



**INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
JADAVPUR, KOLKATA 700032**

The Annual Quality Assurance Report (AQAR) of the IQAC

Institutions Accredited by NAAC need to submit an Annual self-reviewed progress report i.e. Annual Quality Assurance Report (AQAR) to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the IQAC at the beginning of the Academic year.

The AQAR period is for the Academic Year July, 2022 to June, 2023.

Part – A

1. Data of the Institution

1. Name of the Institution: Indian Association for the Cultivation of Science

· Name of the Head of the institution: **Dr. Ranjan Sen**

· Designation: **Director**

· Does the institution function from own campus: **Yes**

· Phone no./Alternate phone no.: **033-2473-4971**

- Mobile no. : **9831416402**
- Registered Email: **registrar@iacs.res.in**
- Alternate Email : **sspid@iacs.res.in**
- Address : **2A & B, Raja Subodh Chandra Mullick Road, Jadavpur**
- City/Town : **Kolkata**
- State/UT : **West Bengal**
- Pin Code : **700032**

2. Institutional status:

- University: State/Central/**Deemed**/Private:
- Type of Institution: **Coeducation**/Men/Women
- Location: Rural/Semi-urban/**Urban**:
- Financial Status: **Centrally funded**/state funded/Private (please specify)
- Name of the IQAC Coordinator/Director: **Professor Indra Dasgupta**

· Phone no. /Alternate phone no. : **033-2473-4971**

· Mobile: **9903053248**

· IQAC e-mail address: **sspid@iacs.res.in**

· Alternate Email address: **psusg2@iacs.res.in**

3. Website address: <https://www.iacs.res.in/>

Web-link of the AQAR:

<https://www.iacs.res.in/maincontroller.php?navid=16&subnavid=206&resubnavid=480>

4. Whether Academic Calendar prepared during the year? 1. **Yes**

<https://iacs.res.in/modules/texteditor/imagesfiles/Academic%20Calendar-Autumn%20Semester%202022-2023%20-%20UGI.pdf>

5. Accreditation Details **N.A.**

6. Date of Establishment of IQAC: **18.01.2023**

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 Association for the Cultivation of Science, Kolkata	“Deemed to be University” under de novo category under Section 3 of the University Grants Commission (UGC) Act, 1956 vide Gazette Notification No. F.9. - 7/2017- U.3(A) of the Central Government	Department of Science & Technology, Government of India	2018, 5 years	2018 - 2019 - Rs.1,185,456,000.00 2019-2020 - 1,170,272,000.00 2020-2021 - 1,279,900,000.00 2021-22 - 1,265,000,000.00 2022-2023 - 1,330,063,515.00

8. Whether composition of IQAC as per latest NAAC guidelines: **Yes**

<https://iacs.res.in/maincontroller.php?navid=16&subnavid=202>

9. No. of IQAC meetings held during the year: **1**

The minutes of IQAC meeting and compliance to the decisions have been uploaded on the institutional website. **Yes**

<https://iacs.res.in/modules/texteditor/imagesfiles/Minutes%20of%20the%20IQAC%20meeting.pdf>

10. Whether IQAC received funding from any of the funding agency to support its activities during the year?

No

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

*** IQAC suggested formulation of multiple exit routes in the BS-MS programme as per NEP 2020**

*** As suggested by IQAC, IACS will take special initiative to attract students from remote areas and also from the north-eastern part of the country.**

*** IQAC took initiatives to directly interact with the students of IACS. Feedback and suggestions given by the students are under due consideration.**

*** IQAC made specific recommendation to improve the teaching laboratory related issues.**

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
1. Computerization of student academic records and results.	To minimize use of paper and reduce the time taken in preparation of academic records and results, the entire system has been computerized.
2. Wi-Fi facility for entire campus was reinstated.	For better Wi-Fi coverage and more speed, Wi-Fi network for the entire campus was reinstated.

3. Creation of student activity centre.	To promote the overall growth of a student, new student activity centres have been created for extra-curricular activities.
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13. Whether the AQAR was placed before statutory body?

Name of the statutory body: **Academic Council** Date of meeting(s): **10.07.2023**

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

Yes/No: **No**

15. Whether institutional data submitted to AISHE: Yes/No: **Yes**

Year:

Date of Submission:

2019-2020

15.05.2021

2020-2021

25.05.2022

2021-2022

17.07.2023

2. Institutional Preparedness for NEP 2020

1. Multidisciplinary / interdisciplinary:

- a) Delineate the vision/plan of institution to transform itself into a holistic multidisciplinary institution.

Beginning its journey with basic sciences, IACS has specially evolved to inculcate contemporary and divergent areas of scientific interest after it was conferred the status of a Deemed to be University by the UGC. It has introduced multidisciplinary and interdisciplinary courses with a constant effort to delve into the field of applied sciences and exploring beyond the limit. Keeping this in mind, new Schools namely School of Applied and Interdisciplinary Sciences, School of Mathematical and Computational Sciences and School of Material Sciences have been created. Students have the liberty to choose from a wide range of elective courses which are offered by the institute which may be from the same discipline (Discipline Specific Elective (DSE) or as well as outside the main discipline of studies (Generic Elective (GE) with the intention to seek exposure to other disciplines.

To enable the nation to become a global leader in knowledge power and attract international acclaim, the vision of IACS is to pursue basic science with a zeal to explore applied sciences at the highest level to be globally competitive and to widen the knowledge base through dissemination of knowledge and develop state-of-art technology

- b) Delineate the Institutional approach towards the integration of humanities and science with STEM and provide the detail of programs with combinations.

For a long time humanities and science have been two fragments of a strand which remained considerably distant from one another with humanities having traditionally played a less significant role in STEM education. While STEM education may be the driving force behind technological progress, humanities help in shaping up the ethical and social considerations of that progress. Integration of humanities with STEM is essential for promoting critical thinking, creativity and empathy. With the evolution of science beyond disciplinary boundaries, students are required to use knowledge and skills from multiple disciplines. In a rapidly progressing world of today, integration of humanities and science with STEM is of great importance to meet the global challenges, promote economic development and to meet modern society's demand for knowledge and skills while also aiming to develop employment opportunities and bolstering national competitiveness.

IACS, as an institution, has designed its course curriculum in such a manner so that a student's learning is not just limited to a single discipline. He/she has

the opportunity to acquire knowledge beyond the realms of his/her discipline and delve into the abyss of multidisciplinary. Incorporation of communicative English as a non-credit based compulsory subject enables the students and researchers to distribute their knowledge in the international domain. Beside the chosen discipline of study, students are offered Ability Enhancement Compulsory Courses (AECC) such as Know Your Environment, Scientific Writing and Ethics which effect in enhancing the writing skills and for developing social awareness. In addition there are courses on History of Science and Constitution of India.

Eminent speakers from India and abroad are invited to deliver public lectures on various branches of humanities which are mandatory for the students to attend. Experts from the engineering realm specifically computer sciences, instrumentation and electronics, cyber security etc. are invited to deliver talks on their area of expertise. An overwhelming response is received from students during such events. Thus IACS has been able to achieve the goal of blending humanities and science with STEM in an effective manner.

c) Does the institution offer flexible and innovative curricula that includes credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based towards the attainment of a holistic and multidisciplinary education. Explain

IACS offers Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Compulsory Courses (SECC) with the objective of providing value and skill based education with relevance to the requirements of the modern era. Thus along with the education on basic and applied sciences, the curriculum has been innovated to include courses on Communicative English, History of Science, Know Your Environment, Scientific Writing and Ethics towards the attainment of a holistic and multi-disciplinary approach to education.

There are projects under which the institute organizes science training camps in the remote areas with an aim to reach out to the less privileged yet enthusiastic young scientific minds and encourage their quest for scientific knowledge. Outreach programmes are conducted frequently all through the year wherein students from the nearby schools attend popular lectures delivered by eminent researchers and taken on extensive laboratory tours. Special focus is given to the female students and students belonging to less privileged sections of the society. Such initiatives have been met with a huge success.

d) What is the institutional plan for offering a multidisciplinary flexible curriculum that enables multiple entry and exits at the end of 1st, 2nd and 3rd years of undergraduate education while maintaining the rigor of learning? Explain with examples.

**Integrated Bachelor-Master (BS-MS) Program: Integrated Bachelors-Masters in
(Respective M.Sc. degrees)**

IACS offers highly interdisciplinary integrated Bachelors-Masters program in Biological, Chemical, Mathematical & Computational and Physical Sciences.

The duration of the course is for 5 years leading to integrated BS-MS degree in one of the above mentioned disciplines.

The first three semesters of the program comprises of foundational courses in Physics, Chemistry, Mathematics, Computer Sciences, and Biological Sciences. From 4th semester onward students focus on one of the above-mentioned subjects as major under the respective School. In order to make the program interdisciplinary, in addition to discipline specific electives students are encouraged to opt for generic electives for 0th disciplines as well as several Ability Enhancement Compulsory Courses (AECC), Skill Enhancement Courses (SEC) and Value Added Courses (VAC).

In line with NEP 2020, there are multiple entry and exit routes as indicated in the following table:-

Semester	Lecture Courses (credit)	Lab courses (credit)	AEC	SEC	VAC	Total Credit
I	Bio1(4), Chm1(4), Phy1(4), Mth1(3), Com1(3)	Bio1(2), Chm1(2), Phy1(2), Maths(1)*, Computer (2)	Communicative English(2)	Instrumentation(3)	Constitution (2)	34 (* Numerical Analysis)
II	Bio2(4), Chm2(4), Phy2(4), Mth2(3), Com2(3)	Bio2(2), Chm2(2), Phy2(2)	Debate/Seminar/ Group Discussion (2)	Instrumentation(3)	Sports and Fitness (2)	31

Exit: Certificate in Basic Sciences with Computer and Communicative English (UGC credit requirement 36-40)

65						
III	Bio3(3), Chm3(3), Phy3(4), Mth3(3), Com3(3)	Bio3(2), Chm3(2), Phy3(2)	Seminar/ Colloquium (2)	Maths and Computer Lab (3)	Know your environ ment (2)	29
IV	DSC1(4), DSC2(4), DSC3(4), DSC 4(4)	Discipl ine specifi c lab (6)	Scientific Writing and Ethics(2)			24
Exit: Diploma in Sciences with Biological/ Chemical/ Mathematics & Computer/ Physical Science Major (UGC credit requirement 72-80)						
118						
V	DSC5(4), DSC6(4), DSC7(4), DSE1/G E1(4)	Discipl ine specifi c lab (6)			His. Of Science(2)	24
VI	DSC8(4), DSC9(4), DSC10(4), DSE2/G E2(4)	Discipl ine specifi c lab (6)		Research Methodology (2)		24
Exit: BS Degree in Sciences with Biological/ Chemical/ Mathematics & Computer/ Physical Science Major (UGC credit requirement 108-120)						
166						
II	DSC11(4), DSE3(4), GE3(4), DSE4/G E4(4)	Core Projec t (6)	Scientific Writing and Ethics(2)			24

II	DSC12(4), DSE5(4), GE5(4), DSE6/G E6(4)	Core Project (6)	Seminar Colloquium (2)			24
Exit: BS Degree with research in Biological/ Chemical/ Mathematics & Computer/ Physical Sciences (UGC credit requirement 144-160) 214						
IX	DSE(4)/ GE(4)	Core Project (16)				20
	DSE(4)/ GE5(4)	Core Project (16)				20
Exit: Integrated Bachelor's – Master's degree with research in Biological/ Chemical/ Mathematics & Computer/ Physical Sciences 254						

e) What are the institutional plans to engage in more multidisciplinary research endeavors to find solutions to society's most pressing issues and challenges?

