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INDIAN INSTITUE OF TECHNOLOGY, ROORKEE

DEPARTMENTAL REVIEW TEMPLATE

1. **Name of Department/Center : Earth Sciences**

2. **Reviewers :** **Prof. B. K. Rastogi,**
Director General,
Institute of Seismological Research,
Gandhinagar

3. **Date of Review:** **24th March 2014**

GRID FOR ASSESSMENT

NOTE:

i. Please grade in the box provided for the following parameters in the range of 1-10 with 10 being the highest.
ii. Leave 'blank' for 'No Comment'.
iii. Kindly give your opinion on the strength and weakness of the Department/ Center and your suggestions for future growth.

I. ACADEMICS

I.1	Undergraduate	Score
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	9
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical iii. Projects(minor/major)	8 needed more
3.	Evaluation Process i. Continuing Evaluation ii. Mid-term Evaluation iii. End-term Evaluation	10
4.	Academic Ambience	10

5.	Opportunity for Peer-Based Learning	8
6.	Opportunity for Further Learning(Breadth and Depth) i. Elective Courses Specialization Not full satisfaction due to lack of faculty ii. Minor with Major Discipline Does not exist iii. Honors Programme in Major Discipline Does not exist	8
7.	E-Assisted Learning Needs improvement in Geophysics i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching	9
8.	In –Curriculum Research/Exploration Opportunity to Students	9
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	10
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring of Students	8
12.	Faculty Advisor System for Students/Class of Students	8
13.	Self Study Courses for Student None credit available	
14.	Effective Teaching Mechanism for Enhanced Number of Students in Various Classes For field and practicals increase of students is not possible	
15.	Effectiveness of Assisted Learning: Tutorial System for B.Tech Students/ Seminars	8

I.2	**Graduate Programmes (Masters)**	**Score**
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	10
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical – can be increased iii. Seminar/Dissertation – Supervisor should be part of evaluation	8
3.	Evaluation Process i. Continuing Evaluation ii. Mid-Term Evaluation iii. End-Term Evaluation	10
4.	Academic Ambience	10
5.	Opportunity for Peer-Based Learning	9
6.	Opportunity for further Learning(Breadth and Depth) Elective Courses (Specialization Electives) conceptualization and application needs improvement	8
7.	E-Assisted Learning More Geophysics journals are needed i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching	8

8.	In –Curriculum Research/Exploration Opportunity to Students	8
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	10
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring/Supervising of Students	8
12.	Faculty Advisor System for Students/Class of Students	8
13.	Effectiveness of Assisted Learning: Home Assignments/Seminars/Presentations	8

I.3	**Doctoral (Ph.D) Programmes**	**Score**
1.	Pre-Ph.D Courses and Evaluation Process Courses should not be repeated	7
2.	Comprehensive Courses Examination	9
3.	Breadth and Depth of Knowledge of Students	8
4.	Seminar/ Presentations and Technical Communication	8
5.	Average No. of Research Students/Faculty	9
6.	Average No. of Research Papers of Ph.D Students	8
7.	Average Duration to Complete Ph.D (years)	9

II. RESEARCH

		Score
1.	Research Ambience in the Department	10
2.	Research Awareness among Doctoral Students	9
3.	Competence Level of Doctoral Students for Research	9
4.	Quality of Research	9
5.	Quality of Publications	9
6.	Impact of Publications	8
7.	Relevance of Research to Knowledge Generation	8
8.	Societal Relevance of Research	8
9.	Exposure of Researchers to the International State of Art	8
10.	Student Exposure to Attending Quality Conferences/Symposia	8
11.	Growth in Ph.D Programme	10
12.	Quality of Research Infrastructure	9
13.	Utilization of Existing Research Infrastructure	8
14.	Department Initiative on Faculty Hiring	9
15.	Breadth and Depth of Research in the Department	8
16.	Research Intensity of Faculty Members	7
FuturisticAreas For Hiring Faculty Members		

Research Areas for Improvement

Structural Geology, Remote sensing, Tectonics

Comments (not more than 100 words for each given below)

Strength:

Infrastructure, facilities, faculty & students

Weakness:

Geohydrology

Suggestions for improvement:

Faculty needed for Geohydrology, seismic prospecting and reservoir engineering

III. Departmental Infrastructure

		Score
1.	Adequacy of Class Rooms and Multi-Media Facility	10
2.	Availability of Laboratories Need to be increased for PhD	8
3.	Availability of Conference/Seminar Room, etc.	10
4.	Availability of Seating Space for Research Students	10
5.	Availability of Internet Services in Research Labs and Class Rooms	10
6.	Departmental Library and E-Resources Library needs more books	7
7.	Computing Facilities and Software	9
8.	Adequacy of Offices and Furnishing for Faculty	9
9.	Faculty- Student Ratio There is sudden increase of student/faculty	8
10.	Support Staff (Technical/Administrative) Adequacy Technical and admin staff needed by outsourcing	7

