



Yearly Status Report - 2019-2020

Part A

Data of the Institution

1. Name of the Institution	TATA INSTITUTE OF FUNDAMENTAL RESEARCH
Name of the head of the Institution	Sandip Trivedi
Designation	Director
Does the Institution function from own campus	Yes
Phone no/Alternate Phone no.	02222782306
Mobile no.	9892123795
Registered Email	iqac@tifr.res.in
Alternate Email	director@tifr.res.in
Address	1, Dr. Homi Bhabha Road, Navy Nagar, Colaba,
City/Town	Mumbai
State/UT	Maharashtra
Pincode	400005

2. Institutional Status																			
University	Deemed																		
Type of Institution	Co-education																		
Location	Urban																		
Financial Status	central																		
Name of the IQAC co-ordinator/Director	Prof. Shubha Tole																		
Phone no/Alternate Phone no.	02222782432																		
Mobile no.	9869219902																		
Registered Email	iqac@tifr.res.in																		
Alternate Email	deangs@tifr.res.in																		
3. Website Address																			
Web-link of the AQAR: (Previous Academic Year)	_https://www.tifr.res.in/NAAC/TIFR-AQAR-18-19.pdf																		
4. Whether Academic Calendar prepared during the year	Yes																		
if yes,whether it is uploaded in the institutional website: Weblink :	https://www.tifr.res.in/~sbp/new2015/Academic Calendar 2019.pdf																		
5. Accrediation Details																			
<table border="1"> <thead> <tr> <th rowspan="2">Cycle</th> <th rowspan="2">Grade</th> <th rowspan="2">CGPA</th> <th rowspan="2">Year of Accrediation</th> <th colspan="2">Validity</th> </tr> <tr> <th>Period From</th> <th>Period To</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>A+</td> <td>3.68</td> <td>2016</td> <td>02-Dec-2016</td> <td>01-Dec-2021</td> </tr> </tbody> </table>						Cycle	Grade	CGPA	Year of Accrediation	Validity		Period From	Period To	1	A+	3.68	2016	02-Dec-2016	01-Dec-2021
Cycle	Grade	CGPA	Year of Accrediation	Validity															
				Period From	Period To														
1	A+	3.68	2016	02-Dec-2016	01-Dec-2021														
6. Date of Establishment of IQAC	15-Feb-2016																		
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																
Organise JEST	16-Feb-2020		13489																

[View File](#)**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
TIFR	NA	Not Applicable	2020 0	0

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9. Whether composition of IQAC as per latest NAAC guidelines:

Yes

Upload latest notification of formation of IQAC

[View File](#)**10. Number of IQAC meetings held during the year :**

1

The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional website

Yes

Upload the minutes of meeting and action taken report

[View File](#)**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)

1. Organization of the Vigyan Vidushi Programme as a three weeks long summer programme for women students at the end of their M.Sc. first year in physics, to expose them to advanced physics topics and research opportunities and encourage them to take up research in physics as a career option. It is an essential step towards addressing the gender imbalance in physics at the doctoral level in the country.

2. Successful organization of the GS 50 programme with the help of the TIFR Alumni Association.

3. TIFR has started administering certain vaccinations and booster doses for its students.

4. TIFR organized the Nationwide Joint Entrance Screening Test (JEST 2020) for the Ph.D. admissions for the consortium of 28 institutes across India.

5. The viva-voce examination of the Ph.D. thesis has now been made entirely online for the external examiner using the Zoom platform.

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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	Achievements/Outcomes
To make the viva-voce examination of the research thesis online for the external examiner.	The online viva-voce examination of the thesis has been made online using the Zoom platform. It has reduced the efforts in organizing this examination and made it more convenient for the external examiners to participate.
To organize a science communication course for the TIFR graduate students.	The first-year graduate students were given a Scientific communication course in some of the TIFR centres. Cactus Communications conducted the course at the Mumbai campus.
To organize the Vigyan Vidushi Programme for the women students in Physics across India.	The three-week-long summer programme Vigyan Vidushi was organized for women students at the end of their MSc first year in physics. The programme aimed to provide them with exposure to advanced physics topics and research opportunities and encourage them to take up research as a career option.
To organize the Joint Entrance Screening Test (JEST 2020) for the consortium of the 28 research institutes nationwide.	TIFR successfully organized the JEST 2020 nationwide entrance test on 16th February 2020 for the Ph.D. admissions to the 28 research institutes across India which are part of the JEST consortium. TIFR Mumbai, NCRA, TIFR-Hyderabad, and ICTS are members of the consortium. This test is recognized by the Science and Engineering Research Board (SERB) as a National Eligibility Test.
To organize the 50 years of TIFR graduate school (GS 50) programme to commemorate the 50 years of the start of the Graduate School at TIFR.	The TIFR Physics Graduate School has completed 50 years in 2019, whereas TIFR itself will be completing 75 years in 2020. To celebrate the programme 50 years of TIFR Graduate School (GS50), showcasing its achievements so far, was organized on 1st and 2nd November 2019 with the help of the TIFR Alumni Association (TAA) at TIFR Mumbai Campus.
To start the vaccination programme for the TIFR students.	The incoming students in GS2019 were asked to take certain vaccines and booster doses, and they were

administered in the TIFR Mumbai campus. It is now going to be a regular feature for the graduate students at TIFR Mumbai.

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14. Whether AQAR was placed before statutory body ?