IACS is extremely fortunate to have a fraternity of Faculty Members who not only mould the young scientists of tomorrow but also are on a constant mission to develop pathways to combat pressing societal challenges. Given below are some of the contributions of our Faculty Members:-

1. Prof. Surajit Sinha from the School of Applied and Interdisciplinary Sciences has conducted a successful trial of a RNA-based molecule (antisense oligonucleotide AON) on a single patient and have infused a ray of hope for children suffering from Duchene Muscular Dystrophy, a rare genetic disease for which there is no cure available and which eventually leads to death at a tender age.
2. Prof. Benubrata Das and his team of researchers from the School of Biological Sciences are focused on their research on DNA-repair systems that provide a critical defense mechanism against exogenous DNA-damaging agents, such as the human carcinogen, and endogenous sources such as ROS (reactive oxygen species) generated from normal cellular metabolism aiming to providing therapeutic benefit in combating cancer.

3. Prof. Jyotirmayee Dash from the School of Chemical Sciences through her research aimed at modulating the structure and function of nucleic acid targets is on the path to develop therapeutic tools for diseases like cancer, neurodegenerative disorders, and microbial infections.
4. Prof. Narayan Pradhan from the School of Material Sciences, has developed low power and efficient LEDs for lighting that will reduce electricity consumption.
5. Dr. Urmimala Maitra from the School of Material Sciences and her research team is involved in the fundamental science of ionically conducting solids for developing high-energy and high-power batteries like Li-, Na- ion and all solid-state batteries.
6. Scientists associated with the Technical Research Centre (TRC), IACS are engaged in translational research to address some of the arising issues associated with energy and environment.

The institute has consistently been in the area of solar energy research for harnessing the alternate source of energy to address the need for shift from conventional sources to non-conventional sources of energy and thus aid in preservation of the natural resources.

f) Describe any good practice/s of the institution to promote Multidisciplinary / interdisciplinary approach in view of NEP 2020.

The course curriculum of IACS has been designed in a manner such that a student is able to navigate areas beyond the scope of the specific area of study and is able to provide a holistic approach to education. Multiple disciplines have been brought together and aligned to develop a holistic learning experience for the learners. Traditional subjects have been combined with modern areas of interests which enables learners to explore multiple perspectives and hone new skills. Students have a greater flexibility and choice in exercising their options. For instance the School of Material Sciences and School of Applied and Interdisciplinary Sciences offer a scope to explore beyond the traditional realms of physical, chemical and biological sciences while preserving the necessity of the core subject as well.

The ancient Indian system of medicine which originated thousands of years ago is considered to be the most methodical and the most holistic system, both in its ideas and its curative measures. Today, Ayurveda has emerged as a fully developed rational theory of health and disease and an alternate source of medicine. The School of Applied and Interdisciplinary Sciences of IACS aims to educate students in the up-and-coming areas of sciences by combining contemporary topics in Chemistry, Biology, and Physics with specialization in emerging topics like Natural Products and Ancient Indian Medicine Biomedical Science, Green Chemistry, Polymer Science and Soft Matter and Sustainability Energy, bio-destructible materials.

2. Academic bank of credits (ABC):

a) Describe the initiatives taken by the institution to fulfill the requirement of Academic bank of credits as proposed in NEP 2020.

Institutional broadcast has been sent to all IACS students for creation of ABC accounts. Around 300 students have created their ABC accounts till now. Another broadcast mail has been sent to the students who have created their ABC accounts with the step by step guidelines to create a Digilocker account and check their ABC ID details. The date of incorporation of ABC is 26.06.2023.

b) Whether the institution has registered under the ABC to permit its learners to avail the benefit of multiple entries and exit during the chosen programme? Provide details.

Yes.

c) Describe the efforts of the institution for seamless collaboration, internationalization of education, joint degrees between Indian and foreign institutions, and to enable credit transfer.

Over the years IACS has been into collaborative research with numerous national and international research institutes to provide a wider exposure to its students and encourage collaborative research. IACS has entered into joint collaborative activity with the Asia Pacific Centre for Theoretical Physics (APCTP). For young scientists from developing countries (other than India) who wish to pursue postdoctoral research in certain fields of natural sciences at IACS, the TWAS-IACS Exchange program started in 2005 with The World academy of Sciences (TWAS) in the following fields:

- Theoretical Physics
- Solid state Physics
- Spectroscopy
- Materials Science
- Non-conventional Energy
- Physics Chemistry
- Organic Chemistry
- Inorganic Chemistry
- Biological Chemistry
- Polymer Science

Indian Institute of Technology Kharagpur (IITKGP) and IACS offer a joint M.Sc.-Ph.D. Program in “Chemical and Molecular Biology” wherein students participate in course work in both the institutes. This program brings two premier institutes in teaching and research together to offer courses in the interface of Biology and Chemistry.

IACS also has a post-doctoral programme with The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy.

d) How faculties are encouraged to design their own curricular and pedagogical approaches within the approved framework, including textbook, reading material selections, assignments, and assessments etc.

Faculty members have been empowered with the academic freedom to design their own curricula and develop pedagogical approaches to cultivate a learning

experience which blends both traditional and modern teaching techniques. They have the liberty within the approved framework to use modern technology in their classrooms to enhance the learning experience. Faculties have the freedom to decide on the ratio of theory to practical classes for each subject.

e) Describe any good practice/s of the institution pertaining to the implementation of Academic bank of credits (ABC) in the institution in view of NEP 2020.

IACS has adopted the ABC system and around 300 Academic Bank of Credits has been created.

3. Skill development:

a) Describe the efforts made by the institution to strengthen the vocational education and soft skills of students in alignment with National Skills Qualifications Framework.

IACS offers Compulsory Specified Courses of 2 / 4 credits each which are to be opted by the students of the Programs under Ability Enhancement Compulsory Courses (2 credit) and Skill Enhancement Courses (2/4 credit). Ability Enhancement Compulsory Courses (AECC) include Communicative English, Scientific Writing & Ethics. The other AECC course is on environmental science of credit 2. In addition, two Skill Enhancement Compulsory Courses (SECC) are to be taken.

Further, to create a framework that will provide for multiple pathways, horizontal as well as vertical, including vocational education, vocational training, general education and technical education, thus linking one level of learning to another higher level, IACS provides short term non-credit based courses on instrumentation, CAD etc. enabling a student to acquire desired competency levels making a smooth transition into the professional domain.

b) Provide the details of the programmes offered to promote vocational education and its integration into mainstream education.

IACS houses a Central Scientific Service Unit with experienced and dedicated staff members who train the students on state of the art scientific instruments which enable them to explore the domain of scientific instruments.

They also have the option to learn Computer Aided Design (CAD) which is of immense use in designing scientific models.

Core laboratory courses such as a few mentioned below are integrated into the curriculum to aid in research work: -

- **Advanced imaging**
- **Genomics**
- **Proteomics**
- **Histology**

- Tissue culture
- General Properties of Liquids and pH-metry
- General Physics Experiments
- Extraction, Purification and Identification of Bio-Macromolecules
- Spectroscopy of Atoms and Molecules
- Optics and Electricity
- Light Harvesting Molecules and Photobiology
- Redox Titration and Organic Preparation
- Thermal Physics and Electronics
- Digital Electronics and Nuclear Physics Lab
- Electronics and Computer Programming Lab
- General Physics and Optics Lab
- Object-Oriented Programming with C++ Lab
- Statistics with R
- Materials Laboratory-II

Our laboratories are staffed by trained staff who are skilled in the use of the equipment and techniques offered by the laboratory and can provide support and guidance to researchers who use the facilities.

c) How the institution is providing Value-based education to inculcate positivity amongst the learner that include the development of humanistic, ethical, Constitutional, and universal human values of truth (satya), righteous conduct (dharma), peace (shanti), love (prem), nonviolence (ahimsa), scientific temper, citizenship values, and also life-skills etc.

In the Undergraduate program, in the 7th Semester one Course on Scientific Writing and Ethics is taught and in the Master's program, this course is taught in the 3rd Semester. Apart from this, different sessions on Yoga, Meditation and Mental Health etc. are organized frequently in the institute all through the year. Every member of the student fraternity is required to take an oath on the day of the Orientation and Convocation to solemnize his/her duty to the service of science, society and nation.

IACS observes various days of national importance such as Republic Day, Independence Day, Constitution Day, National Integrity Day and students are strongly encouraged to participate with a view to instill patriotism and citizenship values to them.

Young students are like tender saplings being nurtured for growth, hence, IACS considers the value of Life Skill Education to be of immense importance in shaping up their personality. IACS organizes life skill development sessions with eminent speakers especially industry veterans with a view to enhance their confidence level, decision making ability, stress alleviation capacity, ability to face adverse situations. This contributes to their overall behavioral growth and critical thinking ability. Special emphasis is made on development of communication skills which shall help them in the professional environment in the future. IACS considers Yoga to be an integral mechanism for the holistic development of an individual and to instill human and ethical values and

spiritual awakening. It has had the opportunity to conduct Yoga sessions by veterans from the scientific domain and students and staff were able to witness blending of science with spirituality.

d) Enlist the institution's efforts to:

- i. Design a credit structure to ensure that all students take at least one vocational course before graduating.

IACS has developed its course curriculum in a manner where students receive hand-on training on laboratory instruments by means of short term courses which are integrated into the core laboratory course.

- ii. Engaging the services of Industry veterans and Master Crafts persons to provide vocational skills and overcome gaps vis-à-vis trained faculty provisions.

IACS frequently invites industry veterans to deliver lectures and impart knowledge to the students on vocational skills. Workshops are organized by industries wherein students gain hands-on exposure on various trades. We have a number of ongoing Research and Development Projects with the Pharmaceutical and Energy industry and other industries as well which helps students gain an exposure to the industry.

- iii. To offer vocational education in ODL/blended/on-campus modular modes to Learners.