Comments (not more than 100 words for each given below)

Strength:

Labs and Infrastructure

Weakness:

Technical and admin staff required

Suggestions for improvement:

staff needs to be recruited on outsourcing

IV. Admissions of Ph.D Students

		Score
1.	Intake of Ph.D Students	10
2.	Admission Process	10

Suggestions:

V. Outcomes

		Score
1.	Placements i. Placement of B.Tech/IDD Students ii. Placement of Masters Student iii. Placement of Ph.D Students	9
2.	Average No. of Ph.D.s Awarded per Year 3/yr	8
3.	Publications per Faculty in ISI Indexed Journals/Year	8
4.	Average Citations per Faculty/Year (Last-Three Years)	51

	(Web of Science/Scopus)	
5.	Recognitions; Awards(National/International) to Faculty/Students	8
6.	Consultancy and Projects	8
7.	No. of Ph.D. graduates who took Academics as Career(Based on Data of Last 5 Years)	
Comments and Suggestions for improvement:		

Date: 24.03.2014

(Signature of the Reviewer)

Prof. B. K. Rastogi,
Director General,
Institute of Seismological Research,
Gandhinagar

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Gmail by Google

Earth Sciences <des.iitr@gmail.com>

Your visit to IITR

bal rastogi <brastogi@yahoo.com> 25 March 2014 13:21
To: Earth Sciences <des.iitr@gmail.com>

Dear Prof. Saraf,
I and other members of the Review Committee were
highly impressed by overall syllabus, teaching, research
and project work of the Earth Science Department. Clearly noticeable was your efforts as HoD in lifting the Department to its old glory.
Students, we found are in general satisfied with various aspecs of teaching.
I am sure with some suggestions given by us the Department will
achive greater height and visibility.
Thank you for the hospitality and arrangements for the meeting for which you had made tremendous efforts.

Dr. B.K. Rastogi
Director General
Institute of Seismological Research,
Next to Petroleum University
Raisan, Gandhinagar-382 009, India
E-mail: brastogi@yahoo.com,dg-isr@gujarat.gov.in,dgisrgad@gmail.com
09978407515 (Cell) , 079-66739001 (O), 079-66739030 (R)
Web: http:\\www.isr.gujarat.gov.in

On Tue, 3/25/14, Earth Sciences <des.iitr@gmail.com> wrote:

Subject: Your visit to IITR
To: "bal rastogi" <brastogi@yahoo.com>, "Bal Rastogi" <dgisrgad@gmail.com>, vcoffice@kashmiruniversity.ac.in, chadha@ngri.res.in
Date: Tuesday, March 25, 2014, 3:28 AM

Dear Sirs,
At the outset, I would like to sincerely thank
you all for making a very useful visit to our department.
Further, the valuable inputs provided by you to us will go
long way towards improving our department. I assure you that
we shall make all efforts to bring our department in the
forefront.

I very much hope that you must have reached home
safely.
Thanking you,
With regards,Arun--
Dr. Arun K. Saraf,
Professor & Head,Department of Earth
Sciences,Indian Institute of Technology
Roorkee,ROORKEE - 247667, INDIA
[Quoted text hidden]

INDIAN INSTITUE OF TECHNOLOGY, ROORKEE

DEPARTMENTAL REVIEW TEMPLATE

1. **Name of Department/Center :** **Earth Sciences**

2. **Reviewers :** **Prof. Talat Ahmad,**
Vice Chancellor,
University of Kashmir, Hazratbal,
Srinagar

3. **Date of Review:** **24th March 2014**

GRID FOR ASSESSMENT

NOTE:

i. Please grade in the box provided for the following parameters in the range of 1-10 with 10 being the highest.
ii. Leave 'blank' for 'No Comment'.
iii. Kindly give your opinion on the strength and weakness of the Department/ Center and your suggestions for future growth.

I. ACADEMICS

I.1	Undergraduate	Score
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	9
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical iii. Projects(minor/major)] Need improvement	8
3.	Evaluation Process i. Continuing Evaluation ii. Mid-term Evaluation iii. End-term Evaluation] Need improvement	10
4.	Academic Ambience	10

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5.	Opportunity for Peer-Based Learning	8
6.	Opportunity for Further Learning(Breadth and Depth) i. Elective Courses Specialization ii. Minor with Major Discipline iii. Honors Programme in Major Discipline — NA.	8 — Need improvement as faculty option is less
7.	E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching — Needs improvement for Geophysics	9
8.	In –Curriculum Research/Exploration Opportunity to Students	9
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	10
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring of Students	8
12.	Faculty Advisor System for Students/Class of Students	8
13.	Self Study Courses for Student — only Non Credit are available	
14.	Effective Teaching Mechanism for Enhanced Number of Students in Various Classes — For practical & field work it is problematic	
15.	Effectiveness of Assisted Learning: Tutorial System for B.Tech Students/ Seminars	8

