



Yearly Status Report - 2018-2019

Part A

Data of the Institution

1. Name of the Institution

INDIAN INSTITUTE OF SCIENCE

Name of the head of the Institution

Prof. Anurag Kumar

Designation

Director

Does the Institution function from own campus

Yes

Phone no/Alternate Phone no.

08022932222

Mobile no.

9845006755

Registered Email

dean.anf@iisc.ac.in

Alternate Email

office.director@iisc.ac.in

Address

CV Raman Avenue

City/Town

Bengaluru

State/UT

Karnataka

Pincode

560012

2. Institutional Status

| | |
|--|----------------------|
| University | Deemed |
| Type of Institution | Co-education |
| Location | Urban |
| Financial Status | central |
| Name of the IQAC co-ordinator/Director | Prof. Prabhu R. Nott |
| Phone no/Alternate Phone no. | 08022932909 |
| Mobile no. | 9448975749 |
| Registered Email | chair.scc@iisc.ac.in |
| Alternate Email | dean.anf@iisc.ac.in |

3. Website Address

| | |
|---|---|
| Web-link of the AQAR: (Previous Academic Year) | https://iisc.ac.in/senate-curriculum-committee/ |
| 4. Whether Academic Calendar prepared during the year | Yes |
| if yes,whether it is uploaded in the institutional website: Weblink : | https://iisc.ac.in/wp-content/uploads/2018/09/ACADEMIC_EVENTS.pdf |

5. Accrediation Details

| Cycle | Grade | CGPA | Year of Accrediation | Validity | |
|-------|-------|------|----------------------|-------------|-------------|
| | | | | Period From | Period To |
| 1 | A++ | 3.67 | 2018 | 26-Sep-2018 | 25-Sep-2023 |

6. Date of Establishment of IQAC

22-May-1967

7. Internal Quality Assurance System

Quality initiatives by IQAC during the year for promoting quality culture

| Item /Title of the quality initiative by IQAC | Date & Duration | Number of participants/ beneficiaries |
|---|--------------------|---------------------------------------|
| Entrepreneurship, Ethics and Societal Impact | 13-Aug-2018 112 | 12 |
| Technical Writing and Presentation | 02-Jan-2018 98 | 100 |
| CES In-house Symposium | 23-Jan-2019 3 | 25 |
| International Symposium on Snakebites | 27-Oct-2018 1 | 25 |
| Symposium on Brain, Computation and Learning | 24-Jun-2019 1 | 25 |
| The MBU In-house Symposium - 2019 | 22-Dec-2018 1 | 25 |
| Nu-X Symposium by the Department of Mathematics | 27-Nov-2018 1 | 25 |
| Symposium on Auditory Perception and Hearing Loss | 10-Sep-2018 1 | 25 |
| EECS Research Students Symposium | 12-Apr-2019 1 | 25 |

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8. Provide the list of Special Status conferred by Central/ State Government- UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

| Institution/Department/Faculty | Scheme | Funding Agency | Year of award with duration | Amount |
|--------------------------------|--------|----------------|-----------------------------|--------|
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9. Whether composition of IQAC as per latest NAAC guidelines:

Yes

| | |
|--|---------------------------|
| Upload latest notification of formation of IQAC | View Link |
| 10. Number of IQAC meetings held during the year : | 4 |
| The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional website | No |
| Upload the minutes of meeting and action taken report | No Files Uploaded !!! |
| 11. Whether IQAC received funding from any of the funding agency to support its activities during the year? | No |

| |
|---|
| 12. Significant contributions made by IQAC during the current year(maximum five bullets) |
| Modified the curriculum for M.Tech programme in Aerospace Engineering. |
| Restructured the M.Tech programme in 'Microelectronics Systems' jointly offered by the Department of Electronics and Communication Engineering and Department of Electronic Systems Engineering. |
| Updated the syllabus for several courses in various departments, namely Electrical Engineering, Nano Science and Engineering, Aerospace Engineering, and Computer Science and Automation. |
| Introduced several new courses in Ecological Sciences, Aerospace Engineering, Mathematics, Atmospheric Sciences, Electrical Engineering, Computational and Data Sciences, Solid State and Structural Chemistry Unit, and Organic Chemistry. |
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13. Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year

| Plan of Action | Achivements/Outcomes |
|---|---|
| Get feedback from the stakeholders and suitably restructure the curriculum for M.Tech programme in Aerospace Engineering. | Curriculum for M.Tech programme in Aerospace Engineering was modified based on discussions with the stakeholders. |
| Restructure the M.Tech programme in 'Microelectronics Systems' jointly offered by the Department of Electronics and Communication | M.Tech programme in 'Microelectronics Systems' was restructured based on discussions with the stakeholders. |

Engineering and Department of Electronic Systems Engineering

New courses to be introduced in Ecological Sciences, Aerospace Engineering, Mathematics, Atmospheric Sciences, Electrical Engineering, Computational and Data Sciences, Solid State and structural chemistry Unit, and Organic Chemistry.

New courses were introduced in Ecological Sciences, Aerospace Engineering, Mathematics, Atmospheric Sciences, Electrical Engineering, Computational and Data Sciences, Solid State and structural chemistry Unit, and Organic Chemistry, based on the inputs from the stakeholders.

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14. Whether AQAR was placed before statutory body ?

Yes

Name of Statutory Body

Meeting Date

Senate Curriculum Committee

11-Sep-2023

15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning ?

Yes

Date of Visit

17-Sep-2018

16. Whether institutional data submitted to AISHE:

Yes

Year of Submission

2019

Date of Submission

27-Mar-2019

17. Does the Institution have Management Information System ?

Yes

If yes, give a brief description and a list of modules currently operational (maximum 500 words)

Academic Management System (AMS) is an online platform provided by DIGITS, IISc, in order to manage the students' admission and course activities of both UG and PG programmes. The system facilitates the admission processes such as accepting students' applications along with uploading documents, sending interview letters, and other necessary functionalities of students' admissions. Course activities such as Scheme of Instructions, students'

course registration, course dropping, course approvals, grade entry, etc. are being done online through AMS. Apart from supporting these core functionalities, AMS also provides various analytical reports to institute's academic Section and other departments.

Part B

CRITERION I - CURRICULAR ASPECTS

1.1 - Curriculum Design and Development

1.1.1 - Programmes for which syllabus revision was carried out during the Academic year

| Name of Programme | Programme Code | Programme Specialization | Date of Revision |
|-------------------|------------------------------------|--|------------------|
| Mtech | M.Tech - AE | Aerospace Engineering | 01/08/2019 |
| Mtech | M.Tech - Micro Electronics Systems | Electronics Systems Engineering/Electronic Communication Engineering | 01/08/2019 |

