YEARLY STATUS REPORT - 2020-2021

Part A	
Data of the Institution	
1.Name of the Institution	INDIAN INSTITUTE OF SCIENCE
• Name of the Head of the institution	Prof. Govindan Rangarajan
• Designation	Director
• Does the institution function from its own campus?	Yes
• Phone no./Alternate phone no.	08022932222
• Mobile no	9449044736
• Registered e-mail	dean.anf@iisc.ac.in
• Alternate e-mail address	office.director@iisc.ac.in
• City/Town	Bengaluru

• State/UT	Karnataka
• Pin Code	560012
2.Institutional status	
• University	Deemed
• Type of Institution	Co-education
• Location	Urban
• Name of the IQAC Co-ordinator/Director	Prof. G. Raghuraman
• Phone no./Alternate phone no	8022932909
• Mobile	9886372499
• IQAC e-mail address	chair.scc@iisc.ac.in
• Alternate Email address	rng@iisc.ac.in
3.Website address (Web link of the AQAR (Previous Academic Year)	https://iisc.ac.in/wp-content/uploads/2023/09/AQAR-2019-20.pdf
4.Whether Academic Calendar prepared during the year?	Yes
• if yes, whether it is uploaded in the Institutional website Web link:	https://mecheng.iisc.ac.in/cnuiisc/CourseDescription/StudentHandbook/SH_2020-21.pdf

5.Accreditation Details

Cycle	Grade	CGPA	Year of Accreditation	Validity from	Validity to

Cycle 1	A++	3.67	2018	26/09/2018	25/09/2023

6.Date of Establishment of IQAC	22/05/1967

7.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
Indian Institute of Science	Institute of Eminence	Ministry of Education	2018 (Till 2025)	1000 Cr
Indian Institute of Science	Deemed to be University	University Grants Commission	1958	Nil

8.Whether composition of IQAC as per latest NAAC guidelines	Yes
• Upload latest notification of formation of IQAC	View File
9.No. of IQAC meetings held during the year	4
• The minutes of IQAC meeting and compliance to the decisions have been uploaded on the institutional website. (Please upload, minutes of meetings and action taken report)	No
10.Whether IQAC received funding from any of the funding agency to support its activities during the year?	No
• If yes, mention the amount	

11.Significant contributions made by IQAC during the current year (maximum five bullets)

1. New courses introduced a) Optimization for Machine Learning b) Antenna Theory and Practice c) Neural Signal Processing d) Representation theory of affine lie algebras e) Sustainable wastewater management f) Separation Technologies for Sustainable Industrial processes g) Introduction to Calculus of Variations h) Haptic Systems Design i) Stochastic Dynamic optimization j) Mechanical Vibrations k) Introduction to Fourier Optics l) S&T policy m) Radioactive transport n) Laminar flows o) Algorithmic Foundations of Big Data Biology p) Topics in Artificial Intelligence q) Hydro-climatology r) Electronic Systems Engineering
2. Adapt semester timelines and assessments to handle the online mode of education delivery

12.Plan of action chalked out by the IQAC in the beginning of the Academic year towards Quality Enhancement and the outcome achieved by the end of the Academic year

Plan of Action	Achievements/Outcomes
Based on feedback, it was planned to introduce the New Courses in various disciplines:	New Courses were offered in different departments from 1 Aug 2021
Adapt to the online mode of delivery	The first semester started on 01 October due to systemic delays associated with results declaration of incoming students. The second semester started on 22 February 2021. Instructors identified suitable e-books. The library procured and made them available online to all students, after entering into partnerships with two book publishers. Immersive sessions were provided for instructors (Sept 2 and Sept 4) on how to conduct online classes using commercial online platforms, after entering into partnerships with them. Campus network bandwidth was enhanced. Secure connectivity to campus Intranet was given to all students. Demos were conducted and SOPs were put in place for online teaching. Student orientations were conducted to help students familiarise themselves with Institute practices and the online mode of education. A central bulletin board, with all department level courses and class links, was created and shared with students. Multimedia classrooms were fully equipped with essential equipment and software. Instructors were supported with funds for purchase of items like tablets for online lectures. IISc Knowledge and E-Learning Network was created to share best practices on online teaching.

13.Whether the AQAR was placed before statutory body?	Yes

- Name of the statutory body

Name	Date of meeting(s)
Senate Curriculum Committee	11/09/2023

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

15.Whether institutional data submitted to AISHE

Year	Date of Submission
2020-21	22/04/2022

16.Multidisciplinary / interdisciplinary

Interdisciplinary research has emerged as a crucial part 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. The Division of Interdisciplinary Research has a wide range of Departments/Centres with the common theme of a strong interdisciplinary focus.

The centres and departments in this division are the following:

1. Centre for Biosystems Science and Engineering (BSSE)
2. Centre for Society and Policy
3. Center for infrastructure, Sustainable Transportation and Urban Planning (CiSTUP)
4. Centre for Nano Science and Engineering (CeNSE)
5. Department of Computational and Data Sciences (CDS)
6. Department of Management Studies
7. Interdisciplinary Centre for Energy Research (ICER)
8. Interdisciplinary Mathematical Sciences
9. Interdisciplinary Centre for Water Research (ICWaR)
10. Robert Bosch Centre for Cyber Physical Systems (RBCCPS)
11. Supercomputer Education and Research Centre (SERC)
12. Quantum Technology Initiative

Interdisciplinarity is the characteristic feature of the research carried out in this Division. Specific research areas are: Bioengineering, Urban Infrastructure and Transportation, Nanoscale Materials, Nano Devices and Systems, Economics, Finance, Human Resource Management, Marketing, Optimization, Public

Policy, Energy, Water, Internet of Things, Distributed Sensing, Computer Systems, Computational Science, Data Sciences and Bioinformatics.

17.Academic bank of credits (ABC):

Implementation of Academic Bank of Credits (ABC) at IISc is as given in the following link:

https://iisc.ac.in/wp-content/uploads/2023/04/Academic-Bank-of-Credits-ABC.pdf

A) Recognition of credits from other institutes (towards degree programs of IISc):

- Courses taken by a student from IISERs, IITs, AIIMSs, IIMs, TIFR, RRI, NCBS, JNCASR, ISI, Chennai Mathematical Institute will be considered for credits at IISc. The list of accepted institutions will be reviewed at regular intervals/after a period of 3 years.

B)Courses from other institutes (towards degree programs of IISc):

- Students can take a maximum of 30% of their IISc RTP (Research Training Program) requirements through the ABC scheme. These courses may fulfill the requirements of soft core and elective courses. The transfer of credits (from ABC) toward the core courses will not be permitted until and unless a strong justification is offered and approved by SCC.
- Each DCC along with the committee implementing ABC will be authorized to evaluate and accept or reject the courses to be credited through ABC for considering towards the RTP requirements for IISc degree programs (on the basis of course importance/course syllabus/institute concerned).
- For IISc students seeking to do a course not offered at IISc, the Research Supervisors may advise the students to take the courses in another Institution where the desired courses are offered, and it may be counted towards RTP through ABC.
- For research program students if a course is not available at IISc and is deemed mandatory/important by the Research Supervisor/DCC, it may be counted over and above the allowed 30% limit.
- For course programs, hard core courses should be taken from IISc. Only Soft Core courses/Electives will be permitted through ABC.
- Initially IISc will not accept the courses done through online or similar platforms.
- Any courses taken by the student more than three years prior to seeking credit, will not be considered.
- External credits accepted by IISc will be valid till the completion of the program.

18.Skill development:

HAL-IISc Skill Development Centre, IISc Bangalore

Hindustan Aeronautics Limited (HAL) and Indian Institute of Science (IISc), two premier organizations, have joined hands to establish the HAL-IISc Skill development centre wherein high-end skills related to

Aerospace domain and manufacturing relates sectors will be imparted. This is a very appropriate activity synchronous with the Atmanirbhar program.