I.2	**Graduate Programmes (Masters)**	**Score**
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	10
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical – Can be improved iii. Seminar/Dissertation ⊗	9
3.	Evaluation Process i. Continuing Evaluation ii. Mid-Term Evaluation iii. End-Term Evaluation	9
4.	Academic Ambience	10
5.	Opportunity for Peer-Based Learning	9
6.	Opportunity for further Learning(Breadth and Depth) Elective Courses (Specialization Electives) ⊗⊗	8
7.	E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching	9

⊗ Supervisor should be part of the evaluation

⊗⊗ Conceptualization may be improved

8.	In –Curriculum Research/Exploration Opportunity to Students	9
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	10
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring/Supervising of Students	8
12.	Faculty Advisor System for Students/Class of Students	8
13.	Effectiveness of Assisted Learning: Home Assignments/Seminars/Presentations	9

I.3	**Doctoral (Ph.D) Programmes**	**Score**
1.	Pre-Ph.D Courses and Evaluation Process Courses should not be reported	7
2.	Comprehensive Courses Examination	9
3.	Breadth and Depth of Knowledge of Students	8
4.	Seminar/ Presentations and Technical Communication	8
5.	Average No. of Research Students/Faculty	9
6.	Average No. of Research Papers of Ph.D Students	8
7.	Average Duration to Complete Ph.D (years)	9

II. RESEARCH

		Score
1.	Research Ambience in the Department	10
2.	Research Awareness among Doctoral Students	9
3.	Competence Level of Doctoral Students for Research	9
4.	Quality of Research	8
5.	Quality of Publications	8
6.	Impact of Publications	8
7.	Relevance of Research to Knowledge Generation	8
8.	Societal Relevance of Research	8
9.	Exposure of Researchers to the International State of Art	8
10.	Student Exposure to Attending Quality Conferences/Symposia	8
11.	Growth in Ph.D Programme	10
12.	Quality of Research Infrastructure	9
13.	Utilization of Existing Research Infrastructure	9
14.	Department Initiative on Faculty Hiring	9
15.	Breadth and Depth of Research in the Department	9
16.	Research Intensity of Faculty Members	8
FuturisticAreas For Hiring Faculty Members	Groundwater Geology, Seismic Prospecting, All other areas of many faculty members are retiring	

Research Areas for Improvement

Comments (not more than 100 words for each given below)
Strength:

Infrastructure, faculty & students - Structural geology, Remote sensing,

Weakness:

Geohydrology, Seismic prospecting, Reservoir engineering.

Suggestions for improvement:

Weak areas need improvement and new faculty may be inducted

III. Departmental Infrastructure

		Score
1.	Adequacy of Class Rooms and Multi-Media Facility	10
2.	Availability of Laboratories	8
3.	Availability of Conference/Seminar Room, etc.	10
4.	Availability of Seating Space for Research Students	9
5.	Availability of Internet Services in Research Labs and Class Rooms	9
6.	Departmental Library and E-Resources	7
7.	Computing Facilities and Software	9
8.	Adequacy of Offices and Furnishing for Faculty	9
9.	Faculty- Student Ratio Sudden increase in number of student compared to faculty in recent	8
10.	Support Staff (Technical/Administrative) Adequacy	8

Comments (not more than 100 words for each given below)
Strength:

Infrastructure very strong, Good classroom facilities

Weakness:

Skilled staff not available.

Suggestions for improvement:

Laboratory space need to increase matching with the increased number of students.

IV. Admissions of Ph.D Students

		Score
1.	Intake of Ph.D Students	9
2.	Admission Process	9

Suggestions:

V. Outcomes

		Score
1.	Placements i. Placement of B.Tech/IDD Students ii. Placement of Masters Student iii. Placement of Ph.D Students	9
2.	Average No. of Ph.D.s Awarded per Year	9
3.	Publications per Faculty in ISI Indexed Journals/Year	8
4.	Average Citations per Faculty/Year (Last-Three Years)	51

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INDIAN INSTITUE OF TECHNOLOGY, ROORKEE

DEPARTMENTAL REVIEW TEMPLATE

1. **Name of Department/Center :** Earth Sciences
2. **Reviewers :** Dr. R K Chadha
   Chief Scientist
   National Geophysical Research Institute
   Hyderabad - 500007
   India

3. **Date of Review:** 24th March 2014

GRID FOR ASSESSMENT

NOTE:

i. Please grade in the box provided for the following parameters in the range of 1-10 with 10 being the highest.
ii. Leave 'blank' for 'No Comment'.
iii. Kindly give your opinion on the strength and weakness of the Department/ Center and your suggestions for future growth.

