

Minutes of the 2023-3/19th Meeting of the Senate of IISER Berhampur

The meeting of the Senate of IISER Berhampur (2023-2/19th) was held in hybrid mode in the Boardroom and through Zoom at 03:00 PM on Monday, December 18, 2023.

The following members were present:

Professor Ashok Kumar Ganguli, Director	Chairperson
Professor Joydip Mukhopadhyay, Dean, Academic Affairs	Member
Professor Vishwas Chavan, Dean, R & D, IR and Outreach	Member
Professor K George Thomas, Professor of Chemistry and Dean of Faculty Affairs, IISER Thiruvananthapuram	Member
Professor Tara Chandra Kandpal, Emeritus Professor, Department of Energy Science & Engineering, and Former Dy. Director, IIT Delhi	Member
Professor Reetika Khera, Professor of Economics, IIT Delhi	Member
Dr. Sulakshana P Mukherjee Associate Dean, Academic Affairs and FIC, Chemical Sciences	Member
Dr. Sandeep Chatterjee, Assistant Professor, FIC, Physical Sciences	Member
Dr. Prem Prakash Pandey, Assistant Professor, FIC, Mathematical Sciences	Member
Dr. Bodhisatta Nandy, Assistant Professor, FIC, Biological Sciences	Member
Dr. Arunkumar Krishnan, Assistant Professor, Biological Sciences	Member
Dr. Victor Mukherjee, Assistant Professor, Physical Sciences	Member
Dr. Natasha Sharma, Warden, Assistant Professor, Department of Physical Sciences	Member
Dr. Nihar Kanta Patra, Librarian, IISER Berhampur	Member
Shri Pradeep Kumar Ray, Registrar	Secretary

The following attended the meeting as Special Invitees :

Dr. Prosenjit Daw, Assistant Professor, Department of Chemical Sciences
Dr. Kasi Viswanadham G, Assistant Professor, Department of Mathematical Sciences
Dr. ~~Adi Narayan Dodi~~ ^{Adinayana Doddi}, Assistant Professor, Department of Chemical Sciences
Dr. Vivek Tiwari, Assistant Professor, Department of Biological Sciences
Dr. Bikashkali Midya, Assistant Professor, Department of Physical Sciences
Ms. Bandita Das, PhD Student Representative
Shri Amal Chacko, SAC Student Representative (UG)

Prof. T.C. Kandpal, Prof. K. George Thomas, Prof. Reetika Khera, Dr. Vivek Tiwari, Dr. Bikashkali Midya, Dr. Victor Mukherjee joined online.

The following members could not attend the meeting due to other commitments and were granted leave of absence

Prof. Yogendra Sharma, Professor, Biological Sciences
Dr. Shikha Gandhi, Assistant Professor, Chemical Sciences



19.1. Opening remarks of the Chairperson, Senate of IISER Berhampur

At the outset, the Chairman welcomed the members present at the 19th Meeting of the Senate of IISER Berhampur

19.2. Confirmation of the Minutes of the 2023-2/18th Meeting of the Senate, IISER Berhampur

The minutes of the 2023-2/18th meeting of the Senate, IISER Berhampur held on June 30, 2023, were circulated through email dated July 05, 2023, to all the members of the Senate, IISER Berhampur. No comments have been received.

It was pointed out during the meeting that the name of Mr. Ashutosh Panigrahi, one of the Proficiency Medal awardees was apparently missing in the list of awardees presented on the institute website and the same should be included in the list of medal awardees. It was also suggested to undertake a review of the criteria for some of the awards. The chairperson noted the same and suggested to take up all the awards in the institute awards committee in the near future.

It was suggested to prepare the minutes of Senate meetings with more care and diligence.

The Senate resolved to confirm the minutes of 2023-2/18th Meeting of the Senate held on June 30, 2023 as circulated and placed on the table for confirmation.

19.3. Confirmation of the Minutes of the Single Agenda through Circulation on the suspension of Engineering Physics (E-Phys) and Engineering Biology (E-Bio) Major programmes

Two new programmes were introduced by the institute through an email (from the Office of Academic Affairs) sent to the students entering the third year on July 27, 2022. These were 4-year BS programmes in Engineering Physics (from the Department of Physical Sciences) and Engineering Biology (from the Department of Biological Sciences). The Senate was informed that the difficulties in continuing these two programmes were extensively discussed in an All-faculty meeting held on June 26, 2023, and subsequently, it was resolved that the E-Phys Major program will be discontinued and E-Phys students will be transferred to Physics (Major) program, and E-Biology (Major) will be discontinued and students will be transferred to Biology (Major) programme. The E-Biology (Minor) programs will continue. Senate approval was accorded through a single agenda meeting on a circulation basis (14.11.23).