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1.1.2 - Programmes/ courses focussed on employability/ entrepreneurship/ skill development during the Academic year

| Programme with Code | Programme Specialization | Date of Introduction | Course with Code | Date of Introduction |
|---------------------|---|----------------------|------------------|----------------------|
| Nil | Design Thinking and Innovation | 01/08/2018 | Nil | Nil |
| Nil | Innovative Product Development and Design Methods | 01/08/2018 | Nil | Nil |
| Nil | Renewable Energy Sources Principles Technology and Utilization | 01/08/2018 | Nil | Nil |
| Nil | Internet of Things and Nano Sensors | 01/08/2018 | Nil | Nil |
| Nil | Analysis and Design of Composite Structures | 01/08/2018 | Nil | Nil |
| Nil | Vibration and Noise control in Engineering structures and Systems | 01/08/2018 | Nil | Nil |
| Nil | Embedded System on ARM Platform | 01/08/2018 | Nil | Nil |
| Nil | IoT for Smart Cities and Smart Campuses | 01/08/2018 | Nil | Nil |

| | | | | |
|-----|---|------------|-----|-----|
| Nil | Structural Analysis and Design Optimization of Engineering Structures and Systems | 01/08/2018 | Nil | Nil |
| Nil | Basics of Data Analytics | 01/08/2018 | Nil | Nil |

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1.2 - Academic Flexibility

1.2.1 - New programmes/courses introduced during the Academic year

| Programme/Course | Programme Specialization | Dates of Introduction |
|------------------|--------------------------|-----------------------|
| | | |

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1.2.2 - Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the University level during the Academic year.

| Name of programmes adopting CBCS | Programme Specialization | Date of implementation of CBCS/Elective Course System |
|----------------------------------|-------------------------------------|---|
| Mtech | COMPUTER SCIENCE AND AUTOMATION | 01/08/2018 |
| BSc | UNDER GRADUATE PROGRAMME | 01/08/2018 |
| Mtech | PRODUCT DESIGN AND ENGINEERING | 01/08/2018 |
| Mtech | MANAGEMENT STUDIES | 01/08/2018 |
| Mtech | AEROSPACE ENGINEERING | 01/08/2018 |
| Mtech | CHEMICAL ENGINEERING | 01/08/2018 |
| Mtech | COMMUNICATION AND NETWORKS | 01/08/2018 |
| Mtech | COMPUTATIONAL AND DATA SCIENCES | 01/08/2018 |
| Mtech | EARTH SCIENCES | 01/08/2018 |
| Mtech | ELECTRICAL ENGINEERING | 01/08/2018 |
| Mtech | ELECTRONIC SYSTEMS ENGINEERING | 01/08/2018 |
| Mtech | INSTRUMENTATION AND APPLIED PHYSICS | 01/08/2018 |
| Mtech | MATERIALS ENGINEERING | 01/08/2018 |
| Mtech | MECHANICAL ENGINEERING | 01/08/2018 |
| Mtech | MICROELECTRONICS AND VLSI DESIGN | 01/08/2018 |
| Mtech | NANOSCIENCE AND ENGINEERING | 01/08/2018 |

| | | |
|--------------|-------------------------|------------|
| Mtech | SIGNAL PROCESSING | 01/08/2018 |
| Mtech | SYSTEMS ENGINEERING | 01/08/2018 |
| MSc | POST GRADUATE PROGRAMME | 01/08/2018 |
| PhD or DPhil | DOCTORAL PROGRAMME | 01/08/2018 |

1.3 - Curriculum Enrichment

1.3.1 - Value-added courses imparting transferable and life skills offered during the year

| Value Added Courses | Date of Introduction | Number of Students Enrolled |
|---------------------------------|----------------------|-----------------------------|
| Research Communication | 07/08/2018 | 30 |
| Research Communication (BE 212) | 25/02/2019 | 33 |

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1.3.2 - Field Projects / Internships under taken during the year

| Project/Programme Title | Programme Specialization | No. of students enrolled for Field Projects / Internships |
|-------------------------|--------------------------|---|
| | | |

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1.4 - Feedback System

1.4.1 - Whether structured feedback received from all the stakeholders.

| | |
|-----------|-----|
| Students | Yes |
| Teachers | No |
| Employers | Yes |
| Alumni | No |
| Parents | No |

1.4.2 - How the feedback obtained is being analyzed and utilized for overall development of the institution? (maximum 500 words)

Feedback Obtained

Students' feedback: We collect students' feedback for each course wherein students rate the course contents and the course instructor on several aspects. About the course, the following aspects are evaluated: depth of coverage in tests and assignments, novelty, organization, coverage of contemporary and advanced topics, availability of study material, whether the course is meeting learning expectations, and an overall rating. About the Instructor, the following aspects are evaluated: clarity of expression and presentation, motivation, pace of teaching, accessibility outside the class, responsiveness and

encouragement to questions, instructor's expertise in the subject, level of preparation for the lectures, relevance of the tests and assignments, their discussion in class, coverage of the subject, and an overall rating. The course contents feedback given by the students is used by the Department Curriculum Committees to ensure matching with the learning goals. The Institute's Senate Curriculum Committee (also the Institute's IQAC) periodically reviews the courses' contents, level, and approves the examination results. The instructor feedback is shared with the instructor for self-assessment and improvement. The Department Curriculum Committee and the Senate Curriculum Committee shares additional feedback as required. Finally, the feedback is also used during the faculty assessment. Employers' feedback: The institute houses an office of career counselling and campus placement. Every company that participates in the campus placement process is invited to complete a survey called Employers' Feedback after the placement process is completed. The feedback is gathered on the technical knowledge, conceptual knowledge, analytical thinking, industry awareness, role clarity, and communication skills of the students, and also the overall placement process. The data analyzed is used to guide the students on employers' expectations. Discrepancies in the curricula, if any, are identified and shared with the department curriculum committees for further action.

CRITERION II - TEACHING- LEARNING AND EVALUATION

2.1 - Student Enrolment and Profile

2.1.1 - Demand Ratio during the year

| Name of the Programme | Programme Specialization | Number of seats available | Number of Application received | Students Enrolled |
|-----------------------|--------------------------|---------------------------|--------------------------------|-------------------|
| | | | | |

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2.2 - Catering to Student Diversity

2.2.1 - Student - Full time teacher ratio (current year data)

| Year | Number of students enrolled in the institution (UG) | Number of students enrolled in the institution (PG) | Number of fulltime teachers available in the institution teaching only UG courses | Number of fulltime teachers available in the institution teaching only PG courses | Number of teachers teaching both UG and PG courses |
|------|---|---|---|---|--|
| 2018 | 110 | 706 | 0 | 0 | 441 |

2.3 - Teaching - Learning Process

2.3.1 - Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)

| Number of Teachers on Roll | Number of teachers using ICT (LMS, e-Resources) | ICT Tools and resources available | Number of ICT enabled Classrooms | Numberof smart classrooms | E-resources and techniques used |
|----------------------------|---|-----------------------------------|----------------------------------|---------------------------|---------------------------------|
| 441 | 33 | Nil | 42 | 42 | Nil |

[View File of ICT Tools and resources](#)

[View File of E-resources and techniques used](#)

2.3.2 - Students mentoring system available in the institution? Give details. (maximum 500 words)

At IISc, each department has a mentoring system that is suited for the needs and expectations that are specific to the programme. In general, each student is directly mentored by a (research) supervisor. PhD students are also mentored by a thesis advisory committee, who meet the student at periodic intervals for discussing progress towards achieving thesis objectives. Students can also approach the Departmental Curriculum Committee for any academic related matters. In addition, there are various forums in which students can get guidance and mentoring on matters that pertain to both academics and outside of the academics. For example, each department has a Department Wellness Committee for broader issues pertaining to student wellness. At the institute level, students have access to the Student Advisory Committee/Counsellors who can advise and mentor on matters ranging from student academic progress, peer interactions, faculty student interactions, etc.. Each of these fora organize various events that facilitate interactions among students. Beyond the formal mechanisms, students themselves have built informal peer to peer mentoring systems, with senior students helping the new students. The data given below for the current year.