Yes

Name of Statutory Body	Meeting Date
Institute Academic Council	26-Feb-2021

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

No

16. Whether institutional data submitted to AISHE:

Yes

Year of Submission

2020

Date of Submission

31-Jan-2020

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)

Datanet is the panTIFR Management Information Systems, which is TIFR's Integrated Information System (TIIS) for accounting, budgeting, procurement, material receipts, and inventory. Another module MANCH is used for sharing minutes of meetings and more comprehensive consultation among the faculty members. Additionally, individual centers have developed independent local modules to cater to their needs. [HBCSE] HBCSE has developed the data management system for NIUS and Vigyan Vidushi. [NCRA] PACTS Module at NCRA has been modified to include the online APAR tracking for all staff members. [ICTS] ICTS One account is an LDAPbased user account. LDAP is the Lightweight Directory Access Protocol. It includes Intranet, Internet through mac address registration (at ICTS), HPC cluster access, Private cloud storage, Gitlab Access, Eduroam wireless, VPN (Virtual private network), etc. eSSL eTime eTracklite Server (Attendance software). The software is used to

manage the attendance of the employees through biometric/ RFID ID card, Online Application Portal for Long Term Visiting Students Program (LTVSP) Faculty Recruitment, PDF Archive Page. [TIFRH] TIFRHyderabad has created a Dashboard for Academics. It is an integrated module on Dashboard for course registration, feedback, grading, teachingrelated information, guest user management (Aruba GPP): An interface to create Guest Internet/WiFi accounts with validity. Datanet, LDAP, MANCH, PACTS

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
PhD or DPhil	PhD-Biol	Biology	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
Nill	Nill	Nill	SCE-103.2	01/01/2020
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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
PhD or DPhil	Biology	01/08/2019
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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
PhD or DPhil	Biology	01/08/2019
Integrated(PG)	Biology	01/08/2019
PhD or DPhil	Chemistry	01/08/2019
Integrated(PG)	Chemistry	01/08/2019
PhD or DPhil	Computer Systems Science	01/08/2019
Integrated(PG)	Computer Systems Science	01/08/2019

PhD or DPhil	Mathematics	01/08/2019
Integrated(PG)	Mathematics	01/08/2019
PhD or DPhil	Physics	01/08/2019
Integrated(PG)	Physics	01/08/2019
PhD or DPhil	Science Education	01/08/2019
MSc	Biology	01/08/2019
MSc	Wild Life Biology and Conservation	01/08/2019

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 Methodology	01/08/2019	77
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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
MSc	Wildlife and Conservation	16
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1.4 – Feedback System

1.4.1 – Whether structured feedback received from all the stakeholders.

Students	Yes
Teachers	Yes
Employers	No
Alumni	Yes
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
<p>On the academic front, the online anonymous feedback system is used for students where the questionnaire in a Google form is distributed and students are asked to fill it without disclosing their identity. A new module for the same has been introduced in NCBS. This exercise is carried out at the end of each semester. Some programmes like PhD-Phys at the Main Campus engage with the students twice in a semester. Feedback is obtained in the middle of the semester and at the end of the semester before the final examination. The middle of the semester feedback is used to make appropriate changes in the teaching like pace, the difficulty level of the assignments, etc. For each course, the students evaluate the pedagogical aspects such as course contents, course methodology, pedagogical ability, expertise, originality, personal skills of the teacher, and the overall impact of the course, etc. This feedback is used by the teachers to improve the courses. Both the sets of feedbacks are shared with the course teachers. The feedback also includes that on the tutorials and the tutors. In some programmes, feedbacks about the course syllabi are also obtained and then the respective subject board carries out the</p>

fine-tuning of the syllabi based on this feedback from teachers and students. In HBCSE, at the end of the entire course work by a student, comprehensive feedback is obtained. The feedback is factored into redesigning the overall course structure. In NCRA, on the campus life issues, regular feedback on the hostel is obtained by the Hostel Committee from the residents every 2-3 months, and action is taken based on this input. This year at the Main Campus, a 3-day meeting of TIFR alumni was organized to commemorate the 50 years of graduate school, and alumni feedback on the development of the graduate school and institute activities was obtained. An appropriate committee will look into it and propose the due action to be taken by the institute.

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
PhD or DPhil	Biology	25	3480	24

[View File](#)

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
2019	Nil	156	Nil	247	Nil

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	Number of smart classrooms	E-resources and techniques used
247	247	Nil	53	31	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)

Across all the subject boards, each student gets a thesis committee (TC) usually comprised of three members, one of whom is the student's thesis advisor. This committee is generally formed at the time of PhD registration. The primary objective of this committee is to actively mentor the student throughout their thesis work by regularly meeting and discussing various issues pertaining to the thesis work progress. This committee meets students at least once every year to take stock of student's progress. Apart from that, the committee members (other than the thesis advisor) regularly interact with the student informally and discuss issues that the student is facing and offer help if required to address them. The committee gives a report on student's progress at the end of the academic year. This report is taken into consideration while deciding the extension of the research fellowship of the student. Any grievances that arise for the student are first brought to the TC that actively seeks to address the issues and provide redressal for the student. In the Biology Subject Board, the thesis committee actively mentors students right from their entry to graduate school, discussing choices of courses, details of thesis work, etc. In the Physics Subject Board, before registration for the thesis, the student is assigned to a mentor, or a three-member internal committee actively mentors the student. The mentor discusses various academic and non-

academic issues with the students to help them adjust to the graduate student life at the institute. The mentors also discuss any problems for which the students need the assistance of any kind. In the Mathematics Subject Board, the initial couple of years involve rigorous coursework. The feedback from the instructors and graduate studies committee is taken and used to mentor students through their course work. In the Science Education Subject Board, every new student is assigned a mentor who guides the student through the course work. At the end of two years, the student is asked to take a comprehensive exam and conduct fieldwork. The outcome of these activities results in the student joining a thesis advisor for desired thesis problem. For the students who join the MSc programme, their academic progress is monitored regularly by faculty members of the respective department. The students give regular seminar presentations which are attended by all the faculty members, and appropriate feedback is given to them.

Number of students enrolled in the institution	Number of fulltime teachers	Mentor : Mentee Ratio
546	247	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
342	255	87	12	247

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
2019	Vidita Vaidya	Professor	Excellence in mentorship award, Nature Publishing group
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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
PhD or DPhil	PhD-Biol	August Semester	31/12/2019	16/01/2020
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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
Nil	334	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)

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<https://www.tifr.res.in/~dbs/students.html>

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
PhD-Biol	PhD or DPhil	Biology	14	14	100

[View File](#)

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)

NA

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
National	Jaikumar Radhakrishnan	MATRICS Grant	01/02/2020	Science and Engineering Research Board

[View File](#)

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
TIFR Research Scholarship	1825	Department of Atomic Energy

[View File](#)

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
Major Projects	1825	Department of Atomic Energy	15627	15627

[View File](#)

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
Workshop on BIG Pitching	National Centre for Biological Sciences, Bengaluru	29/11/2019