It was emphasized that the course templates presented to the Senate be carefully prepared and vetted to ensure the same provide complete and authentic information (for example details of books and other suggested reading materials) and avoid routine typographical errors. The course templates submitted for the E-Bio (Minor) area may be reviewed from this perspective.

The Senate resolved to confirm the Minutes of the Single Agenda through Circulations as placed on the table for confirmation.

19.4. To consider and approve the Action Taken Report (ATR) on the decisions taken in the 2023-2/18th Meeting of the Senate, IISER Berhampur

The senate resolved to take on record, the action taken report on the decisions of the 2023-2/18th Meeting of Senate held on June 30, 2023.

19.5. To consider and approve the Action Taken Report (ATR) on the decisions taken in the Single Agenda Minutes on a Circulation basis



The senate resolved to take on record, the action taken report on the decisions taken in the single agenda minutes on the circulation basis.

19.6. Ratification of the items approved by the Chairperson Senate, IISER Berhampur

(i) Admission of students of BSMS-2023, iPhD & PhD-2023 (Aug). (Annexure 5)

A total of 170 students (99 Male and 71 Female) took admission in the BS-MS dual degree programme. Five (03 male and 02 female) students have enrolled in the iPhD programme and 22 (14 Male and 08 Female) students have enrolled their names in the PhD programme. The following lists of students were presented to the Senate for ratification.

The list of students admitted in BS-MS 2023 batch.

Sr. No	Student Name	Roll No	Gender	Offered Category
1	AADITYA BHASHYAM	23001	Male	General
2	AADITYA SINGH	23002	Male	EWS
3	ABHIJIT KUMAR	23003	Male	EWS
4	ABHISHEK LAHARIYA	23004	Male	OBC-NCL
5	ADITYA NARAYAN RAUTRAY	23005	Male	OBC-NCL
6	AHAN MESHAM	23006	Male	SC
7	AHERI ROY	23007	Female	General
8	AMBRISH S RAGHAV	23008	Male	OBC-NCL
9	AMIT KUMAR	23009	Male	OBC-NCL
10	ANANYA	23010	Female	General
11	ANIKET PAN	23011	Male	General
12	ANIRBAN KUNDU	23012	Male	EWS
13	ANSHUMAN PANDA	23013	Male	General
14	ANTARIKSH SAHA	23014	Male	General
15	ARCHANA PADHY	23015	Female	GEN
16	ARCHITA PRIYADARSHINI	23016	Female	SC
17	ARITRA RAHA	23017	Male	EWS
18	ARITRIKA PAL	23018	Female	General
19	ARJYA DAS	23019	Male	OBC-NCL
20	ARUNIMA P	23020	Female	OBC-NCL
21	ARYA BANAIT	23021	Female	OBC-NCL
22	ARYAN BHAN	23022	Male	KM
23	ARYAN KUMAR	23023	Male	OBC-NCL
24	ARYAN NEGI	23024	Male	ST
25	ASEEL ARSATH ZACKIR	23025	Male	OBC-NCL
26	ASMIT TRIPATHI	23026	Male	EWS
27	ASWINI KUMAR GADAVA	23027	Male	ST
28	ATHUL DEV	23028	Male	General
29	AVANI B S	23029	Female	OBC-NCL
30	AYANTIKA SAHA	23030	Female	SC
31	AYASKANTA PANDA	23031	Male	General
32	AYUSHI CHATURVEDI	23032	Female	General
33	AYUSHI MATTOO	23033	Female	KM
34	B SANCHITA	23034	Female	General