During 2016 IISc approached HAL to partner in this unique project. Considering the shared aims of social good, HAL accepted and funded this as a CSR project. The MoU for establishing this unique HAL-IISc Skill Development Centre was signed on 28th March 2016. The construction of the centre was started on 27th October 2016. The support from HAL covers civil works for the buildings and the laboratory equipment.

The centre has a training centre of about 75,000 sq ft. with modern labs, classrooms and an auditorium to seat 250 members. There is facility to provide residential accommodation to about 250 trainees and faculty. When fully functional, the centre will train about 1000 trainees yearly. The focus is to train the trainers who can in turn train more trainees thus leveraging the multiplier effect. Three areas for training have been selected by the Joint HAL-IISc technical committee. For the immediate future, the selected areas are Composite materials, Sensors and IoT, Manufacturing systems.

The beneficiaries of these program will be experienced engineers, supervisors and faculty members of various technical institutes. The trainings will cover both skill upgradation and also new skills. Another unique feature of the training programs is that more than 50% of the course duration will be devoted to learning by doing laboratory experiments. The faculty for the courses will be selected from IISc and other leading organizations including HAL.

HAL-IISc Skill Development Centre (SDC) has initiated the training activities with five planned courses to be offered in the first cohort in the virtual mode during the period Dec 2020 to Feb 2021. The first program, Workshop on IoT and Embedded Applications, was Inaugurated on Monday 7th Dec 2020.

The SDC programs being offered are in the niche engineering areas of Aerospace, Mechanical, Electrical and Electronic sectors, in line with the 'Make in India' mission. This initiative has brought together two finest organizations of India, a Navaratna Status Public Sector Company (HAL) and a centrally funded Institution of Eminence (IISc) have joined hands and embarked on the path to provide skill upgradation and development in these important areas.

More details can be found in the link below:

https://sdc.iisc.ac.in/index.php/hal-iisc-skill-development-centre-iisc-bangalore/

19.Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course)

1. The following course was taught at the UG level related to culture.

Course Code: UH 203, Course Title: Mapping India with the Folk Arts, Instructor: Dr Bitasta Das, Term: January-April, Credit: 1

Summary: This course understands India through the living art of the common people. Folk art is a window to the life and philosophy of the region they belong to. The country and its people are better understood by probing into the art and appreciating them. Another focus of the course is to bring art and science together.

2) The Official Language Unit conducted several competitions in creative writing, extempore speech, poetry recitation, antakshari, memory test in Indian languages.

3) Talk on Eco-Aesthetics, Indigenous Culture & Development conducted at NIAS on the IISc Campus. This was conducted on 04 September 2020.

4) Kavyaalaap Vaividhya Session conducted by NIAS on the IISc Campus.Three poets shared their poems in Kannada, Telugu, Hindi, Sanskrit,
and English. This was conducted on 16 March 2021.

5) Several meetings of the Tamil Readers' Circle (Vasagar Vattam) were held during the year.

6) The Institute celebrated the International Day of Yoga by hosting a session on the National Yoga Protocol. Also, an asana challenge and a yoga quiz were conducted on the International Yoga day 21 June 2021.

7) A seminar on "The Underworld of Organisational Toxicity" was conducted on 15 March 2021. The speaker discussed sustaining a shared
core to cultivate inner awareness and wisdom for the common good in organisations.

20.Focus on Outcome based education (OBE):Focus on Outcome based education (OBE):

Indian Institute of Science focuses on an outcome-based education where students take up courses with a certain goal of developing skills or gaining knowledge and they have to complete the goal by end of the course.

With outcome-based education at IISc, the students

- gain expertise in that area of knowledge
- are equipped for carrying out further research in that area
- gain knowledge to meet the industry requirements
- lead cutting edge research outcomes
- evolve new research methodologies in the niche areas of research.

The outcomes of several of our degree programmes and specific courses, in line with programme outcomes suggested by the NBA, are given in the following comprehensive document:

https://iisc.ac.in/wp-content/uploads/2023/09/PSO_CO_2020-21.pdf

21.Distance education/online education:

Indian Institute of Science has several online courses on different platforms, namely,

- GIAN courses
- CCE courses
- NPTEL courses
- Massive Online Open Courses (MOOCs)
- Courses for DTH (Direct to Home)
- Courses for ITEC (Indian Technical and Economic Cooperation Programme)

Also, in keeping with India's recent National Education Policy (NEP 2020), the Indian Institute of Science, Bengaluru, launched the Master of Technology (Online) degree programme, a fully online programme, for practising engineers and scientists. The degree programme is for professionals who are sponsored by organisations, who already have a BE/BTech/Equivalent degree and wish to upskill or re-skill themselves. The following streams have been identified as high priority areas for admission in the academic year 2021-22:

- Data Science and Business Analytics
- Artificial Intelligence
- Electronics and Communication Engineering

The M.Tech. (Online) degree is equivalent to our residential Master of Technology (M.Tech.) degree in all respects, number of credits, the project, the rigour and the level of the courses. The term "Online" in the name of the degree refer to the means by which the instructor-led lectures are delivered.

For more details, visit: http://cce.iisc.ac.in/ and https://iken.iisc.ac.in/

Extended Profile

1.Programme

1.1 Number of programmes offered during the year:	110

File Description	Documents
Data Template	View File

1.2 Number of departments offering academic programmes	42

2.Student

2.1 Number of students during the year	1202

File Description	Documents
Data Template	View File

2.2 Number of outgoing / final year students during the year:	273

File Description	Documents
Data Template	View File

2.3 Number of students appeared in the University examination during the year	173

File Description	Documents
Data Template	View File

2.4 Number of revaluation applications during the year	0

3.Academic

3.1 Number of courses in all Programmes during the year	704

File Description	Documents
Data Template	View File

3.2	463

Number of full time teachers during the year	

File Description	Documents
Data Template	View File

3.3 Number of sanctioned posts during the year	550

File Description	Documents
Data Template	View File

4.Institution

4.1 Number of eligible applications received for admissions to all the Programmes during the year	39295

File Description	Documents
Data Template	View File

4.2 Number of seats earmarked for reserved category as per GOI/ State Govt. rule during the year	869

File Description	Documents
Data Template	View File

4.3 Total number of classrooms and seminar halls	120
4.4 Total number of computers in the campus for academic purpose	2000
4.5 Total expenditure excluding salary during the year (INR in lakhs)	42057.21

Part B

CURRICULAR ASPECTS

1.1 - Curriculum Design and Development

1.1.1 - Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the University

1. The second batch of the MTech (AI) programme was admitted. This programme was started in 2019-20 to address the strong need for AI capacity building in India so that we can become an intellectual force in this emerging domain.
2. The Institute shifted entirely to online mode of teaching and learning and explored new online methods of learning assessment.
3. 36 new courses were developed and introduced, several for online delivery, towards enabling employability and skill development
4. All programmes at IISc have an elective component (or choice-based credit).
5. Our offerings of elective courses and programmes are in line with the latest developments in applicable areas, e.g., artificial intelligence and machine learning, communication technologies, biosystems science and engineering, climate sciences, etc.
6. Several curriculum enrichment activities were also conducted as highlighted below.
7. We have a robust means by which we collect feedback on the instruction delivery and content and share them with the instructors.
8. For details on programme outcomes, programme specific outcomes, and course outcomes, please see our comprehensive document:https://iisc.ac.in/wp-content/uploads/2023/09/PSO_CO_2020-21.pdf

File Description	Documents
Upload relevant supporting document	View File

1.1.2 - Number of Programmes where syllabus revision was carried out during the year

0

File Description	Documents
Upload the data template	No File Uploaded
Upload relevant supporting document	No File Uploaded

1.1.3 - Total number of courses having focus on employability/ entrepreneurship/ skill development offered by the University during the year