Presently only on-campus mode of vocational education is available. However, all the lectures are recorded by an audio-visual mode and archived into a digitized library. In the near future, IACS may offer courses through the ODL or blended mode and the digitized library shall be an inevitable tool in education through distance mode

- iv. NSDC association to facilitate all this by creating a unified platform to manage learner enrolment (students and workers), skill mapping, and certification.

IACS is aiming to identify the skill requirement of newly enrolled students keeping in view the increasing demands of the industry both on the national and international level. Initiatives are being taken to create a unified platform for students and staff to enable them to up to date their skills in line with the changing industry demands.

- v. Skilling courses are planned to be offered to students through online and/or distance mode.

The digitized library of IACS has been identified for offering skill based courses through online and/or distance mode in the near future and this process shall diminish the wall between on-campus and off-campus education. With the Syamaprasad Mookerjee Advanced Research and Training (SMART) campus of IACS which may begin its journey sooner rather than later, IACS has planned to utilize the online platform so that students from either campus are able to jointly attend classes, lectures, activities, life skill sessions etc.

- e) Describe any good practice/s of the institution pertaining to the Skill development in view of NEP 2020.

With the advent of the National Education Policy 2020 by the Government of India to reshape the Indian Education System to enable it to adapt to the changes brought about by the pandemic, the need of skill -based education has been of supreme importance for offering students a wider scope to cater to the industry demands. Skill based education shall provide skills to a student to gain practical experiences in the career path they have chosen before they step out into the industry. IACS emphasizes the requirement of imparting skill based education and the curriculum is designed in such a manner that students are exposed to a wide variety of skills beyond books. IACS has taken special care to ensure that students especially from remote and less privileged areas receive proper computer education through its Centre for Computer Research, Education and Services (CCRES). Computing skills are indispensable for research work and to survive in the current industrial scenario.

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

- a) Delineate the strategy and details regarding the integration of the Indian Knowledge system (teaching in Indian Language, culture etc.) into the curriculum using both offline and online courses.

IACS organizes various cultural programmes on special days to pay tribute to the rich cultural heritage of India. International Mother Language Day is celebrated on the 21st of February through speech, poetry and songs by the students and staff in their mother tongue. Since, students from all parts of India come to IACS for study and research, we get to witness a unique harmony of multiculturalism.

“Rabindra Jayanti” is celebrated on the birth anniversary of Rabindranath Tagore which is organized by our Science Association Club with enthusiastic

participation from all. Following his ideals, IACS has always believed in education beyond the limits of the classroom and developing a free mind.

Popular lectures of the institute are held in bilingual mode and in the regional language to encourage teaching in Indian language.

All the events are telecast live on the social media handles of the institute with the purpose of reaching out to the young generation outside.

b) What are the institutions plans to train its faculties to provide the classroom delivery in bilingual mode (English and vernacular)?

All the staff of the institute are imparted basic training in the official language i.e. Hindi. Official forms of any kind have been made bilingual (English and Hindi). The faculty members teach primarily in English, however for doubts, the students are usually addressed in bilingual mode.

c) Provide the details of the degree courses taught in Indian languages and bilingually in the institution.

None

d) Describe the efforts of the institution to preserve and promote the following:

i. Indian languages (Sanskrit, Pali, Prakrit and classical, tribal and endangered etc.)

"International Mother Language Day" is celebrated at IACS on 21st February each year.

For more details, please click on the following link:-

<https://www.iacs.res.in/maincontroller.php?navid=24&subnavid=110&resubnavid=376>

ii. Indian ancient traditional knowledge course

Courses such as Ancient Indian Medicine, History of Science have been made a part of the curriculum for creating a quest among students for the rich history of Ancient Indian traditions which still remains relevant in the modern society and may be nurtured for a better tomorrow

iii. Indian Arts:

Students have the opportunity to enroll in literary and art clubs where they can cultivate their interest in literary and artistic pursuits like writing, speech and drama, painting, singing etc. Recently, the Research Scholars

Association of IACS has launched a film club - The Cine Society for movie enthusiasts to come together, the world of national and international cinema.

iv. Indian Culture and traditions. **International Yoga Day is observed on the 21st day of June every year in the institute and students are strongly encouraged to participate in the various activities for spiritual growth and wellness.**

v. Skilling courses are planned to be offered to students through online and/or distance mode. **In the years to come IACS aims to offer skill enhancement courses through online and/or distance mode in which its digitized library shall be utilized.**

e) Describe any good practice/s of the institution pertaining to the appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course) in view of NEP 2020.

Since ancient times, India has had a rich heritage of incorporating “Jnan, Vignan, Jeevan Darshan” in all aspects of life. The Indian Knowledge System with its wide spectrum such as Astronomy, Ayurveda & Yoga, Mathematics, Languages and Linguistics, Philosophy, Public Administration. Management Science and many more has been the foundation for Science, Engineering & Technology, Humanities and Social Sciences. The Fundamental ideas of the Indian Knowledge System shall guide and re-orient one’s thinking process and help to adapt to the modern times. The spiritual well-being of an individual is of immense importance, hence Yoga sessions both online and offline are held for the holistic development of the students and staff.

5. Focus on Outcome based education (OBE):

i. Describe the institutional initiatives to transform its curriculum towards Outcome based Education (OBE)?

Outcome-based education (OBE) is education in which an emphasis is placed on a clearly articulated idea of what students are expected to know and be able to do, that is, what skills and knowledge they need to have, when they leave the school system. It is sometimes also called performance-based education and is an attempt to measure educational effectiveness based on results rather than on inputs such as time students spend in class. The student learning outcomes constitute the criteria by which curriculum is developed or redesigned, instructional materials are selected, teaching methods are adopted, and evaluation is conducted. IACS has developed its course structure in such a manner so that the students are able to excel not only academically but are able to emerge as responsible citizens with

ethics, social awareness, and communication skills. They not only focus on research but on entrepreneurship as well.

- ii. Explain the efforts made by the institution to capture the Outcome based education in teaching and learning practices.

IACS has designed its course structure in the following manner:-

(a) Core Courses – Compulsory components of an Academic Program. These courses are to be compulsorily studied as a core requirement for the program.

(b) Elective Courses – Elective courses shall be chosen by each student from a list of courses. These courses may be within the same discipline (Discipline Specific Elective (DSE)) as well as outside the main discipline of studies (Generic Elective)). A GE course is generally chosen from an unrelated discipline/subject, with an intention to seek exposure to other disciplines.

(c) Additional Credits may be allowed as per the following specifications:

Compulsory Specified Courses shall be of 2-4 credits each to be opted by the students of the Programs under Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Compulsory Courses (SECC).

Activities: These are part of Co/Extra-curricular Activities and a minimum of 2 credits in the entire duration of the program must be opted for.

- iii. Describe any good practice/s of the institution pertaining to the Outcome based education (OBE) in view of NEP 2020.

To ensure education in an outcome based manner, a student is encouraged to work in a project of his/her choice and required to make a presentation before all the faculty members and other students after the completion of the project. Students are also encouraged to attend seminars in other institutes which may act as direct measurement of their educational effectiveness.

A considerable number of skill and ability enhancement courses in the curriculum along with vocational training on instrumentation and core laboratory techniques also contributes to the above.

6. Distance education/online education: **No**

a) Delineate the possibilities of offering vocational courses through ODL mode in the institution.

Offering of vocational courses through ODL mode in the institution is made possible by delivering pre-recorded and live lectures online and arranging special educational camps in remote areas.

b) Describe about the development and use of technological tools for teaching learning activities. Provide the details about the institutional efforts towards blended learning.

The Institute uses 18 Online Classroom setup in the Zoom platform to enable students from remote areas to join online classes. 2 nos. of CRAY Supercomputers, several number of High Performance Computing clusters having number of nodes ranging from 50 to 500 including GPU nodes are used for scientific computing purposes. Moreover IACS uses several number of sophisticated instruments like MALDI Mass Spectrometer, FT-NMR, Laser Raman Spectrometer, DLS, Confocal Fluorescence Microscopy, Magnetometer, UHR-FEGTEM, CRYO-TEM etc. which are used for experimental research purpose thus enabling blended learning.

Describe any good practice/s of the institution pertaining to the Distance education/online education in view of NEP 2020.

The institute does not offer any course through the ODL mode at present.

3. Extended Profile of the University

1. Programme:

1.1 Number of Programmes offered during the year

Year	2022-2023
Number	4 BS-MS, MS, MS-Integrated PhD & PhD

1.2 Number of departments offering academic programmes **6, University as a whole**

2. Student:

2.1 Number of students during the year

Year	2022-2023
Number	BS - 2022(23) MS - 2022(53)

2.2 Number of outgoing / final year students during the year

Year	2022-2023
Number	BS(33) MS(47)

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

Year	2022-2023
Number	1. Autumn 2022(BS (2018+2019+2020+2021+2022) + MS (2021+2022)=230 + PhD Course Work(38), Spring 2023 (BS

	(2018+2019+2020+2021+2022) + MS (2021+2022)=230 + PhD Course Work(48)
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2.4 Number of revaluation applications during the year

Year	2022-2023
Number	Nil

3. Academic:

3.1 Number of courses in all Programmes during the year

Year	2022-2023
Number	Autumn 2022(75), Spring 2023 (85)

3.2 Number of full time teachers during the year

Year	2022-2023
Number	66

3.3 Number of students sanctioned posts during the year

Year	2022-2023
Number	600 (BS-MS - 60, MS - 180, PhD - 360)

4. Institution:

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

Year	2022-2023
Number	1987

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

Year	2022-2023
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Number	108 (SC-15%, ST-7.5 % & OBC-27%)
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4.3 Total number of classrooms and seminar halls: **14 Classrooms & 4 Seminal Halls**

Year	2022-2023
Number	14, 4

4.4 Total number of computers in the campus for academic purpose:

Approximately 400

4.5 Total Expenditure excluding salary during the year (INR in Lakhs) general budget

Year	2022-2023
Number	9707 lakhs

Part – B

Criterion I – Curricular Aspects

Key Indicator – 1.1 Curriculum Design and Development

Metric No.	
1.1.1 QIM	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 The institute has designed its curricula with suggestions from its experienced faculty members in consultation with experts from the domain of academia and research which is vastly reflected in its incorporation of need based and skill based courses. To cater to the national, regional and global developmental needs, the use of Information Communication Technology is promoted in the learning process providing easy access to the digital learning process. The institute strives to achieve moral development of an individual by encouraging participation in community - oriented programmes for the benefit of the society which also harnesses team spirit. https://www.iacs.res.in/ → Academics

1.1.2	Number of Programmes where syllabus revision was carried out during the year				
Q _n M	<table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>NIL</td></tr> </table> Data Requirement: · Programme Code: N.A. · Names of the Programme revised : N.A.	Year	2022-2023	Number	NIL
Year	2022-2023				
Number	NIL				
1.1.3	Total number of courses having focus on employability/ entrepreneurship/ skill development offered by the University during the year				
Q _n M	: Number of courses having focus on employability/ entrepreneurship/ skill development during the year <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>37</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/1_1_3.pdf	Year	2022-2023	Number	37
Year	2022-2023				
Number	37				