35	BAIJU KUMAR	23035	Male	OBC-NCL
36	BARSHA RANI BEHERA	23036	Female	SC
37	BHARAT SAHU	23037	Male	OBC-NCL
38	BHUBANESWARI SAMAL	23038	Female	GEN
39	BIBHU PRASANNA MAHAPATRA	23039	Male	GEN
40	BIKASH DASH	23040	Male	EWS
41	BINIT SIMRAN EKKA	23041	Female	ST
42	BISHNUPRIYA SAHU	23042	Female	GEN
43	BISWA BHUSAN MEHER	23043	Male	ST
44	BISWAJEET SAHOO	23044	Male	PwD
45	BOSCO JEO	23045	Male	General
46	BRETY KHUNDRAKPAM	23046	Female	General
47	CALVINO CARNET	23047	Female	OBC-NCL
48	CHANDAN KUMAR	23048	Male	OBC-NCL
49	CHIRANJEEB SETHI	23049	Male	SC
50	D S ROSHAN KUMAR	23050	Male	SC
51	D THUSHAR VARMA	23051	Male	General
52	DEBABRATA DAS	23052	Male	EWS
53	DEBASMITA PRIYADARSHINEE NAYAK	23053	Female	OBC-NCL
54	DEEPAK RAJ	23054	Male	OBC-NCL
55	DEV RATN	23055	Male	EWS
56	DIBYAJYOTI PRAHARAJ	23056	Male	General
57	DIVYAJOTI SHEN	23057	Male	SC
58	DIYA SARKAR	23058	Female	General
59	DRISHIK KUMAR SETHI	23059	Male	SC
60	GUNIKA SHARMA	23060	Female	General
61	HARIGOVINDH MENON	23061	Male	General
62	HARSH SONI	23062	Male	OBC-NCL
63	HARSHITA CHIRVI	23063	Female	KM
64	HARSHITA SINGH	23064	Female	General
65	INDRANI HAZRA	23065	Female	GEN
66	INISH YOGESH KHANORE	23066	Male	OBC-NCL
67	JADITKAR SHREYAS VISHNU	23067	Male	OBC-NCL
68	JANET MARIA BENCY	23068	Female	OBC-NCL
69	JASWANT KUMAR	23070	Male	OBC-NCL
70	K MANOJ KUMAR	23071	Male	OBC-NCL
71	KANAKAYUSH UPADHYAY	23072	Male	General
72	KANAV SHARMA	23073	Male	General
73	KASHISH TRIPATHI	23074	Female	EWS
74	KAUSHANI MUKHERJEE	23075	Female	General
75	KHUSHI RAJ	23076	Female	OBC-NCL
76	KIRAN MANISHA PRIYADARSINI	23077	Female	ST
77	KRISHANU S DEKA	23078	Male	SC
78	KRITI PRIYA	23079	Female	OBC-NCL
79	KUNAL KUMAR SAH	23080	Male	OBC-NCL
80	LAVANYA	23081	Female	OBC-NCL
81	LISA RUTUPARNA	23082	Female	SC
82	LOVINISH SONI	23083	Male	SC
83	MAHAPATRA ARYAN SATYAJIT	23084	Male	General
84	MAHESH KUMAR MEHER	23085	Male	PwD
85	MAIBAM SUSHIL SINGH	23086	Male	OBC-NCL
86	MAYUKA JONNA	23087	Female	OBC-NCL