1.1.3.1 - Number of courses having focus on employability/ entrepreneurship/ skill development during the year

36

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

1.2 - Academic Flexibility

1.2.1 - Number of new courses introduced of the total number of courses across all programs offered during the year

18

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

1.2.2 - Number of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented during the year

96

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

1.3 - Curriculum Enrichment

1.3.1 - Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

1. The office of communications (OOC) offers a course on research communications that deals with professional development and ethics

RESEARCH COMMUNICATION

COURSE CODE & CREDITS: CO 202 (2:0)

INSTRUCTORS: Dr Karthik Ram and Dr Narmada Khare (Office of Communications)

DAYS AND TIMINGS: Tuesdays and Thursdays (3:30 – 5:00 PM)

VENUE: Seminar Hall, Office of Communications

GOAL: The course aims to provide the tools required for graduate students (Master's and PhD) to become more effective communicators of their research, crucial for their academic success

LEARNING OUTCOMES:

- understand the history and philosophy of research communication
- survey relevant literature
- understand the structure of a research paper
- understand the process of peer-review
- write clearly and concisely
- organise an essay meaningfully
- learn about other forms of research communication including research posters and grant proposals
- understand the importance of research communication in professional development
- appreciate the significance of ethics in research communication

2. Prof. Maria Thaker (Centre for Ecological Sciences) :

EC 101 (AUG) (1:0) Process of Scientific Thinking

Approaches of scientific practice and research conduct. Historical perspective of various philosophies of science and the process of scientific thinking (e.g. deduction, induction and Inference by Best Explanation). Ethics in conducting, writing, and publishing science (including plagiarism), best practices for replicable research. How to read and review scientific literature critically.

Some more details can be found in:https://writingcentre.iisc.ac.in/courses/

File Description	Documents
Upload relevant supporting document	No File Uploaded

1.3.2 - Number of value-added courses for imparting transferable and life skills offered during the year

2

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

1.3.3 - Total number of students enrolled in the courses under 1.3.2 above

1.3.3.1 - Number of students enrolled in value-added courses imparting transferable and life skills offered during the year

60

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

1.3.4 - Number of students undertaking field projects / research projects / internships during the year

115

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

1.4 - Feedback System

1.4.1 - Structured feedback for design and review of syllabus - semester wise / is received from Students Teachers Employers Alumni	• Any 2 of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

1.4.2 - Feedback processes of the institution may be classified as follows	• Feedback collected, analysed and action has been taken

File Description	Documents
Upload relevant supporting document	View File

TEACHING-LEARNING AND EVALUATION

2.1 - Student Enrollment and Profile

2.1.1 - Demand Ratio

2.1.1.1 - Number of seats available during the year

1467

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.1.2 - Total number of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per applicable reservation policy during the year (Excluding Supernumerary Seats)

2.1.2.1 - Number of actual students admitted from the reserved categories during the year

430

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.2 - Catering to Student Diversity

2.2.1 - The institution assesses the learning levels of the studentsand organises special Programmes for advanced learners and slow learners

Each and every programme at Indian Institute of Science have two types of courses: Core and Elective. While Core courses are mandatory for the specific programmes, elective courses are designed for different learning levels of the students. There are 200 level, 300 level, and 400 level courses in the order of increasing complexity and rigour from simple to advanced learners. Each course will have credits like 2,3,4, etc. Every course has strict evaluation comprising of assignments, seminars, and projects.

The department curriculum committees monitor the performance of every student in the department and suggest reduced course loads for the slower learners.

This way, the Indian Institute of Science organises programmes for slow as well as advanced learners.

File Description	Documents
Upload relevant supporting document	No File Uploaded
Link For Additional Information	Nil

2.2.2 - Student - Full time teacher ratio during the year

Number of Students	Number of Teachers

4445	463

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.3 - Teaching- Learning Process

2.3.1 - Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

At Indian Institute of Science, courses are designed in such a way that the students experience and obtain deeper insights into the knowledge. Different methods such as tutorials, assignments (problem solving), seminars (experiential) and group discussions (Participative) are used in the courses.

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.3.2 - Teachers use ICT enabled tools including online resources for effective teaching and learning processes during the year

At Indian Institute of Science, faculty uses ICT enabled tools such as MS teams, MS share point, MS office 365 tools for effective teaching. LMS Tools such as Moodle, Canvas, Piazza are used to deliver online courses.

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.3.3 - Ratio of students to mentor for academic and other related issues during the year

2.3.3.1 - Number of mentors

463

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.4 - Teacher Profile and Quality

2.4.1 - Total Number of full time teachers against sanctioned posts during the year

463

File Description	Documents

Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.4.2 - Total Number of full time teachers withPh.D./D.M/M.Ch./D.N.B Superspeciality/D.Sc./D'Lit. during the year

463

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.4.3 - Total teaching experience of full time teachers in the same institution during the year

2.4.3.1 - Total experience of full-time teachers

7210

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.4.4 - Total number of full time teachers who received awards, recognition, fellowships at State, National, International level from Government/Govt. recognised bodies during the year

128

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.5 - Evaluation Process and Reforms

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

37

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

37

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.5.2 - Total number of student complaints/grievances about evaluation against total number appeared in the examinations during the year

0

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.5.3 - IT integration and reforms in the examination procedures and processes (continuous internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution

On the examination procedures and processes,

- MS share point tools is used to share the assignments to evaluate the internal assessment marks
- ERP tool SAP used for online grading. Once the marks are entered, grades are automatically calculated, and transcripts are generated.

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.5.4 - Status of automation of Examination division along with approved Examination Manual	C. Only student registration and result processing

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.6 - Student Performance and Learning Outcomes

2.6.1 - The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents

· Scheme of Instructions handbook lists all courses in a given academic year.

· Course details are also available at the IISc intranet site.

·Each course advertises the course syllabus, the assessment methods, the assessment weights, and the course outcomes.

· Feedback: For each course, students rate the course contents and the course instructor on several aspects.

- About the course, the following are gathered: depth of coverage in tests and assignments, novelty, organisation, 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 are gathered: 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 instructor feedback is shared with the instructor for self-assessment and improvement.

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.6.2 - Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution during the year

The Senate Curriculum Committee (SCC) at the Indian Institute of Science (IISc), Bengaluru acts as the Institute's Internal Quality Assessment Committee (IQAC).

The SCC comprises the following members:

- Chairperson (a senior faculty member)
- Deans of Faculties (Ex-officio Members)
- Chair, CCE (Centre for Continuing Education)
- Convener of Deans of Divisions
- Representatives from the Divisions of Biological Sciences, Chemical Sciences, Electrical Sciences, Mechanical Sciences, Physical and Mathematical Sciences and Interdisciplinary Sciences
- Secretary (Joint/ Deputy/ Assistant Registrar, Academic)

The SCC meets four times in a year and considers the following matters:

- Offering of courses
- Review of courses – content, level
- New academic programs

- Review of examination results (program/program specific/course outcomes)
- Problem cases or special cases arising out of examination results
- Course and examination timetables
- The Scheme of Instruction booklet
- Research Training Program (RTP) of research students

While reviewing new programmes, programme outcomes and attainments are evaluated. While reviewing offerings of courses, programme specific outcomes and attainments are evaluated. While reviewing courses, course outcomes and attainments are evaluated.