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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
2020-2021 "Soch: Expanding Indian and Indian Diasporic Ways of Thinking in the Learning Sciences (A Project of the South Asian Learning Sciences Research Collective)"	D. Dutta	International Society of the Learning Sciences Program: Regional Affinity Outreach grants program	01/01/2020	Grant from International Society of the Learning Sciences Program: Regional Affinity Outreach grants program
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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
C-CAMP	Bioincubator	BIRAC -Bio technology Ignition Grant for the initial 18 months and then various othe r/private funds	Foundation for Neglected Disease Research	Drug Discovery Development for Neglected Diseases	01/10/2019
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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
Department of Astronomy and Astrophysics	4
Department of Biological Sciences	7
Department of Chemical Sciences	5
Department of Condensed Matter and Material Science	1
Department of High Energy Physics	2
Department of Nuclear and Atomic Physics	4
Department of Theoretical Physics	10
School of Mathematics	6
School of Technology and Computer	1

Science	
Homi Bhabha Centre for Science Education	1
National Centre for Radio Astrophysics	3
Centre for Applied Mathematics	1
International Centre for Theoretical Sciences	5
National Centre for Biological Sciences	20
Tata Institute of Fundamental Research, Hyderabad	5

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)
International	Department of Biological Sciences	19	Nil
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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
Department of Astronomy and Astrophysics	4
View File	

3.4.4 – Patents published/awarded/applied during the year

Patent Details	Patent status	Patent Number	Date of Award
Methods Of Multiplexing Dna Sensors And Localising DNA Sensors	Published	4/770404	01/08/2019
View File			

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
Higgs bundles and fundamental group schemes.	Indranil Biswas, Ugo Bruzzo and Sudarshan Gurjar	Advances in Geometry	2019	Nil	School of Mathematics	Nil
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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
Higgs bundles and fundamental group schemes.	Indranil Biswas, Ugo Bruzzo and Sudarshan Gurjar	Advances in Geometry	2019	Nil	Nil	School of Mathematics
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3.4.7 – Faculty participation in Seminars/Conferences and Symposia during the year

Number of Faculty	International	National	State	Local
Attended/Seminars/Workshops	113	121	8	45
Presented papers	79	81	2	24
Resource persons	51	38	2	9
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3.5 – Consultancy

3.5.1 – Revenue generated from Consultancy during the year

Name of the Consultant(s) department	Name of consultancy project	Consulting/Sponsoring Agency	Revenue generated (amount in rupees)
Department of Astronomy and Astrophysics	Renormalization group	Shell Global Technologies	16000000
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3.5.2 – Revenue generated from Corporate Training by the institution during the year

Name of the Consultant(s) department	Title of the programme	Agency seeking / training	Revenue generated (amount in rupees)	Number of trainees
School of Technology and Computer Science, Mumbai	Course on Stochastic Calculus and Financial Mathematics	JP Morgan, Mumbai	120000	50
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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
Frontiers in Science	Sophia College	1	Nil
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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
NA	NA	NA	Nil
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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
NA	NA	NA	Nil	Nil
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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
Visit of TIFR student to Weizmann Institute, Israel	Arpan Parichha	Extramural grant	150
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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
Project Work	STEM Project	IIT Gandhinagar	19/08/2019	30/04/2020	Megha Sanyal
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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
ISRO	10/04/2020	Space Biology experiment in Gaganyaan-I	3
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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
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2423.51

2423.51

4.1.2 – Details of augmentation in infrastructure facilities during the year

Facilities	Existing or Newly Added
Class rooms	Existing
Campus Area	Existing
View File	

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
Libsys7	Fully	EJB, Rel 1.0	1990
KOHA	Fully	16.11.06.000	2014
KOHA	Fully	19.05.01.000	2018
Libsys	Fully	7	1995
KOHA	Fully	17.11.06.000	2016
Libsys	Fully	4.7	2000
NewGenLib	Partially	3.12	2016

4.2.2 – Library Services

Library Service Type	Existing		Newly Added		Total	
Text Books	62814	31374190	811	1665562	63625	33039752
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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
Poonam Chandra	Transients in the cosmos	SWAYAM-ARPIT	01/02/2020
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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	6976	888	2959	21	139	446	3105	4694	2377
Added	154	25	137	0	6	36	83	145	4
Total	7130	913	3096	21	145	482	3188	4839	2381

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

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
Archives at NCBS: a new public centre for the history of contemporary biology in India	http://archives.ncbs.res.in/
Tandberg MXP 1700	Youtube : https://www.youtube.com/user/TIFRCAM Facebook : https://www.facebook.com/TIFRCAM
Tandberg MXP 6000	"Youtube : https://www.youtube.com/user/TIFRCAM Facebook : https://www.facebook.com/TIFRCAM "
LifeSize Room 220	"Youtube : https://www.youtube.com/user/TIFRCAM Facebook : https://www.facebook.com/TIFRCAM "
Multimedia Production Team	https://www.youtube.com/channel/UCBoz08Kb4GiVIanFv8VUwmq

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
1261.86	1261.86	5484.55	5484.55

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)

TIFR has different dedicated sections that help in the maintenance and utilization of academic, physical, and support facilities that help smooth operations of its research and teaching. The physical infrastructure such as buildings, power supply, air-conditioning and ventilation, water supply is looked after by the Technical Services (TSR) section. Similar technical committees are present in all the off campuses at Mumbai, Pune, Bengaluru, and Hyderabad. There is a dedicated Central Workshop (CWK) for building sophisticated scientific equipment apart from smaller workshops in different academic departments. The Central Workshop is equipped with precision fabrication facilities, including several computer-controlled CNC machines. There is also a separate Low-Temperature facility (LTF) that provides cryogenic liquids (helium and nitrogen) for scientific experiments to all users in the institute. The state-of-the-art equipment present in all the campuses is maintained by specific academic departments but is available for all users across the institute. The advanced equipment for research and education is maintained by a 100-strong, highly skilled permanent scientific personnel attached to various departments. For all the departments on the main campus, TIFR provides common computing facilities through its Computer Centre and Communication Facilities (CCCF). It hosts an email server, web-server, High-

performance computing (HPC), and several workstations. It also provides seamless WiFi connectivity throughout the campus. The section also supervises Lecture Theater and Auditorium activities, given the increasing importance of ICT in organizing lectures/seminars/virtual meetings over the internet. Similar facilities are also available at each of the campuses. For any technical work to be carried out by the centralized technical team, an institute member can make an online request through the DataNet. This dedicated centralized management portal has been developed in-house. Laboratory space is allocated by the Space Allocation Committee, which keeps track of the needs of the Departments and their research programs. The space for laboratories and offices is assigned based on scientific merit and equitable distribution. Upon the faculty members retirement or the winding up of a laboratory, the space is returned to the committee for further allocation. It ensures efficient utilization of space. The Main Campus has a gymnasium, indoor badminton court, Yoga rooms, and two large playgrounds for football/cricket athletics. The TIFR Sports Club maintains these facilities. Similarly, hostel, canteen, and other facilities are looked after by the respective committees comprised of representations from faculty members, administrative, technical, and scientific staff and students. Similar arrangements are also in place at all the off campuses.