87	MEENAL GUPTA	23088	Female	General
88	MIRSANA MUSTHAFA	23089	Female	OBC-NCL
89	MRIGANKA RAJ DEKA	23090	Male	General
90	MUHAMMED FAIZAL	23091	Male	OBC-NCL
91	MV BOOMIKA	23092	Female	OBC-NCL
92	NAMRATA DEKA	23093	Female	ST
93	NAMRATHA A G	23094	Female	General
94	NAYANSHI JAIN	23095	Female	General
95	NEHA SADANGI	23096	Female	EWS
96	NIHARIKA AGRAWAL	23097	Female	General
97	OM PRAKASH SENAPATI	23098	Male	General
98	ORNET VIVYA K A	23099	Female	OBC-NCL
99	PALAK	23100	Female	OBC-NCL
100	PANDYA KESAR DHAVAL	23101	Female	EWS
101	PAYAL DAS	23102	Female	SC
102	PRADHYUMN SINGH YADAV	23103	Male	OBC-NCL
103	PRAGYA RAWAT	23104	Female	General
104	PRAMITI GADAD	23105	Female	General
105	PRANAVI RAHUL SARAF	23106	Female	General
106	PRERANA SAHOO	23107	Female	OBC-NCL
107	PRINCE KUMAR	23108	Male	OBC-NCL
108	PRITHWIRAJ BHOWMICK	23109	Male	General
109	PRITI SINGHA	23110	Female	EWS
110	PRIYANSHU PARAMBRAMAH DAS	23111	Male	GEN
111	PUBALI ROY	23112	Female	SC
112	RAFAT AVEE BISWAS	23113	Male	General
113	RAGHUL S	23114	Male	OBC-NCL
114	RAJAT KUMAR BEHERA	23115	Male	SC
115	RAJDEEP LASKLAR	23116	Male	SC
116	RAJNANDANI KUMARI	23117	Female	ST
117	RISHIKA SETH	23118	Female	SC
118	RITESH KUMAR MISHRA	23119	Male	PwD
119	RIYADEEP AMI MINJ	23120	Female	ST
120	ROSY RANI BHOI	23121	Female	ST
121	SAGAR BISHT	23122	Male	General
122	SAGNIK BISWAS	23123	Male	GEN
123	SAHIL AHMED	23124	Male	General
124	SAHIL MAURYA	23125	Male	OBC-NCL
125	SALONIRANI MARNDI	23126	Female	ST
126	SAMAY SATYA MAKAR MURMU	23127	Male	ST
127	SAMBHAV GIRI	23128	Male	General
128	SAMYADIP DE	23129	Male	General
129	SANAFIYA A	23130	Female	OBC-NCL
130	SANURYA MOHAPATRA	23131	Male	GEN
131	SATYAKI CHOWDHURY	23132	Male	General
132	SAYAN SEN	23133	Male	General
133	SAYONIKA MAJUMDER	23134	Female	General
134	SHIBASHISH BEHERA	23135	Male	SC
135	SHREEJIT DEY	23136	Male	General
136	SHRUTI SHUDDHAA GUPTA	23137	Female	GEN
137	SIDHARTH C S	23138	Male	OBC-NCL
138	SIPRA MOHAPATRA	23139	Female	GEN

139	SK ABDUL IRFAN	23140	Male	GEN
140	SOUMAK MONDAL	23141	Male	GEN
141	SOUMESHWAR MISHRA	23142	Male	EWS
142	SOUPTIK KAR	23143	Male	EWS
143	SOURAJIT MADELI	23144	Male	SC
144	SOURAV KUMAR MISHRA	23145	Male	General
145	SOUVIK BISWAS	23146	Male	General
146	SRAYASHI MONDAL	23147	Female	SC
147	SRI RAM MALLICK	23148	Male	ST
148	SRUTI SRUJANIKA	23149	Female	EWS
149	SUBHADEEP RANA	23150	Male	SC
150	SUBHADIP MIDYA	23151	Male	SC
151	SUDEEP DAS	23152	Male	EWS
152	SUMIT BANDALE	23153	Male	EWS
153	SUNAYANA LENKA	23155	Female	OBC-NCL
154	SUPRITI GHOSH	23156	Female	General
155	SUTRIPTA MALIK	23157	Female	SC
156	SUVO SENGUPTA	23158	Male	General
157	SUVRARUP DASGUPTA	23159	Male	General
158	SWADHIN KUMAR ROUT	23160	Male	General
159	SWASTIK SOURAV SAHOO	23161	Male	GEN
160	SWATI SWORUPA MISHRA	23162	Female	GEN
161	SWETA KARMAKAR	23163	Female	OBC-NCL
162	TANISHQ CHOUHAN	23164	Male	OBC-NCL
163	TANUSHKA GUPTA	23165	Female	General
164	TRISHA BALA	23166	Female	SC
165	TUSHAR AGARWALLA	23167	Male	GEN
166	VAIBHAV SARKAR	23168	Male	SC
167	VEER VIVEK MISHRA	23169	Male	EWS
168	VIVEK ADITHYA MUTHUKUMAR	23170	Male	OBC-NCL
169	VRINDA GUPTA	23171	Female	General
170	ADYASHA SAHOO	23172	Female	General

The list of students admitted in PhD 2023 batch.