Key Indicator – 1.2 Academic Flexibility

Metric No.					
1.2.1	Number of new courses introduced of the total number of courses across all programs offered during the year <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>NIL</td></tr> </table> Data Requirement: - Name of the new course introduced : N.A. - Name of the Programme : N.A.	Year	2022-2023	Number	NIL
Year	2022-2023				
Number	NIL				
1.2.2	Number of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented during the year <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>NIL</td></tr> </table> Data Requirements: - Names of all Programmes adopting CBCS : NA - Names of all Programmes adopting elective course system : 10 Integrated Bachelors Masters' Program (BSMS) Int. MS-PhD in Physics (School of Applied and Interdisciplinary Sciences) Int. MS-PhD in Chemistry (School of Applied and Interdisciplinary Sciences)	Year	2022-2023	Number	NIL
Year	2022-2023				
Number	NIL				

	d. Int. MS-PhD in Biology (School of Applied and Interdisciplinary Sciences) e. Int. MS-PhD in Chemistry (School of Chemical Sciences) f. Int. MS-PhD in Chemistry (School of Materials Sciences) g. Int. MS-PhD in Physics (School of Materials Sciences) h. Int. MS-PhD in Mathematics (School of Mathematical and Computational Sciences) i. Int. MS-PhD in Computer Science (School of Mathematical and Computational Sciences) j. Int. MS-PhD in Physics (School of Physical Sciences)
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Key Indicator – 1.3 Curriculum Enrichment

Metric No.	
1.3.1	Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum Write description in maximum of 200 words
QIM	Committee, environmental science course, plastic free campus, green building, renewable street lamps, research emphasis on Co2 capturing and energy related problems. The institute has a healthy gender ratio and special attention is provided to the female students for addressing their issues by means of an Internal Complaints Committee. Professional ethics and human values are an integral part of the education system here. The campus of IACS is plastic free and stringent measures are taken for environmental friendly practices. The institute strives to promote sustainable and eco-friendly practices in the campus. Various Committees are in place to ensure the above. It is mandatory for students to study a course on Environment

	and they are encouraged to participate in sapling plantation programmes. Energy efficiency is ensured by the use of a dynamic switching system. IACS lays special emphasis on energy research and carbon dioxide emission capturing				
1.3.2 Q _n M	Number of value-added courses for imparting transferable and life skills offered during the year <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>3</td></tr> </table>	Year	2022-2023	Number	3
Year	2022-2023				
Number	3				
1.3.3 Q _n M	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 <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td> BS - 2022(23) MS - 2022(53) </td></tr> </table>	Year	2022-2023	Number	BS - 2022(23) MS - 2022(53)
Year	2022-2023				
Number	BS - 2022(23) MS - 2022(53)				

1.3.4	Number of students undertaking field projects / research projects / internships during the year				
Q _n M	<table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>116</td></tr> </table> Data Requirements: - Names of the Programme : BSMS & Int. MS-PhD - No. of students undertaking field projects /research projects/ internships : 116	Year	2022-2023	Number	116
Year	2022-2023				
Number	116				

Key Indicator – 1.4 Feedback System

Metric No.	
1.4.1 Q _n M	Structured feedback for design and review of syllabus – semester wise / is received from Students, 2) Teachers, 3) Employers, 4) Alumni Options: · · All 4 of the above · Any 3 of the above · Any 2 of the above · Any 1 of the above · None of the above

1.4.2	Feedback processes of the institution may be classified as follows:
Q _n M	- Feedback collected, analysed and action taken and feedback available on website Feedback collected, analysed and action has been taken - Feedback collected and analysed - Feedback collected - Feedback not collected Opt One

Criterion II – Teaching-Learning and Evaluation

Key Indicator – 2.1 Student Enrolments and Profile

Metric No.					
2.1.1	Demand Ratio				
Q _n M	2.1.1.1: Number of seats available during the year <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>210</td></tr> </table> Data Requirements: - Number of seats available in all the Programmes : 210 - Total number of eligible applications received : 1884 - Total number of Seats filled against sanctioned seats : 75	Year	2022-2023	Number	210
Year	2022-2023				
Number	210				

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)				
Q _n M	2.1.2.1: Number of actual students admitted from the reserved categories during the year <table border="1"> <tr> <td>Year</td><td>2022</td></tr> <tr> <td>Number</td><td> BS - SC-2, OBC-4 MS - SC-8, OBC-8 </td></tr> </table> Data Requirements: · Number of students admitted from the reserved category : 22 · Total number of seats earmarked for reserved category as per GOI or State Government rule : 108	Year	2022	Number	BS - SC-2, OBC-4 MS - SC-8, OBC-8
Year	2022				
Number	BS - SC-2, OBC-4 MS - SC-8, OBC-8				

Key Indicator – 2.2 Catering to Student Diversity

Metric No.	
2.1.1	The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners
Q _n M	Since, IACS believes in providing an education which truly imparts knowledge to an individual and is not just limited to grades, special tutorial sessions are held for the under performing students. Our Faculty Members interact with them on a regular basis and try to find out the areas of study which need emphasis for performance enhancement and if required individual doubt clearing sessions are held for them. In this way an effort is made to balance between fast learners and slow learners.

2.1.2	Student – Full time teacher ratio during the year						
Q _n M	<table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number of Students</td><td>JRF + SRF = 425, MS -125 & BS-MS = 122. Total-672</td></tr> <tr> <td>Number of teachers</td><td>66</td></tr> </table> Data Requirements: · Total number of students enrolled in the institution : 672 · Total number of full time teachers in the institution : 66 · Upload relevant supporting document	Year	2022-2023	Number of Students	JRF + SRF = 425, MS -125 & BS-MS = 122. Total-672	Number of teachers	66
Year	2022-2023						
Number of Students	JRF + SRF = 425, MS -125 & BS-MS = 122. Total-672						
Number of teachers	66						

Key Indicator – 2.3 Teaching – Learning Process

Metric No.	
2.3.1	Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences
Q _i M	IACS is involved in organizing many lectures, department-level conferences/seminars, and interactive sessions by renowned Scientists from reputed Institutions worldwide for the students so that they are exposed to new research fields, scientific technology etc.. These practices enhance the Teaching and Learning activities that prove beneficial to both teachers and students. Many students undergo internship programs, summer projects across the Country as well as Foreign University, as a part of their curriculum, which facilitates

	experiential and participative learning while working in society or industry. Internship programs enable students to solve real-time problems.
2.3.2 QIM	Teachers use ICT enabled tools including online resources for effective teaching and learning processes during the year To enhance the ICT (Information and Communication Technology) tools and technology, the Institute uses 18 Online Classroom setup in Zoom platform to enable even students from remote areas to join online classes as Zoom consumes lesser network bandwidth. There are 2 CRAY Supercomputers, several number of High Performance Computing clusters having number of nodes ranging from 50 to 500 including GPU nodes are used for scientific computing purposes. The IACS library, has grown out of the research needs of the Association from its very beginning (1876). So it is the oldest library of its kind and occupies a unique position among the academia of the Eastern India. A measure of its social impact may be gained by noting that it caters to the needs of more than 3000 external users, while the staff and scholars of the Association would total to nearly 350. Yearly budget for the Library is more than five Crore. An air-conditioned new building house the library with all amenities to the users. The library has a special responsibility to keep its clientele up-to-date and intellectually stimulated by providing pertinent literature, not only in areas of immediate concern, but also in areas of emerging and developing importance within the scope of the library; and by contributing to the preservation; transmission, and accessibility of new knowledge. It extends one of the most liberal usage facilities in the region -- all potential users have direct access to the shelves of the books and journals and offers extensive reprographic services to users from all over India. Keeping in view, the basic services are : i) Reading facilities for all members and non-members on permission ii) Borrowing facility (for staff and our students) iii) Bibliographic and reference services iv) Reprographic or document supply service to all including outstation users v) Resource sharing programme between Saha Institute of Nuclear Physics and our Association v) Documents supply via Email

	vi) Internet facility for the library members. vii) Online database search service. For more details, click here http://iacs.res.in/maincontroller.php?navid=15&subnavid=180				
2.3.3 Q_nM	Ratio of student to mentor for academic and other related issues during the year 2.3.3.1: Number of mentors: Number of students assigned to each mentor: <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number of mentors</td><td>66</td></tr> </table> Formula: Mentor:Mentee 1:10 Data Requirement: · Number of mentors :66 · Number of students assigned to each mentor: 10	Year	2022-2023	Number of mentors	66
Year	2022-2023				
Number of mentors	66				

Key Indicator – 2.4 Teacher Profile and Quality

Metri c No.					
2.4.1	Total Number of full time teachers against sanctioned posts during the year Q_nM <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>66</td></tr> </table> Data Requirements: · Number of full time teachers : 66 · Number of sanctioned posts :100	Year	2022-2023	Number	66
Year	2022-2023				
Number	66				
2.4.2	Total Number of full time teachers with Ph.D./D.M/M.Ch./D.N.B Super speciality/D.Sc./D’Lit. during the year Q_nM <table border="1"> <tr> <td>Year</td><td>2022-23</td></tr> <tr> <td>Number</td><td>66</td></tr> </table> Data Requirements: · Number of full time teachers with Ph.D./D.M/M.Ch./D.N.B Super speciality/D.Sc./D’Lit. :66 · Total number of full time teachers	Year	2022-23	Number	66
Year	2022-23				
Number	66				

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 Q_nM Data Requirements: (As per Data Template) Name and Number of full-time teachers with years of teaching experiences https://www.iacs.res.in/modules/texteditor/imagesfiles/2_4_3.pdf				
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 Q_nM <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>28</td></tr> </table> Data Requirements: - Number of full time teachers receiving awards from State, National, International level : 28 - Number of full time teachers : 66 https://www.iacs.res.in/modules/texteditor/imagesfiles/2_4_4,%203_3_3.pdf	Year	2022-2023	Number	28
Year	2022-2023				
Number	28				

Key Indicator – 2.5 Evaluation Process and Reforms

Metric No.					
2.5.1	Number of days from the date of last semester-end/ year- end examination till the declaration of results during the year				
Q _n M	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: <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>20 days</td></tr> </table> Data Requirements: - Semester wise/ year wise : 2023 Spring Semester - Last date of the last semester-end/ year- end examination Autumn 2022: February 06, 2023 Spring 2023 : June 19, 2023 - Date of declaration of results of semester-end/ year- end examination : 6th July, 2023 for 2022 UG Batch and for 2018, 2019, 2020, 2021 UG Batch, 2021-MS, 2022-MS-22nd June, 2023.	Year	2022-2023	Number	20 days
Year	2022-2023				
Number	20 days				

2.5.2	Total number of student complaints/grievances about evaluation against total number appeared in the examinations during the year Q_nM <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>NIL</td></tr> </table> Data Requirements: · Number of complaints/grievances about evaluation : NIL · Total number of students appeared in the examinations : NIL	Year	2022-2023	Number	NIL
Year	2022-2023				
Number	NIL				
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 Q_nM Write description in maximum of 200 words IACS uses the University Management System (UMS) portal as a part of IT integration. At the time of undergraduate and postgraduate programme admission, Student details are entered in Oracle-ERP system and then student data is imported in UMS. Now generation of Registration and Roll numbers of the admitted students, marks entry, issuing grade cards and transcripts etc. all are done through this portal. Moreover, after student enrollment in UMS, hostel fees, medical fees, registration fees, transcript fees, migration fees and other academic fees are paid using this portal. IACS conducts fully computer based all India tests namely UPST (UG Pre-Interview Screening Test) and MPST (Master's Pre-Interview Screening Test) for admission to its BS-MS and Master's/Integrated Master's - PhD programme in Science which has brought about a massive change in examination and admission management systems.				