https://main.tifr.res.in/maincampus/technical_services.php

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	Research Fellowship	544	285026561
Financial Support from Other Sources			
a) National	DST/SERB Travel Grant	1	97000
b) International	VATAT Fellowship	1	100000
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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
SciComm101 - A Workshop	26/08/2020	200	Wellcome Trust/DBT India Alliance
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

2019	NA	Nil	Nil	Nil	Nil
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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
7	7	53

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
NA	Nil	Nil	NA	Nil	Nil
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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
2019	5	Integrated PhD/PhD in Biology	Department of Biological Sciences	TIFR, Mumbai (bridging post-docs and/or looking for post-doc positions abroad)	Post-Doctoral Research
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
NET	2
GATE	1
GRE	1
No file uploaded.	

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

Activity	Level	Number of Participants
Founders Day Sports tournaments, Main Campus	In-house	200
View File		

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/ International	Number of awards for Sports	Number of awards for Cultural	Student ID number	Name of the student
2019	NA	National	Nil	Nil	NA	NA
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5.3.2 – Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

TIFR Students Society (TSS) on the Main Campus is an elected students body that serves as a point of contact between the students and the institute administration. The elected members of TSS are a sports secretary, a canteen secretary, a hostel secretary, a cultural secretary, a library secretary, and a movie secretary. They look after the maintenance of students hostels and also supervise the day-to-day operations of the students canteen in the TIFR residential colony. Additionally, TSS monitors library facilities in the institute and organizes numerous recreational and cultural activities for students. It arranges private screening of movies every week. TSS holds annual sports tournaments for Football, Volleyball, Cricket, Badminton, Chess, Table Tennis, etc., and promotes cultural events like celebrations of various festivities, Freshers Party, music events, Student-Faculty Interaction Dinner, etc. Students contribute to most of these activities. TIFR supports some activities that deal with the improvement of infrastructure. HBCSE also has a Students committee, consisting of three members selected by the students and appointed by the Centre Director, which liaises with the faculty and administration to resolve student-related issues. In HBCSE, the Annual Research Meet is an informal and supportive forum for presentation, discussion, sharing, and debate over academic research organized entirely by Research Scholars. In TIFR-Hyderabad (TIFR-H), cultural colloquiums and sports are organized to encourage the students to participate in activities other than scientific ones. The respective committees comprise mainly of the students apart from a few faculty and administrative members. TIFR has student representation on • Canteen Committee, Science Popularization and Public Outreach Committee, Founders Day Committee at TIFR Colaba • Canteen Committee, Sports Committee, Library Committee, Hostel Committee at HBCSE • The Hostel Committee, Library Committee, Canteen Committee and Computer Facilities Committee at NCRA • Canteen Committee at CAM • Campus Services Cell (looking after issues related to the canteen, Fitness centre, Health Promotion Centre, safety issues and Transport), Sports and Recreation Committee, and Cultural Committee, Cell for Prevention and Resolution of Sexual Harassment of Women at Workplace, Transport Security Committee, Cafeteria Canteen Committee, Childcare cell, Women cell, Medical Committee, ICTS Annual Symposium at ICTS • Academic Affairs Committee, Canteen, and Recreation Committee, Hostel Committee, Internal Complaints Committee at TIFR-H.

5.4 – Alumni Engagement

5.4.1 – Whether the institution has registered Alumni Association?

Yes

TIFR Alumni Association is registered as a Society. It was formally established on April 29, 2000. The Institute has already received crucial support from its members towards fulfilling its main objectives. It has become one of the most important driving forces for the TIFR Endowment Fund. The natural bond between the Institute and its alumni is expected to be further strengthened in years to come. We will remain highly indebted to our alumni for their continued commitment towards our objectives and our mission of learning, research and teaching. An Executive Committee manages the day to day affairs of TAA. It conducts lectures of public interest which is open to all. It also actively

partners with the TIFR Endowment Fund to institute awards to students and members of TIFR. An alumni meet to mark the historical event of the completion of 50 years of Graduate School was also recently held, which saw participation by 270 odd members from all over. An annual e-newsletter is published and distributed to all its members via email. Efforts are on to enrol new members and take up additional activities to further the interest of its parent institute, Tata Institute of Fundamental Research.

5.4.2 – No. of registered Alumni:

618

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

0

5.4.4 – Meetings/activities organized by Alumni Association :

Awards for Faculties and Students Award in Science Education - Given to any serving or past member (still active in the field of Science Education) of the institute - biennially Prof. Sukumar Biswas Ph.D. Student Award - a yearly award is given to students pursuing a Ph.D. in physics Shri Ramakrishna Cowsik Medal and Smt. Saraswathi Cowsik Medals - given to regular or past members for contributions to an outstanding research paper - Yearly TAA Excellence Award - given to a faculty member for outstanding work in his/her field - Yearly TAA Patent Award - given to a member for contribution to outstanding work in applied science TAA Zita Lobo Memorial Award - Given to a non-academic member of the Department of Biological Sciences for outstanding supportive work TAA Excellence in Teaching Award - given to a faculty member for excellence in teaching and guiding Ph.D. Students - Yearly TAA Geeta Udgaonkar Award - given to a Ph.D. student for best thesis in Physics - Yearly TAA harish Chandra Memorial Award - given to a Ph.D. student for best Ph.D. thesis in mathematics or computer sciences TAA Zita Lobo Award - given to a student of the Department of Biological Sciences for best Ph.D. thesis - Yearly TAA Sasken Award - Given to a student for best Ph.D. Thesis in Technology and Computer Sciences - Yearly TAA B. M. Udgaonkar Award - given to a Ph.D. student for best thesis in Science Education - Biennially Public Lectures TAA Avik Guha Memorial Lecture on Complementarity between Solar and Nuclear Energy by Dr. Srikumar Banerjee - 28 November 2019 Other meetings Annual Meet to commemorate TIFR Graduate School (GS 50) held at TIFR on November 1 and 2, 2019