File Description	Documents
Upload relevant supporting document	No File Uploaded

2.6.3 - Number of students passed during the year

2.6.3.1 - Total number of final year students who passed the university examination during the year

426

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

2.7 - Student Satisfaction Survey

2.7.1 - Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design its own questionnaire) (results and details need to be provided as a web link)

https://iisc.ac.in/wp-content/uploads/2023/09/Section-2.7.1-Student-Survey-2020-21.pdf

RESEARCH, INNOVATIONS AND EXTENSION

3.1 - Promotion of Research and Facilities

3.1.1 - The institution Research facilities are frequently updated and there is well defined policy for promotion of research which is uploaded on the institutional website and implemented

Indian Institute of Science has a well-defined policy for promotion of research as stated in the vision/mission statement (as shared in website):

https://iisc.ac.in/vision-and-mission/

Vision

IISc aims to be among the world's foremost academic institutions through the pursuit of excellence in research and promotion of innovation by offering world-class education to train future leaders in science and technology and by applying science and technology breakthroughs for India's wealth creation and social welfare.

Mission

Our mission is to realize our vision by:

- Imparting world-class higher education in an environment of fundamental and applied research in science and engineering
- Conducting high-impact research, generating new knowledge, and disseminating this knowledge through publications in top journals and conferences
- Applying faculty expertise towards the success of national science and technology initiatives
- Applying deep knowledge in various areas to create knowhow and developing such knowhow for utilization by industry and society

In order to support the cutting edge research in various departments at IISc, the existing facilities are constantly maintained and new facilities are periodically added.

File Description	Documents
Upload relevant supporting document	No File Uploaded

3.1.2 - The institution provides seed money to its teachers for research (amount INR in Lakhs)

20-100

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.1.3 - Number of teachers receiving national/ international fellowship/financial support by various agencies for advanced studies/ research during the year

85

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.1.4 - Number of JRFs, SRFs, Post-Doctoral Fellows, Research Associates and other research fellows enrolled in the institution during the year

1979

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.1.5 - Institution has the following facilities to support research Central Instrumentation Centre Animal House/Green House Museum Media laboratory/Studios Business Lab Research/Statistical Databases Moot court Theatre Art Gallery

A. Any 4 or more of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

3.1.6 - Number of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other recognitions by national and international agencies during the year

18

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.2 - Resource Mobilization for Research

3.2.1 - Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the year (INR in Lakhs)

6125.35

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.2.2 - Grants for research projects sponsored by the government agencies during the year (INR in Lakhs)

32360.31

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.2.3 - Number of research projects per teacher funded by government and non-government agencies during the year

2.01

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.3 - Innovation Ecosystem

3.3.1 - Institution has created an eco-system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge

Society for Innovation & Development (SID) is an initiative of IISc, was founded to use this incredible repository of knowledge, world class infrastructure and talent (which it has access to by virtue of its umbilical connection with IISc) to help business enterprises and thereby the economy and the nation at large. Since its inception it has evolved and refined its model of engagement and now actively takes forward its mission through its three divisions – CORE that engages with large corporations in collaborative research, TIME that works with midsized enterprises to put them on a disruptive growth path via innovation and STEM that incubates start-ups that have deep science and societal impact at their core.

Most visionary companies know that it's not enough to make small iterations on existing products. It's truly important to peer into the future and create innovations that are ahead of the immediate need. At SID, through CORE Labs, provide a window for the industry to have access to some of the best scientific minds at IISc. When enterprises seek significant and intriguing questions that have scientific knowledge at their core, SID creates a platform for collaborative research to solve them.

For more details, visit: https://sid.iisc.ac.in/

File Description	Documents
Upload relevant supporting document	No File Uploaded

3.3.2 - Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR), Entrepreneurship and Skill Development during the year

3

3.3.2.1 - Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development year wise during the year

3

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.3.3 - Number of awards / recognitions received for research/innovations by the institution/teachers/research scholars/students during the year

3.3.3.1 - Total number of awards / recognitions received for research/innovations won by institution/teachers/research scholars/students year wise during the year

5

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4 - Research Publications and Awards

3.4.1 - The institution ensures implementation of its stated Code of Ethics for research

3.4.1.1 - The institution has a stated Code of Ethics for research and the implementation of which is ensured through the following 1. **Inclusion of research ethics in the research methodology course work** 2. **Presence of institutional Ethics committees (Animal, chemical, bio-ethics etc)** 3. **Plagiarism check** 4. **Research Advisory Committee**	A. All of the above

File Description	Documents
Upload relevant supporting document	View File

3.4.2 - The institution provides incentives to teachers who receive state, national and international recognitions/awards Commendation and monetary incentive at a University function Commendation and medal at a University function Certificate of honor Announcement in the Newsletter / website

A. All of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4.3 - Number of Patents published/awarded during the year

3.4.3.1 - Total number of Patents published/awarded year wise during the year

82

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4.4 - Number of Ph.D’s awarded per teacher during the year

3.4.4.1 - How many Ph.D’s are awarded during the year

283

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4.5 - Number of research papers per teacher in the Journals notified on UGC website during the year

4.50

File Description	Documents

Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4.6 - Number of books and chapters in edited volumes published per teacher during the year

3.4.6.1 - Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings during the year

714

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4.7 - E-content is developed by teachers For e-PG-Pathshala For CEC (Under Graduate) For SWAYAM For other MOOCs platform For NPTEL/NMEICT/any other Government Initiatives For Institutional LMS

A. Any 5 or all of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.4.8 - Bibliometrics of the publications during the year based on average Citation Index in Scopus/ Web of Science/PubMed

Scopus	Web of Science
25411	Nil

File Description	Documents
Any additional information	No File Uploaded
Bibliometrics of the publications during the year	No File Uploaded

3.4.9 - Bibliometrics of the publications during the year based on Scopus/ Web of Science - h-Index of the University

Scopus	Web of Science
60	Nil

File Description	Documents
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	No File Uploaded
Any additional information	No File Uploaded

3.5 - Consultancy

3.5.1 - Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy

IISc has been interacting informally with industry since its inception through individual contacts. This interaction was given institutional backing with the establishment in 1975 of the Centre for Scientific and Industrial Consultancy (CSIC). The role of CSIC is to strengthen, promote and streamline the interaction between IISc and industry. CSIC helps IISc faculty to stay tuned to the needs of industry while enabling the industry gaining access to the expertise and facilities available invarious department and centres of the Institute.

The consultancy exercise undertaken by CSIC can be broadly classified as

- Product design and development.
- Process design and development.
- System design and development.
- Software development.
- Technology transfer.
- Technical advice and guidance.
- Testing and evaluation.
- Diagnostics, Proof checking, System studies.
- Manpower development.

CSIC is also engaged in disseminating research results to the wider community through newsletters, brochures and audiovisual aids including documentary films. Vichara, the Institute lecture series by eminent men of science and letters is aimed at widening the horizons of industrial experience.

For more details, visit: http://csic.iisc.ac.in/

File Description	Documents
Upload relevant supporting document	No File Uploaded

3.5.2 - Revenue generated from consultancy and corporate training during the year (INR in Lakhs)

3.5.2.1 - Total amount generated from consultancy and corporate training during the year (INR in lakhs)

951

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.6 - Extension Activities

3.6.1 - Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the year

Note Book Drive (NBD) is a student-run volunteer initiative at IISc, involved with government schools in and around Bangalore. We carry out weekly sessions for the school kids for a wide range of subjects viz. Mathematics, Science, English, Robotics, and Computer Science. The objective of NBD is to teach these subjects with lucid experimental/visual aids to make learning exciting and accessible. In addition to teaching, we also host annual events which include Notebook Distribution, Scholarship Initiative, Children's Day celebrations, and Career Guidance Initiative.

The kids being supported by NBD often fall into weaker economic sections. The activities conducted by NBD have been instrumental in nurturing the budding dreams of young kids, made possible by the effort of its volunteers and donors alike.

