

Department of Biochemical Engineering and Biotechnology

Faculty Board Meeting (06/14-15)

Dated: 26th March 2015

Minutes of the 6th Departmental Faculty Board Meeting held on 23rd March 2015 at 3.30 pm in the Departmental Committee Room (I-230). Following members were present:

1.	Prof. Prashant Mishra	Chairman
2.	Prof. Subhash Chand	Member
3.	Prof. G. P. Agarwal	Member
4.	Prof. V. S. Bisaria	Member
5.	Prof. T.R. Sreekrishnan	Member
6.	Prof. A. K. Srivastava	Member
7.	Prof. P. K. Roychoudhury	Member
8.	Prof. Atul Narang	Member
9.	Dr. D. Sundar	Member
10.	Dr. Shilpi Sharma	Member
11.	Dr. Ritu Kulshreshtha	Member
12.	Dr. Ravikrishnan Elangovan	Member
13.	Dr. Z. Ahammad	Member
14.	Dr. Preeti Srivastava	Convener

1. Confirmation of minutes of 5th DFB meeting (5/2014-2015)

The minutes were confirmed as circulated.

2. Matters arising out of above meeting

Floating of M. Tech projects (*Item 5, Minutes of the 5th DFB meeting*) was further discussed and faculty members were requested to float more projects. The total number of project titles received were 20 floated by 9 faculty members whereas the total number of students is 44. It was decided that more project titles be submitted to the DRC Convener before March 31st, 2015.

3. Report on discussion in ECS, BAP, ACL, Safety and other Committee

Head informed the board that in the ECS meeting held on 29th January, 2015, it was decided that the details of usage of restricted chemicals (list circulated earlier) in different labs should be recorded and the information should be compiled on a monthly basis. The list of journals which are important for individual Department should be put on the website of the Department. The limit of PhD students was discussed and it was decided that Institute fellowship should be equally distributed amongst all faculty members.

Dr. D. Sundar briefed the board about the deliberations that took place in the twenty-second meeting of the Undergraduate Curriculum Implementation Committee (UCIC) held on March 20, 2015. It was previously decided by the UCIC that a dual degree credit structure should typically be : [B.Tech credits] – (BTP-1 credits + 10 DE/OC) + [48-54 PG credits for M.Tech part]. Accordingly, the credit structure for our dual degree program was finalized. The B.Tech credits for our BB1 program is 155, BTP-1 is 3 credits; so the dual degree program BB5 has $155 - (3+10) + 48 = 190$ credits. The final course structure and scheduling details are available in the DBEB Curriculum Webpage that is accessible from the URL:

<http://privateweb.iitd.ac.in/~sundar/curriculum>.

4. Discussion on courses to be offered in Semester I, 2015-16.

The list of courses that will be offered in Semester I, 2015-16 are detailed in Annexure I.

5. Discussion on the requirement of funds for the financial year 2015-16.

The details of funds required for NPN 05 and PLN03 are detailed in Annexure II and Annexure III.

6. Discussion on a note received from Assistant registrar (EII) regarding the training of non-teaching staff of the Department

It was decided that Mr. Anish and Mr Rajiv Dahiya may be send for training in Instrumentation and electronics respectively.

7. Discussion on a note received from Dean, Academics regarding identifying challenges and risks for persons with disabilities (PwDs).

The item was extensively discussed and it was agreed that students with only below listed disabilities may be allowed to join the Department since the Department offers several courses which have laboratory component.

1. Low vision
2. Locomotor disability
3. Hearing impairment

8. Discussion on the MoU for establishing the Pan-IIT-ONGC collaborative research program.

Prof. Atul Narang informed the board that the document containing names of the faculty members has already been sent.

9. Discussion on the MoU with Savitribai Phule Pune University

The MoU was discussed in the board. The Department has shown willingness in participating.

10. Discussion on a note received from Dean, faculty regarding GIAN (Global Initiative for Academic Networks)

In GIAN, the faculty members from outside can teach some related topics of the course for 1.5 months. Head requested Prof. Atul Narang to contact Prof. Chilkoti who is expert in Nanomaterials and Prof. Bhanu Jena who works in the field of cell sorting. Prof. Atul Narang suggested that Prof. Tomas Eggley who works in the field of drinking water may also be interested.

11. Finalization of the names of peers for QS ranking (note received from Prof. Shashi Mathur)

Head requested each of the faculty members to provide atleast two names of peers in their field.

12. Nominations for the Sansthan incentive award for group B, C, D and work charged employees of the Institute

No one was nominated from the Department.

13. Nomination of faculty members for evaluation of SURA proposals

Dr. Ravikrishnan Elangovan and Dr. Shilpi Sharma were nominated for the evaluation of SURA proposals.