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)

1. Hiring, assessment, and promotion of tenure track faculty members: New faculty members are hired by TIFR centres/schools after evaluating the application and job seminar and assessing the letters of recommendation and other factors. The hiring recommendations are arrived at independently by the centres/schools and forwarded to the TIFR director. At the end of the six-year tenure track term, new faculties are assessed to continue service and promotion to the Associate Professor post. This assessment is based on multiple criteria: research performance, global impact, teaching and training students, contribution to institute committees, outreach activities, etc. The initial assessment is done locally at the centre/dept/school. However, the final decision is taken by a pan-TIFR core committee chaired by the Director TIFR in which members from the entire TIFR system participate. 2. So far, TIFR did not have a central data centre where all the academic activities-related information can be collected and archived. This year TIFR has launched the

comprehensive pan-TIFR database for academic activities. The information related to all the academic activities that are carried out at different centres can now be entered by the individual faculty members into this database which is archived centrally at the Mumbai Campus. The database hosts information in various relevant categories that include details of research projects, latest results, awards and distinctions, patents, publications, short-term projects, thesis guided, out-reach activities, administrative work, etc. Although the information is kept centrally, it can be accessed by any member to draw various reports required to be submitted on multiple occasions.

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

Yes

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	<p>TIFR selects its students via a nationwide competitive examination followed by interviews, for which more than 20000 students appear every year. As a result, we get very good students. Our challenge is to make them even better and help them develop their latent scientific talent and become comparable to their peers in the best universities globally. From the teaching perspective, this involves keeping a continuous tab of new developments in the subjects and modifying our course contents in their light. Besides this constant development, the various Subject Boards revisit their syllabi and update them every few years. We also introduce graduate students to the research groups in the Institute working in the frontline research areas in the form of lab visits and semester-long projects. It helps in moulding their scientific talent to absorb the ways of doing frontline scientific research.</p>
Teaching and Learning	<p>From the learning perspective, the TIFR endeavours to provide an enabling environment to our students, which is rich in intellectual stimulation, and at the same time has enough interaction with scientists in the area and supervision and feedback by the teachers. The time they spend in the excellent library and laboratories that we have built over the years are of great help to the students to learn their discipline, in conjunction with our formal courses and examinations. We always try to bring a sense of creative play to all our teaching/learning</p>

interactions. Short lab orientations and semester-long projects are part of these efforts where students are introduced to carrying out the front-line scientific research. It also helps students get familiar with the research area closest to their choice.

Examination and Evaluation

We have formalized the rules for extensions of the research fellowship for students in the background of the increase in the fellowship amount and restriction on time taken for PhD. Furthermore, we strictly adhere to the coursework-related rules for PhD registration.

Research and Development

Each faculty member of the Institute is encouraged to apply for grants to fund their research activities. It includes the periodic plan proposals to the Department of Atomic Energy. These proposals are vetted at the institute level before their submission to the funding agencies. Moreover, a periodic review is carried out for various departments and centres where the external subject experts committee comprised of the world-renowned scientists visits the Institute, interacts with the institute members, and gives a detailed assessment of the activities of the departments. Institute strongly encourages collaborations and research visits by the members.

Library, ICT and Physical Infrastructure / Instrumentation

The library committee oversees the functioning of the library, and a computer committee oversees the ICT infrastructure. Continuous efforts are made to expand access to online journals as well as the book collection. Members are encouraged to suggest new reference books and textbooks be added to the existing collection. Efforts are also made to connect all the libraries across various centres of TIFR via VPN. The computer committee is responsible for upgrading the ICT infrastructure both in terms of hardware and software. Campus-wide WiFi connectivity is also implemented on all the campuses. Video conferencing units are added for organizing remote meetings.

Human Resource Management

Our recruitment of faculty members entirely focuses on the research achievements and scholarship of the

candidates. This way, we can recruit the best scientific manpower in the country and the cream of returning young Indian scientists who have been awarded their PhDs or postdoctoral fellowships abroad. TIFR follows the Tenure Track system for the young faculty members joining the Institute. Once a young faculty member joins TIFR, he/she begins to take part in the nurture of students. He/she assumes more responsibilities, including lecturing and being the formal guide of a student. Thus, our faculty members begin as excellent scientists and then grow into active and enthusiastic teachers. Besides the faculty members, we have a large support staff. Our policy is to treat them as partners in our larger aims and encourage them to take responsibility, make innovations, and grow with the job.

Industry Interaction / Collaboration

The industry has funded some research projects, and some industries have formal MoUs with TIFR that facilitate collaborations. In addition, internships of people from the industry in TIFR, and access to industry-level technology to TIFR members, has been of mutual benefit.

Admission of Students

As a part of the consortium that uses JEST exam results for the admissions to the Graduate School, TIFR hosted the JEST exams this year. TIFR coordinated the test with all the member institutes and carried out the responsibility of formulating the question paper, coordinating the distribution and collection of the answer sheets and declaring the results on time.

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

E-governance area	Details
<p>Planning and Development</p>	<p>TIFR has an internal Information Systems Development Group (ISDG) with dedicated staff. The ISDG looks after the information technology requirements and plan of execution for the Institute, developing online procedures for various academic, administrative and financial processes in the Institute, including the Colaba campus and the Centres and Field Stations. The ISDG works in close collaboration with the relevant Sections of the Institute, adapting existing systems for online functioning and developing new</p>

procedures, if necessary, to facilitate these.

Administration

The movement of files with approval from authorities at successively higher levels is gradually being moved to Datanet and LDAP, though the process is not complete. It includes applications, such as leave, reimbursement, LTC applications, etc. On the financial side, the tendering process is now largely electronic. Most bookings of rooms, accommodation, transport, canteen facilities, photographic cell, etc. are now made electronically. Bidding for residential housing in Institute quarters is done purely electronically.