SR.NO.	DEPARTMENT	ROLL NO	NAME	GENDER	CATEGORY
1	BIOLOGICAL SCIENCES	2310101	KISHOR BORDALOI	MALE	GENERAL
2	BIOLOGICAL SCIENCES	2310102	ASTIK KUMAR DE	MALE	GENERAL
3	BIOLOGICAL SCIENCES	2310103	PRABHU KAIBALYA DAS	MALE	GENERAL
4	BIOLOGICAL SCIENCES	2310104	Y PAVANI	FEMALE	OBC-NCL
5	BIOLOGICAL SCIENCES	2310105	ARUN KUMAR	MALE	SC
6	BIOLOGICAL SCIENCES	2310106	JANHABI PANIGRAHY	FEMALE	GENERAL
7	BIOLOGICAL SCIENCES	2310107	SANGITA LALA	FEMALE	GENERAL
8	BIOLOGICAL SCIENCES	2310108	SHREYA SHANKAR SHETTY	FEMALE	GENERAL

9	BIOLOGICAL SCIENCES	2310109	SUBHANGI SUBUDHI	FEMALE	GENERAL
10	BIOLOGICAL SCIENCES	2310110	HIRANMOY ADAK	MALE	GENERAL
11	CHEMICAL SCIENCES	2310201	KRISHNA KANTA CHOUDHURY	MALE	GENERAL
12	CHEMICAL SCIENCES	2310202	ARPITA GUCHHAIT	FEMALE	GENERAL
13	CHEMICAL SCIENCES	2310203	SAHIL MONDAL	MALE	EWS
14	CHEMICAL SCIENCES	2310204	RAGESHREE DASH	FEMALE	GENERAL
15	PHYSICAL SCIENCES	2310401	ASHUTOSH PANIGRAHI	MALE	GENERAL
16	PHYSICAL SCIENCES	2310402	DIBYAJYOTI SAHOO	MALE	OBC
17	PHYSICAL SCIENCES	2310403	ANNA JOHN	FEMALE	GENERAL
18	PHYSICAL SCIENCES	2310404	ANSHUMAN TRIPATHY	MALE	GENERAL
19	PHYSICAL SCIENCES	2310405	SANTU KUMAR MANNA	MALE	GEN
20	EARTH AND ENVIRONMENTAL SCIENCES	2310501	ABHIJEET TRIPATHI	MALE	GENERAL
21	EARTH AND ENVIRONMENTAL SCIENCES	2310502	PARTHA SARATHI SWAIN	MALE	GENERAL
22	EARTH AND ENVIRONMENTAL SCIENCES	2310503	MANISH MAURYA	MALE	OBC - NCL

To submit the list of students admitted in iPhD 2023 batch.

SR.NO.	DEPARTMENT	ROLL NO	NAME	GENDER	CATEGORY
1	CHEMICAL SCIENCES	202301	YATRIK BHAVESHBHAI DAVE	MALE	GENERAL
2	PHYSICAL SCIENCE	202302	YASHRAJ JHA	MALE	GENERAL
3	BIOLOGICAL SCIENCES	202303	SOUMYABROTO KARMAKAR	MALE	GENERAL
4	BIOLOGICAL SCIENCES	202304	KALYANI SUBHASREE TRIPATHY	FEMALE	GENERAL
5	BIOLOGICAL SCIENCE	202305	SAMISHTHA PANDEY	FEMALE	GENERAL

The Senate resolved to ratify the admission of the above-mentioned students in their respective degree programs.

(ii) General Policy for Governing Fellowships of PhD/iPhD Program

Some of the governing principles of the Fellowship of PhD programmes, such as fellowship tenure, JRF- SRF upgradation, and extension of fellowship were discussed in the Fellowship

Governance Committee of the institute and the recommendations of the committee suggesting modifications in the same have been approved by the Senate Chair.

The Senate resolved to approve the proposal of the '*General Policy for Governing Fellowships of PhD/iPhD*' including the special considerations outlined in the policy with a recommendation to use IRG fund for paying i) the fellowship for a maximum period of six months beyond the normal tenure to those scholars registered on or before January 2021 and ii) the difference in fellowship amount arising out of JRF to SRF upgradation of one student for counting the JRF experience while initially under the Institute fellowship prior to change over to external fellowship (CSIR) as a one - time measure due to exceptional circumstances. The Senate further recommended two years of JRF/SRF fellowship availability in a project as the minimum eligibility requirement for later transfer of a student availing sponsored/industrial project-based fellowship to institute fellowship.