14. Nomination of two faculty members for IITD Open House 2015

Dr. Ritu Kulshreshtha and Dr. Z. A. Shaikh were nominated for IITD open house 2015.

15. Discussion on summer internship of dual degree students

Head informed the board that based on discussion with faculty a note mentioning that the departmental students should be allowed to do foreign internship has been sent to T&P. This item was ratified.

16. Discussion on a note received from Coordinator QIP inviting proposals for QIP short term courses

Head apprised the board that QIP program is for teachers from different engineering Schools. The program gives them exposure to the facilities and infrastructure available in IITs. Interested faculty members may submit their proposals.

17. Any other item with the permission of the Chair

Head informed the board about the note received from Prof. Incharge Planning about the scheduled dates for timely processing of bills.

Head also informed the board about the CEP program for practical training for students where every faculty can spend a day for training.

The meeting ended with a vote of thanks to the Chair.

Preeti Srivastava
Convener

All Faculty members

Annexure – I

Courses to be offered by DBEB in 1st Semester 2015-16

Slot	Course Code	Description	Course Credits	L	T	P	Coordinator/ Associated Faculty
D	BBL131	PRINCIPLES OF BIOCHEMISTRY	4.5	3	0	3	PM / MNG
B	BBL132	GENERAL MICROBIOLOGY	4.5	3	0	3	VSB / SS
H	BBL133	MASS AND ENERGY BALANCES IN BIOCHEMICAL ENGINEERING	3.0	3	0	0	ZAS
D	BBL110	MOLECULAR BIOTECHNOLOGY	3.0	3	0	0	SS / PS
B	BBL331	BIOPROCESS ENGINEERING	3.0	3	0	0	AN
E	BEL403	ENZYME ENGINEERING AND TECHNOLOGY	4.0	3	0	2	RE / SC*
F	BEL412	IMMUNOLOGY (DE 1)	4.0	3	0	2	RK
F	BEL413	MODELLING AND SIMULATION OF BIOPROCESSES (DE 2)	4.0	3	0	2	AKS
H	BEL416	MEMBRANE APPLICATIONS IN BIOPROCESSING (DE 3)	3.0	3	0	0	GPA
H	BEL701	BIOTECHNOLOGY RESOURCE PLANNING AND IPR ISSUES	2.0	2	0	0	PM / SC
D	BEL714	PROTEIN SCIENCE AND ENGINEERING (PE 3)	3.0	3	0	0	SM / DS
D	BEL715	BIOLOGICAL WASTE TREATMENT (PE 1)	4.0	3	0	2	TRS
J	BEL722	GENOMICS AND PROTEOMICS (PE 2)	3.0	3	0	0	DS / PS
J	BEL810	ENZYME AND MICROBIAL TECHNOLOGY	3.0	3	0	0	VSB (2/3) / SC (1/3)
E	BEL820	DOWNSTREAM PROCESSING	3.0	3	0	0	SN
H	BEL830	MICROBIAL BIOCHEMISTRY	3.0	3	0	0	SM
F	BEL850	ADVANCED BIOCHEMICAL ENGINEERING	5.0	3	0	4	ZAS / TRS
D	BBP332	DESIGN OF BIOPROCESSES	2.5	0	1	3	SN/RE*
P	BEP840	LAB.TECH.IN MICROBIAL BIOCHEMISTRY	2.0	0	0	4	PM
NM	BBN101	INTRODUCTION TO BIOCHEMICAL ENGINEERING AND BIOTECHNOLOGY	1.0	0	0	2	PM / ALL FACULTY
P	BET450	PRACTICAL TRAINING	0.0	0	0	0	AN
P	BES350	INDEPENDENT STUDY (BB)	3.0	0	3	0	PM
P	BEC450	COLLOQUIUM (BB)	3.0	0	3	0	RE
P	BED800	MAJOR PROJECT	40.0	0	0	80	RK
P	BED851	MAJOR PROJECT PART 1 (BB)	6.0	0	0	12	SS
P	BED852	MAJOR PROJECT PART 2 (BB)	14.0	0	0	28	SS
P	BED853	MAJOR PROJECT PART 1 (BB)	4.0	0	0	8	SS
P	BED854	MAJOR PROJECT PART 2 (BB)	16.0	0	0	32	SS

*The final teaching load will be adjusted after add and drop of courses during the beginning of the semester.

