfactory.

Suggestions for improvement:

(i) Since NMR is very important for Saharanpur campus, each week a 2-3hr slot should be reserved for them in Roorkee Campus.
(ii) More emphasis on practicals
(iii) More electives
(iv) Invite more expert scientists in polymers & cellulose for specialized lectures.

IV. Admissions of Ph.D Students

		Score
1.	Intake of Ph.D Students	7
2.	Admission Process	7

Suggestions: No comments.

V. Outcomes

		Score
1.	Placements	
	i. Placement of B.Tech/IDD Students	5
	ii. Placement of Masters Student	7
	iii. Placement of Ph.D Students	7
2.	Average No. of Ph.D.s Awarded per Year	7
3.	Publications per Faculty in ISI Indexed Journals/Year	6
4.	Average Citations per Faculty/Year (Last-Three Years) (Web of Science/Scopus)	6
5.	Recognitions; Awards(National/International) to Faculty/Students	4
6.	Consultancy and Projects	5
7.	No. of Ph.D. graduates who took Academics as Career (Based on Data of Last 5 Years)	No comment

Comments and Suggestions for improvement:

There is a need to prepare a pamphlet on the degrees awarded, the type of teaching and courses, research areas, skills developed, exposure to latest equipment and latest knowledge in the field to prospective chamber employers.

Date: 28/4/2014

1. I.K. Varma
2. AJVarma
3. P. DasGupta.

(Signature of the Reviewer)

(Name and Address of the Reviewer)

1. Prof. I.K. Varma, IIT Delhi, N. Delhi
2. Dr. A.J. Varma, CSIR-NCL, Pune
3. Mr. P. Dasgupta, Bangalore.