

Department of Biochemical Engineering and Biotechnology

Dated: 26th March 2014

Minutes of the 7th Departmental Faculty Board Meeting (2013-2014) held on 24th March 2014 at 11.00 a.m. in the Departmental Committee Room (I-230). Following members were present:

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

1. Confirmation of minutes of DFB Meeting No. 6 (2013-2014) held on 6th Jan 2014 and special DFB meeting held on 27th Jan 2014.

Agenda No 11. Any other item with the permission of the chair (Minutes of 6th DFB meeting)

Head informed the board that though an official communication has not been received, it has been verified from DST that the departmental proposal for the FIST grant has not been approved.

The minutes of special DFB meeting held on 27th Jan 2014 were confirmed as circulated as there were no comments received on the same.

2. Matters arising out of above meeting.

Item No 6, 6th DFB meeting & Special DFB meeting held on 27th Jan 2014

During retrospection of the internal review process of the department, the board was of the opinion that the entire exercise was extremely helpful in bringing together the activities and achievements of faculty member, together with deciding on the methodologies to be adopted for realization of departmental goals. During the Committee's visit and the review process, as the Chairperson, Internal Review Committee, could not be present at the time of the Department's presentation on 7th March 2014, he had to take cues from other members of the committee, especially the internal nominee. The latter in turn took an activist position, which was undesirable from the position he held. Ideally, there should have been no Conflict of Interest between the committee members and the department being reviewed.

The members requested the Head to convey the concerns expressed through a letter to the Director, IITD. **(Act: Head)**

3. Courses to be offered in next semester, Semester I, 2014-2015.

Following modifications were decided with respect to course scheduling and numbering of courses:

- (a) Molecular Biology and Genetics to be moved to Sem IV, and to be numbered as a 200 level course.
- (b) Mass and Energy Balances in Biochemical Engineering to be moved to Sem III.
- (c) Bioprocess Technology to be moved to Sem VI, and to be numbered as a 300 level course. Molecular Biology and Genetics to be a pre-requisite for the course.

The courses to be offered in Semester I, 2013-2014 was discussed and finalized in DFB as attached in Annexure I with course numbers and slots to be filled in after the Senate's approval. Time Table In-charge was requested to kindly forward the same to the Time Table Committee as and when desired. **(Action: Time table I/c, DBEB)**

4. Discussion on departmental requirements of funds for the financial year 2014-2015.

Based on the requirements put forth by individual faculty members, the departmental budget projection for financial year 2013-2014 was compiled as Annexures II (PLN03) and III (NPN05) and IV (PLN05) to be communicated by the Head to the Planning Unit.

(Act: Head)

5. Nomination of representative to Board of Academic Programme (BAP)

Prof. Prashant Mishra and Dr Atul Narang were nominated representatives to Board of Academic Programme (BAP).

6. Constitution of departmental Committee for Policy and Vision.

Departmental Committee for Policy and vision was constituted with the following members:

Head, DBEB	Ex-officio
Chairperson, DRC	Ex-officio
Dr. Atul Narang	Member
Dr. Preeti Srivastava	Member
Dr. Ravikrishnan Elangovan	Member

7. Comments / feedback on proposal to float new elective courses by the Department of Humanities and Social Sciences (HUL813 Minimalist Architecture of Grammar).
8. Comments / feedback on proposal to float new elective courses by Department of Mathematics (MAL742 Operator Theory, MAL743 Fourier Analysis, MAL751 Symbolic Dynamics, MAL761 Basic Ergodic Theory, MAL861 Measure Theory, MAL862 Advanced Applied Analysis).
9. Comments / feedback on proposal to float new elective courses by the Centre for Biomedical Engineering (BML720 Medical Imaging).
10. Comments / feedback on proposal to float new elective courses by the Department of Computer Science and Engineering (CSL819 Advanced Distributed Systems).
11. Comments / feedback on proposal to float new elective courses by the Department of Humanities and Social Sciences (HUL735 Research Methods in Economics, HUL737 Advanced Growth Theory, HUL755 Advanced Econometrics, HUL756 Times Series Econometrics and Forecasting).

No comments were received on the course proposals mentioned in agenda item no 7-11.

12. Any other item with the permission of the Chair.

- Head stressed again that each lab incharge should submit a copy of the key to their respective lab in the Head's office as a safety measure. The deadline for deposition was fixed as 7th April 2014.

