



Indian Institute of Technology Jodhpur

Department of Mathematics _____

Review Period: July 2015 to 31 July 2022

Evaluation Sheet for Internal Review of the department

Committee Members

1. Prof. Sudhir R. Ghorpade, IIT Bombay
2. Prof. Mohan C. Joshi, IIT Gandhinagar
3. Prof. R. K. Sharma, IIT Delhi

Committee may provide a single combined report.

Sudhir Ghorpade
M C Joshi
R K Sharma

Note:

1. In column 2, please provide description of the committee's assessment.
2. In column 3, Please choose one of the progress indicators from the below

Excellent

Very good

Good

Average

Below Average

Due to the nature of some specific questions, it may not require any progress indicator.

3. Please use additional pages if required.
4. Please sign on every page and submit to the Director IIT Jodhpur

Sr. No	Item	Evaluation
1.	<p>Opinion and suggestions about the curriculum of different academic programs (B.Tech/M.Sc/M.Tech) offered by the department and their relevance</p> <p>The Department offers the following programs:</p> <p>B.Tech. (AIDE), jointly with CSE Department M.Tech. (Data and Computational Science; 2 years) M.Sc. (Mathematics; 2 years) M.Sc.-M.Tech. (Maths – DCS; 4 years) M.Tech.-Ph.D. (DCS; 5 years) Ph.D.</p> <p>These programs seem to be running well and postgraduate students, with whom we interacted, were largely happy with the programs. The curriculum looks good and appears to be relevant to the academia and industry. Some minor adjustments such as additions of program electives, or adjusting the credit loads in some semester, seem desirable and these were communicated to the faculty members. At a macro level, the following changes may be considered by the Institute.</p> <ol style="list-style-type: none"> 1. Prescribed total credits for a program (say M.Sc.) appears to be a fixed number across the institute. It may be better if a range is prescribed, giving individual departments some flexibility. 2. In line with the National Education Policy, it may be a good idea to permit students to transfer seamlessly from one program to another subject to appropriate requirements in terms of CGPA. Thus qualified M.Sc. students may have a possibility to move into M.Tech. program or even the Ph.D. program after 2 years, and M.Tech. students can possibly move into the Ph.D. program after 2 years. 	Very Good
2.	<p>Comments about the teaching learning process adopted by the department. Your suggestions and advice for the same</p> <p>The methods adopted for teaching/learning are good. Involvement of students through interactive sessions/seminars could be further enhanced. Students may be encouraged to organize learning seminars among themselves, possibly with some guidance by the faculty members.</p>	Very Good

Sudhir Shrivastava
Mefoni
R.K. Sharma.

3.	<p>Provide your overall evaluation about outcome of the programmes and performance of the graduated students in the profession. Any suggestions will be welcome</p> <p>The table presented by the HoD during his presentation shows that the performance seems quite satisfactory. Perhaps more electives may be offered, especially at M.Sc. level, which may help students in placement. But this may also require hiring more faculty members in the Department.</p>	Very Good
4.	<p>Provide your assessment about the doctoral programmes (PhD & MTech-PhD) of the department. Please indicate your suggestions for improving the same.</p> <p>The Ph.D. program is doing well. The progress of the students should be monitored regularly by the DRC. We understand that it is now possible for Ph.D. students to get grants up to Rs. 1 lakh for participation in international conferences. This is a welcome development. In the case of mathematics students, this facility could also be extended to students to participate in international workshops and instructional schools without requiring them to present a paper or give an invited talk. Of course, all this subject to a quality check of the event that could be done by a departmental committee.</p>	Very Good
5.	<p>Your feedback about laboratory facilities including research infrastructure and facilities in the department</p> <p>The research infrastructure and facilities in the Department look good. Some students mentioned that they have limited access and limitation on storage of data on the central HPC and other facilities of the Institute. For this reason, some of them desired Departmental high performance computing facilities. The Institute may look into these concerns and attempt to address them adequately.</p>	Excellent
6.	<p>Provide committee's assessment of academic research of the department. In particular, provide your input about</p> <p>(i) Quality of the research activities pursued by the department,</p> <p>(ii) Number and quality of publications</p> <p>Your suggestions and advice will be of immense value</p> <p>(i) Quality of the research activities of the Department seems quite good. There could be greater efforts at collaborations within and across institutes. For this it may be a good idea to facilitate short term visiting positions by active researchers who can be potential collaborators. Also the Department may have a more active visitor program and colloquium activity.</p> <p>(ii) The number of publications seems quite impressive. Perhaps there could be a greater emphasis on quality over quantity.</p>	Very Good