Finance and Accounts

TIFR has built its own Integrated Information System (TIIS), an integrated Enterprise Resource Planning (ERP) solution for TIFR, which includes Personal Information System, Payroll, Pension, Provident Fund, Procurements, Material Receipts, Inventory, Budget, Accounting, Finance and Accommodation. TIIS was first implemented at TIFR Main Campus and now has been implemented in other campuses except one. In addition to TIIS, Datanet provides information to staff members on their desktops, e.g. service record, salary, purchase orders, indent status, etc. Furthermore, financial transactions of some of the government departments are carried out through the Public Financial Management System (PFMS) software.

Student Admission and Support

The nationwide written entrance test of TIFR, GS2020, was conducted online with the help of Tata Consulting Services in multiple Centres (more than 30) across India. The admissions to TIFR graduate programmes also involves interviews of the candidates based on their performance in the online written test. However, this year, due to nationwide lockdown due to COVID-19 pandemic, most of the interviews were conducted online using the Zoom platform.

Examination

Since the student to teacher ratio is very small pan-TIFR, the need for adopting e-governance has not been felt so far. The thesis viva by the external examination has now been made into the online mode using the Zoom platform,

which has made the process very efficient, economical, and examiner friendly. Due to COVID-19 pandemic-related lockdown, online evaluation of students Graduate course performances was carried out with exams and presentations.

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
2019	Shubha Tole	ISN-2019	Nill	167596
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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)
2020	Nill	Administrative Training	04/06/2020	02/07/2020	Nill	35
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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
NA	Nill	Nill	Nill	0
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6.3.4 – Faculty and Staff recruitment (no. for permanent recruitment):

Teaching		Non-teaching	
Permanent	Full Time	Permanent	Full Time
12	Nill	16	Nill

6.3.5 – Welfare schemes for

Teaching	Non-teaching	Students
All permanent teachers and their dependents are members of a Contributory Health Services Scheme (CHSS), which provides	All permanent non-teaching staff members and their dependents are members of a Contributory Health Services Scheme	Students are provided with the medical facilities (free of cost) that exist in the Institute. Main Campus:

medical support. The retired members also have access to this scheme. In addition, a free annual medical checkup is offered to all the teachers. Additionally, the following activities were taken up towards the welfare of the teaching staff in the Institute.

Main Campus: • Lectures on Income Tax Returns Financial Management.

HBCSE: All teaching staff has access to the community centre in neighbouring Anushaktinagar with a swimming pool and other facilities. ICTS: • Sports initiatives like Marshal Art training for students and staff members. • Health screening camps are being arranged periodically.

TIFR-Hyderabad: • Fully equipped Gymnasium is made available for all the teaching staff members • TIFR Employees Cooperative Credit Society provides welfare schemes are operated like educational loans, Personal loans, Home loans etc. • General Physician visit is organized twice a week, and the Psychiatrist Consultation is provided whenever required.

(CHSS), which provides medical support. The retired members also have access to this scheme. In addition, a free annual medical checkup is offered to all the teachers. Additionally, the following activities were taken up towards the welfare of the non-teaching staff in the Institute.

Main Campus: • Lectures on Income Tax Returns Financial Management • Provided partial support for the blood donation camp in the Institute.

HBCSE: All non-teaching staff has access to the community centre in neighbouring Anushaktinagar with a swimming pool and other facilities. ICTS: • Sports initiatives like Marshal Art training for students and staff members. • Health screening camps are being arranged periodically.

TIFR-Hyderabad: • Fully equipped Gymnasium is made available for all the non-teaching staff members • TIFR Employees Cooperative Credit Society provides welfare schemes are operated like educational loans, Personal loans, home loans etc. • General Physician visit is organized twice a week, and the Psychiatrist Consultation is provided whenever required.

The students have access to the select panel of specialists from Mumbai for medical treatments with subsidized fees. Financial help towards medical treatment is also provided on a case by case basis. In addition, students have access to the recreation centre on the campus.

HBCSE: Students have free medical care for OPD and hospitalization. In addition, they have access to sports and gym facilities on campus.

NCRA: All students are enrolled in the institute medical scheme. CAM: The students are covered via a separate health insurance scheme fully paid from the centres budget. In addition, a GP is made available for consultation on campus two times a week.

ICTS: • Health insurance scheme for all the students in which there is a provision of general OPD facilities and Annual Health Check-up without any waiting period. • Sports initiatives like Marshal Art training for students and staff members. • Health screening camps are being arranged periodically.

NCBS: Students are covered under the Group Mediclaim policy wherein inpatient treatment up to Rs. 3 lakh is covered.

TIFR-Hyderabad: • Fully equipped Gymnasium is made available for all the students. • Sports and recreational activities are organized throughout the year. • General Physician visit is organized twice a week, and the Psychiatrist Consultation

is provided whenever required.

6.4 – Financial Management and Resource Mobilization

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

The Institute has its pre-audit cell for internal financial audit. The Statutory Auditors, appointed with the approval of the Council of Management of TIFR, performs half-yearly as well as a yearly financial audit. M/s. Kailash Chand Jain company has completed the audit work of the Institute from F.Y. 2019-20. The Statutory auditor visits every Center for the yearly as well as half-yearly audit. Additionally, the Internal Inspection Wing (IIW) of the Department of Atomic Energy conducts an annual audit of the Institute. Moreover, a team of Auditors of the Comptroller and Auditor General of India also conducts the annual audit.

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
INFOSYS, STRING THEORY, TIFR ALUMINI ASSOCIATION ETC.	41657000	Endowment
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6.4.3 – Total corpus fund generated

0

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	No	NA	No	NA
Administrative	No	NA	No	NA

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

Not applicable as there are no affiliated colleges

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

As the TIFR Graduate School caters to only post Graduate students, the institute does not have a Parent-Teacher Association.

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

1. The Institute organized an Intensive Training Fire Prevention Fire Fighting programme for the security staff from June to November 2019 for better preparation to handle related emergencies. 2. Administrative training was organised for the support staff with the help of instructors from the Department of Atomic Energy (DAE).

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

1 Vigyan Vidushi programme was launched for the women students of the 1st year MSc physics from universities and colleges across the country. The programme aims to provide them exposure to advanced physics topics, research

opportunities and encourage them to take up research in physics as a career option. 2. The centralised database for the academic activities is launched for archiving the details of the academic activities across all the centres of TIFR. The data so collected can be accessed by any authorised user to produce various reports that are required to be submitted from time to time. 3. The viva-voce examination of the thesis submitted to TIFR is now made online using the Zoom platform. This way, the process has been made very efficient on time and very friendly for the external examiner as the examiner need not physically be present at TIFR for the examination.