File Description	Documents
Upload relevant supporting document	No File Uploaded

3.6.2 - Number of awards received by the Institution, its teachers and students from Government /Government recognised bodies in recognition of the extension activities carried out during the year

3.6.2.1 - Total number of awards and recognition received for extension activities from Government / Government recognised bodies during the year

0

File Description	Documents
Upload the data template	No File Uploaded
Upload relevant supporting document	No File Uploaded

3.6.3 - Number of extension and outreach programs conducted by the institution including those through NSS/NCC/Red cross/YRC during the year(including Government initiated programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. and those organised in collaboration with industry, community and NGOs)

4

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.6.4 - Total number of students participating in extension activities listed at 3.6.3 above during the year

200

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.7 - Collaboration

3.7.1 - Number of collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students during the year

3.7.1.1 - Total number of Collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students during the year

6

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

3.7.2 - Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the year

340

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

INFRASTRUCTURE AND LEARNING RESOURCES

4.1 - Physical Facilities

4.1.1 - The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.

IISc has ample facilities for teaching, learning and research.

IISc has more than 40 departments that offer more than 100 programmes (UG, PG and Ph.D.) It has more than 120 classrooms that are Information & Communication Technology (ICT) equipped. It has got more than 500 laboratories to conduct research in specific areas. It has got more than 2000 computers in the campus for academic work. It has got more than 10 GBPS of broad band bandwidth with multiple vendors.

It has a main library and several departmental libraries. The main library has more than 1,40,000 books and 50,000 reference books. It has subscription to more than 3500 e-journals and has more than 10 digital databases.

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.1.2 - The institution has adequate facilities for cultural activities, yoga, games (indoor, outdoor) and sports. (gymnasium, yoga centre, auditorium, etc.)

Gymkhana is a centre of cultural activity at the Institute.

1. It has a cricket ground, tennis, volleyball, and basketball courts, and a cinder track.
2. An indoor badminton court, table tennis, billiards, karate, shaolin-chu-kung-fu, taekwondo, chess and carrom are a few among the many facilities in the gymkhana.
3. Athletic and recreational facilities at the gymkhana provide a conducive atmosphere for interaction between students and staff, as also a break from the regular work schedules at the Institute.
4. The gymkhana also has a good gymnasium with facilities like Home Gym, a Hercules multi trainer and wall bar equipment.
5. Attached with the gymkhana is a small well-kept swimming pool where coaching classes are also conducted during summers.
6. There is a separate Music room and TV lounge.
7. An indoor Students' Auditorium where cultural activities can be organized, is available as a facility.
8. The Film Club regularly screens popular and classic films in its main hall.
9. The gymkhana organizes inter-departmental, inter-collegiate and inter-university tournaments in sports, games, and cultural events.
10. Gymkhana conducts - 'VIBRATIONS', a weeklong annual cultural festival attracts students from institutions all over the country.

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.1.3 - Availability of general campus facilities and overall ambience

General Campus facilities

1. Centre for Counselling and Support
2. Guest Accommodation - IISc has several guest houses in the main campus. Call ahead for availability information and send in a reservation request through the department office.
3. JRD Tata Memorial Library - best libraries in the country for science and technology.
4. Supercomputer Education and Research Centre - computing centre having state-of-the art computing facilities, catering to the ever-increasing demands of high-performance computing for scientific and engineering research.
5. Dining:
    1. Faculty Club:
    2. Nesara:
    3. Nisarga:
    4. Gym
6. Recreation: Gymkhana: The Gymkhana houses several recreational facilities including a fitness centre, library, table tennis, badminton, basketball and volleyball courts, indoor game room. The Gymkhana club also screens Hindi and English movies.
7. Swimming Pool: near the main guest house.
8. Faculty Club: Members include all faculty and officers.
9. Film society: Screens good foreign films and award-winning movies.
10. New shopping complex opposite the old Janata Bazaar and houses different types of shops.
11. Sarvam: The amenities centre for students
12. Creche and School
13. Banking: Canara Bank & • State Bank of India
14. Travels - Jaybee Travels - near Tata book house & Varsha Travels - near Kabini.

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.1.4 - Total expenditure excluding salary for infrastructure augmentation during the year (INR in Lakhs)

5,730.14

File Description	Documents

Upload the data template	View File
Upload relevant supporting document	No File Uploaded

4.2 - Library as a Learning Resource

4.2.1 - Library is automated using Integrated Library Management System (ILMS) and has digitisation facility

The J.R.D. Tata Memorial Library (JRDTML) uses KOHA Integrated library management software (ILMS) has been used to automate the library collection and for all the housekeeping operations such as circulation, cataloguing, serials management, cataloguing, authorities, and much more. Users can browse and search library collection, make reservations, and access digital and e-resources through its Online Public Access Catalogue (OPAC) [https://libraryopac.iisc.ac.in/].

Links are also provided for the library's services as well as for open access textbooks, theses, and other resources in the OPAC. To facilitate easy retrieval and fast transactions Library is planning to implement RFID (Radio-Frequency Identification) technology).

During the library's journey, it has extended its services by maintaining the research publication in ePrints@IISc (http://eprints.iisc.ac.in), collecting, capturing, dissemination, and digitising the theses and dissertations in ETD@IISc (https://etd.iisc.ac.in) from 1996 onwards. The library offers a Research Information Management (RIM) service called (IRINS) Faculty profiles (https://iiscprofiles.irins.org/).

There is huge demand for accessing the online resources, and the library is able to offer remote access through VPN for the subscribed resources. Shibboleth, a single sign-on log-in system, was identified as a solution for off-campus access to the subscribed online resources.

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.2.2 - Institution has subscription for e-Library resources Library has regular subscription for the following: e - journals e-books e-ShodhSindhu Shodhganga Databases	A. Any 4 or all of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.2.3 - Annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the year (INR in Lakhs)

1669.69

File Description	Documents

Upload the data template	View File
Upload relevant supporting document	No File Uploaded

4.2.4 - Number of usage of library by teachers and students per day (foot falls and login data for online access)

8828

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.3 - IT Infrastructure

4.3.1 - Number of classrooms and seminar halls with ICT - enabled facilities such as LCD, smart board, Wi-Fi/LAN, audio video recording facilities during the year

120

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

4.3.2 - Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility

Please go through the following link to know more about the IT policy of the Insititute.

https://digits.iisc.ac.in/wp-content/uploads/2022/03/internet-access-usage-policy.pdf

File Description	Documents
Upload relevant supporting document	No File Uploaded

4.3.3 - Student - Computer ratio during the year

Number of students	Number of Computers available to students for academic purposes
4445	2000

4.3.4 - Available bandwidth of internet connection in the Institution (Leased line)	• ≥1 GBPS

File Description	Documents

Upload relevant supporting document	No File Uploaded

4.3.5 - Institution has the following Facilities for e-content development Media centre Audio visual centre Lecture Capturing System(LCS) Mixing equipment's and softwares for editing	A. All of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded
Upload the data template	View File

4.4 - Maintenance of Campus Infrastructure

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

31,267.31

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

4.4.2 - There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

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 equipment's of the lab, computer hardware and software, studios and so on. The institution also has dedicated support staff to maintain and troubleshoot electronic equipment.

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 safety standards at all the laboratories across the Institution and have hazard free environment. Also, regular

collection of solid wastes, toxic wastes, solvent wastes, radio waste, etc. and disposal of same is done periodically to build a hazard free environment at the Institute.

Sports Complex - The involvementof faculty, staff, and students in extracurricular activities is essential to improve their physical and mental well-being. The Centre for Campus Management and Development (CCMD) is responsible for maintaining the facilities in gymkhana.