(Act: Lab Incharges, DBEB)

- Dr Ravikrishnan Elangovan volunteered to look for options available for smoke alarms to be fitted in departmental laboratories as a precautionary measure.
- No comments were received on the course proposal EEL803 Network Performance Modeling and Analysis, submitted by Department of Electrical Engineering.
- Head again informed the members of the recent Show Cause Notice issued by SDM Mehrauli regarding the regulation of hazardous / toxic chemicals. He requested all lab-incharges to register stock and usage of the list of chemicals with immediate effect. One person is to be appointed per lab to take the responsibility of maintaining the records for the respective lab.

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

Shilpi Sharma
Convenor

All Faculty members

ANNEXURE I

Courses to be offered by DBEB in 1st Semester 2014-15

Course Code	Description	L-T-P	Course Credits	Coordinator/ Associated Faculty
BEC 450	Colloquium	0-3-0	3.0	RK / SN
BED 800	Major Project	0-0-80	40.0	AN
BED 851	Major Project – Part 1 (BB)	0-0-12	6.0	RK
BED 852	Major Project – Part 2 (BB)	0-0-28	14.0	RK
BED 853	Major Project – Part 1 (BB)	0-0-8	4.0	RK
BED 854	Major Project – Part 2 (BB)	0-0-32	16.0	RK
NIN100	Introduction to Engineering & Prog.			Head
BEL 131	Principles of Biochemistry	3-0-3	4.5	PM / MNG
BEL 133	General Microbiology	3-0-3	4.5	VSF / SS
To be decided later	Mass and Energy Balances in Biochemical Engineering	3-0-0	3	ZA
BEL 110	Molecular Biotechnology	3-0-0	3.0	SS / PS
BEL 331	Bioprocess Engineering	3-0-0	3.0	AN
BEL 334	Enzyme Engineering and Technology	3-0-2	4.0	RE / SC
BEL 441	Immunology (DE 4)	3-0-2	4.0	RK
BEL 442	Modeling and Simulation of Bioprocesses (DE 5)	3-0-2	4.0	AKS
BEL 701	Biotechnology Resource Planning and IPR issue	2-0-0	2.0	Head (TRS) / SC
BEL 742	Biological Waste Treatment (PE 4)	3-0-2	4.0	TRS
BEL 734	Genomics & Proteomics (PE 5)	2-0-2	3.0	DS / PS
BEL741	Protein Science & Engg	3-0-0	3.0	SM/ DS
BEL 810	Enzyme and Microbial Technology	3-0-0	3.0	VSF / SC
BEL 820	Downstream Processing	3-0-0	3.0	SN
BEL 830	Microbial Biochemistry	3-0-0	3.0	SM
BEL 850	Advanced Biochemical Engineering	3-0-4	5.0	ZA / TRS
BEP 333	Bioprocesses Engineering Lab	0-0-3	1.5	RE
BEP 840	Laboratory Techniques in Microbial Biochemistry	0-0-4	2.0	PM
BER 350	Professional Practices (BB)	0-1-2	2.0	VSF
BES 350	Independent Study (BB)	0-3-0	3.0	VSF
BET 450	Practical Training (BB)	0-0-0	0.0	AN / DS

Note: The first name in the last column is the Coordinator for the course.

ANNEXURE II

Request of Funds under PLAN head for the year 2013-2014 (PLN03)

S. No	Item	Total Cost (Lakh)	Location of proposed equipment	Faculty members involved	Purpose (Research , Teaching Labs) (List of Course Nos)
1	4 UV, visible spectrophotometers	4	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
2	4 large bench-top centrifuges	20	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
3	4 weighing balances	6	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
4	2 water baths	4	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
5	RO water dispenser	0.25	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
6	1 ice-maker	5	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL 103, 403, 403, 850, 204, 412, 711
7	4 refrigerators	2	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
8	4 lab shakers	8	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
9	3 laminar flow hoods	3	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
10	1 large fume hood	2	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
11	3 autoclaves of different capacities	4.5	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
12	1 -20C freezer	0.5	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
13	1 gel doc system	6	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711
14	3 PCR cyclers	6	New UG lab	PS, RE, AN, SM, RK, SS, VSB	BEL103, 403, 403, 850, 204, 412, 711