Sudhir Ghoshale
Mefum

R.K. Sharma

7.	<p>Provide committee's assessment of different sponsored research and consultancies undertaken by the departmental faculty members.</p> <p>At present, there are a good number of projects with the faculty. New faculty should be encouraged to apply for externally funded projects, especially the Start-up Research Grant (SRG) and the Mathematical Research Impact Centric Support (MATRICS) schemes of SERB-DST. Involvement of students in research projects may also be encouraged.</p>	Good
6.	<p>Provide committee's assessment of industry interface and industry linked research activities by the department.</p> <p>It seems fairly good considering the nature of the discipline.</p>	Good
7.	<p>Provide committee's assessment about outreach, continuing education/executive education programmes of the department. Please indicate committee's suggestions for improving the same.</p> <p>Several faculty members seem quite active in outreach activities and the committee thinks that this is quite laudable. Furthermore, we would like to place on record our appreciation for the support offered by the Institute and the Director by way of taking care of accommodation for speakers and participants of the forthcoming Annual Foundational School of the National Centre of Mathematics. Activities such as these are especially useful for the Ph.D. students and can also be beneficial for the faculty involved.</p> <p>Outreach activities taken up by the department in inviting experts and hosting academic events is good. It needs to be augmented and involvement of Students should be encouraged.</p>	Very Good
8	<p>Please indicate committee's assessment about the departments linkage with the peer groups in the country and abroad. Please assess the extent of inter-disciplinary connect with other departments in the institute. Committees suggestions for improvement in these aspects will be of immense value</p> <p>Some faculty members are collaborating or are in the process of collaborating with researchers in India and abroad. There are joint publications of the IITJ faculty with Faculty/Researchers from elsewhere. This should be encouraged further by inviting potential researchers to IIT Jodhpur and facilitating visits of IITJ faculty to other Institutes/Research Organisations.</p> <p>As indicated earlier, the Department could have a more active visitor program. In addition, it would be a good idea if the Department can hire some post-doctoral fellows supported by the institute.</p>	Good

Sudhir Ghosh
Meghraj

R.K. Sharma

9.	<p>Provide committees assessment about faculty of the department:</p> <ol style="list-style-type: none"> Coverage of different areas of relevance for the department in the faculty Quality of the faculty of the department <p>Suggestions about the areas for future growth of faculty strength will be highly appreciated.</p> <ol style="list-style-type: none"> Several major areas of mathematics are represented in the Department, but the number of faculty in some of the core areas of Mathematics (e.g., Geometry, Topology, Algebra) seems low. The next round recruiting could try to balance this. The quality of faculty seems quite satisfactory. They may increase collaboration with faculty from other departments/institutes in common/complementary research areas. 	Good
9.	<p>Based on Vision, Mission and Goals identified by the department comment about the committee's overall assessment of the progress made so far.</p> <ol style="list-style-type: none"> Vision : Fine Mission : Should include striving for excellence in core areas of mathematics. Significant advances of a theoretical nature should also have prominence in addition to work of an applied nature that directly caters to the needs of the industry, The goals and aspirations may be revised, and could be more ambitious. 	Very Good
10.	<p>Overall assessment by the committee and suggestions</p> <p>The committee took a tour of the Institute as a whole and the department in particular, of the buildings, infrastructure and facilities. It found the service tunnel unique among all Campuses. It is a great idea realised. Committee also visited the Samsung AR/VR Lab in the Department building, and was impressed with the facilities there. The Committee members had an extensive interaction with many of the M.Sc., M.Tech. and Ph.D. Students of the Department of Mathematics. We listened to their views/opinions/observations as well as comments and suggestions on 11th October 2022. We offered a few suggestions to the students for a better utilization of the resources available within the Institute and elsewhere in the country, and impressed upon them the unique nature of the expectations of various programs. The students showed keen interest and desired to be a part of nation building as envisioned in NEP 2022.</p>	Very Good

Sudhir Ghoshde

Mefuji

R.K. Sharma

	<p>Some Ph.D. students were concerned about the conduct of B.Tech. tutorials and desired more variety in their tutorial assignments. While the committee appreciates their concerns, it emphasized the importance of B.Tech. teaching, and highlighted its significance, both for the faculty and the Ph.D. students. The committee suggests that the Institute may also consider utilizing UG TAs for B.Tech. tutorials on an experimental basis, as is being done in some IITs. A few Ph.D. students also remarked about the non-availability of e-access to some research journals (such as those published by Cambridge Univ. Press). The committee brought to their attention resources available on the Internet and the possibility of gaining e-access using consortiums or using inter-library loan. Some other concerns of M.Sc./M.Tech. students about availability of workspace or study areas within the department were felt to be genuine and this was later brought to the attention of the Department faculty and HoD who agreed to look into it.</p> <p>The Committee met the faculty of the department on 12th October 2022. The HoD gave a presentation of various activities of the department. Faculty and the committee members exchanged views on how to improve things further. Faculty was also apprised of the deliberations of the students with the committee on the previous day. Appropriate steps have been suggested and appreciated.</p>	
11.	<p>Any other aspect committee wish to note/highlight</p> <p>No.</p>	

Sudhir Ghoshde
Member

R.K. Sharma.