I. ACADEMICS

I.1	Undergraduate	Score
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	9
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical → To be improved iii. Projects(minor/major)	8
3.	Evaluation Process i. Continuing Evaluation ii. Mid-term Evaluation iii. End-term Evaluation	9

4.	Academic Ambience	10
5.	Opportunity for Peer-Based Learning	8
6.	Opportunity for Further Learning(Breadth and Depth) i. Elective Courses Specialization – Not enough faculty in case more students opting for one elective ii. Minor with Major Discipline x iii. Honors Programme in Major Discipline x	8
7.	E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching	9
8.	In –Curriculum Research/Exploration Opportunity to Students	8
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	10
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring of Students	7
12.	Faculty Advisor System for Students/Class of Students	8
13.	Self Study Courses for Student	
14.	Effective Teaching Mechanism for Enhanced Number of Students in Various Classes – Not beyond existing level	8
15.	Effectiveness of Assisted Learning: Tutorial System for B.Tech Students/ Seminars	7

I.2	**Graduate Programmes (Masters)**	**Score**
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	10
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical – To be improved iii. Seminar/Dissertation *Supervision to be part of Seminar	8
3.	Evaluation Process i. Continuing Evaluation ii. Mid-Term Evaluation iii. End-Term Evaluation	10
4.	Academic Ambience	10
5.	Opportunity for Peer-Based Learning	9
6.	Opportunity for further Learning(Breadth and Depth) Elective Courses (Specialization Electives)	8
7.	E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science)	9

	ii. Multi-Media Assisted Teaching	
8.	In –Curriculum Research/Exploration Opportunity to Students	8
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	10
10.	Faculty –Student Interaction	8
11.	Faculty Mentoring/Supervising of Students	7
12.	Faculty Advisor System for Students/Class of Students	8
13.	Effectiveness of Assisted Learning: Home Assignments/Seminars/Presentations	8

I.3	**Doctoral (Ph.D) Programmes**	**Score**
1.	Pre-Ph.D Courses and Evaluation Process – No repetition of Courses	8
2.	Comprehensive Courses Examination	10
3.	Breadth and Depth of Knowledge of Students	8
4.	Seminar/ Presentations and Technical Communication	8
5.	Average No. of Research Students/Faculty	9
6.	Average No. of Research Papers of Ph.D Students	8
7.	Average Duration to Complete Ph.D (years)	9

II. RESEARCH

		Score
1.	Research Ambience in the Department	10
2.	Research Awareness among Doctoral Students	8
3.	Competence Level of Doctoral Students for Research	9
4.	Quality of Research	8
5.	Quality of Publications	8
6.	Impact of Publications	8
7.	Relevance of Research to Knowledge Generation	9
8.	Societal Relevance of Research	8
9.	Exposure of Researchers to the International State of Art	8
10.	Student Exposure to Attending Quality Conferences/Symposia	8
11.	Growth in Ph.D Programme	8
12.	Quality of Research Infrastructure	9
13.	Utilization of Existing Research Infrastructure	9
14.	Department Initiative on Faculty Hiring	10
15.	Breadth and Depth of Research in the Department	8
16.	Research Intensity of Faculty Members	8

Comments (not more than 100 words for each given below)

Strength: Dedicated support staff, good class room, teaching aids

Weakness: Depleting support Staff

Suggestions for improvement:

Need to have more skilled staff with technical background to making equipment work continuously.

IV. Admissions of Ph.D Students

		Score
1.	Intake of Ph.D Students	10
2.	Admission Process	10

Suggestions:

V. Outcomes

		Score
1.	Placements i. Placement of B.Tech/IDD Students ii. Placement of Masters Student iii. Placement of Ph.D Students	8
2.	Average No. of Ph.D.s Awarded per Year	8
3.	Publications per Faculty in ISI Indexed Journals/Year	51
4.	Average Citations per Faculty/Year (Last-Three Years) (Web of Science/Scopus)	
5.	Recognitions; Awards(National/International) to Faculty/Students	9
6.	Consultancy and Projects – Need lot of improve	7
7.	No. of Ph.D. graduates who took Academics as Career(Based on Data of Last 5 Years)	7

Comments and Suggestions for improvement:

Needs to improve Consultancy projects & inspire faculty to attract Students towards teaching / Research profession.

Date: 24/3/2014

Rkchadha

(Signature of the Reviewer)

Dr. R K Chadha
Chief Scientist
NCRT, Hyderabad - 500007
India.

(Name and Address of the Reviewer)