						412, 711
15	Several micro centrifuges	3	New UG lab	PS, RE, AN, SM, RK, SS, VSB		BEL103, 403, 403, 850, 204, 412, 711
16	10 x USB pH, T, DO probes	5	New UG lab	RE, AN		BEP303, 850
17	10 x magnetic stirrer and hot plate	3	New UG lab	RE, AN		BEP303, 851
18	10 x Labview DAQ	2	New UG lab	RE, AN		BEP303, 852
19	10 x peristaltic pump, piezoelectric pump	5	New UG lab	RE, AN		BEP303, 853
20	Replacement of camera of Gel Doc	3	RNA II (Dept. Central facility)	All		PhD, MTP, M.S. (R), BEL204, BEL711
21	Type II water system	6	Central water plant	All		PhD, MTP, M.S. (R), all lab courses
22	Ultrapure water system	6	Central water plant	All		PhD, MTP, M.S. (R), all lab courses
23	Deep Freezer (2 nos)	2	WTL, WTLPP, Metagenomics, RNA-I	TRS, ZAS, DS, SS, PS		PhD, MTP, M.S. (R), BEL702, 703, 715
24	Water bath	1	WTLPP, WTL	TRS, ZAS		PhD, MTP, M.S. (R), BEL702, 703, 715
25	COD block digester	0.75	WTL, WTLPP	TRS, ZAS		PhD, MTP, M.S. (R), BEL702, 703, 715
26	Drying cabinet	0.75	WTL	TRS, ZAS		PhD, MTP, M.S. (R), BEL702, 703, 715
27	Refrigerator	4	WTL, WTLPP, I-127, I-337, Bioprocess Lab (I-103 to I-106), BRL	TRS, ZAS, GPA, RE, AKS, SM, PM		PhD, MTP, M.S. (R), BEL702, 703, 715
28	Peristaltic pumps	7	WTL, WTLPP, Metagenomics	TRS, ZAS, SS		PhD, MTP, M.S. (R), BEL702, 703, 715
29	Vacuum pumps	1	WTL, WTLPP	TRS, ZAS		PhD, MTP, M.S. (R), BEL702, 703, 715
30	Shaker incubator	11	WTL, WTLPP, I-127	TRS, ZAS, GPA		PhD, MTP, M.S. (R), BEL702, 703, 715
31	Centrifuges	9.5	WTL, WTLPP, Bioprocess Lab (I-103 to I-106), BRL	TRS, ZAS, AKS, SC, SM, PM,		PhD, MTP, M.S. (R), BEL702, 703, 715

32	Autosampler for IC	6	DSP	TRS, GPA, AN, ZAS	PhD, MTP, M.S. (R), BEL702, 703, 715
33	TCD and FID detectors for GC	2	WTL	TRS, ZAS	PhD, MTP, M.S. (R), BEL702, 703, 715
34	Multiparameter Water Quality Checker	10	WTL, WTLPP	TRS, ZAS	PhD, MTP, M.S. (R), BEL702, 703, 715
35	RT-PCR and Robot	30	WTL, Metagenomics	TRS, ZAS, SS, PS, DS	PhD, MTP, M.S. (R), BEL702, 703, 715
36	Laminar flow safety cabinet	3	WTL, WTLPP	TRS, ZAS	PhD, MTP, M.S. (R), BEL702, 703, 715
37	PCR preparation safety cabinet	2	Metagenomics	TRS, ZAS, DS, SS	PhD, MTP, M.S. (R), BEL702, 703, 715
38	Pipet set (2 no.)	2	RNA-I, Metagenomics	PS, SS	PhD, MTP, M.S. (R), BEL734, BEL750
39	Spectrofluorometer	12	Enzyme Engineering Lab	PM, MNG, SM	PhD, MTP, M.S. (R), BEL 101, BEL 840, BEL 419
40	Chiral columns for HPLC	3	Instrumentation Lab	PM/MNG	PhD, MTP, M.S. (R), BEL 840, 419
41	Digital Microscope	4	M.Tech Biosci Lab	PM	PhD, MTP, M.S. (R), BEL 101, BEL 840
42	Western blotting apparatus	1.5	RNA-I	PS	PhD, MTP, M.S. (R), BEL734
43	Vertical gel electrophoresis assembly	0.5	RNA-I	PS	PhD, MTP, M.S. (R), BEL734
44	Refrigerated water bath	2	RNA-I	PS	PhD, MTP, M.S. (R), BEL734
45	Southern blotting apparatus	2	RNA-I	PS	PhD, MTP, M.S. (R), BEL750
46	Fume Hood (to be fabricated)	1	BRL lab	SM, PM & all other users of this lab.	PhD, MTP, M.S. (R), Teaching. Many labs including BEL 711
47	Multi-tiered shaker from Biogentek	15	BRL lab	PM, SM	PhD, MTP, M.S. (R), BEL103, rDNA lab
48	PCR cycler	3.5	M.Tech lab	SM	BEL711
49	Computers	7	Instrumentation, WTL, WTLPP, RNA II, Metagenomics, BRL, EE lab, Animal Cell Culture	TRS, GPA, ZAS, SS, PM, RK	PhD, MTP, M.S. (R),