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
2020	Organization of JEST Joint Entrance Screening Test (JEST2020)	20/02/2020	20/02/2020	20/02/2020	Nil

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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
A Public Talk by Prof. A. Mani on Microaggressions, Sex, Sexuality and Gender [A Mani, leading researcher on the foundations of rough sets, active feminist, lesbian rights and free software activist] (HBSCE)	13/03/2020	13/03/2020	50	50

A New Conceptual Model of Diversity-Amrita Banerjee (IIT-Bombay) (NCRA)	09/08/2019	09/08/2019	30	40
Running an Obstacle Course ... And miles still to go - Meera Nanda (IISER-Pune) (NCRA)	06/03/2020	06/03/2020	30	40
Pressing for progress 2019: A IPA national conference towards gender equity in Physics https://progress2019.tifrh.res.in/ (TIFRH)	19/09/2019	21/09/2019	183	96
Gender equity: Barriers, Bridges & stepping stones - Workshop http://events.tifrh.res.in/gender/index.php (TIFRH)	09/03/2020	09/03/2020	17	21
Faculty Training program (NCBS)	01/01/2020	01/01/2020	2	48
Women student Mentoring	01/08/2019	01/08/2019	30	Nil
Woman's Day talk	09/03/2020	09/03/2020	60	10
Training session on Gender Equality	01/08/2019	01/08/2019	30	90

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

In the Main Campus, the Institute Guest House uses solar heaters for hot water supply. 3 of the total power requirement at the CAM centre is met by solar power, whereas in the ICTS, about 7 (25kW) of power requirement is met by solar and wind power. At the NCBS, about 2.7 (44kW) of power requirement is met by solar energy. In the TIFR-Hyderabad (TIFRH), liquid waste is bleached/neutralised and safely discharged to sewage. All liquid waste (except hazardous waste) is routed to Sewage Treatment Plant (STP), and treated water is recycled. TIFRH is a zero discharge institute (STP). The treated water is

used for gardening, toilets etc. 25 (30KLD) of the total consumption of water is met by the recycled water in TIFRH. At all the centres, the hazardous chemicals are collected and disposed of with the help of a certified professional vendor.

7.1.3 – Differently abled (Divyangjan) friendliness

Item facilities	Yes/No	Number of beneficiaries
Physical facilities	Yes	35
Provision for lift	Yes	38
Ramp/Rails	Yes	39
Braille Software/facilities	Yes	Nil
Rest Rooms	Yes	6
Scribes for examination	Yes	Nil
Special skill development for differently abled students	Yes	Nil

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
2019	Nil	Nil	Nil	Nil	NA	NA	Nil
No file uploaded.							

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

Title	Date of publication	Follow up(max 100 words)
Guidelines on Academic Ethics	01/08/2019	The link to the guidelines is made available on the institute website (Weblink: https://www.tifr.res.in/webdocs/TIFR-doc-ETHICS.pdf). Besides, every year, the new batch of research scholars who take admission to the institute programs are made familiarised with these guidelines and a special orientation is carried out which is also a part of the research methodology course in the graduate school.

7.1.6 – Activities conducted for promotion of universal Values and Ethics

Activity	Duration From	Duration To	Number of participants
Observance of 'Sadbhavana Diwas'	20/08/2019	20/08/2019	1246
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7.1.7 – Initiatives taken by the institution to make the campus eco-friendly (at least five)

1. In the HBSCE Campus, around 2600kgs of compost was produced from the centres kitchen and garden waste. 2. 2.7 of the power requirement (44 kW) of the NCBS campus was met with solar energy. 3. 33 kW On-Grid Solar Panel at the car parking rooftop in the ICTS Campus. 4. The lightings of the CAM campus was changed from CFL to LED. 5. Used chemical waste disposal is carried out more frequently with the help of a certified agency.

7.2 – Best Practices

7.2.1 – Describe at least two institutional best practices

Best Practice 1: A Comprehensive Database for Academic Activities: 1. Title of the Practice: A Comprehensive Database for Academic Activities: 2. Objectives of the Practice: Faculty members are asked to provide information throughout the year about the academic activities for various purposes, e.g., CVs, Department/ Centre reviews, DAE reports, Annual Reports, APARs, NAAC reports etc. Much of this information is repetitive and time-consuming, hence it is not easy for an individual faculty member to collate. To make it easier to source data for these different reports, a comprehensive database of all our academic activities has now been created by TIFRs in-house development team, ISDG (Information Systems Development Group). 3. The Context or Challenging Issues: A set of 21 different screens was designed that covers all the different types of data needed: Academic Visits, Administrative and Committee Work, Awards, Distinctions, Grants, Fellowships, Conferences attended/Talks/Presentations, Courses taught, Events organized, Graduate Theses guided, Ongoing Developmental work, Outreach/Extension activities, Patents, Publications, Research, Short-term Projects guided, Visitors hosted, My Degrees acquired, My Profile information, My Collaborators, and any other information. The fields for entering the information are a collation of the various types of data required by different reports. Any entry in any field can be sourced to construct multiple reports specifying the data range required. 4. The Practice: To our knowledge, no other University or Institution has such a system. The data is comprehensive and covers all the information normally included in ones CV and additional information such as funding, websites, and links to activities, etc.