2.5.4	Status of automation of Examination division along with approved Examination Manual
Q _n M	A. 100% automation of entire division & implementation of Examination Management System (EMS) B. Only student registration, Hall ticket issue & Result Processing C. Only student registration and result processing D. Only result processing E. Only manual methodology https://www.iacs.res.in/modules/texteditor/imagesfiles/2_5_4.pdf

Key Indicator – 2.6 Student Performance and Learning Outcomes

Metric No.	
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
QIM	Learning outcomes of each course is widely covered in the course book. The website has a detailed overview on the programmes offered by the six schools and the corresponding research scope offered.
2.6.2	Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution during the year
QIM	Describe the method of measuring the level of attainment of POs, PSOs and COs in not more than 200 words. The vision, mission and learning outcomes of the institute are widely publicized through the website. Feedback from the students is collected at regular interval of time, thoroughly screened by faculty members and initiatives are taken for further modification and improvement

2.6.3	Number of student passed during the year : 80
	2.6.3.1: Total number of final year students who passed the university examination : 80
Q _n M	2.6.3.2: Total number of final year students who appeared for the examination : 80
	Data Requirement:
	• Programme Code • Name of the Programme : BS-MS, MS/MS-PhD • Number of students appeared : 80 • Number of students passed : 80 • Pass percentage : 100%

Key Indicator – 2.7 Student Satisfaction Survey

Metric No.	
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)
Q _n M	A student feedback form is circulated among the students after completion of a semester and also on completion of a course to receive an overall feedback with respect to the institute in general, faculty, curriculum, amenities etc. and initiatives are taken accordingly.

Criterion III – Research, Innovations and Extension

Key Indicator – 3.1 Promotion of Research and Facilities

Metric No.					
3.1.1 Q₁M	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 With regards to Institution Research facilities, IACS have several number of High Performance Computing clusters having number of nodes ranging from 50 to 500 including GPU nodes are used for scientific computing purposes. Moreover IACS have several number of sophisticated instruments like MALDI Mass Spectrometer, FT-NMR, Laser Raman Spectrometer, DLS, UHR-FEGTEM, CRYO-TEM etc. which are used for experimental research purpose. List of all Central Scientific Service instruments can be found in the link http://iacs.res.in/modules/texteditor/imagesfiles/List%20of%20CSS%20equipment%20at%20IACS.pdf				
3.1.2 Q_nM	The institution provides seed money to its teachers for research (amount INR in Lakhs) <table border="1" data-bbox="300 1281 738 1480"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>(INR in Lakhs):</td><td>39,15,450.00</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_1_2.pdf	Year	2022-2023	(INR in Lakhs):	39,15,450.00
Year	2022-2023				
(INR in Lakhs):	39,15,450.00				

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

Q_nM

Year	2022-2023
Number of teachers	11

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_1_3.pdf

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

Q_nM

Year	2022-2023
Number	Autumn 2022 - 60, Spring 2023 - 24

Data Requirement:

- Duration of fellowship : **5 years**

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_1_4_1.pdf

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_1_4_2.pdf

3.1.5 Institution has the following facilities to support research

Q_nM

- **Central Instrumentation Centre**
- **Animal House/Green House**
- **Museum :2018**
- **Media laboratory/Studios**
- Business Lab
- **Research/Statistical Databases**
- **Moot court**
- **Theatre**
- Art Gallery
- Any other facility to support research-Patent Cell

Options:

- A. Any 4 or more of the above**
- B. Any 3 of the above
- C. Any 2 of the above
- D. Any 1 of the above
- E. None of the above

3.1.6

Q_nM

Number of departments with UGC-SAP (The programme is intended to encourage the pursuit of excellence and teamwork in advanced teaching and research to accelerate the realization of international standards in specific fields), CAS (Career Advancement Scheme)

IACS has a flexible faculty promotion scheme which is governed by its existing Bye Laws for career advancement. IACS has 280 ongoing projects with the Department of Science & Technology (DST), Department of Biotechnology (DBT) and Department of Atomic Energy (DAE) which contributes significantly to research advancement.

Year	2022-2023
Number	280

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_1_6,%203_7_1.pdf

Key Indicator – 3.2 Resource Mobilization for Research

Metric No.					
3.2.1 Q ₁ M	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) <table><tr><td>Year</td><td>2022-2023</td></tr><tr><td>Number</td><td>109</td></tr></table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_2_1.pdf	Year	2022-2023	Number	109
Year	2022-2023				
Number	109				

3.2.2

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

Q_nM

Year	2022-2023
Number	30

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_2_2.pdf

3.2.3 Q_nM	Number of research projects funded by the government and non-government agencies during the year <table border="1" data-bbox="321 323 623 520"> <tr> <td data-bbox="321 323 456 415">Year</td><td data-bbox="456 323 623 415">2022-2023</td></tr> <tr> <td data-bbox="321 415 456 520">Number</td><td data-bbox="456 415 623 520">9</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_2_3.pdf	Year	2022-2023	Number	9
Year	2022-2023				
Number	9				

Key Indicator – 3.3 Innovation Ecosystem

Metric No.	
3.3.1 Q₁M	Institution has created an eco-system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge Students are given the liberty to conduct innovative experiments in the laboratories under the guidance of the faculty members. Young students from the adjoining schools especially the female and underprivileged are given tours of the laboratories to effect knowledge transfer.

3.3.2	Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development during the year				
Q_nM	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 <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>25</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_3_2.pdf	Year	2022-2023	Number	25
Year	2022-2023				
Number	25				

3.3.3

Q_nM

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 the institution/teachers/research scholars/students year wise during the year

Year	2022-2023
Number	28

https://www.iacs.res.in/modules/texteditor/imagesfiles/2_4_4,%203_3_3.pdf

Key Indicators – 3.4 Research Publications and Awards

Metric No.	
3.4.1 Q_nM	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: · Inclusion of research ethics in the research methodology code work · Presence of institutional Ethics committees (Animal, chemical, bio-ethics etc) · Plagiarism check · Research Advisory Committee Options : A. All of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above · Upload relevant supporting document (Data template is not applicable to this metric)

3.4.2 Q_nM	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 Options : · All of the above · Any 3 of the above · Any 2 of the above · Any 1 of the above · None of the above
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3.4.3

Number of Patents published/awarded during the year

3.4.3.1: Total number of Patents published/awarded during the year

Q_nM

Year	2022-2023
Number	3

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_4_3.pdf

3.4.4**Number of Ph.Ds awarded during the year****Q_nM**

3.4.4.1 : How many Ph.Ds are awarded during the year

Year	2022-2023
Number	37

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_4_4.pdf

3.4.4.2 Number of teachers recognized as guides during the year

Year	2022-2023
Number	66

3.4.5

Number of research papers in the Journals notified on UGC website during the year

Q_nM

Year	2022-2023
Number	50

https://www.iacs.res.in/modules/texteditor/imagesfiles/3_4_5,%203_4_8.pdf

3.4.6 Q_nM	Number of books and chapters in edited volumes published 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 <table border="1" data-bbox="321 390 722 653"> <tr> <td data-bbox="321 390 457 489">Year</td><td data-bbox="457 390 722 489">2022-2023</td></tr> <tr> <td data-bbox="321 489 457 653">Number</td><td data-bbox="457 489 722 653"> 10 books 380 publications </td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_4_6_1.pdf https://www.iacs.res.in/modules/texteditor/imagesfiles/3_4_6_2.pdf	Year	2022-2023	Number	10 books 380 publications
Year	2022-2023				
Number	10 books 380 publications				

3.4.7 Q_nM	E-content is developed by teachers: Digital archive 1. For e-PG-Pathshala 2. For CEC (Under Graduate) 3. For SWAYAM 4. For other MOOCs platform 5. Any other Government Initiatives 6. For Institutional LMS Options : · Any 5 or all of the above · Any 4 of the above · Any 3 of the above · Any 2 of the above · None of the above
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3.4.8 Q_nM	Bibliometrics of the publications during the year based on average Citation Index in Scopus/Web of Science/PubMed Data requirements for during the year: 50 https://www.iacs.res.in/modules/texteditor/imagesfiles/3_4_5,%203_4_8.pdf
3.4.9 Q_nM	Bibliometrics of the publications during the year based on Scopus/Web of Science – h – Index of the University Same as 3.4.8

Key Indicators – 3.5 Consultancy

Metric No.					
3.5.1 Q₁M	Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy				
3.5.2 Q_nM	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) <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>8,83,500.00</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_5_2.pdf	Year	2022-2023	Number	8,83,500.00
Year	2022-2023				
Number	8,83,500.00				

Key Indicators – 3.6 Extension Activities

Metric No.	
3.6.1 Q₁M	Extension activities in the neighbourhood community in terms of impact and sensitizing students to social issues and holistic development during the year Describe the impact of extension activities in sensitizing students to social issues and holistic development within a maximum of 200 words <u>Ek Tareekh Ek Ghanta – Swachhata ke liye Shramdaan</u> As a part of the Swachhata Hi Seva (SHS – 2023) Campaign under the directives of the Govt. of India, IACS observed “Ek Tareekh Ek Ghanta - Swachhata ke liye Shramdaan” programme on 1st October, 2023, 10:00 a.m. onwards with a special drive to clean the Hostel premises. The initiative received a huge response from the students residing in the five hostels of IACS and others present on the campus who actively participated with enthusiasm and made it a huge success. The event was telecast live on the social media handles of IACS and uploaded on the website of the Govt. of India - https://swachhatahiseva.com Please refer to the link below for photographs from the event https://www.iacs.res.in/maincontroller.php?navid=24&subnavid=110&resubnavid=430