(iii) *Courses for PhD students of the Department of Earth & Environmental Sciences (EES)*

The PhD courses for the students of the Dept. of Earth & Environmental Sciences were discussed in the 18th Senate Meeting and as per the suggestions of the Senate members the same has been revised and approved by the Senate Chair.

The Senate resolved to approve the proposed PhD courses for the students of the Dept. of Earth & Environmental Sciences. It was suggested that the course template may be reviewed to ensure that all relevant details are provided while minimizing typographical errors.

(iv) *E-Bio Minor programme*

New courses were proposed for the E-Bio Minor program and were recommended by the IAAC and subsequently approved by the Senate Chair. It was further proposed that for Bio-Major students taking a Minor in Engineering Biology, their minimum credit requirement for the Bio-Major will be 18 (per semester), instead of 21 as normally applicable for Bio-Major students.

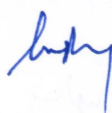
As recommended earlier the course templates of the courses proposed under the E-Bio Minor may be carefully reviewed. The Senate resolved to approve the new courses in the E-Bio Minor program with suggested changes.

(v) *Modifications in PhD guidelines of Dept. of Biological Sciences:*

Department of Biological Sciences proposed the following minor modifications in the department-specific PhD guidelines.

A) The minimum credits required from theory courses is proposed to be changed from 20 to 16 credits. B) Remaining 12 credits (The minimum course requirement for the eligibility to appear in the comprehensive examination is 28 credits), can be from lab rotation/additional theory course/ research project. C) The minimum CPI required for the eligibility to appear in the comprehensive examination is changed from $\text{CPI} \geq 6.0$ to $\text{CPI} \geq 6.5$. The proposal has been accepted by the IAAC and approved by the Senate Chair.

Several issues such as the minimum required CPI value in the PhD Course work and its uniformity across the departments, the minimum credit requirement of PhD coursework, the definition of a credit with respect to teacher-student contact hours etc. were discussed at length, and the Senate Chair advised to discuss these points in the Academic Improvement Committee of the institute for further consideration by the Senate.



- (vi) *The Senate was informed that the courses, HSS 103 and HSS 209 were suspended during the ongoing 1st semester of academic session 2023-24, and it was proposed that the two courses will be offered in the 2nd semester and HSS 209 to be offered in 4th Semester of 2023-24.*

The Senate approved the proposal to offer HSS 103 and HSS 209 in the 2nd semester and HSS 209 to be offered in 4th Semester of 2023-24.

- (vii) *Academic Calendar for 2nd Semester 2023-2024 and 1st semester 2024-25*

Academic Calendar for the 2nd Semester 2023-2024 and 1st semester 2024-25 were presented to the Senate for ratification. It was also pointed out that the calendar for the new batch (first year students) of 2024-25 batch may require modification depending upon the admission schedule of the new batch of BS-MS program.

The Senate approved the calendar with a recommendation to include the date for moderation of grades by each department. It was suggested that the practical feasibility and utility of specifying the dates of Senate meetings in the academic calendar may also be looked into.

- (viii) *The nomination of Prof. Vishwas Chavan as a Member of BoG of the Institute as Senate Nominee to the Board.*

The Senate congratulated Prof. Vishwas Chavan and accepted his nomination as a member of BoG.

19.7 To Consider and approve the exclusion of HSS 202 from the BS-MS Curriculum

On the recommendations of the Institutional Academic Improvement Committee, it was proposed to exclude the course HSS 202 from the BS-MS curriculum. This course was so far being offered as a mandatory course in the second year. It was decided to offer similar programs to the interested students as non-graded courses so that the same is not mandatory while being open to all students, staff and faculty.

The Senate accorded approval for the exclusion of the course HSS-202 from the BS-MS curriculum.

19.8 Additional Matters arising with the permission of the Chair

- i) The FIC Department of Biological Sciences proposed some revisions to the Bio-306 course content (**Annexure-1**).

The Senate approved the revisions suggested.

- ii) PhD student representative, Ms Bandita Das, informed that there is considerable delay in the release of fellowship to PhD scholars under the INSPIRE grant from the DST. She requested to create a provision to provide the fellowships as refundable advance from the Institute.

- iii) Ms. Bandita Das also requested provision for support from the Institute for attending international conferences for the research scholars

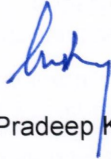
The Senate Chair assured that the matters will be discussed.