Annexure – II

S. No	Item	Cost (Rs Lakhs)	Location of proposed equipment	Faculty members involved	Purpose (Research / Teaching Labs) (List of Course Nos)
1	One HPLC with autosampler	25	Instrumentation Lab	GPA,AKS,AN, TRS	BEL715, BED851-854
2	One Water circulator	2.5	DSP/Process Lab/WTL	GPA	BED851-854, BEL820
3	5 pH meters	2.6	DSP, New teaching lab	GPA, PS,SM,RK,SS	BED851-854, BEL820
4	Inverted fluorescence Microscope	12	Animal Cell Culture lab	RK,PKRC, PM	BEL412,BEL717,
5	Laminar flow	2	Animal Cell Culture Lab	RK,PKRC, PM	BEL412,BEL717,
6	UV Vis Spectrophotometer	5	M.Tech Bioscience Lab	PM,MNG,SM	BEL 840 BEL 716, BEL 419
7	pH probe applikon fermenter	0.7	Enzyme Engineering lab	PM,MNG	BEL 840
8	Weighing Balance	3	M.Tech Bioscience Lab	PM,SM,MNG	BEL 840, BEL 716, BEL 419
9	Spectrofluorimeter	10	M.Tech Bioscience Lab	PM,SM,MNG	BEL 716, BEL 840, BEL 419,
10	Electronic pestle & Mortor	1.5	M.Tech Bioscience Lab	PM,MNG	BEL 840,BEL 419
11	Three weighing balance	3.0	DSP, New teaching lab	GPA, PS/SM/RK/SS	BED851-854, BEL820
12	2 Stirred Cell	2.0	UG & PG Lab	GPA,SN, AN , ZAS	BED851-854, BEL820
13	2 Rayflow	2.0	UG & PG Lab	GPA,SN, AN , ZAS	BED851-854, BEL820
14	UV-VIS Spectrophotometer	4.5	Bioprocess lab	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
15	2 Table top centrifuges + 1 General purpose centrifuge Sorvall + 4 Micro centrifuges	7.0 + 5+3 = 15	Bioprocess lab, BRL, Instrumentation lab, UG lab	AKS, ZA,AN, PKRC, Prof SC, GPA, SM, PM, SS	BED851-854
16	Probes for 7 liter	0.7	Bioprocess lab	AKS, ZA,AN PKRC,	BED851-854

	Applikon fermenter (pH & DO)			SC, GPA	
17	Probes for 3 liter Applikon fermenter (pH & DO)	0.7	Bioprocess lab	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
18	Probes for 3.7 liter Bioengineering fermenter (pH & DO)	0.8	Bioprocess lab	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
19	Probes for 7 liter Bioengineering fermenter (pH & DO)	0.8	Bioprocess lab	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
20	Bioreactor 3 liter	15	Bioprocess lab	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
21	2 Chilled water circulation unit Julabo	2.5	Bioprocess lab, Plant cell culture lab	AKS, ZA,AN, PKRC, SC, GPA, VSB	BEL712
22	Pipetter different ranges +11 pipette sets	3.6	Bioprocess lab, UG lab, RNA-I	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
23	Sonicator	0.5	Bioprocess lab	AKS, ZA,AN, PKRC, SC, GPA	BED851-854
24	2 Spare reactor vessel for Applikon reactor	1.5	Plant cell culture	AKS, VSB	BEL712
25	1 Air compressor for supply of air	1.5	I-24 to I-27, Pilot plant, Down-stream processing unit, New teaching lab	AKS, VSB	BED851-854
26	Steam Generator	1.5	Pilot plant Lab (I-231)	AKS, VSB	BED851-854
27	Chilled water unit (for the operation of 150, 300 liter reactors)	8	Pilot plant Lab (I-231)	AKS, VSB	BED851-854
28	Magnetic stirrer-2 10 x magnetic stirrer and hot plate	0.1 (Rs. 5000/ per unit) +3.0	New teaching lab(UG lab)	PS,SM,RK,SS, RE, AN, ZAS.	BBP303, BEL850
29	Refrigerators-4	2.0	BRL Lab, WTL, RNAI	SM,PM,SS,TRS,ZAS	BEL715, BED851-854, BEL750
30	Western blotting apparatus	2.0	UG lab	DS,PS	BEL722
31	Desktop	0.8	BRL-for attaching	SM,PM,SS	BED851-854