The work took approximately two years, the last six months of which was intense, requiring weekly discussions of approx. 4 hours with the development team, after which the ISDG worked all week. At the end of the six months, a team of approximately 30 faculty members from all the Centers/Campuses of TIFR (Mumbai, Pune, Bangalore, Hyderabad) did a month of beta testing and entered feedback about any glitches or improvements. Approximately 100 such feedback entries were discussed individually and addressed. The pilot version of the database was launched in July 2020, and the final version was launched on September 7th, 2020. 5. Evidence of Success: The utility of the database will prove itself in the upcoming AQAR submission, faculty members APAR reports, and multiple other reports. 6. Problems Encountered and Resources Required: The main problem anticipated is to get the community of approximately 250 faculty members to agree to enter their backlogged data (2016 onwards, necessary for the NAAC SSR). Once this hurdle is passed, we are confident that everyone will see the utility and ease of sourcing reports that are otherwise very time-consuming to generate. Resources required will be mostly maintenance work (ISDG is well able to do this) and storage space (not a problem for TIFR). 7. Notes (Optional): Such a database would be of value nationwide. If the UGC adopts

such a practice and allows all colleges to use it, no one would have to struggle with reports, and the person-hours saved would be enormous. Best Practice 2: Setting up by TIFR of nationwide entrance examination (JGEEBILS) considered as National Eligibility Tests (NETs) by GoI: 1. Title of the Practice: Setting up by TIFR of nationwide entrance examination (JGEEBILS) considered as National Eligibility Tests (NETs) by GoI. 2. Objectives of the Practice: JGEEBILS: The Joint Graduate Entrance Examination in Biology and Integrated Life Sciences was set up in 2012 with the objective of streamlining graduate admissions to research programmes across India with a focus on the life sciences. As an outcome, students who are applying to these programmes would only need to qualify in a single entrance test to be considered for admissions across dozens of participating institutions. 3. The Context or Challenging Issues: Two major challenges are (a) ensuring a secure high-quality entrance examination which can be conducted at pan-India centres annually and (b) obtaining support from multiple partner institutions across India who will agree to use the examination as a standard part of their admissions procedures. These challenges arise from the examinations being on a national scale. 4. The Practice: JGEEBILS: This examination is now recognized by 20 of the most prestigious life sciences research institutions across India, including TIFR, IISERS, CCMB, NII, NBRC, etc. This makes JGEEBILS unique among all comparable NETs conducted annually in India. Each year approximately 10,000 candidates apply to write the JGEEBILS examination. The exam has a unique format which is difficult to crack because it has multiple sections across disciplines (General, Physics, Chemistry, Biology), and the questions are conceptual rather than memorization-type. The key limitation is to organize appropriate exam venues at 25 locations across the country, making it convenient for all students to attend and sit for the exam. In recent times, to increase security and efficiency, the exam has moved to an online-only system. This new system will be suitable for scaling up numbers of candidates and partner institutions while at the same time ensuring student safety in a post-Covid environment. 5. Evidence of Success: JGEEBILS: From a few partner institutions at the initial stage, JGEEBILS now has 20 institutions as participating institutions (with many others who have applied to be partners whose applications are being considered). In parallel, the number of students applying to sit for the exam has reached about 10,000 annually. The gender ratio of students is evenly balanced. Students have secured admission to Ph.D. programmes across the country, including TIFR, based on their JGEEBILS scores. 6. Problems Encountered and Resources Required: JGEEBILS: The key problem when the examination was conducted physically was to ensure timely preparation of the questions from a secure question bank, ensure secure printing and distribution of the question papers, secure collection, grading of answer sheets and distribution of scores to all partner institutions. This required the active participation of TIFR faculty member at each step of the process. The new online-only examination has removed many of these constraints. 7. Notes (Optional): None.

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

<https://www.tifr.res.in/NAAC/TIFRBestPractices2019-20.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

The Vigyan Vidushi (VV) programme, conducted for the first time in June 2020, was an important step towards addressing the gender imbalance in physics at the doctoral level in the country. It was envisaged as a three-week summer programme for women students at the end of their M.Sc. first-year in Physics to

expose them to advanced physics topics and research opportunities and encourage them to take up research in physics as a career option. The students in this programme also got an opportunity to be taught, inspired, and mentored by successful women scientist role models. The organisers of the programme are members of the physics departments of the Natural Science Faculty (NSF) and HBCSE. Originally planned to be a residential programme in HBCSE, the VV2020 edition had to be converted to an online version at short notice (due to the COVID19 pandemic). In this first year of the programme, out of 650 applications, 51 (from 50 different institutions spread all over India) were selected for participating in an interactive manner (over Zoom), while 335 were allowed to participate passively over YouTube live streaming. Questions from both sets of students were addressed during the lectures as well as later in an online Question-Answer forum. The programme was held during June 1-20, 2020. Five physics courses were taught: Quantum Mechanics, Statistical and Condensed Matter Physics, Introduction to Astronomy and Astrophysics, Experimental Techniques, Introduction to Nuclear and Particle Physics. A large fraction of each course was devoted to tutorials and problem-solving. In addition, there were sessions in the evenings on Physics Education Research and mentoring sessions that included career counselling. There were also seven Special Lectures by eminent women physicists. Apart from the faculty members, postdocs and students from TIFR Mumbai, HBCSE, NCRA and ICTS, many women ex-students of TIFR, currently in institutions like IACS, NISER, CEBS, IISc, ISRO, IOP, IIST, IIT Palakkad, MPI Dresden also participated as tutors or mentors. Since this was one of the first completely online summer schools, TIFR created an online platform for continuous interaction with the students and the sharing of pedagogic material. We adopted the procedures to encourage questions and feedback even during the lectures. The technical team tested the connectivity of every student individually beforehand and conducted the training sessions for instructors and tutors. This experience helped in getting the TIFR graduate school entirely online in the following semester. There was strong positive feedback on the quality of lectures and the opportunity to learn during the pandemic. A lot of students expressed that the mentoring sessions helped them become more confident. Several of them said that the career discussions with mentors of all ages have made them more inclined towards continuing for their PhD. The feedback from the students, organisers and the public (more than 7600 views so far for the eight public events on YouTube) suggests the need to continue, expand, and strengthen this Vigyan Vidushi programme in the future.

Provide the weblink of the institution

<https://vv.hbcse.tifr.res.in/>

8.Future Plans of Actions for Next Academic Year

1. Development of a comprehensive student registration module that will take care of the entire university-related record-keeping for each student starting from joining the institute till leaving the institute. The in-house expertise for the same will be utilized for getting such a module made.
2. Procuring software for checking the thesis submitted to the University for plagiarism and other linguistic shortcomings before sending it for evaluation.
3. To make all the preparations for the conducting of the JEST exam for the next year i.e. JEST 2021 This will be independent of the TIFR written test and will involve coordination with many institutions across the country.
4. To make the digitization of the University Cell records: TIFR Deemed-to-be University has completed more than 15 years. The paperwork in the University Cell needs to be minimized and the past records need to be recorded in a digital format so that they are available quickly are reliable.
5. To undertake the syllabus revision for various programs offered by TIFR across all the campuses