| Number of students enrolled in the institution | Number of fulltime teachers | Mentor : Mentee Ratio |
|--|-----------------------------|-----------------------|
| 852 | 441 | 1 : 2 |

2.4 - Teacher Profile and Quality

2.4.1 - Number of full time teachers appointed during the year

| No. of sanctioned positions | No. of filled positions | Vacant positions | Positions filled during the current year | No. of faculty with Ph.D |
|-----------------------------|-------------------------|------------------|--|--------------------------|
| 520 | 441 | 79 | 19 | 19 |

2.4.2 - Honours and recognition received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

| Year of Award | Name of full time teachers receiving awards from state level, national level, international level | Designation | Name of the award, fellowship, received from Government or recognized bodies |
|---------------|---|-------------|--|
| | | | |

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2.5 - Evaluation Process and Reforms

2.5.1 - Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

| Programme Name | Programme Code | Semester/ year | Last date of the last semester-end/ year- end examination | Date of declaration of results of semester-end/ year- end examination |
|----------------|----------------|----------------|---|---|
| | | | | |

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2.5.2 - Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

| Number of complaints or grievances about evaluation | Total number of students appeared in the examination | Percentage |
|---|--|------------|
| 0 | 311 | 0 |

2.6 - Student Performance and Learning Outcomes

2.6.1 - Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

https://iisc.ac.in/wp-content/uploads/2018/08/SOI_2018.pdf

2.6.2 - Pass percentage of students

| Programme Code | Programme Name | Programme Specialization | Number of students appeared in the final year examination | Number of students passed in final year examination | Pass Percentage |
|----------------|----------------|--------------------------|---|---|-----------------|
| | | | | | |

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2.7 - Student Satisfaction Survey

2.7.1 - Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

<https://iisc.ac.in/wp-content/uploads/2023/09/Section-2.7.1-Student-Survey-18-19-Latest.pdf>

CRITERION III - RESEARCH, INNOVATIONS AND EXTENSION

3.1 - Promotion of Research and Facilities

3.1.1 - Teachers awarded National/International fellowship for advanced studies/ research during the year

| Type | Name of the teacher awarded the fellowship | Name of the award | Date of award | Awarding agency |
|------|--|-------------------|---------------|-----------------|
| | | | | |

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3.1.2 - Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other fellows in the Institution enrolled during the year

| Name of Research fellowship | Duration of the fellowship | Funding Agency |
|-----------------------------|----------------------------|----------------|
| | | |

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3.2 - Resource Mobilization for Research

3.2.1 - Research funds sanctioned and received from various agencies, industry and other organisations

| Nature of the Project | Duration | Name of the funding agency | Total grant sanctioned | Amount received during the year |
|-----------------------|----------|----------------------------|------------------------|---------------------------------|
| | | | | |

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3.3 - Innovation Ecosystem

3.3.1 - Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

| Title of workshop/seminar | Name of the Dept. | Date |
|---------------------------|-------------------|------|
| | | |

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3.3.2 - Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

| Title of the innovation | Name of Awardee | Awarding Agency | Date of award | Category |
|-------------------------|-----------------|-----------------|---------------|----------|
| | | | | |

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3.3.3 - No. of Incubation centre created, start-ups incubated on campus during the year

| Incubation Center | Name | Sponsored By | Name of the Start-up | Nature of Start-up | Date of Commencement |
|-------------------|------|--------------|----------------------|--------------------|----------------------|
| | | | | | |

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3.4 - Research Publications and Awards

3.4.1 - Ph. Ds awarded during the year

| Name of the Department | Number of PhD's Awarded |
|----------------------------------|-------------------------|
| Biochemistry | 21 |
| Microbiology and Cell Biology | 17 |
| Molecular Biophysics Unit | 14 |
| Inorganic and Physical Chemistry | 12 |

| | |
|---|----|
| Organic Chemistry | 9 |
| Materials Research Centre | 10 |
| Mathematics | 12 |
| Centre for High Energy Physics | 4 |
| Physics | 38 |
| Molecular Reproduction Development and Genetics | 6 |
| Centre for Ecological Sciences | 9 |
| Solid state and Structural Chemistry Unit | 13 |
| Computer Science and Automation | 17 |
| Electrical Communication Engineering | 21 |
| Mechanical Engineering | 20 |
| Electrical Engineering | 15 |
| Electronic Systems Engineering | 5 |
| Aerospace Engineering | 25 |
| Chemical Engineering | 8 |
| Civil Engineering | 17 |
| Materials Engineering | 27 |
| Centre for Product Design and Manufacturing | 6 |
| Centre for Earth Sciences | 4 |
| Centre for Atmospheric and Oceanic Sciences | 7 |
| Centre for Nanoscience and Engineering | 27 |
| Management Studies | 16 |
| Supercomputer Education and Research Centre | 2 |
| Computational and Data Sciences | 7 |
| Instrumentation and Applied Physics | 16 |
| Centre for Biosystems Science and Engineering | 7 |
| Interdisciplinary Centre for Energy Research | 1 |
| Centre for Sustainable Technologies | 2 |

3.4.2 - Research Publications in the Journals notified on UGC website during the year

| Type | Department | Number of Publication | Average Impact Factor (if any) |
|------|------------|-----------------------|--------------------------------|
|------|------------|-----------------------|--------------------------------|

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3.4.3 - Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

| Department | Number of Publication |
|------------|-----------------------|
| | |

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3.4.4 - Patents published/awarded/applied during the year

| Patent Details | Patent status | Patent Number | Date of Award |
|----------------|---------------|---------------|---------------|
| | | | |

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3.4.5 - Bibliometrics of the publications during the last academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

| Title of the Paper | Name of Author | Title of journal | Year of publication | Citation Index | Institutional affiliation as mentioned in the publication | Number of citations excluding self citation |
|--------------------|----------------|------------------|---------------------|----------------|---|---|
| | | | | | | |

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3.4.6 - h-Index of the Institutional Publications during the year. (based on Scopus/ Web of science)

| Title of the Paper | Name of Author | Title of journal | Year of publication | h-index | Number of citations excluding self citation | Institutional affiliation as mentioned in the publication |
|--------------------|----------------|------------------|---------------------|---------|---|---|
| | | | | | | |

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3.4.7 - Faculty participation in Seminars/Conferences and Symposia during the year

| Number of Faculty | International | National | State | Local |
|-------------------|---------------|----------|-------|-------|
| | | | | |

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3.5 - Consultancy

3.5.1 - Revenue generated from Consultancy during the year

| Name of the Consultan(s) department | Name of consultancy project | Consulting/Sponsoring Agency | Revenue generated (amount in rupees) |
|-------------------------------------|-----------------------------|------------------------------|--------------------------------------|
| | | | |

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3.5.2 - Revenue generated from Corporate Training by the institution during the year

| Name of the Consultan(s) department | Title of the programme | Agency seeking / training | Revenue generated (amount in rupees) | Number of trainees |
|-------------------------------------|------------------------|---------------------------|--------------------------------------|--------------------|
| | | | | |