File Description	Documents
Upload relevant supporting document	No File Uploaded

STUDENT SUPPORT AND PROGRESSION

5.1 - Student Support

5.1.1 - Total number of students benefited by scholarships and free ships provided by the institution, Government and non-government agencies (NGOs) during the year (other than the students receiving scholarships under the government schemes for reserved categories)

2568

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.1.2 - Total number of students benefited by career counselling and guidance for competitive examinations offered by the Institution during the year

307

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.1.3 - Following Capacity development and skills enhancement initiatives are taken by the institution Soft skills Language and communication skills Life skills (Yoga, physical fitness, health and hygiene) Awareness of trends in technology	A. All of the above

File Description	Documents

Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.1.4 - The Institution adopts the following for redressal of student grievances including sexual harassment and ragging cases Implementation of guidelines of statutory/regulatory bodies Organisation wide awareness and undertakings on policies with zero tolerance Mechanisms for submission of online/offline students' grievances Timely redressal of the grievances through appropriate committees

- All of the above

File Description	Documents
Upload relevant supporting document	View File

5.2 - Student Progression

5.2.1 - Number of students qualifying in state/ national/ international level examinations during the year (eg:NET/SLET/GATE/GMAT/CAT/ GRE/TOEFL/Civil Services/State government examinations)

5.2.1.1 - Number of students who qualified in state/ national/ international examinations (e.g.: IIT-JAM/NET/SET/JRF/ GATE /GMAT /CAT/ GRE/ TOEFL/Civil Services/State government examinations) during the year

0

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.2.2 - Total number of placement of outgoing students during the year

340

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.2.3 - Number of recently graduated students who have progressed to higher education (previous graduating batch) during the year

195

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.3 - Student Participation and Activities

5.3.1 - Number of awards/medals won by students for outstanding performance in sports/cultural activities at inter - university/state/national/international events (award for a team event should be counted as one) during the year

0

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.3.2 - Presence of Student Council and its activities for institutional development and student welfare

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 student 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 raising funds for various events. With students from diverse cultural backgrounds across India, the council works in collaboration with various samitis to organize and celebrate festivals that showcase local culture. The student council is democratically elected by the students and works tirelessly to advocate for their welfare and interests.

File Description	Documents
Upload relevant supporting document	No File Uploaded

5.3.3 - Number of sports and cultural events / competitions organised by the institution during the year

0

File Description	Documents

Upload the data template	View File
Upload relevant supporting document	No File Uploaded

5.4 - Alumni Engagement

5.4.1 - The Alumni Association/Chapters (registered and functional)contributes significantly to the development of the institution through financial and other support services during the year

Established in 2015, the Office of Development and Alumni Affairs (ODAA) has been the single point of contact for the alums, corporates, and philanthropists supporting various development initiatives at the Indian Institute of Science.

Alumni contributions for the FY 2020-21

Total Amount: 1.04 Crores

Alumni have generously supported the following major projects:

- ECE Research fund for students (1970 Batch)
- D Nagarachar Travel Grant for students
- Donations to support laptops to Students
- Chemical Engineering Summer Internship Program
- Tuition reimbursement for UG students
- Teachers Training at Challakere Campus
- Gift towards CSA Research Fund
- Theory and Practice of Secure Computation
- Gift towards Support for undergraduate students' participation in the iGEM Competition 2021
- UG Smart Classroom
- Institute Gold Medals

File Description	Documents
Upload relevant supporting document	No File Uploaded

5.4.2 - Alumni contribution during the year (INR in Lakhs)	A. ≥ 5Lakhs

File Description	Documents
Upload relevant supporting document	No File Uploaded

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 - Institutional Vision and Leadership

6.1.1 - The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance

Vision

IISc aims to be among the world's foremost academic institutions through the pursuit of excellence in research and promotion of innovation by offering world-class education to train future leaders in science and technology and by applying science and technology breakthroughs for India's wealth creation and social welfare.

Mission

Our mission is to realize our vision by:

- **Imparting world-class higher education in an environment of fundamental and applied research in science and engineering**
- **Conducting high-impact research, generating new knowledge, and disseminating this knowledge through publications in top journals and conferences**
- **Applying faculty expertise towards the success of national science and technology initiatives**
- **Applying deep knowledge in various areas to create knowhow and developing such knowhow for utilization by industry and society**

File Description	Documents
Upload relevant supporting document	View File

6.1.2 - The effective leadership is reflected in various institutional practices such as decentralization and participative management

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 student matters. Three sets of Deans are assisted by the staff, the chairs of departments, the associate deans, and several committees comprising faculty members (e.g., purchase committee, library committee, etc.), in the discharge of the duties. The above structures are designed to take inputsfrom the grass-roots level, best practices are identified, participation is ensured, and policies are effectively implemented.

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 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 interactions with the department

faculty. All faculty members share their inputs on the suitability of the candidate for the department. After the departmental deliberation, all candidates along with their recommendations are discussed at the divisional level. Subsequently, a selection committee interviews a further short-listed set of candidates and makes the final recommendation.

File Description	Documents
Upload relevant supporting document	View File

6.2 - Strategy Development and Deployment

6.2.1 - The institutional Strategic plan is effectively deployed

· At a time of great uncertainty due to COVID-19, the Institute leadership responded by meeting regularly to discuss administrative initiatives to maintain essential services, ensure safety to those that were on campus, and respond to exigencies that arose from day to day. A virtual control room enabled a direct connection with the administration. Advisories and notifications were provided along with government advisories (central and state) in one easily accessible online location. A core committee of experts advised the administration on safe re-opening, operations, and vaccinations for the campus community. Wediscussed with partners to share scientifically validated information and best practices. A wellness centre addressed the wellness challenges.

· We provided seed funding for many interdisciplinary initiatives to combat COVID-19.

· The academic processes, teaching methods, grading, admission modalities, and labs were adapted toonline methodologies. We exchanged best practices with partners.

· The innovation hub called AI and Robotics Technology Park (ARTPARK), a CoE on Quantum Technology, and the IISc Knowledge and E-Learning Network for online learning were established.

· Plans to establish three MTech (Online) programmes were put in place, for continued learning by professionals in a rapidly changing technology ecosystem.

· We regularly reviewedbackend administrative processes to increase overall efficiency.

File Description	Documents
Upload relevant supporting document	No File Uploaded

6.2.2 - The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment and service rules, procedures, etc.

Excerpts from IISc - Scheme, Regulation & Byelaws

Please refer to following document to get more details about the functioning of the institutional bodies, whose effectiveness and efficiency are visible from policies, administrative setup, appointment and service rules, procedures, etc.

https://iisc.ac.in/wp-content/uploads/2016/09/SRB-amended-up-to-June-2016.pdf

In particular, refer to section 9.3 (A to J), Section 10.2, Section 11.2, Section 12.2 and Section 13.2

9.3 The Council shall be the executive authority of the Institute, and subject to the provisions of the Scheme, shall have the following powers:…..

10.2 The functions of the Finance Committee shall be the following: …….

11.2 The Senate shall be the academic body of the Institute, and subject to the provisions of the Scheme, Regulations and Bye-laws of the Institute, shall: ….

12.2 The Board of Management shall have the following powers: …..

13.2 The Board of Trustees shall hold all immovable properties acquired for the purpose of the Scheme, other than the properties vested in the Treasurer and shall only at the instance of the Council, transfer by way of sale, gift, exchange, lease or otherwise any immovable property so acquired and settled in trust.

File Description	Documents
Upload relevant supporting document	View File

6.2.3 - Institution Implements e-governance in its areas of operations

6.2.3.1 - e-governance is implemented covering following areas of operation 1. Administration 2. Finance and Accounts 3. Student Admission and Support 4. Examination	A. All of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

6.3 - Faculty Empowerment Strategies

6.3.1 - The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff

Pleas refer to section 4.2 and 4.3 for the Faculty Information Handbook for teaching staff. This is available in the below link:

https://iisc.ac.in/wp-content/uploads/2021/03/Faculty-Handbook-Mar2021-Web.pdf

Details on the timelines for tenure track assessment can be found in this webpage:

https://iisc.ac.in/tenure-track-assessment/

4.2 Service Conditions of Faculty Members Appointment

4.3 Faculty Promotion and Assessments Timeline for Faculty Assessment (Tenure System for Assistant Professors Appointed before the September-2015 Council Meeting)

The institution has a performance appraisal system, promotional avenues, and effective welfare measures for non-teaching staff:

1. Performance Appraisal System:

The institute follows the Annual Performance Appraisal Report (APAR) for the assessment of non-teaching staff of Group A and the Annual Confidential Report (ACR) for non-teaching staff of Groups B & C.