- iii) Mr. Amal Chacko, SAC-Student representative (UG), requested a change in the reexamination dates in the Academic Calendar and the possibility of hybrid mode teaching of MATH-503.

Dr. Victor Mukherjee informed that reexamination dates will be suitably changed. Dr. Prem Prakash Pandey, FIC Mathematics, informed that it would not be possible to offer the course MATH-503 in hybrid mode.

In the end, the Chairperson thanked all the members for their active participation.


(Pradeep Kumar Ray)
Registrar


Minutes Approved 23/12/23

Prof. Ashok Kumar Ganguli
Director and Chairperson
Senate of IISER Berhampur

Annexure-1**Revision of Bio-306 Course****Office of Academic Affairs****Proposal for Revision of Existing Course****Department of Biological Sciences**

(The proposal should be submitted both in hard copy and electronic form (doc and pdf file) using the format given below before the deadlines of submission (Odd semester (proposal submission by March 15) / Even Semester (proposal submission by October 15)). The hard copy is to be sent to the Academic Office and the soft copy to be emailed to Office of Academic Affairs (office_aa@iiserbpr.ac.in) with a cc to Coordinator Academic Affairs (caa@iiserbpr.ac.in).

Course Title	Animal forms and functions		
Course No	BIO 306	Department Only:	Yes ☒ No ☐
Date of submission	14.12.2023		
Credits:	4		
For:	BS-MS (Dual Degree) ☒ Integrated Ph.D. ☒ Ph.D. ☐		
Proposers:	Dr. Arunkumar Krishnan	Dr. Bodhisatta Nandy	
Pre-requisites, if any	Course code. to be enforced as a mandatory pre-requisite and entered in online registration system:..... Or Desired pre-requisite (if any) for taking the course.....		
Others interested faculty:	Dr. Mukund Ramakrishnan, Dr. R Selvi Bharathvikru		
Effective from:	Semester I/II of Academic year 20...		

Details of the course revision

	Existing	Proposed
Course No.		
Structure (please see clause 6.1 in BSMS manual and course contents)	Lec: Min. 36 (3 hr per week); SS: 9 hr per week Credits: 4	Lec: Min. 36 (3 hr per week); SS: 9 hr per week Credits: 4
Learning Objectives:	(Add separate sheet, if required)	This a fundamental course in Biological Sciences. It aims at developing a comprehensive understanding of the diversity of animal forms as adaption to the variety of ecological and physiological challenges animals are exposed to. Having completed the course successfully, a student should be able to understand the intricate balance of physiological processes in animal body, and also relate them to how they are adaptations to the specific ecology. The comparative anatomy angle will bring in a strong

		evolutionary foundation to this understanding. This course complements the Plant forms and functions course floated in the other semester.
Course Contents:	Separate sheet attached. (Add separate sheet, if required)	Separate sheet attached. (Add separate sheet, if required)
Selected Readings: (Texts and References (including e- books and research articles))	(Add separate sheet, if required)	Textbooks and suggested readings: • R. W. Hill, G. A. Wyse and M. Anderson, <i>Animal Physiology</i>, 2nd Edn., Sinauer Associates Inc. (2008). • Scott Freeman, Kim Quillin, Lizabeth Allison, Michael Black, Greg Pedgorski, Emily Taylor, and Jeff Carmichael. <i>Biological Science</i>, 6th Edn. Pearson. (2017) • Guyton and Hall. <i>Text book of Medical physiology</i>. 12th Edn. Saunders (2011).
Type (tick ✓ as appropriate)	Professional – Department compulsory	Professional – Department compulsory
Justification for revision: The previous course structure was borrowed from old IISER B courses. The course has now been updated. The update includes addition of some classical topics on Animal forms, including Comparative anatomy. Almost most of the topics of covered in the old course structure have been retained. However, some of them have been updated to bring clarity. One topic, #2 “Methods for exploring physiological mechanism...”, has been removed as this will be either covered in other courses or as a part of the variety of other topics in the course. Existing course(s), offered by the same or other Departments which may have significant overlap with the proposed revised course: None		
Any Other information (Please specify)	The revised course structure is now comparable with similar courses in other IISERs (for example, IISER Mohali).	
Name and Signature of course proposers with date: (At least two Instructors) (i) Instructor(s): Arunkumar Krishnan, Mukund Ramakrishnan (ii) Alternative instructor(s): R Selvi Bharathvikru, Bodhisatta Nandy		

The above proposal followed by the recommendations of the External experts/Senate members/Subject expert(s) appointed by Director is found to be

acceptable by the DUGC/DPGC in its meeting held on _____. The committee recommended the revision of the existing course for consideration of CoAA/DoAA and Director/Chairperson Senate.