50	High Performance Computing Cluster (US\$ 15,000)	10	Molecular Modeling Lab (I-232)	DS*, ZA	PhD, MTP, M.S.(R), BEL418, BEL722, General Storage & computing for DBEB
51	UV-VIS Spectrophotometer	9.5	Bioprocess Lab (I-103 to I-106), M.Tech Bioscience	AKS, ZA, SC, GPA, PM, PS	PhD, MTP, M.S.(R), BEL101, BEL840
52	Chilled water circulation unit, Julabo	5	Plant Cell Culture Lab (I-24 to I-27), Bioprocess Lab (I-103 to I-106)	AKS, VSB, SC, GPA, AN	PhD, MTP, M.S. (R), BEL712
53	pH DO Probes for Applikon reactor	0.8	Plant Cell Culture Lab (I-24 to I-27)	AKS, VSB	PhD, MTP, M.S. (R), BEL712
54	Rayflow module for ultrafiltration (2 no)	3.5	I-29	GPA	PhD, MTP, M.S. (R), BEL703
55	Cross-Flow research Unit for Hollow-fibre and tubular modules and its accessories (1 no)	7.5	I-127	GPA	PhD, MTP, M.S. (R), BEL703
56	Flow Cytometer	35	RNA II	RK, PS, AN, SS	PhD, MTP, M.S. (R), BEL412
57	-80	6	RNA II	RK, PS, AN, SS	PhD, MTP, M.S.(R)
58	RI detector + autosampler HPLC	11	Instrumentation	All	PhD, MTP, M.S.(R)
59	HPLC with autosampler (1 no)	30	Instrumentation	GPA	PhD, MTP, M.S.(R)
60	Magnetic stirrer with heating	1.5	RNA-I, I-127	PS, GPA	PhD, MTP, M.S. (R),
61	Roller, rotospin	0.3	RNA-I	PS	PhD, MTP, M.S. (R),
62	Autoclave (2 nos)	2	RNA-I, Metagenomics	PS, SS	PhD, MTP, M.S. (R),
63	Multi-channel pipet (2 nos)	2	RNA-I, Metagenomics	PS, SS	PhD, MTP, M.S. (R),
64	Weighing balance	2.5	RNA-I, Bioprocess Lab (I-103 to I-106)	PS, AKS, SC,	PhD, MTP, M.S. (R),
65	pH meter (4 no)	1.25	Bioprocess Lab (I-103 to I-106), I-337, RNA-I	AKS, ZA, SC, GPA, RE, PS	PhD, MTP, M.S. (R)
66	RO	0.15	RNA-I	PS	PhD, MTP, M.S. (R),
67	Thermal block	1	Metagenomics	SS, TRS, ZAS	PhD, MTP, M.S. (R),
68	MilliQ Water System (1 no)	6	I-129	GPA	PhD, MTP, M.S. (R)