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3.6 - Extension Activities

3.6.1 - Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

| Title of the activities | Organising unit/agency/ collaborating agency | Number of teachers participated in such activities | Number of students participated in such activities |
|-------------------------|--|--|--|
| | | | |

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3.6.2 - Awards and recognition received for extension activities from Government and other recognized bodies during the year

| Name of the activity | Award/Recognition | Awarding Bodies | Number of students Benefited |
|----------------------|-------------------|-----------------|------------------------------|
| | | | |

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3.6.3 - Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

| Name of the scheme | Organising unit/Agency/collaborating agency | Name of the activity | Number of teachers participated in such activities | Number of students participated in such activities |
|--------------------|---|----------------------|--|--|
| | | | | |

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3.7 - Collaborations

3.7.1 - Number of Collaborative activities for research, faculty exchange, student exchange during the year

| Nature of activity | Participant | Source of financial support | Duration |
|--------------------|-------------|-----------------------------|----------|
| | | | |

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3.7.2 - Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. during the year

| Nature of linkage | Title of the linkage | Name of the partnering institution/ industry /research lab with contact details | Duration From | Duration To | Participant |
|-------------------|----------------------|---|---------------|-------------|-------------|
| | | | | | |

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3.7.3 - MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

| Organisation | Date of MoU signed | Purpose/Activities | Number of students/teachers participated under MoUs |
|--------------|--------------------|--------------------|---|
| | | | |

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CRITERION IV - INFRASTRUCTURE AND LEARNING RESOURCES

4.1 - Physical Facilities

4.1.1 - Budget allocation, excluding salary for infrastructure augmentation during the year

| Budget allocated for infrastructure augmentation | Budget utilized for infrastructure development |
|--|--|
| 5545 | 5689.06 |

4.1.2 - Details of augmentation in infrastructure facilities during the year

| Facilities | Existing or Newly Added |
|------------|-------------------------|
| | |

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4.2 - Library as a Learning Resource

4.2.1 - Library is automated {Integrated Library Management System (ILMS)}

| Name of the ILMS software | Nature of automation (fully or partially) | Version | Year of automation |
|---------------------------|---|---------|--------------------|
| LibSys | Fully | 7.0 | 2018 |

4.2.2 - Library Services

| Library Service Type | Existing | | Newly Added | | Total | |
|----------------------|----------|-----------|-------------|-----------|--------|-----------|
| Text Books | 145676 | 114393050 | 253 | 1321396 | 145929 | 115714446 |
| Reference Books | 51557 | 79793718 | 182 | 413274 | 51739 | 80206992 |
| e-Journals | 3200 | 1375000 | 3629 | 161737141 | 6829 | 163112141 |

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4.2.3 - E-content developed by teachers such as: e-PG- Pathshala, CEC (under e-PG- Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

| Name of the Teacher | Name of the Module | Platform on which module is developed | Date of launching e-content |
|---------------------|--------------------|---------------------------------------|-----------------------------|
| | | | |

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4.3 - IT Infrastructure

4.3.1 - Technology Upgradation (overall)

| Type | Total Computers | Computer Lab | Internet | Browsing centers | Computer Centers | Office | Departments | Available Bandwidth (MBPS/GBPS) | Others |
|----------|-----------------|--------------|----------|------------------|------------------|--------|-------------|---------------------------------|--------|
| Existing | 457 | 42 | 0 | 0 | 0 | 42 | 42 | 10 | 0 |
| Added | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 457 | 42 | 0 | 0 | 0 | 42 | 42 | 10 | 0 |

4.3.2 - Bandwidth available of internet connection in the Institution (Leased line)

10 MBPS/ GBPS

4.3.3 - Facility for e-content

| Name of the e-content development facility | Provide the link of the videos and media centre and recording facility |
|--|---|
| DESE NPTEL Studio | https://nptel.ac.in/courses/113108079 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/103108139 |

| | |
|-------------------|---|
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108115 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108113 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108114 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/115108104 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/102108071 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/127108005 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/104108097 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108125 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/104108098 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108101126 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108124 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/112108285 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/109108158 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/127108015 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108114 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108113 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108112 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/108108122 |
| DESE NPTEL Studio | https://nptel.ac.in/courses/103108138 |

4.4 - Maintenance of Campus Infrastructure

4.4.1 - Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

| Assigned Budget on academic facilities | Expenditure incurred on maintenance of academic facilities | Assigned budget on physical facilities | Expenditure incurred on maintenance of physical facilities |
|--|--|--|--|
| 3500 | 3035.04 | 15000 | 15256.05 |

4.4.2 - Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website, provide link)

The Institution has regular maintenance staff to take care of physical, academic, and support facilities. The Institution has Annual Maintenance Contracts (AMCs) to maintain the equipments of the lab, computer hardware and software, studios, and so on. The institution also has dedicated support staff to maintain and troubleshoot electronic equipments. The Institution has a dedicated center for campus management and development (CCMD) that takes care of supervising the civil/electrical works, tendering, and so on. The

Institution has a dedicated department called DIGITS (Digital Campus and IT Services) to enable the digitization and maintenance of IT infrastructure of the Institute. The Institution uses e-Samadhan, Government Residential Accommodation Allotments. The allotment is purely based on bookings. The Institution also has Office of Laboratory Safety and Environment Health (OLSEH) to maintain the safety standards at all the laboratories across the Institution to have hazard free environment. Regular collection of solid wastes, toxic wastes, solvent wastes, radio wastes, etc. is done and disposal of the same is done periodically. Sports Complex (Gymkhana) at the institution ensures the involvement of faculty, staff, and students in extracurricular activities which are essential to improve their physical and mental well-being. CCMD is responsible for maintaining the facilities in gymkhana.

<https://iisc.ac.in/wp-content/uploads/2023/09/Section-4.4.2-2018-19.pdf>

CRITERION V - STUDENT SUPPORT AND PROGRESSION

5.1 - Student Support

5.1.1 - Scholarships and Financial Support

| | Name/Title of the scheme | Number of students | Amount in Rupees |
|--------------------------------------|----------------------------------|--------------------|------------------|
| Financial Support from institution | See details in the attached file | Nil | Nil |
| Financial Support from Other Sources | | | |
| a) National | See details in the attached file | Nil | Nil |
| b) International | See details in the attached file | Nil | Nil |

[View File](#)

5.1.2 - Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,

| Name of the capability enhancement scheme | Date of implementation | Number of students enrolled | Agencies involved |
|---|------------------------|-----------------------------|------------------------------------|
| Self defence workshop for women | Nil | 30 | Conducted by Kung Fu club of IISc. |

[View File](#)

5.1.3 - Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

| Year | Name of the scheme | Number of benefited students for competitive examination | Number of benefited students by career counseling activities | Number of students who have passed in the comp. exam | Number of students placed |
|------|--------------------|--|--|--|---------------------------|
| | | | | | |

[View File](#)

5.1.4 - Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

| Total grievances received | Number of grievances redressed | Avg. number of days for grievance redressal |
|---------------------------|--------------------------------|---|
| 8 | 8 | 5 |

5.2 - Student Progression

5.2.1 - Details of campus placement during the year

| On campus | | | Off campus | | |
|-------------------------------|---------------------------------|---------------------------|-------------------------------|---------------------------------|---------------------------|
| Name of organizations visited | Number of students participated | Number of students placed | Name of organizations visited | Number of students participated | Number of students placed |
| | | | | | |

[View File](#)

5.2.2 - Student progression to higher education in percentage during the year

| Year | Number of students enrolling into higher education | Programme graduated from | Department graduated from | Name of institution joined | Name of programme admitted to |
|------|--|--------------------------|---------------------------|----------------------------|-------------------------------|
| | | | | | |

[View File](#)

5.2.3 - Students qualifying in state/ national/ international level examinations during the year (eg:NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

| Items | Number of students selected/ qualifying |
|-------|---|
| | |

No file uploaded.