	computers-2		to the gel doc Mutation lab-for attaching to Nikon microscope		
32	-20 degrees freezer-1	1.5	BRL	SM,PM,SS	BED851-854
33	Vortex mixer-10	1.1	BRL, UG lab	SM,PM,SS,PS, RE,AN,RK,VSB	BED851-854
34	4 Low voltage power pack	1.4	BRL, UG lab	SM,PM,SS	BED851-854, BEL204
35	4 Dry baths	3.0	UG lab, Metagenomics, RNA-I	SS, TRS, ZA, PS	BEL204. BEL103, BEL750
36	2 Pipette shield		Radioactivity lab	AN	BED851-854
37	1 Steel waste bin		Radioactivity lab	AN	BED851-854
38	2 Beta storage containers		Radioactivity lab	AN	BED851-854
39	2 Holders for tube and vial		Radioactivity lab	AN	BED851-854
40	1 Grip tongs		Radioactivity lab	AN	BED851-854
41	1 Lead gloves		Radioactivity lab	AN	BED851-854
42	1 Flexiglass shield	0.4	Radioactivity lab	AN	BED851-854
43	2 Orbitek incubator shaker	1.8+3=4.8	RNA II, space required	AN, RE	BED851-854
44	10 x USB pH, Temp, DO probes	5	UG Lab	RE, AN, ZAS	BBP303, 850
45	10 x Labview DAQ	2	UG Lab	RE, AN, ZAS	BBP303, 850
46	10 x peristaltic pump , piezoelectric pump	5	UG Lab	RE, AN, ZAS	BBP303, 850
47	2 UV Transilluminators	0.8	UG Lab	PS, RE,AN, SM, RK, SS,VSB	BEL204
48	3 Gel Rocker	1.5	UG Lab, RNAII	RK RE,AN, SM, PS, SS,VSB	BEL204, BEL412
49	2 Biometric door locks	1.5	UG lab and Instrumentation lab	all	BED851-854
50	RI detector for HPLC Agilent 1100	4	Instrumentation lab	all	BED851-854
51	Autosampler for HPLC Agilent 1100	4.5	Instrumentation lab	all	BED851-854
52	Computer	7	DBEB Computer Cluster	all	BED851-854
53	High Performance Computing Cluster	10	DBEB Computer Cluster	all	BED851-854
54	Water bath	1	WTLPP, WTL	TRS, ZAS	BEL702, 703, 715
55	COD block digester	0.75	WTL, WTLPP	TRS, ZAS	BEL702, 703, 715
56	Drying cabinet	0.75	WTL	TRS, ZAS	BEL702, 703, 715
57	Autosampler for IC	6	DSP	TRS, GPA, AN, ZAS	BEL702, 703, 715
58	TCD and FID detectors for GC	2	WTL	TRS, ZAS	BEL702, 703, 715
59	Multiparameter	5	WTL, WTLPP	TRS, ZAS	BEL702, 703, 715

Annexure - III

Request of Funds under **NON-PLAN** head for the year 2015-2016

For the Laboratory courses

	Course Code	Description	~ # of students	Total (in lacs)
Semester 1	BEL101	Biochemistry	48	0.5
	BEL103	General Microbiology	48	0.5
	BEL403	Enzyme Engg. & Tech	48	0.5
	BEL412	Immunology	40	0.5
	BEL413	Modeling & Simulation	30	-
	BEL715	Biol Waste Treatment	35	-
	BEL717	Animal Cell Tech	25	1.0
	BEL850	Advan Biochem Engg	15	0.5
	BEP303	Design of Bioprocess	48	0.5
	BEP840	Lab Tech Microb Tech	10	0.5
Semester 2	BEL204	Mol Biol & Genetics	48	0.75
	BEL419	Enz Cat Org Synthn	25	0.5
	BEL418	Bioinformatics	25	-
	BEL702	Bioprocess Plant Design	48	-
	BEL703	Downstream Process	48	0.5
	BEL711	Recomb DNA Tech	20	0.75
	BEL712	Plant Cell Tech	20	0.75

For Dual Degree Students' Major Project Research

Total number of students who will pursue MTP	Budget per student (Rs. In Lacs)	Total (in lacs)
32	0.5	16

For MS(R) Research

Total number of students for MS(R) Program	Budget per student (Rs. In Lacs)	Total (in lacs)
6	1	6

For PhD Research

Total number of students for PhD program	Budget per student (Rs. In Lacs)	Total (in lacs)
46	1	46.0

Annual Maintenance Contract (AMC) of Equipments	5.0
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Miscellaneous Office Operating Expenses	3.0
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Total budget requested under NPN head (Rs. In Lacs) =	83.8
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***Names of faculties with abbreviations**

Prof. Prashant Mishra	PM
Prof. T. R. Sreekrishnan	TRS
Prof Subhash Chand	SC
Prof. M.N. Gupta	MNG
Prof. V. S. Bisaria	VS
Prof. G. P. Agarwal	GPA
Prof. Saroj Mishra	SM
Prof. A. K. Srivastava	AKS
Prof. Sunil Nath	SN
Prof. P K Roychoudhury	PKRC
Prof. Atul Narang	AN
Dr. D. Sundar	DS
Dr. Shilpi Sharma	SS
Dr. Ritu Kulshreshtha	RK
Dr. Ravikrishnan Elangovan	RE
Dr. Preeti Srivastava	PS
Dr. Z. A. Shaikh	ZAS