69	Gear Pump (1 no)	2	I-127	GPA	PhD, MTP, M.S. (R)
70	Cold Cabinet (with temperature controller) (1 no)	1.5	I-127	GPA	PhD, MTP, M.S. (R)
71	Shaking Water Bath	1	I-127	GPA	PhD, MTP, M.S. (R)
72	Centrifuge adapter + tubes	0.4	I-335	RE	PhD, MTP, M.S. (R)
73	BSL2 Biosafety hood	2	I-324	RE	PhD, MTP, M.S. (R)
74	Analytical Balance	1	I-337	RE	PhD, MTP, M.S. (R)
75	Probes for fermenters (pH & DO)	3	Bioprocess Lab (I-103 to I-106)	AKS, ZA, AN, PKRC, SC, GPA	PhD, MTP, M.S. (R)
76	Bioreactor (3 litre)	15	Bioprocess Lab (I-103 to I-106)	AKS, ZA, AN, PKRC, SC, GPA	PhD, MTP, M.S. (R)
77	Cool cabinet	0.8	RNA-I	PS	PhD, MTP, M.S. (R),
78	Membrane Osmometer (1 no)	6	I-127	GPA	PhD, MTP, M.S. (R)
79	Electrokinetic Analyser for solid samples, SurPass (1 no)	40	Instrumentation	GPA	PhD, MTP, M.S. (R)
80	Potentiostat	6	WTL, WTLPP	TRS, ZA	PhD, MTP, M.S. (R),
81	TOTAL (In Lacs)	461.45			

ANNEXURE III

Request of Funds under **NON-PLAN** head for the year 2014-2015

For Laboratory courses

	Course Code	Description	~ # of students	Total (in Lacs)
Sem 1	BBL101	Principles of Biochemistry	60	0.75
	BBL103	General Microbiology	60	0.75
	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
	BEL850	Advan Biochem Engg	15	0.5
	BEP303	Design of Bioprocess	48	0.5
	BEP840	Lab Tech Microb Tech	10	0.5
Sem 2	BEL204	Mol Bio & Genetics	48	0.75
	BEL419	Enz Cat Org Synth	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 (In Lacs)	Total (in lacs)
48	0.5	24

For MS(R) Research

Total number of students for MS(R) Program	Budget per student (In Lacs)	Total (in lacs)
12	1	12

For PhD Research

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

Annual Maintenance Contract (AMC) of Equipments	5
Miscellaneous Office Operating Expenses	3
Total budget requested under NPN head (` In Lacs)	98.25

ANNEXURE IV
Request of funds for procurement of Furniture (PLN05) (2014-2015)

S. No.	Items proposed to be purchased	Approximate cost (in Lacs)		Location (Room No. / Lab name)	Purpose	Proposed Furniture		
		Unit	Total			Refurbishing of old furniture	Replacement of old Furniture	Furniture for newly created space
1	Table	1	0.3	RNA-I	For computer	x	√	x
2	Chair	1	0.06	RNA-I	research	x	x	√
3	Lab stools	6	0.2	RNA-I	research	x	√	x
4	Table	1	1	RNA-I	For keeping the microscope	x	x	√
5	Doors for reagent racks	3	0.3	RNA-I	Storage of chemicals	√	x	x
6	Office Table	1	0.35	I-229	Replacement of old damaged office table	x	√	x
7	Chair, Tables, Book shelves	3+2+2	0.5	I-32	For students	x	x	√
8	Racks for reagents, cupboard & computer table		0.75	Metagenomics	Storage place required in the lab	x	x	√
9	Cupboard	0.5	0.5	RE	storage	x	x	√
10	Modular lab bench	3	3	Lab bench RE	For students in lab	x	x	√
11	Lab stool/chair (60 pcs)	0.6	3.6	Instrumentation, new UG lab, WTLPP, DSP	Seating requirement for students working in the labs	x	x	√
12	Lab table	2.5	2.5	WTLPP	Workbench required in the lab	x	x	√

13	Cupboard	0.5	1.5	WTLPP	Storage place required in the lab	x	x	√
14	6 Table (6'x3')		5	I-233C	For students in lab	√	x	x
15	10 High Chairs	0.08	0.8	I-233C	For students in lab	√	x	x
16	5 Computer Tables	0.10	0.5	I-127	For computers	√	x	x
17	5 Chairs	0.10	0.5	I-127	For students in lab	x	x	√
18	5 High Chairs	0.08	0.4	I-127	For students in lab	√	x	x
19	1 Wooden Wall Cabinet	0	0.2	I-127	For storage	√	x	x
20	8 Chairs		0.5	Enzyme Engg, Process lab	For students in lab	√	x	x
21	8 Tables	0.06	0.5	Enzyme Engg, Process lab	For students in lab	√	x	x
22	4 Chairs	0.06	0.25	BRL	For students in lab	√	x	x
23	4 Tables	0.06	0.25	BRL	For students in lab	√	x	x
24	17 Chairs + 16 workstations + 17 over head storage bins		4.6	Computation Lab	For students in lab	√	x	x
TOTAL (in Lacs)							28.06	