Institute follows a defined processes for both Group A, Group B and Group C.

2. Promotional Avenues:

Group –A:

- **The institute has Cadre & Recruitment Rules for all the sanctioned positions.**

Group-B & C:

- **The institute has Cadre and Recruitment Rules for all the sanctioned positions. All the promotions are carried out as per the rules laid out therein.**

3. Welfare Measures:

- **has a crèche, pre-primary school, and Kendriya Vidyalaya**

- Health Centre which is open round the clock.
- Facilities of Quarters
- Recreational activities like yoga, etc.
- Gymkhana boosts both indoor and outdoor sports spaces

File Description	Documents
Upload relevant supporting document	No File Uploaded

6.3.2 - Total number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

465

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

6.3.3 - Number of professional development / administrative training Programmes organized by the institution for teaching and non-teaching staff during the year

8

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	No File Uploaded

6.3.4 - Total number of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the year(Professional Development Programmes, Orientation / Induction Programmes Refresher Course, Short Term Course)

0

File Description	Documents
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Upload relevant supporting document	No File Uploaded

6.4 - Financial Management and Resource Mobilization

6.4.1 - Institutional strategies for mobilisation of funds and the optimal utilisation of resources

Below are some of institutional strategies for mobilisation of funds.

1. Faculty members are encouraged to get extramural grants
2. Office of Development and Alumni Affairs (ODAA) is set up for fund raising for research and other infrastructure activities
3. ODAA is also making efforts to get scholarship, tuition fee waiver for students; endowment chairs and medals, etc
4. IISc also actively take part in mission mode based national activities

The following measures ensure optimal utilisation of resources.

1. The expenditure is monitored through an ERP system, disbursal of funds in terms of salary, purchase of equipment's, consumables, etc is through the ERP system which is highly efficient.
2. The project investigators get live status about the availability of funds.
3. The payments are done at high priority.

File Description	Documents
Upload relevant supporting document	No File Uploaded

6.4.2 - Funds / Grants received from government bodies during the year for development and maintenance of infrastructure (not covered under Criteria III and V) (INR in Lakhs)

2549.97

File Description	Documents
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Upload relevant supporting document	No File Uploaded

6.4.3 - Funds / Grants received from non-government bodies, individuals,philanthropists during the year for development and maintenance of infrastructure (not covered under Criteria III and V)(INR in Lakhs)

2226.05

File Description	Documents
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Upload relevant supporting document	No File Uploaded

6.4.4 - Institution conducts internal and external financial audits regularly

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

File Description	Documents
Upload relevant supporting document	No File Uploaded

6.5 - Internal Quality Assurance System

6.5.1 - Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals

· We follow a rigorous process for revising curricula, develop new curricula, and instituting new programmes. This involves, planning, scrutiny, discussion at various level, followed by revision, re-scrutiny, approval, and implementation.

· We have a robust mechanism to gather teaching and learning feedback.

· We have a robust continuous assessment mechanism.

· The Department Curriculum Committees oversee the assessment and teaching/learning performance at the department level. The Senate Curriculum Committee calibrates across departments and ensures quality across the institute. The Senate Committee on Research Conferment evaluates at research performance assessments.

· We have workshops where our students are exposed to the best research methods, teaching methods, and soft skill acquisition techniques.

File Description	Documents
Upload relevant supporting document	No File Uploaded

6.5.2 - Institution has adopted the following for Quality assurance Academic Administrative Audit (AAA) and follow up action taken Confernces, Seminars, Workshops on quality conducted Collaborative quality initiatives with other institution(s) Orientation programme on quality issues for teachers and studens Participation in NIRF Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA)	A. Any 5 or all of the above

File Description	Documents
Upload the data template	View File

Upload relevant supporting documnent	No File Uploaded

6.5.3 - Incremental improvements made for the preceding during the year with regard to quality (in case of first cycle) Post accreditation quality initiatives(second and subsequent cycles)

· IISc moved to online instruction mode this year. This was new to many. Instructions on how to use the online resources were widely circulated.

· The IISc Knowledge and E-Learning Network conducted a workshop where instructors shared their innovations and best practices on online teaching, learning, and assessment.

· Special attention was given to assessment in view of the novel online instruction mode. Strategies for assessment were shared with instructors.

· New online processes were put in place for various assessments (PhD comprehensive or qualification examination, final public oral examination, etc.).

· Teaching assistant assignment process was refined to ensure high quality assistance in tutorials and technical support.

File Description	Documents
Upload relevant supporting document	No File Uploaded

INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

7.1.1 - Measures initiated by the Institution for the promotion of gender equity during the year

The institute has introduced a supernumerary quota for admitting more women students to the undergraduate program (2020-21 onward).

File Description	Documents
Upload relevant supporting document	No File Uploaded
Annual gender sensitization action plan(s)	Nil
Specific facilities provided for women in terms of: a. Safety and security b. Counseling c. Common rooms d. Daycare Centre e. Any other relevant information	Initiated Project GATI (Gender Advancement for Transforming Institutions) for building a comprehensive gender profile, creating a gender enabling environment at the workplace, enabling for self-growth and career progression.

7.1.2 - The Institution has facilities for alternate sources of energy and energy conservation Solar energy Biogas plant Wheeling to the Grid Sensor-based energy conservation Use of LED bulbs/ power-efficient equipment	A. Any 4 or All of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.1.3 - Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 200 words) Solid waste management Liquid waste management Biomedical waste management E-waste management Waste recycling system Hazardous chemicals and radioactive waste management

Solid waste management:

The Institute has come up with 'The Solid Waste Management Initiative of IISc (SWaMII)' with effect from 2016. The aim of this initiative is to collect the waste (degradable and non-degradable), segregate and dispose off as per the prevailing norms.

Liquid waste management and Waste recycling system:

The liquid waste(sewage) generated from hostels, residences, offices, and academic departments is being treated at twonumber of Sewage Treatment plants of 500 KLD capacity each. Also, biological sciences building's wastewater is directly treated by a connected Effluent Treatment Plant (ETP) of 100 KLD capacity.

E-waste management:The usual modes of disposal of scrap are:

1. Sale through the e-auction portal
2. Sale of hazardous waste items
3. Sale of old batteries/lead acid batteries

Biomedical waste management:

The Office of Laboratory Safety and Environmental Health (OLSEH) disposes biomedical wastes through Medicare Environmental Pvt Ltd (Approved vendor by KSPCB).

Hazardous chemicals and radioactive waste management:

OLSEH collects hazardous chemical wastes as per following different categories- Solid, Solvent, Toxic, Unknown and Empty chemical Bottles. The pick-up and safe disposal of chemicals waste follow KSPCB regulations.

Radiological wastesare collected in radiological wastes shed situated inside IISC campus near CIDR Building. These wastes will be disposed off after completion of their half-life.

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.1.4 - Water conservation facilities available in the Institution: Rain water harvesting Bore well /Open well recharge Construction of tanks and bunds Waste water recycling Maintenance of water bodies and distribution system in the campus

A. Any 4 or all of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.1.5 - Green campus initiatives include

7.1.5.1 - The institutional initiatives for greening the campus are as follows:

1. **Restricted entry of automobiles**
2. **Use of bicycles/ Battery-powered vehicles**
3. **Pedestrian-friendly pathways**
4. **Ban on use of plastic**
5. **Landscaping**

B. Any 3 of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.1.6 - Quality audits on environment and energy are regularly undertaken by the institution

7.1.6.1 - The institution's initiatives to preserve and improve the environment and harness energy are confirmed through the following:

1. **Green audit**
2. **Energy audit**
3. **Environment audit**
4. **Clean and green campus recognitions/awards**
5. **Beyond the campus environmental promotional activities**

C. Any 2 of the above

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.1.7 - The Institution has a disabled-friendly and barrier-free environment Ramps/lifts for easy access to classrooms and centres. Disabled-friendly washrooms Signage including tactile path lights, display boards and signposts Assistive technology and facilities for persons with disabilities: accessible website, screen-reading software,mechanized equipment, etc. Provision for enquiry and information: Human assistance, reader, scribe, soft copies of reading materials, screen reading, etc.