Convener, DPGC/DUGC	FIC/HoD
---------------------	---------

Recommendation of External experts/Senate members/Subject expert(s) appointed by the Director (optional)

Description (Add separate sheet, if required)	Description (Add separate sheet, if required)
Name and signature of Member-1	Name and signature of Member-2

For Use of Academic Section

Recommended/Not Recommended to Senate Chairperson	Coordinator/Dean, Academic Affairs
Recommended//Not Recommended for the approval/ratification by the Senate	
Director/Chairperson Senate	

BIO 306: Animal forms and functions

1. Principles of physiology: relationship between structure and function, Adaptation, Homeostasis, Feed- back control systems and regulation;
2. Methods for exploring physiological mechanisms: Use of Molecular, Cellular and biochemical techniques;
3. Endocrine system: Hormones and their Physiological effects;
4. Stress and adaptation;
5. Respiratory system: respiratory pigments, transport of gases in blood, regulation of body pH;
6. Excretory system: Osmoregulation, osmoregulators, obligatory exchanges of ions and water.
Osmoregulation in water and terrestrial environment;
7. Nervous system: gross anatomy of the brain and spinal cord; sense organs; thermoregulation;
8. Digestive system: Acquisition of Energy: Metabolism, and absorption;
9. Cardiovascular system: blood and circulation; anatomy of heart, ECG, cardiac cycle, regulation of cardiac output and blood pressure;
10. Reproductive System and unifying themes of animal development.

Revision: (Minimum 34 lecture hours)

1. Origin and evolution of animal body plans: Characteristic features of Animal body plans including the axis of symmetry, phylogenetic relationships among animals, Body Cavity, Segmentation, Cephalization, Germ layers. (3)

2. Invertebrates:
 - Origin and evolution of different major organ systems. Sponges, Cnidarians, Lophotrochozoans, Ecdysozoans, Echinoderms and Hemichordates. (3)
3. Vertebrates:
 - Origin and evolution of different major organ systems, Tetrapods, Amniotes, Mammals and Humans. (3)
4. Animal Nutrition:
 - Essential Nutrients, Stages of food processing - Ingestion, Digestion, Absorption and Assimilation of food. (2)
 - A brief introduction to the diversity in Invertebrate and vertebrate digestive systems. (2)
5. Circulation and Gas exchange:
 - Integration of respiratory and circulatory systems in animals, respiratory pigments. (1)
 - Different kinds of respiratory systems: Gills, Trachea, Vertebrate lungs, including air sacs in birds. (2)
 - Vertebrate circulation: Blood and circulation; anatomy of heart, ECG, cardiac cycle, regulation of cardiac output and blood pressure, transport of gasses in blood, regulation of body pH. (2)
6. Osmoregulation and Excretion: (4)
 - Osmoregulation, osmoregulators and osmoconformers
 - Obligatory exchanges of ions and water
 - Osmoregulation in water and terrestrial environment
 - Human excretory system as a model: Glomerular filtration, Tubular re-absorption and secretion, counter current mechanism, hormonal regulations.
7. Nervous System, Sensory and Motor Mechanisms: (5)
 - Neuron structure and functions, Genesis of membrane potential and action potential, conduction of action potentials, Sodium-potassium pump, calcium pump, Transmission at synapse, Neurotransmitters.
 - Eye-retinal components and photo-receptors.
 - Ear-cochlea, basilar membrane.
 - Vertebrate skeletal muscle, other types of muscles,
 - Energetics of muscle contraction, sequence of events in contraction & relaxation.
8. Endocrine system: Brief introduction to hormones and their role as chemical coordinator. Vertebrate neuro-endocrine system. (3)
9. Hormones and Reproduction:
 - Different modes of reproduction: Asexual and sexual reproduction, parthenogenesis. (1)
 - Mammalian reproduction as a model of sexual reproduction: Male and female reproductive physiology, fertilization, pregnancy and childbirth. AIDS, contraceptives - as special topics. (3)