5.2.4 - Sports and cultural activities / competitions organised at the institution level during the year

| Activity | Level | Number of Participants |
|---------------|--------------------|------------------------|
| Spectrum 2018 | Intra IISc | 875 |
| Pravega 2018 | Undergraduate Fest | 50000 |

No file uploaded.

5.3 - Student Participation and Activities

5.3.1 - Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

| Year | Name of the award/medal | National/ Internaional | Number of awards for Sports | Number of awards for Cultural | Student ID number | Name of the student |
|------|-----------------------------------|---------------------------|--------------------------------|----------------------------------|----------------------|------------------------|
| 2018 | Volleyball mens team- Gold | National | 1 | Nil | Nil | Nil |
| 2018 | Badminton womens team - Silver | National | 1 | Nil | Nil | Nil |
| 2018 | Football mens team - Silver | National | 1 | Nil | Nil | Nil |
| 2018 | Badminton mens team - Silver | National | 1 | Nil | Nil | Nil |
| 2018 | Carrom mens - Silver | National | 1 | Nil | Nil | Nil |

No file uploaded.

5.3.2 - Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

The student council plays a crucial role in bridging the communication gap between the student body at IISc and the administration. Its responsibilities include addressing academic and facility-related issues that students may face and following up with the administration to ensure their resolution. Additionally, the council actively seeks feedback and suggestions from students to enhance the research environment and improve the students' well-being on campus. Throughout the year, the council organizes various cultural, sports, and tech festivals for the student community. It also holds a general body meeting to update students on its recent activities and address any concerns raised by the students. The council encourages students to showcase their talents during an open mic session. The council is also responsible for the cycle auction, which serves the dual purpose of clearing unused cycles from the campus while also raising funds for various events. With students from diverse cultural backgrounds from across India, the council works in collaboration with various samitis to organize and celebrate festivals that showcase local cultures. The student council is democratically elected by the students and works tirelessly to advocate for their welfare and interests.

5.4 - Alumni Engagement

5.4.1 - Whether the institution has registered Alumni Association?

Yes

Office of Development and Alumni Affairs (ODAA): The Office of Development and Alumni Affairs aims to build a vibrant community of alumni, friends, partners, and well-wishers who seek to support the Institute's mission.

5.4.2 - No. of registered Alumni:

1185

5.4.3 - Alumni contribution during the year (in Rupees) :

92300000

5.4.4 - Meetings/activities organized by Alumni Association :

1. Annual Alumni Reunion 2. Int Ph.D. Reunion

CRITERION VI - GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 - Institutional Vision and Leadership

6.1.1 - Mention two practices of decentralization and participative management during the last year (maximum 500 words)

Decentralization and participative management in administration: The Institute administration is divided into three structures - the first involves administrative procedures, finances, planning and infrastructure the second involves faculty matters including hiring and assessment and the third involves students matters. Three sets of Deans oversee the activities in these areas. The Deans assist the Director in development of policies as well as on their implementation. The Deans are assisted by the staff, the chairs of departments, the associate deans, and several committees comprising of faculty members in the discharge of the duties (e.g., purchase committee, library committee, faculty recruitment committee, committee of professors (for faculty assessments), senate curriculum committee, programme curriculum committee for each academic programme, etc.). The above structures are designed to take inputs from the grass-roots level, identify best practices, ensure participation, and implement policies effectively.

Decentralization and participative management in faculty hiring: The Institute has a decentralized way of gathering inputs on faculty selection. Applications received are screened by the respective departments' faculty recruitment committees to ensure suitability, quality, and matching with the department's vision and growth areas. Short-listed candidates are invited for a faculty candidate seminar as well as for interactions with the department faculty. All faculty members share their inputs on the suitability of the candidate for the department. After the departmental deliberation, the applications of all the recommended candidates and those that are not shortlisted are discussed at the divisional level. Subsequently, a selection committee interviews the shortlisted candidates, examines the not shortlisted candidates, and makes the final recommendation. The above mechanism enables significant participation of all the faculty members in the hiring process.

6.1.2 - Does the institution have a Management Information System (MIS)?

6.2 - Strategy Development and Deployment

6.2.1 - Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

| Strategy Type | Details |
|--|---|
| Curriculum Development | Several department curriculum committees for department-run programmes and programme curriculum committees for inter-departmental programmes gather feedback and update the curricula based on the feedback. In this year, structural changes were made to curricula in Aerospace engineering, electronics and communication engineering, electronic systems engineering, etc.. The committees are constantly looking to adapt and modify courses or introduce new courses based on student, academic, and industry feedback. |
| Teaching and Learning | The feedback from the students has two components. One on course contents and the other on instructors. Both are monitored and used to adapt courses and ultimately lead to better learning outcomes for students. Learning management systems such as Moodle are used for asynchronous learning. |
| Examination and Evaluation | The Senate curriculum committee reviews, recommends, and standardizes examination and evaluation mechanisms. Continuous assessment is carried out through interim examinations with only a portion of the weight given to the final examination. The committee also examines and approves the marks and grades at the end of each term. |
| Research and Development | IISc faculty engage with the Centre for Scientific and Industrial Consultancy (CSIC), the Centre for Sponsored Schemes and Programmes (CSSP), and the Society for Innovation and Development (SID). These entities facilitate close interaction and collaboration with the stakeholders in the industry, researchers at other institutions, and the government. Translations of research innovations are enabled through Intellectual Property and Technology Licensing (IPTeL) centre of IISc. |
| Library, ICT and Physical Infrastructure / Instrumentation | The Institute has a Library Committee that oversees the Institute's library needs and provides for them. The Institute uses various enterprise resource platforms for implementation of processes and procedures. The Dean of Planning and Infrastructure anticipates the needs, plans for the required infrastructure, and oversees the implementation. The Institute has several Research Facilities with sophisticated instruments for carrying out advanced research, e.g., X-ray facility, bioimaging facility, cryogenic facility, etc. |
| Human Resource Management | Human resources unit of the institute is devoted for the management of human resources in the campus. Periodic internal and external training enables in bringing the best practices from around the world. In addition to programmes enabling excellence in work-related aspects, programmes on wellness and work-life balance are also conducted. |

| | |
|--------------------------------------|--|
| Industry Interaction / Collaboration | The Centre for Scientific and Industrial Consultancy (CSIC) scouts for collaborations with companies and proactively makes matches with faculty expertise. The Society for Innovation and Development (SID) enables research innovation through sponsored projects. The SID also facilitates student and faculty entrepreneurship. |
| Admission of Students | Admissions administrative unit of the institute handles the admission of students. Admissions are carried out twice a year. Faculty members conduct various outreach activities to advertise the cutting-edge research done to attract the best students to IISc. Faculty members actively participate in the Kishore Vaigyanik Protsahan Yojana (KVPY), Joint Admission test for Masters (JAM), Graduate Aptitude Test in Engineering (GATE), etc. to facilitate admissions to the higher education institutions. |