3.6.2 Q_nM	Number of awards received by the Institution, its teachers and students from Government/Government recognized 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 recognized bodies during the year <table border="1"> <tr> <td data-bbox="310 457 449 554">Year</td><td data-bbox="449 457 623 554">2022-2023</td></tr> <tr> <td data-bbox="310 554 449 653">Number</td><td data-bbox="449 554 623 653">NIL</td></tr> </table>	Year	2022-2023	Number	NIL
Year	2022-2023				
Number	NIL				

3.6.3 Q_nM	Number of extension and outreach programs conducted by the institution including those through NSS/NCC/Government and Government recognised bodies during the year <table border="1" data-bbox="310 357 615 556"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>2</td></tr> </table> Data Requirement: Name and number of the extension and outreach Programmes 1. Pre-IISF(India International Science Festival) 2022 held on 16th January, 2023. 2. National Science Day held on 28th February, 2023. Name of the collaborating agency: Non-government, industry, community with contact details. Pre-IISF was conducted in accordance with the directives of the Ministry of Science & Technology and Ministry of Earth Science, Govt. of India. National Science Day was conducted in accordance with the directives of the Ministry of Science & Technology and Ministry of Earth Science, Govt. of India with collaboration from eminent faculty members of IACS, Bose Institute and IISER, Kolkata. https://www.iacs.res.in/maincontroller.php?navid=24&subnavid=110&resubnavid=378 https://www.iacs.res.in/maincontroller.php?navid=24&subnavid=110&resubnavid=367	Year	2022-2023	Number	2
Year	2022-2023				
Number	2				

3.6.4 Q_nM	Total number of students participating in extension activities listed at 3.6.3 above during the year <table border="1" data-bbox="311 323 615 522"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>249</td></tr> </table> Data Requirement: · Name of the activity 1. Pre-IISF (India International Science Festival) 2022 held on 16th January, 2023. 2. National Science Day held on 28th February, 2023. · Name of the scheme · Year of the activity : 2023 · Number of students participating in such activities : 126 and 123 respectively	Year	2022-2023	Number	249
Year	2022-2023				
Number	249				

Key Indicator – 3.7 Collaboration

Metric No.					
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				
Q _n M	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 <table><tr><td>Year</td><td>2022-2023</td></tr><tr><td>Number</td><td>838</td></tr></table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_1_6,%203_7_1.pdf	Year	2022-2023	Number	838
Year	2022-2023				
Number	838				

3.7.2 Q_nM	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 <table border="1" data-bbox="318 352 623 554"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>10</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/3_7_2.pdf	Year	2022-2023	Number	10
Year	2022-2023				
Number	10				

Criterion IV– Infrastructure and Learning Resources

Key Indicator – 4.1 Physical Facilities

Metric No.	
4.1.1 Q₁M	The institution has adequate facilities for teaching – learning. viz., classrooms, laboratories, computing equipment, etc. Describe the adequacy of facilities for teaching – learning as per the minimum specified requirement by statutory bodies within a maximum of 200 words IACS has well-equipped classrooms with modern teaching aids, teaching and research laboratories have instruments to cater to the needs of students and are at par with the international standards. Two dedicated units namely Central Scientific Service (CSS) and Centre for Computer Research, Education and Services (CCRES) provide support for study and research based work. 2 no. of CRAY Supercomputers, several number of High Performance Computing clusters having number of nodes ranging from 20 to 100 including GPU nodes are used for scientific computing purposes

4.1.2 Q₁M	The institution has adequate facilities for cultural activities, yoga, games (indoor, outdoor) and sports. (gymnasium, yoga centre, auditorium, etc.) Describe the adequacy facilities for cultural activities, yoga, games (indoor, outdoor) and sports which include specification about area/size, year of establishment and user rate within minimum of 200 characters and maximum of 200 words The aim of IACS has always been to focus on the holistic growth of an individual. As much as it is an endeavour to invoke scientific quest in a student, it is also important to look after the social, emotional, physical, mental, and intellectual growth of the students. IACS has a playground, an Open Air Theatre, several recreational zones, a well-equipped gymnasium to cater to all of the above. Various sports and cultural activities are held throughout the year for recreational purposes. In the year 2023, an inhouse cricket, football and badminton tournament was held.
4.1.3 Q₁M	Availability of general campus facilities and overall ambience Describe the general campus facilities and its utilization in maximum of 200 words IACS has a lush green campus sprawling across an area of 9.22 acres with a magnificent lake named after its founder Dr. Mahendra Lal Sircar. It is located in Jadavpur which is the education hub of West Bengal. The campus houses the oldest Main Building, the Centenary Building, the Solar Energy Research Unit, the Academic (Lakeview) Building, Classrooms, Research and Administration Facilitation Tower (CRAFT), the Workshop and two Canteens. Additionally, there are five hostels (three for boys, two for girls), a gymnasium, a playground and an Open air Theatre. The entire campus is under CCTV surveillance and a dedicated security team ensures a secured environment round the clock. Separate parking areas and sheds are there for cars and bicycles. The entire campus is a plastic free zone and cleanliness and waste disposal is an essential daily activity. The campus up-keeping team ensures the cleanliness and beautification of the campus.

4.1.4	Total expenditure excluding salary for infrastructure augmentation during the year (INR in Lakhs)				
Q _n M	<table><tr><td>Year</td><td>2022-2023</td></tr><tr><td>Number</td><td>312,100,000.00</td></tr></table>	Year	2022-2023	Number	312,100,000.00
Year	2022-2023				
Number	312,100,000.00				
	Data Requirement: · Budget allocated for infrastructure augmentation Rs.3121 lakh · Total expenditure for infrastructure augmentation Rs.3121 lakh · Audited statement of accounts · Total expenditure including salary Rs.12828 lakh				
	File Description · Upload the data template · Upload relevant supporting document				

Key Indicator – 4.2 Library as a Learning Process

Metric No.	
4.2.1	Library is automated using Integrated Library Management System (ILMS) and has digitization facility Describe the implementation of the automation of the Library and the digitization facility available and used in maximum of 200 words The IACS library has grown out of the research needs of the Association from its very beginning (1876). So it is the oldest library of its kind and occupies a unique position among the academia of Eastern India. A measure of its social impact may be gained by noting that it caters to the needs of more than 3000

	external users, while the staff and scholars of the Association would total to nearly 350. The library has a special responsibility to keep its clientele up-to-date and intellectually stimulated by providing pertinent literature, not only in areas of immediate concern, but also in areas of emerging and developing importance within the scope of the library; and by contributing to the preservation; transmission, and accessibility of new knowledge. It extends one of the most liberal usage facilities in the region -- all potential users have direct access to the shelves of the books and journals and offers extensive reprographic services to users from all over India. Keeping in view, the basic services are : i) Reading facilities for all members and non-members on permission ii) Borrowing facility (for staff and our students) iii) Bibliographic and reference services iv) Reprographic or document supply service to all including outstation users v) Resource sharing programme between Saha Institute of Nuclear Physics and our Association v) Documents supply via Email vi) Internet facility for the library members. vii) Online database search service. IACS Library is fully automated under the Library Management System Software (LibSys).
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4.2.2	Institution has subscription for e-Library resources
Q _n M	Library has regular subscription for the following: 1. e-journals 2. e-books 3. e-Shodhsindhu 4. Shodhganga 5. Databases Options : A. Any 4 or all of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above

4.2.3 Q_nM	Annual expenditure for purchase of books/e-books and subscription to journals/e-journals during the year (INR in Lakhs) <table border="1" data-bbox="329 323 993 522"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>Approximately 20 books purchased</td></tr> </table> Data Requirement: · Expenditure on the purchase of books Rs.0.80 lakh* · Expenditure on the purchase of journals in ith year Rs.14.74 lakh * · Year of expenditure *Institutional subscription over and above NKRC subscription through DST Total expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the year Rs.3000 lakh	Year	2022-2023	Number	Approximately 20 books purchased
Year	2022-2023				
Number	Approximately 20 books purchased				
4.2.4 Q_nM	Number of usage of library by teachers and students per day (foot falls and login data for online access) <table border="1" data-bbox="329 1178 641 1377"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>70</td></tr> </table> Data requirements: · Per day login/online users of library : 33,748 in the year 2022-2023	Year	2022-2023	Number	70
Year	2022-2023				
Number	70				

Key Indicator – 4.3 IT Infrastructure

Metric No.					
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				
Q _n M	<table border="1"> <tr> <td>Year</td><td>2023-2024</td></tr> <tr> <td>Number</td><td>18</td></tr> </table> Data requirements : · Number of classrooms with LCD facilities 13 · Number of classrooms with Wi-Fi/LAN facilities 16 · Number of seminar halls with ICT facilities 4	Year	2023-2024	Number	18
Year	2023-2024				
Number	18				
4.3.2	Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility				
M	Providing the salient features of the IT Policy and describe the process of implementation and adherence to the policy, budgetary provisions made and utilized and the expansion plan in maximum 200 words https://www.iacs.res.in/modules/texteditor/imagesfiles/4_3_2.pdf				

4.3.3 Q_nM	Student – Computer ratio during the year – 1:1 Number of students: Number of Computers available to students for academic purposes- Data requirements : · Number of computers for academic purposes in working condition - 400 · Total number of students - 600 (Data template is not applicable to this metric)
4.3.4 Q_nM	Available bandwidth of internet connection in the Institution (Leased Line) Options: · ≥ 1 GBPS · 500 MBPS – 1 GBPS · 250 MBPS – 500 MBPS · 50 MBPS – 250 MBPS · <50 MBPS Data requirements : · Available internet bandwidth-100 MBPS (SHARED BANDWIDTH) https://www.iacs.res.in/modules/texteditor/imagesfiles/4_3_4.pdf

4.3.5	Institution has the following Facilities for e-content development
Q_nM	1. Media centre 2. Audio visual centre 3. Lecture Capturing System (LCS) 4. Mixing equipment's and softwares for editing Options : A. All of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above

Key Indicator – 4.4 Maintenance of Campus Infrastructure

Metric No.					
4.4.1	1. Total expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the year : Rs.3000 lakh				
Q _n M	<table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td></td></tr> </table> Data requirements : - Non salary expenditure incurred Rs.4022 lakh - Expenditure incurred on maintenance of campus infrastructure Rs.418 lakh	Year	2022-2023	Number	
Year	2022-2023				
Number					
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.				
M	Q₁ Describe policy details of systems and procedures for maintaining and utilizing physical, academic and support facilities within maximum of 200 words IACS Workshop with an amalgamation of the Civil, Engineering and Electrical departments ensure that all facilities run smoothly and there is no hindrance whatsoever. Regular inspections are carried out for any malfunctioning and action taken immediately. There are designated staff for booking, maintenance and utilization of the halls and auditoriums and their regular up-keep. A dedicated group of staff at the Centre for Computer Research, Education and Services (CCRES) is there for providing computing facility and support. The library has a special responsibility to keep its clientele up-to-date and intellectually stimulated by providing pertinent literature, not only in areas of immediate concern, but also in areas of emerging and developing importance within the scope of the library; and by contributing to the preservation; transmission, and accessibility of new knowledge. IACS boasts of state-of-the-art laboratories equipped with world class instruments and highly skilled operational staff. A gymnasium with modern equipments and support staff within the campus caters to the health requirements of the students and staff.				