A. Any 4 or all of the above

File Description	Documents
Upload relevant supporting document	View File

7.1.8 - Describe the Institutional efforts/initiatives in providing an inclusive environment i.e. tolerance and harmony towards cultural, regional, linguistic, communal, socio-economic and other diversities (within a maximum of 200 words)

- IISc's monthly newsletter, Kernel, is translated to Kannada and Hindi for wider reach. The Kannada translation is done completely in house by IISc staff members with a flair for the written word. Hindi translations are done with the help of external experts. The Official Language Unit curates a Hindi Newsletter with contributions from the IISc fraternity. All editions are accessible from https://ooc.iisc.ac.in/
- Paraspar is an initiative by the Office of Communications to open conversations about processes and methodologies of science and knowledge systems in general. The end products of such endeavours — the creations, discoveries and inventions are known to all, but the journeys are rarely discussed. These find utterance in Paraspar. This initiative, through various activities such as lectures, workshops, courses, competitions and publications, enables insights into the ways of knowledge production, to make them a little more familiar to all. All talks are available at the YouTube Channel of the Office of Communications, IISc or at https://ooc.iisc.ac.in.
- Talks were held on inclusive STEM education, reimagining entrepreneurship and innovation for sustainable development, open-source philosophy during the COVID-19 pandemic, etc.
- Several SPICMACAY concerts were held for the promotion of Indian Classical Music, Art, and Culture Among Youth.

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.1.9 - Sensitization of students and employees of the institution to constitutional obligations: values, rights, duties and responsibilities of citizens:

The Constitution Day was celebrated on 26thNovember 2020 at the Institute to commemorate the adoption of the Constitution of India as Jan Bhagidari and to honour and acknowledge the contribution of the Founding fathers of the Constitution. As per the orders of the Ministry of Education, the Preamble of the Constitution was read in front of the Main building. The Director, Deans, Admin officers and staff as well as students were present during the occasion.

7.1.10 - The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard. The Code of Conduct is displayed on the website There is a committee to monitor adherence to the Code of Conduct Institution organizes professional ethics programmes for students, teachers, administrators and other staff Annual awareness programmes on Code of Conduct are organized	Any 2 of the above

File Description	Documents
Upload relevant supporting document	View File

7.1.11 - Institution celebrates / organizes national and international commemorative days, events and festivals

IISc celebrates five"Great Days" each year, during which the Director of IISc presides, and all the protocols are duly followed wherever applicable.

1. Republic day (26th January)

Republic Day is celebrated annually on 26th January to commemorate the significant moment when the Constitution of India came into effect.

2. Founder's Day (3rd March 2023)

Jamsetji Nusserwanji Tata, the industrialist and philanthropist who conceived of IISc and donated his wealth to set up the Institute, was born on 3rdMarch 1839 in Navsari, Gujarat.As a tribute to Tata's munificence and vision, the Institute celebrates 3rd March of each year as Founder's Day.

3. Independence Day (15th August 2023)

Independence Day is celebrated annually on 15th August to commemorate the nation's independence.

4. Gandhi Jayanthi (2nd October 2023)

Gandhi Jayanti is observed on October 2ndevery yearto mark the birth anniversary of Mohandas Karamchand Gandhi.

5. Karnataka Rajyotsava (1st November)

This day marks a significant historical moment in 1956 when all the Kannada language-speaking regions of southwestern India were amalgamated to form the state of Karnataka.

File Description	Documents
Upload relevant supporting document	No File Uploaded

7.2 - Best Practices

7.2.1 - Describe one best practice successfully implemented by the Institution as per NAAC format provided in the Manual

Title of the Practice: Continuing Education

Objective: Facilitate working professionals in the industry, academicians, scientists, and researchers in enhancing their knowledge base and technical skills.

Context: Rapid technological changes require learners to be in constant touch with the latest developments in their field for sustained productivity, innovation, and self-actualisation.

Practice: CCE provides diverse programmes for working professionals, academics, scientists and students, leading to certification. These include semester long courses, one-two week immersion courses, courses tailored to special requirements from research and technological organisations, NPTEL courses, and external lecture programmes.

Evidence of success:

· About 30 online semester-long courses were conducted benefiting 600 working professionals. Since1980, 20,000+ individuals have benefited.

· About 20-25QIP (AICTE-supported) courses were conductedto train faculty from Engineering colleges. Cumulatively, 10,000+ engineering faculty were trained.

· About 20 short-period courses were conducted in online and in-person modes benefiting 550 people. Cumulatively, 15,000+ individuals have benefited.

· About 10-15 advanced certification programmes were offered in fully online mode benefiting 1200 working professionals and students, in partnership with EdTech companies. Cumulatively, 3000+ individuals have benefited.

Problems encountered and resources required: Market surveys are needed for creating relevant curricula. Response times can be faster.

7.3 - Institutional Distinctiveness

7.3.1 - Highlight the performance of the institution in an area distinct to its priority and thrust (within a maximum of 200 words)

Given the COVID-19 pandemic, many researchers cutting across domains pivoted to infectious diseases research. The Centre for Infectious Disease Research (CIDR) provided avenues for multi-disciplinary activities with translational outcomes. A new BSL-3 facility was established to conduct research on highly pathogenic viruses such as Avian Influenza, SARS-CoV-2, and Coxsackievirus. On the influenza virus front, we continued our efforts to develop novel broad-spectrum vaccines and antivirals. For SARS-CoV-2, wedeveloped cell culture and animal models to study virus biology and pathogenesis. These were used to identify novel antivirals and test vaccine candidates. In addition, we conducted research to identify a reliable gene expression signature for accurate prognosis of COVID-19 in nasal swabs. For dengue and other mosquito-borne flaviviruses, we continued to study their interactions with the Aedes aegypti host, with the aim of developing CRISPR-based gene drives to abrogate viral transmission by the mosquito vector.

To meet the urgent need for scaling up diagnostic capacity in the wake of the COVID-19 pandemic, we also set up a dedicated COVID-19 diagnostic facility. It has already screened more than 1,00,000 samples so far from different collection centres across Bangalore and neighbouring cities.

7.3.2 - Plan of action for the next academic year

We will redouble ourCOVID-19 efforts to explore heat-tolerant vaccines, commercial oxygen generators and concentrators, diagnostics research, etc. The COVID-19 crisis underscored the importance of investing in interdisciplinary medical research for the development of next generation healthcare technologies. IISc will explore a highly ambitious endeavour – establishing a post-graduate medical school and a not-for-profit multispecialty research hospital. The academic centrepiece of this initiative could be an integrated dual degree MD-PhD programme aimed at creating a new breed of physician-scientists, who will pursue clinical research todevelop new treatments and healthcare solutions driven by a bench-to-bedside philosophy.

We plan to introduce several other new degree programmes – Interdisciplinary PhD programmes in energy, biosystems science and engineering, and cyber physical systems, new MTech programmes in quantum technology and autonomous systems, and a new MTech (Online) degree programme, in line with the NEP 2020 recommendation for continuing education towards an advanced degree. We will also explore the possibility of a new BTech programme in the mathematics and scientific computations domain.

We plan to explore multi-institutional and international collaborations in the supply chain for hardware and software systems that provide access, connectivity and services for future digital networks including 5G and 6G.