

External Expert's Report (First Phase)

Name of the Department	Mathematics and computing
Name and address of the institution	IIT (ISM) Dhanbad
Dates of the visit	16-17 Nov/2022
Name, designation, and affiliation of programme Expert	Prof. Nitadri Chatterjee (IIT DELHI), Prof. Debalish Kundu (IIT KANPUR) Prof. Sudhir Ghoshpande (IIT BOMBAY), Prof. G.P. Raja Sekhar (IIT KHARAGPUR)

Score Sheet

- On each of the following parameters, a grading as per the given scale (1 = Poor, 2 = Average, 3 = Good, 4 = Very Good, 5 = Excellent).
- The Expert may choose any score in between 1 – 5.
- Attribute are indication for the areas of evaluation or assessment.
- Feedback (in terms of score) from the Experts will be shared with the Department without disclosing the identity of the Expert Member.

No.	Parameter	Attributers	Score Scale
1	Teaching programme	Regularity, methods, lecture plan, Syllabus, Teaching aids and Supplements, Reference materials, Pace of teaching, Mentoring/ Authoring, Numerical/ Analytical problems, Research (thesis/non-thesis) component, Scope for academic rehabilitation for weaker students, Pace of learning.	3
2	Academic curriculum	Breadth, Depth, Relevance to research/industry, how contemporary/modern, logical progression, whether overloaded or realistic, Number and variety of electives, innovative components, New/pioneering courses/ Flexibility in terms of minor/double major/dual degree, Popularity.	3
3	Laboratory/experiments, Assignment and exercise	Design and quality of experiments, Relevance, Theory and introduction lectures, Level of student participation (hands-on training) Grading, Standard of machines/equipment, Model experiments, Report writing/submission mechanism, Evaluation process, Attendance level	4
4	Learning methodology aids	Books, Reference, Library, Slides, Tutor, Question Paper, Tutorials, Type of assignments, Computer/net/video library/web-based aids, Archives for reference, Aid for slow paced learning, Scope for improving communication skills.	3

5	Grading/ system evaluation	Realistic or irrational, Paper checking/sharing, Awareness Grading process and transparency, Record keeping, Uniformity (year to year; teacher to teacher), Assignment quality and frequency, Tutor support, Student feedback system, Stress on attendance	3
6	Faculty quality	Academic credentials, Teaching experience, Research output, Age/competence profile, Articulation, Thesis and project supervision records, Peer recognition and awards, National/International stature, Vision and Philosophy, Office and laboratory space management, Reputation among students/scholars/colleagues	3
7	Research contribution	Quality, Quantity, Impact, Reputation (India/abroad), Uniqueness, Awareness, Standard of facility, Research plan/vision, Translational research, Creation of new company (start-up), industrial collaboration.	3
8	Sponsored Research	Quantum, Source and type of funding , Level of support provided to students and infrastructures, Uniqueness of facility created, Feedback from sponsors, Regularity and continuity, Creation of national facility, Dependence/reliance of sponsors	4
9	Industrial consultancy project/ EDP courses/ Outreach programmes	Quantum, source and type of funding, level of support provided to students and infrastructures, uniqueness of facility created, dependence and reliance of sponsors.	3
10	Collaboration Within or Outside IIT(ISM) Dhanbad	Number, type and quality of collaboration with academia/R&D/ Industry at national or international level, Project funding (joint), Organization of meeting/conference, Joint supervision of students/ projects/ thesis, Special (executive) courses for industry Level and Impact of output from collaboration.	3
11	International Component and connection	Number/type/frequency of international students, scholars, Visitors and projects, Collaboration, Exchange program, international events organized, MoU/MoA, Foreign visits of IIT(ISM) students' scholars, faculty members, Projects with foreign companies	2
12	Ambience/ Atmosphere in the department	Congeniality among faculty/staff members, scholars, students, visitors, Scope for individuals to flourish, Levels and effectiveness or collective initiatives, Publicity and information materials, Teacher-student relationship, Student-scholar relationship, Overall get up of the department.	4
13	Infrastructure (General)	Classroom, Seminar halls, Laboratories, Workshops, Faculty offices, Research Scholar offices/space, Safety and security aspects, Hostels, Amenity Centres, National level research facility, Library, Governance and general administration, Electronic/computer/ network support system	4

14	Student quality (UG/PG)	Academic background and progress, Level of motivation and interest in core subjects, Depth of understanding, Interests and hobbies, Discipline, Future ambition, Communication and comprehension skills, Degree of satisfaction about academic and extra-academic standards.	3
15	Student quality (PhD Scholar)	Level of understanding in core area, Exposure in core specialization, Quality and quantity of research output, Average time for PhD, Motivation and interest, Discipline, Articulation (Communication skill), Ambition, Awareness, National/International exposure, Leadership quality.	4
16	Employability of students and scholars	Companies, Statistics, Student or employer feedback, Salary/perks level, Pattern of employment or placement, Job distribution among UG/PG/PhD students, Relation between elective/training and employment, Relation between academic performance and employment.	4
17	Number, location, sector and professional success profile of alumni, Contribution	Number, location, sector and professional success profile of alumni, Contribution of alumni to his/her profession and society, Alumni-IIT(ISM) link/bond, Participation in or contribution to alma mater, Alumni feedback, Famous alumni and their profile.	4
18	Scientific or Engineering contribution to National/Society	Quality of academic (non-degree) programs, Short courses, Training, Refresher courses, Societal projects, Large/mega project (product/process), Contribution to strategic sectors (Nuclear/Defence/Space/Energy), Partnership with industry (private/public sector), Quality and reputation of alumni, Academic contributions and impact (publications, book, patents, products).	3
19	Overall Reputation and Standing (national)	General impression about this Department in the country (teaching, research, faculty, staff, students, alumni, research/academic output, peer recognition, technical expertise, infrastructure, Atmosphere and Vision	3
20	Overall Reputation and Standing (International)	General impression about this Department outside the country: Teaching, Research, Faculty, Staff, Students, Alumni, Research/Academic output, Peer recognition, Technical expertise Infrastructure, Atmosphere and Vision.	2
Overall feedback and suggestions		The cooperation and bonhomie among the faculty seems very good. The department offers several innovative academic programs and the placement record appears to be excellent. The department has a high quality faculty but potential to grow, but there would have to be a substantial growth in hiring high quality faculty members in such a way that there is a good balance of areas of faculty expertise. Some systematic changes in processes and protocols seem desirable to make them flexible and inclusive. More details will appear in our second phase report.	

Name and Signature of the Expert

A. Kumar

17/11/22

Sudhir Gupta

Amrit

Das