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Criterion V– Student Support and Progression

Key Indicator – 5.1 Student Support

Metric No.					
5.1.1 Q _n M	Total number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the year (other than the students receiving scholarships under the government schemes for reserved categories). <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>543</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/5_1_1.pdf https://www.iacs.res.in/modules/texteditor/imagesfiles/5_1_1_2.pdf	Year	2022-2023	Number	543
Year	2022-2023				
Number	543				

5.1.2 Q_nM	Total number of students benefited by career counselling and guidance for competitive examinations offered by the Institution during the year <table border="1" data-bbox="321 323 634 522"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>50%</td></tr> </table> Data requirement : · Number of students who have passed in the competitive exam : GATE qualified - 10 https://www.iacs.res.in/modules/texteditor/imagesfiles/5_1_2.pdf	Year	2022-2023	Number	50%
Year	2022-2023				
Number	50%				
5.1.3 Q_nM	Following Capacity development and skills enhancement initiatives are taken by the institution 1.Soft skills 2. Language and communication skills 3. Life skills (Yoga, physical fitness, health and hygiene) 4. Awareness of trends in technology Options : A. All of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above				

5.1.4	The Institution adopts the following for redressal of student grievances including sexual harassment and ragging cases
Q _n M	· 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 Options: · All of the above · Any 3 of the above · Any 2 of the above · Any 1 of the above · None of the above For complaints students may write to studentgrievance@iacs.res.in Link to various students committees : http://www.iacs.res.in/maincontroller.php?navid=25&subnavid=192

Key Indicator- 5.2 Student Progression

Metric No.	
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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)

Q_nM

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

Year	2022-2023
Number	39

Data Requirement:

Number of students who cleared

- IIT-JAM
- NET
- SET
- JRF : **3**
- GATE : **10**
- GMAT
- CAT
- GRE
- TOEFL
- Civil Services
- State Government examinations

https://www.iacs.res.in/modules/texteditor/imagesfiles/5_2_1.pdf

	Upload relevant supporting document				
5.2.2 Q _n M	Total number of outgoing students placed during the year <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>28</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/5_1_2.pdf	Year	2022-2023	Number	28
Year	2022-2023				
Number	28				

Key Indicator- 5.3 Student Participation and Activities

Metric No.					
5.3.1 Q _n M	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 IACS and IISER Kolkata had participated in a friendly football tournament. <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>NIL</td></tr> </table>	Year	2022-2023	Number	NIL
Year	2022-2023				
Number	NIL				
5.3.2	Presence of Student Council and its activities for institutional development and student welfare.				

Q _n M	Describe the Student Council and its activities for institutional development and student welfare within a maximum of 200 words Research Scholars' Association is a community of the research fellows of IACS since the last five decades, formally, and an inseparable part of the research fellow community. The best students from the leading and reputed institutions of West Bengal and other parts of India come to this institute for pursuing their doctoral studies. It's a strong platform by the fellows, of the fellows and for the fellows. Being the very first and one of the brightest scientific research institutes of India, IACS has produced an innumerable number of scientists, teachers, professionals, entrepreneurs, who are currently placed in prestigious and highly responsible places around the globe. The Research Scholars' Association in its effort to bring together the entire family of past and present members has focused on this issue				
5.3.3 Q _n M	Number of sports and cultural events/competitions organized by the institution during the year <table border="1" data-bbox="321 1087 631 1285"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>3</td></tr> </table> · Name of the event/competition : Cricket, Football and Badminton Tournament	Year	2022-2023	Number	3
Year	2022-2023				
Number	3				

Key Indicator- 5.4 Alumni Engagement

Metric No.	
5.4.1 Q ₁ M	The Alumni Association/Chapter (registered and functional) contributes significantly to the development of the institution through financial and other support services during the year IACS has an alumni strength of approximately 1000 and is in the process of strengthening its Alumni Association. Alumni day has been celebrated and members of the alumni are always available for their valuable suggestions and support.
5.4.2 Q _n M	Alumni contribution during the year (INR in lakhs) : NIL Options: A. ≥ 100 Lakhs B. 50 Lakhs – 100 Lakhs C. 20 Lakhs – 50 Lakhs D. 5 Lakhs – 20 Lakhs E. < 5 Lakhs

Criterion VI- Governance, Leadership and Management

Key Indicator- 6.1 Institutional Vision and Leadership

Metric No.	
6.1.1	The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance

Q ₁ M	President of the Association is the titular head of the Society as well as the research institute. The executive head is the Director of the Association who is an eminent scientist of the country. He is assisted by the Departmental Heads of the Scientific Departments and Service Departments including Administration. The Administration is headed by the Registrar of the Association who assists the Director in his function. The Registrar who is overall incharge of all Administrative function including Finance & Accounts, is also assisted by the Deputy Registrar, Finance & Accounts Officer, Assistant Registrar etc. He provides support services to all the Academic staff. All members of the staff including the Registrar and Head of the Departments are under the administrative control of the Director. The Finance is provided by the Government of India and Government of West Bengal on a matching share basis, the substantial grant being provided by the Government of India. Statutorily, therefore the Association is an autonomous institution under the Department of Science & Technology, Government of India. The Accounts of the Association are audited by the Director of Audits, Scientific Department, Government of India.
6.1.2 Q _n M	The effective leadership is reflected in various institutional practices such as decentralization and participative management. The institute has a unique hierarchy for the smooth academic and administrative governance, please refer to the link for the organizational hierarch and other detail. https://www.iacs.res.in/maincontroller.php?navid=13&subnavid=22 https://www.iacs.res.in/maincontroller.php?navid=17&subnavid=50

Key Indicator- 6.2 Strategy Development and Deployment

Metric No.	
6.2.1 Q ₁ M	The institutional Strategic plan is effectively deployed. The Syamaprasad Mookerjee Advanced Research and Training (SMART) campus of IACS is under development which aims to be a centre of opportunities for multidisciplinary research. Faculty hiring is made keeping in mind the multidisciplinary and research based requirement of the institute.
6.2.2 Q _n M	The functioning of the institutional bodies is effective and efficient as visible from policies, administrative set up, appointment and service rules, procedures, etc. An effective administrative governance ensures efficient functioning of the institution with a clearly defined set of policies. Various committees have been set-up to monitor rules and procedures. https://www.iacs.res.in/maincontroller.php?navid=17&subnavid=51

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 Options: · All of the above · Any 3 of the above · Any 2 of the above · Any 1 of the above · None of the above
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	- Areas of e-governance Administration Finance and Accounts Student Admission and Support Examination - Name of the Vendor with contact details - Year of implementation
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Key Indicator- 6.3 Faculty Empowerment Strategies

Metric No.	
6.3.1	The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff
Q ₁ M	Performance grants and out of turn promotions are provided to the faculty members having excellent performance record in terms of research and training. Grants are provided for research activities as well. The institute has an effective performance evaluation system for its non-faculty members by means of an Annual Performance Appraisal Report where performance of an individual is assessed first by self, then graded by the reporting authority and finally reviewed by the institutional head.

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				
Q _n M	<table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>4</td></tr> </table> https://www.iacs.res.in/modules/texteditor/imagesfiles/6_3_2.pdf	Year	2022-2023	Number	4
Year	2022-2023				
Number	4				
6.3.3	Number of professional development/administrative training Programmes organized by the institution for teaching and non-teaching staff during the year				
Q _n M	<table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>3</td></tr> </table> Training on GeM	Year	2022-2023	Number	3
Year	2022-2023				
Number	3				

6.3.4	Total number of teachers undergoing online/face-to-face Faculty Development programme (FDP) during the year				
Q _n M	All faculty members attend conference which helps them in professional development. <table border="1"> <tr> <td>Year</td><td>2022-2023</td></tr> <tr> <td>Number</td><td>36</td></tr> </table> https://www.iacs.res.in/maincontroller.php?navid=16&subnavid=206&resubnavid=480	Year	2022-2023	Number	36
Year	2022-2023				
Number	36				

Key Indicator- 6.4 Financial Management and Resource Mobilization

Metric No.	
6.4.1	Institutional strategies for mobilization of funds and the optimal utilization of resources.
Q ₁ M	IACS is primarily funded by the Department of Science and Technology, Ministry of Science and Technology, Government of India which aids in infrastructural development and in the recent years has been utilized for developing the SMART campus. Various funds received from the government and non-government agencies contribute to strengthening research activities. Institute auditoriums, conference rooms and guest houses are rented out to public and private organizations and selective individuals for the purpose of revenue generation.

6.4.2	1. 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) : Rs.3121 lakh			
Q _n M	<table><tr><td>Year</td><td>2022-2023</td></tr></table>	Year	2022-2023	
Year	2022-2023			
	Funds/Grants received : Rs.15550 lakh			

6.4.3Q_nM

Funds/ guests 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)

Year	2022-2023
Number	

Data Requirement:

Name of the non-government funding agencies/individuals

Specific Molecular Interaction Driven..... Naphthalene-Diimide (NDI) Wacker-IACS project

CO₂ and biomass as feedstock for the production of fuels and chemical intermediates (CO₂BioFeed)

DEVELOPMENT OF GREEN BIO-CONJUGATION CHEMISTRY TO SYNTHESIZE BIOPOLYMER BASED MATERIALS

TSL - 2/ Development of anion complex (synthetic receptors) for removal of chloride and cyanide from steel wastewater

OH RADICAL TREATMENT FOR REMOVAL OF THE COLORANTS IN THE COKE PLANTEFFLUENT-WATER

MODIFICATION OF CAGE COMPLEX RECEPTOR FOR CYANIDE REMOVAL

TSL - Characterization of color compound and development of surface acting reagent of BOT water

Funds/Grants received : **Rs.42.59 lakh**

6.4.4	Institution conducts internal and external financial audits regularly
Q ₁ M	Enumerate the various internal and external financial audits carried out during the year with the mechanism for settling audit objections within a maximum of 200 words The institute has a full time Internal Audit Officer to observe whether all the departments are functioning in compliance with the existing general financial and establishment rules. Internal note sheets prepared for purchase or procedural matters are sent to the Internal Audit Officer for thorough scrutinization and adherence to rules is ensured. Audit of the Institute Accounts and external audit by the Comptroller and Auditor General of India has been done and reports sent to the concerned Ministry. Transparency Audit by an external agency for the RTI disclosure of the institute has also been done and report submitted to the Central Information Commission.