6.2.2 - Implementation of e-governance in areas of operations:

| E-governance area | Details |
|-------------------------------|-----------------------------|
| Planning and Development | MS office suite |
| Administration | MS office suite |
| Finance and Accounts | MS office suite |
| Student Admission and Support | Admission Management System |
| Examination | MS office suite |

6.3 - Faculty Empowerment Strategies

6.3.1 - Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

| Year | Name of Teacher | Name of conference/ workshop attended for which financial support provided | Name of the professional body for which membership fee is provided | Amount of support |
|-----------|-----------------|--|--|-------------------|
| View File | | | | |

6.3.2 - Number of professional development / administrative training programmes organized by the University for teaching and non teaching staff during the year

| Year | Title of the professional development programme organised for teaching staff | Title of the administrative training programme organised for non-teaching staff | From date | To Date | Number of participants (Teaching staff) | Number of participants (non-teaching staff) |
|-----------|--|---|-----------|---------|---|---|
| View File | | | | | | |

[View File](#)

6.3.3 - No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

| Title of the professional development programme | Number of teachers who attended | From Date | To date | Duration |
|---|---------------------------------|-----------|---------|----------|
| | | | | |

No file uploaded.

6.3.4 - Faculty and Staff recruitment (no. for permanent recruitment):

| Teaching | | Non-teaching | |
|-----------|-----------|--------------|-----------|
| Permanent | Full Time | Permanent | Full Time |
| 16 | 16 | 1 | 1 |

6.3.5 - Welfare schemes for

| Teaching | Non-teaching | Students |
|--|---|--|
| Cumulative Profession Development Allowance, Faculty Club membership, CHSS - Contributory Health Services Scheme | Tata Memorial Club (TMC) membership, SC/ST Association, Ambedkar Jayanti Financial Support, Kannada Sangha, CHSS - Contributory Health Services, Scheme SC/ST Children awards | Gymkhana and Sports Facilities, Medical Benefits |

6.4 - Financial Management and Resource Mobilization

6.4.1 - Institution conducts internal and external financial audits regularly (with in 100 words each)

An Internal Auditor from AG's office, Bangalore, conducts regular financial audits supported by the audit team. In addition, CAG conducts financial audits every year.

6.4.2 - Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

| Name of the non government funding agencies /individuals | Funds/ Grnats received in Rs. | Purpose |
|--|-------------------------------|---------|
| | | |

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6.4.3 - Total corpus fund generated

5707

6.5 - Internal Quality Assurance System

6.5.1 - Whether Academic and Administrative Audit (AAA) has been done?

| Audit Type | External | | Internal | |
|----------------|----------|---|----------|---------------------------|
| | Yes/No | Agency | Yes/No | Authority |
| Academic | Yes | Division of Biological Sciences was reviewed by an external team of international and national experts. The external review of Mechanical Engineering was done (along with Chemical Engineering) between 13-15 February, 2019. Matthew Tirrell, University of Chicago Devang Khakhar, IIT Bombay Yogesh Jaluria, Rutgers, the State University of New Jersey Asok Kumar Malik, IIT Kanpur Lawrence Yao, Columbia University were part of the team. Center for Atmospheric and Oceanic Sciences (CAQS), Centre for Earth Sciences (CEaS) and Divencha Centre for Climate Change (DCCC) had an external review on 06 February 2019. Prof J Michael Wallace (University of Washington at Seattle), Prof V Ramaswamy (Princeton University), Prof Thomas Stocker (University of Bern), Prof Stephen Eggins (Australian National University) and Prof Shailesh Nayak (National Institute of Advanced Studies, Bengaluru) were part of the team). | No | Nil |
| Administrative | No | Nil | Yes | Administrative Leadership |

6.5.2 - What efforts are made by the University to promote autonomy in the affiliated/constituent colleges? (if applicable)

Not Applicable

6.5.3 - Activities and support from the Parent - Teacher Association (at least three)

Not Applicable

6.5.4 - Development programmes for support staff (at least three)

Managerial Excellence Programme at IIM Kozhikode, Make an Impact at IISc, Workshop On Office Procedure at IISc

6.5.5 - Post Accreditation initiative(s) (mention at least three)

1. Modernized our IT infrastructure to allow for an IT-enabled administration. 2. Instituted a process of international academic review of the divisions and departments, such that a round of reviews is completed over a ten-year cycle. 3. IISc's aspirations are to be in the top 100 institutions in the world within 10 years. We have instituted a data office to systematically assess and evaluate IISc's standing in the international research community, and identify strategies for improvement. 4. The institute was awarded the Institution of Eminence (IoE) Status in October 2018. 5. The insitute expanded its postdoctoral programme. The IoE and the C. V. Raman postdoctoral positions were established with the goal of doubling the number of postdoctoral fellows in the next 5-year period. 6. The new Office of Development and Alumni

Affairs was established to put in additional efforts to increase the funding from individual donors and from corporate donors through the Corporate Social Responsibility vehicle.

6.5.6 - Internal Quality Assurance System Details

| | |
|--|-----|
| a) Submission of Data for AISHE portal | Yes |
| b) Participation in NIRF | Yes |
| c) ISO certification | No |
| d) NBA or any other quality audit | No |

6.5.7 - Number of Quality Initiatives undertaken during the year

| Year | Name of quality initiative by IQAC | Date of conducting IQAC | Duration From | Duration To | Number of participants |
|---------------------------|------------------------------------|-------------------------|---------------|-------------|------------------------|
| View File | | | | | |

CRITERION VII - INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

7.1.1 - Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

| Title of the programme | Period from | Period To | Number of Participants | |
|--|-------------|------------|------------------------|------|
| | | | Female | Male |
| Student Council IISc celebration of international womens day | 08/03/2019 | 08/03/2019 | 15 | 10 |
| Lecture on Anti-Sexual awareness and sensitisation | 17/08/2018 | 17/08/2018 | 15 | 60 |

7.1.2 - Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

| Percentage of power requirement of the University met by the renewable energy sources |
|---|
| All our new constructions are designed to achieve GRIHA 5-star rating. That means 30 percent of power requirements need to be met from renewable sources. |

7.1.3 - Differently abled (Divyangjan) friendliness

| Item facilities | Yes/No | Number of beneficiaries |
|-------------------------|--------|-------------------------|
| Provision for lift | Yes | 200 |
| Ramp/Rails | Yes | 200 |
| Rest Rooms | Yes | 200 |
| Scribes for examination | Yes | 200 |

7.1.4 - Inclusion and Situatedness

| Year | Number of initiatives to address locational advantages and disadvantages | Number of initiatives taken to engage with and contribute to local community | Date | Duration | Name of initiative | Issues addressed | Number of participating students and staff |
|------|--|--|------|----------|--------------------|------------------|--|
|------|--|--|------|----------|--------------------|------------------|--|

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7.1.5 - Human Values and Professional Ethics Code of conduct (handbooks) for various stakeholders

| Title | Date of publication | Follow up(max 100 words) |
|---|---------------------|---|
| POLICY ON CONDUCT AND ACADEMIC INTEGRITY FOR STUDENTS | 24/07/2019 | This Handbook highlights the standard procedures and practices of the Indian Institute of Science for all students enrolling with the Institute for pursuing various courses. All students must know that it is their responsibility to abide by the Code of Ethics and Conduct. The Institute's endeavor, by means of enforcing this Code is to put in place a Document for all students that is egalitarian, conscientious, effectual and expeditious and to provide a system which promotes student growth through individual and collective responsibility. All students are requested to be familiar with this Code, which can be also be found on the official website of the Institute. The Code holds students (both individuals and groups) responsible for their actions and its consequences. Those who fail to fulfill their responsibilities stand to lose their privileges or have penalties imposed on them. |

7.1.6 - Activities conducted for promotion of universal Values and Ethics

| Activity | Duration From | Duration To | Number of participants |
|----------|---------------|-------------|------------------------|
|----------|---------------|-------------|------------------------|

[View File](#)

7.1.7 - Initiatives taken by the institution to make the campus eco-friendly (at least five)

Replacing diesel with PNG: 21 percent of CO2 emissions are expected to reduce due to this.

The total reduction in CO2 emissions: 36 percent

Solar panels on the ground (1 hectare) in Challakere campus: 7 percent of CO2 emissions are expected to reduce due to this.

7.2 - Best Practices

7.2.1 - Describe at least two institutional best practices

1. Title of Practice: Communications Practice at IISc. Objective: In 2017-18, IISc recognised the need to evolve a coherent communications framework to disseminate its research and other initiatives to the outside world effectively and consistently. Towards this end, a concept paper with a comprehensive communications plan was drafted. The plan was approved by the institute, and this led to the revamping of the existing Archives and Publications Cell into a full-fledged Office of Communications (OoC). Context: Prior to the establishment of OoC, IISc was carrying out some science outreach activities, but in a limited manner. However, its outreach initiatives lacked coordination and was distributed among several centres and offices that were already burdened by other responsibilities. Given these issues, a dedicated office was established to bring these diverse activities under one roof. The mandate of OoC included: (1) To serve as the first point of contact for information at the institute, including liaising with journalists/media (2) To develop and implement effective communication strategies (3) To work with various offices and centres within IISc to acquire and disseminate information (4) To ensure quality and standardisation in communication across various platforms (5) To ensure steady dissemination of information from IISc to the outside world through various channels. Practice: OoC is headed by a Chair and comes under the Director of IISc. Its activities can be categorised under multiple verticals. These include: (1) News: Researchers at IISc publish more than 2,000 research and review articles in peer-reviewed journals each year. OoC identifies the most newsworthy of these articles and sends out press releases based on them to journalists across the country and abroad. These press releases are regularly re-reported in most of the mainstream publications. OoC is also responsible for sending out press releases pertaining to important MoUs and new initiatives undertaken at IISc. (2) Kernel: OoC publishes an online newsletter called Kernel, highlighting important research breakthroughs at the Institute and profiling the lives and works of its researchers. (3) Social media: IISc has an active presence on various social media platforms - X (formerly Twitter), Facebook, Instagram, and LinkedIn. (4) Connect: OoC publishes Connect, the magazine of IISc. This quarterly magazine is brought out both in print and web versions. (5) IISc Press: IISc Press publishes research monographs, lecture notes, and popular science books. Some of these books are brought out in partnership with Cambridge University Press and World University Press. It also collaborates with Springer to publish the Journal of the Indian Institute of Science. This quarterly journal publishes review articles, with each issue dedicated to a cutting-edge field of research. (6) Archives: The IISc archives is home to innumerable reports, letters, memos, and photographs from IISc's rich past. Some of the archived documents date back to the 1890s when IISc's founder JN Tata conceived of the idea of a research institute for India. (7) Writing Centre: OoC set up this centre dedicated to train IISc researchers on effective academic communication, crucial for the success of IISc's student researchers. It offers regular courses for both undergraduate and graduate students (Master's and PhD) in research communication and provides students with feedback on their thesis chapters and research manuscripts. (8) Exhibitions and talks: OoC helps departments at IISc celebrate their anniversaries by curating exhibitions about their past. It also brings out coffee table books and brochures to commemorate the achievements of the departments and their illustrious researchers. Popular lectures on science and humanities-related topics are also organised regularly. (9) A quarterly science writing internship programme provides an opportunity for IISc students to learn the skills required to write popular science

stories. Evidence of success: Since it was set up, the OoC has achieved much. IISc Press publishes at least four books annually, apart from the quarterly journal. Connect and Kernel are widely read by the public and the research community. The increased number of press releases sent out from IISc has dramatically boosted coverage in both national and international news outlets. Social media engagement has ramped up – IISc’s LinkedIn and Twitter pages currently have more than 3.7 lakh and 1.6 lakh followers respectively. The Writing Centre has trained hundreds of students in research communication. Besides cataloguing and digitising, the Archives has hosted and provided information to several historians and researchers. Together, these efforts have boosted awareness about the Institute’s history and scientific contributions among its alumni, donors, and the public. Problems encountered and resources required: While the project of revamping IISc’s communications initiatives and bringing it under a dedicated centre has been largely successful, it still has some teething issues. The most important among them is a shortage of staff and financial resources to hire professionals. Moreover, when OoC was established, one of the objectives was to branch out into other forms of science outreach, such as podcasting and video production. However, this requires specialised sets of skills and a dedicated studio with good quality equipment, which OoC currently lacks. In addition, the Archives needs a state-of-the-art facility and funds for categorisation, preservation, and dissemination of information.

2. Title of the Practice: Career Counselling and Placement. Objective: The primary mission of the Office of Career Counselling and Placement (OCCaP) is to offer centralized support for internship and full-time placements across various academic programs at the Indian Institute of Science (IISc). These programs encompass a diverse range of educational levels such as: Master of Technology (M.Tech.), Master of Technology by Research (M. Tech. (Res)), Master of Design (M. Des.), Master of Management (M. Mgmt.), Master of Science by Research (MSc (Res)), Bachelor of Science by Research (BSc (Res)), Doctor of Philosophy (PhD), and Post-Doctoral Scholars. OCCaP is committed to facilitating and enhancing the placement experience for students and scholars at IISc, thereby contributing to their professional growth and development. Context: Campus placements are the starting point for a broader and more meaningful engagement between academia and industry. By nurturing these relationships, institutions can create a dynamic ecosystem that benefits everyone involved. Students: Campus placements give students opportunities to kickstart their careers and gain practical exposure. These experiences shape their future and contribute significantly to their personal and professional development. Institutions: A robust placement record enhances the reputation and brand value of educational institutions. It can attract more and better students, promote research collaborations, and foster innovation through incubation centers. Industry: Companies benefit from campus placements by tapping into a pool of fresh talent, reducing recruitment costs, and gaining access to the latest research and ideas. Collaborations with educational institutions can lead to mutually beneficial initiatives such as research projects, fellowships, CSR activities, etc. Practice: OCCaP provides the following services to place the students. Full-time Placements: The full-time placement season at the institute typically commences in October and extends through May. During this period, eligible and interested students, in accordance with the criteria set by the recruiting companies, express their intent to participate in the company’s recruitment process by submitting their details online. All relevant student information becomes accessible to organizations through the OCCaP account. OCCaP actively manages and coordinates recruiters’ visits for pre-placement talks, assessments, and personal interviews, ensuring a seamless process for both students and companies. Internship Placements: IISc permits students to pursue