Key Indicator- 6.5 Internal Quality Assurance System

Metric No.	
6.5.1 Q ₁ M	Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and process by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals Describe two practices institutionalized as a result of IQAC initiatives within a maximum of 200 words The teaching-learning process of IACS is under the continuous monitoring of the IQAC. Feedback forms are collected from students on a regular basis and scrutinized by the experts to identify probable areas which need improvement. This measure not only helps in improving the teaching-learning process but also in evaluation of the teaching members.

6.5.2	Institution has adopted the following for Quality assurance 1. Academic, Administrative Audit (AAA) and follow up action taken 2. Conferences, Seminars, Workshops on quality conducted 3. Collaborative quality initiatives with other institution(s) 4. Orientation programme on quality issues for teachers and students 5. Participation in NIRF 6. Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA) Options: A. Any 5 or all of the above B. Any 4 of the above C. Any 3 of the above D. Any 2 of the above E. Any 1 of the above
Q _n M	

- **AQARs prepared/submitted**
- **Academic Administrative Audit (AAA) and follow up action**
- **Conferences, Seminars, Workshops on quality conducted**
- **Collaborative quality initiatives with other institution(s)**
- **Orientation programme on quality issues for teachers and students**
- **Participation in NIRF**
- **ISO Certification**
- **NBA or any other certification received**



Lecture
Seminars.docx

6.5.3 Incremental improvements made for the preceding during the year with regard to quality (in case of first cycle)

 Q_1M

Post accreditation quality initiatives (second and subsequent cycles)

Describe quality enhancement initiatives in the academic and administrative domains successfully implemented during the year within a maximum of 200 words each

Not applicable

Key Indicator- 7.1 Institutional Values and Social Responsibilities

Metri c No.	
	Gender Equity
7.1.1 Q ₁ M	Measures initiated by the Institution for the promotion of gender equity during the year Highlight the curricular and co- and extra- curricular activities promoting gender equity and sensitization and the facilities available for women on campus (within a maximum of 200 words). To eliminate any kind of gender inequality and ensure safety of women on campus, IACS has an Internal Complaints Committee with prominent members from the academic, legal and social domain and any kind of complaint is dealt with strictly. The participation of women whether staff or students in all institutional activities are strongly encouraged by the administration with them being given pivotal roles in all. Regular counseling sessions are held by our in-house Psychological Counsellor to enable women to overcome their inhibitions and fears and express themselves with freedom. Individual counseling sessions are also given. Please refer to the link below for more detail. https://www.iacs.res.in/maincontroller.php?navid=17&subnavid=79&resubnavid=72 · Annual gender sensitization action plan(s) · 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 Upload relevant supporting document
	Environmental Consciousness and Sustainability
7.1.2 Q_nM	The Institution has facilities for alternate sources of energy and energy conservation 1. Solar energy 2. Biogas plant 3. Wheeling to the Grid 4. Sensor-based energy conservation 5. Use of LED/power-efficient equipment Options: A. Any 4 or all of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above Upload relevant supporting document (Data template is not applicable to this metric)

7.1.3	Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within a maximum of 200 words) · Solid waste management · Liquid waste management · Biomedical waste management · E-waste management · Waste recycling system · Hazardous chemicals and radioactive waste management. The above wastes are managed effectively with the help of a number of agencies to ensure a green campus.
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7.1.4 Q_nM	Water conservation facilities available in the Institution: 1. Rainwater harvesting 2. Bore well/Open well recharge 3. Construction of tanks and bunds 4. Waste water recycling 5. Maintenance of water bodies and distribution system in the campus Options: A. Any 4 or all of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above Upload relevant supporting document (Data template is not applicable to this metric)
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7.1.5 Q_nM	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 Options: A. Any 4 or all of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above Upload relevant supporting document (Data template is not applicable to this metric)
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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**

Options:

A. Any 4 or all of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

E. None of the above

Upload relevant supporting document

(Data template is not applicable to this metric)

7.1.7 Q_nM	The Institution has a Divyangana-friendly and barrier-free environment 1. Ramps/lifts for easy access to classrooms and centres. 2. Divyangana-friendly washrooms 3. Signage including tactile path lights, display boards and signposts 4. Assistive technology and facilities for person with Divyangana access website, screen-reading software, mechanized equipment, etc. 5. Provision for enquiry and information: Human assistance, reader, scribe, soft copies of reading materials, screen reading etc. Options: A. Any 4 or all of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above Upload relevant supporting document (Data template is not applicable to this metric)
	Inclusion and Situatedness
7.1.8 Q₁M	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) IACS shows zero tolerance towards discrimination on the basis of socio-economic, cultural and religious background and gender. Merit is only what is considered and the administration ensures that the students spend the few years of their life in the campus in absolute harmony to shape them as up as better individuals.

	Human values and Professional Ethics
7.1.9	Sensitization of students and employees of the Institution to constitutional obligations: values, rights, duties and responsibilities of citizens.
Q ₁ M	Describe the various activities of the institution for inculcating values for becoming responsible citizens as reflected in the Constitution of India (within a maximum of 200 words). Constitution day is observed by IACS on the 26th of November to sensitize students and employees of constitutional obligations: values, rights, duties and responsibilities of citizens. The observance starts with the reading of the Preamble followed by a presentation on the Indian Constitution and Constitution Day by members of the Faculty. An open house quiz competition is organized in which all students and staff participate actively
7.1.10	The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic sensitization programmes in this regard.
Q _n M	1. The Code of Conduct is displayed on the website 2. There is a committee to monitor adherence to the Code of Conduct 3. Institution organizes professional ethics programmes for students, teachers, administrators and other staff 4. Annual awareness programmes on the Code of Conduct are organized Options: A. All of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above Upload relevant supporting document (Data template is not applicable to this metric)

7.1.11	Institution celebrates/ organizes national and international commemorative days, events and festivals
Q₁M	Describe the efforts of the institution in celebrating/organizing national and international commemorative days, events and festivals during the year (within a maximum of 200 words). IACS takes initiatives and encourages its staff and students to celebrate national and international commemorative days, events and festivals with enthusiasm. National Science Day is observed every year on the 28th of February to commemorate the discovery of the Raman Effect by Sir C.V. Raman. An outreach programme is held on this day with active participation of students from the eighth to the twelfth standard to ignite their minds with scientific quests. Notable alumni from distinguished centres of learning from India and abroad are invited to deliver popular lectures to the aspiring researchers of the future. Rashtriya Ekta Diwas or National Unity Day is celebrated on the 31st of October every year by IACS. On this day we not only remember Sardar Vallabhai Patel but we pledge ourselves towards unity and integrity following his footsteps. All the faculty, staff and students come together for a Unity March and solemnize their unity in fighting all odds and moving forward to strengthen the foundation of IACS.

Key Indicator- 7.2 Best Practices

Metric No.	
7.2.1	Describe one best practice successfully implemented by the Institution as per NAAC format provided in the Manual.
Q₁M	IACS believes that the socio-economic factors should not be an obstacle to education and has thus taken an initiative to reach out to the remote areas of the country to identify talented scientific minds by means of its outreach programme which in turn also contributes to fostering social responsibility in young minds. Provide the weblink on the Institutional website regarding the Best practices as per the prescribed format of NAAC.

Format for Presentation of Best Practices

(While submitting the Best Practices Institution should submit the practices in this format only)

1. Title of the Practice

Stimulating Scientific Quality Improvement Program in Young ST Human Resources for self-sustainable Empowerment – a program at IACS funded by Science for Equity, Empowerment & Development (SEED) Division, Department of Science & Technology, Government of India.

2. Objectives of the Practice

The aim of the program is to identify graduate students from the Scheduled Tribe (ST) community from the eastern and north eastern region to inspire them in science and research. The program will provide the requisite facilities to arouse research and scientific interests for the sustainable development of young manpower. The program is undertaken for the scientific capacity building in the young ST community for their sustainable future.

3. The Context

Accessibility to the remote regions of the North-East is a primary barrier for reaching out to the students.

4. The Practice

- Identification of meritorious under graduate (UG) science students (Female and Male) for short-term scientific laboratory training & interdisciplinary research training program.
- Visual demonstration & training of the leading scientific instruments & laboratory training.
- Organizing schools/workshops for the under graduate and graduate science students.
- Outreach program through laboratory demonstration in the remote areas.

5. Evidence of Success

The program has been successful and around 150 ST science under graduate students from different districts of West Bengal have been trained under the project. A data bank along with all the contact details has also been made.

6. Problems Encountered and Resources Required

IACS strongly encourages the participation of young women in all its programmes, however in many areas the participation of women has been quite discouraging. Women from our faculty and student fraternity have taken the forefront in speaking to the rural

families and making them aware of the importance of the education of the girl child so that they are able to participate in such programmes.

Please add any other information that may be relevant for adopting/implementing the Best Practice in other institutions (in about 30 words)

Any other information regarding Institutional Values and Best Practices which the institution would like to include.

Key Indicator- 7.3 Institutional Distinctiveness

Metric No.	
7.3.1	Highlight the performance of the institution in an area distinct to its priority and thrust (within a maximum of 200 words)
Q₁M	Having a glorious history of research excellence with India's first and only Nobel prize in Science won by Sir C V Raman on his pioneering work on Physical Optics done at IACS, it has been the vision of IACS to pursue basic science at the highest level to be globally competitive and to widen knowledge base through dissemination of knowledge and develop state-of-art technology. Through the years IACS has been on a continuous quest for advancing its research and teaching activities. With a unique blend of eminent academicians and young researchers IACS has been contributing effectively in shaping the future scientists of tomorrow. Having won numerous awards at the national and international levels and prestigious memberships all across the globes IACS has been staying true to its vision and mission Provide the weblink to: Institutional Distinctiveness on the Institutional website http://www.iacs.res.in/maincontroller.php?navid=13&subnavid=21

Plan of action for the next academic year :

Since its establishment in 1876, IACS has striven to cultivate science by fostering research activities and since its inception as a Deemed to be University has been in a constant endeavour to encourage academic pursuits. The Internal Quality Assurance Cell of IACS comprising of eminent members of the academia and the administrative heads have prepared a plan to cater to the increasing demands of scientific quest and take the necessary steps for implementing the recommendations made by the IQAC. IACS shall revisit the existing courses and include new academic and professional courses, subject to approval by the Board of Studies and ratification by the Academic Council. IACS shall consider earlier entry after completion of 4 years BS program according to NEP 2020 for the PhD program based on progress reports and UGC-ABC on case-to-case basis. Non CGPA courses for BS-MS, MS and PhD students on start-ups and Industrial Orientation may be introduced and Institute lectures and seminars may be organized. A placement cell will be created for catering to the needs of the graduating students.