internship opportunities in the industry for up to three months without impacting their academic commitments. Undergraduate and Masters level students typically undertake these internships during the summer months, from May to July. Research students may engage in internships after completing their coursework, contingent upon advisor and departmental approvals. Special arrangements can also accommodate extended internships. OCCaP plays a central role in facilitating interactions between students and companies keen on offering internship opportunities through special events and networking sessions. Pre-placement talks: The OCCaP plays a pivotal role in facilitating pre-placement talks, a crucial event that precedes the commencement of hiring activities. The pre-placement talk is vital for reducing the information gap among students, the institution, and the prospective employers. It ensures that all stakeholders are well-informed about the placement process, expectations, and opportunities. These talks actively engage industry representatives. Companies gain insight into the talent pool available at the institution, various academic programs, courses offered, and the diverse range of services and support available to the industry. The pre-placement talk also serves as a platform for fostering connections that can lead to fruitful partnerships, internships, research collaborations, and recruitment. These comprehensive services provided by the OCCaP contribute to enhancing students' career prospects and industry exposure while fostering valuable connections between students and potential employers. Evidence of success: The Office of Career Counseling and Placement (OCCaP) has consistently delivered exceptional placement results year after year, maintaining an impressive placement rate of 80 percent -85 Percent. This remarkable success is complemented by sustaining an overall average CTC (Cost to Company) ranging between 25 lakhs per annum (LPA) to 30 LPA. One of the hallmarks of OCCaP's achievements is the active participation of renowned companies from various sectors in both internship and full-time hiring activities.

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

<https://iisc.ac.in/wp-content/uploads/2023/09/Section-7.2.1-2018-19.pdf>

7.3 - Institutional Distinctiveness

7.3.1 - Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust in not more than 500 words

Interdisciplinary research has emerged as a crucial component of the research landscape in recent years. By breaking down departmental barriers, interdisciplinary research facilitates novel breakthroughs that may not be possible within the confines of a particular discipline. IISc has a special Division of Interdisciplinary Sciences, with a wide range of departments/centres with a common theme of a strong interdisciplinary focus. This division currently has 36 faculty members, and approximately 275 PhD and 119 Masters students. To envision the interdisciplinary theme, several new multidisciplinary PhD programmes were initiated jointly involving Mathematics department with one of the other departments from the institute. An M.Des programme combining science, engineering, and creative arts was also initiated. Several thematic clusters were created to facilitate interdisciplinarity and interaction across departments which include: AI cluster involving several departments in the institute, the brain-computation-data research initiative, cyber-physical systems, materials and informatics, security research

group, etc.. The Centre for Biosystems Science and Engineering (BSSE) conducts research on biological systems, with equal emphasis on science and engineering, by bringing together biologists, engineers, and those who are trained as bioengineers, under same roof. In this academic year, the centre has about 32 PhD students and 27 publications. Key research focuses here are polymeric systems for targeted delivery of active drugs and immuno-engineering with the capacity to modulate inflammatory immune responses, with a particular focus on type-2 diabetes. The Centre for Society and Policy (CSP) explores interactions between science, technology, society, and development. The centre was established during this academic year and it aims to expand the social compact between science and society to work together for sustainability and mutual benefit. The Department of Computational and Data Sciences (CDS), another interdisciplinary unit at the institute, has grown to 14 academic staff, 40 PhD students, and 68 Masters students this year, with 72 publications in the academic year. The department focuses its research on computation and data-intensive methods, systems, and applications, as applied to scientific domains, design, implementation, and evaluation of high-performance hardware and software systems. The Centre for Nano Science and Engineering (CeNSE) focuses its research on nanoscale systems investigated with facilities such as the nanofabrication facility (14,000 square feet clean room) and characterization labs that cater to material, electronic, mechanical, chemical, and optical characterization. The centre has 12 faculty members, 154 PhD students, and 10 MTech students, with 174 research publications this year. Core research topics include nanoelectronics, nanomaterials, nanophotonics using silicon and other materials, lasers, nanobiotechnology, etc.. The Centre for Infrastructure, Sustainable Transportation, and Urban Planning (CiSTUP) conducts interdisciplinary research on planning, design, operation, and control of transportation systems. The centre focuses on state-of-the art transportation modelling and analysis tools to model safe, efficient, and sustainable mobility and city planning. The centre advises transportation agencies, civic authorities, and policy makers on scientific approaches to designing, planning, and operation of transportation systems. The Robert Bosch Centre for Cyber-Physical Systems (RBCCPS) with 291 publications and 27 students, conducts research on cyber-physical systems focusing on foundational and applied research in robotics and advanced

Provide the weblink of the institution

<https://iisc.ac.in/>

8.Future Plans of Actions for Next Academic Year

In May 2019, IISc completed 110 years of existence. Over the last century, the Institute has established itself firmly as India's premier destination for original research and higher education in science and engineering. Keeping with its mandate to "provide for advanced instruction and to conduct original investigations in all branches of knowledge as are likely to promote the material and industrial welfare of India," the Institute will strive to strike a balance between the pursuit of basic knowledge and applying its research outcomes for industrial and social benefit. The Institute has had a rich history of contributing to nation building. During 2019-20, we plan to initiate major RD endeavors of national importance. We are envisaging a National Centre for Clean Coal Research and Development whose primary goal is to address several critical challenges in developing clean coal technologies in the country, in tandem with developing supercritical power plant technologies, both at the materials and systems level.

Additionally, we are planning a Centre of Excellence in Additive Manufacturing for High-Performance Metallic Alloys. Faculty members from various departments are planning to develop a prototype of a metal additive manufacturing machine, touted as a metal 3D printer. Such a machine will use a high-power electron beam to melt metallic powders in vacuum and build complex objects such as biomedical implants and aircraft components, faster and more efficiently. We also plan to pursue technology development in futuristic areas such as quantum technologies, 5G networks, and autonomous vehicles. While funding from the government continues to remain critical for IISc's operations, support from non-government sources has also played an important role in the Institute's advancement in the last few years. Endowments and grants from generous donors have not only enabled the Institute to modernise its infrastructure and provide enhanced travel and scholarship support for its students, but also helped our faculty members to pursue groundbreaking research. The Institute will continue to build collaborations with technology giants to find solutions to problems in strategic areas. A Centre for Networked Intelligence (CNI), with industry support, is envisaged to develop next-generation networking methodologies and concept solutions that can derive knowledge from evolved networks of the future. As part of the centre's activities, an advanced networking lab with state-of-the-art networking devices will be set up at IISc, and the students will be supported through scholarships and travel grants. IISc will complete nearly one year as an "Institution of Eminence" by the end of the academic year 2018-19. One of the major accomplishments under this grant has been a significant boost in internationalisation. The Satish Dhawan Visiting Professorships and the C.V. Raman Post-doctoral Fellowships were instituted to host outstanding researchers on campus. New doctoral joint-supervision programmes between IISc and foreign universities are under discussion, in addition to substantial international travel support for our faculty members and students. We will continue to strengthen these efforts at internationalisation. In addition, new degree programmes including an MTech in Artificial Intelligence and PhD programmes in Advanced Manufacturing, Climate Science, will be introduced.