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| <p>Strengths</p> <ol style="list-style-type: none"> 1. Teaching and Lab practices 2. Research & Publications 3. Achievement of above mentioned 4. activities under load-credit | <p>Suggestions for Improvement <u>Weakness</u></p> <ol style="list-style-type: none"> 1. Lack of department's own course 2. Lack of teachers to deliver-talk. 3. in in-house training programs 4. Shortage of faculty members |
| <p>Weakness <u>Suggestion for improvement</u></p> <ol style="list-style-type: none"> 1. Launch of department's own course (may be Engineering 2. Physics at PG level) may be considered. 2) Number of faculty members should be increased. 3) GRIAN or similar event should be organized | <p>Any Other Point</p> <p>An over over-head in regularizing recruitment process for the faculty members should be considered</p> |

Note: 1. Marks mentioned above is the average of the marks given by the experts.

2. If marks have not been allotted for some attributes by the experts, total score can be scaled to maximum marks.

Name & Signature of HOD
Dr. S.K. Sharma,

Name & Signature of Expert
TAPOBRATA LAHIRI

Name & Signature of Expert

Name & Signature of Expert

Name & Signature of Expert

**HARCOURT BUTLER TECHNICAL UNIVERSITY
KANPUR-208002 (UP) INDIA**

DEPARTMENTAL REVIEW (2018-19)

PROFORMA OF ASSESSMENT

1. Name of Department : *Physics*
2. Reviewer (Name, Designation & Address) : *Dr. Tapobrata Lahiri, Prof. & Dean (Acad. & Res.), IIT-Allahabad*
3. Date of Review: *08/11/19*

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 and your suggestions for future growth.

A. ACADEMICS

| A.1 | UG Program | |
|-----|--|-----|
| 1. | Curriculum (Structure, Course Syllabi, Flexibility) | 10 |
| 2. | Formal Academic Load on Students [Teaching, Laboratory / Practical, Projects(minor / major)] | 10 |
| 3. | Evaluation Process (Continuing Evaluation, and End-Term Evaluation) | 10 |
| 4. | Academic Ambience | 10 |
| 5. | E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching | 9 |
| 6. | Technical Societies / Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies | N.A |
| 7. | Faculty –Student Interaction | 10 |
| 8. | Tour / Training / Industrial visits / Internship opportunities | N.A |
| 9. | Effectiveness of Assisted Learning, Tutorial System for B. Tech Students / Seminars | 10 |
| 10. | Faculty Mentoring / Faculty Advisor System for Students / Class of Students | 10 |

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| A.2 | PG Program (Separate for each program) | |
| 1. | Curriculum (Structure, Course Syllabi, Flexibility) | |
| 2. | Formal Academic Load on Students [Teaching, Laboratory / Practical, Projects(minor / major)] | |
| 3. | Evaluation Process (Continuing Evaluation, and End-Term Evaluation) | |
| 4. | Academic Ambience | |
| 5. | E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) ii. Multi-Media Assisted Teaching | |
| 6. | Technical Societies / Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies | |
| 7. | Faculty –Student Interaction | |
| 8. | Tour / Training / Industrial visits / Internship opportunities | |
| 9. | Effectiveness of Assisted Learning, Tutorial System for B. Tech Students / Seminars | |
| 10. | Faculty Mentoring / Faculty Advisor System for Students / Class of Students | |

N.A

| | | |
|------------|---|----|
| A.3 | Doctoral (Ph. D) Programmes | |
| 1. | Intake of Ph. D Students | 6 |
| 2. | Admission Process | 10 |
| 3. | Pre-Ph. D Courses and Evaluation Process | 10 |
| 4. | Breadth and Depth of Knowledge of Students | 8 |
| 5. | Presentations and Technical Communication | 10 |
| 6. | Research Facilities available in the Department | 8 |
| 7. | Average No. of Research Students / Faculty | 8 |
| 8. | Average No. of Research Papers of Ph. D Students (Indexed/SCI Journals) | 10 |
| 9. | Average duration to complete Ph. D (years) | 9 |
| 10. | Participation of Research Scholars in Conferences / Workshops | 10 |

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| A.4 | Industry – Institute Interaction | |
| 1. | Involvement of industry expert in designing curriculum. | |
| 2. | Organizing expert lecture from industry. | |
| 3. | Involvement of industry expert in PG projects. | |
| 4. | Participation of students in visits of industry, industrial tours and training, internship programs. | |
| 5. | Interaction of faculty with industries in terms of visit, lab development. | |
| 6. | Industrial research projects | |

N.A

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| A.5 | Laboratory Development including Up gradation | |
| 1. | New lab developed within last year. | N.A |
| 2. | Development of infrastructure in existing labs. | 10 |
| 3. | Up Gradation of existing equipment's including replacement. | 9 |
| 4. | Development of manuals for experiments in existing labs. | 10 |
| 5. | Development of new experiments in labs. | 9 |

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B. RESEARCH

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|-----|--|-----|
| 1. | Research Ambience in the Department | 8 |
| 2. | Research Awareness among Doctoral Students | 8 |
| 3. | Quality of Research | 8 |
| 4. | Quality of Publications | 7.5 |
| 5. | Impact of Publications | 7.5 |
| 6. | Relevance of Research to Knowledge Generation and Social Relevance | 10 |
| 7. | Student Exposure to Attending Quality Conferences / Symposia | 10 |
| 8. | Research Intensity of Faculty Members | 7.5 |
| 9. | Inter departmental collaborations | 9 |
| 10. | Industry / externally funded sponsored research | 7.5 |

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C. OUTREACH ACTIVITIES

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|----|---|-----|
| 1. | Visit to other institutes of higher learning like IITs, IISc, SPA, IISER, etc. by faculty. | 10 |
| 2. | Delivering of talk / lecture in HBTU apart from regular courses. | N.A |
| 3. | Expert lectures in other institutes. | 9 |
| 4. | Visits to other institutes for academic activities like accreditation, academic audit, BOS etc. | 9 |
| 5. | Contribution to Professional Societies. | N.A |
| 6. | Editorial responsibilities / reviewers of SCI Journals. | N.A |
| 7. | Organization of Seminar, Workshops, Symposia. | 8 |
| 8. | Organization of GIAN Courses. | N.A |

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D. Departmental Infrastructure

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|----|--|-----|
| 1 | Adequacy of Class Rooms and Multi-Media Facility | N.A |
| 2 | Availability of Laboratories | 8 |
| 3 | Availability of Conference / Seminar Room, etc | N.A |
| 4 | Availability of Seating Space for Faculty and Research Students | 9 |
| 5 | Availability of Internet Services in Research Labs and Class Rooms | 10 |
| 6 | Departmental Library and E-Resources | N.A |
| 7 | Computing Facilities and Software | N.A |
| 8 | Adequacy of Furnished Offices for Faculty | 10 |
| 9 | Faculty- Student Ratio | 9 |
| 10 | Support Staff (Technical /Administrative) Adequacy | 9 |

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E. Outcomes

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| 1 | Placements i. Placement of B. Tech Students ii. Placement of Master's Students iii. Placement of Ph. D Students | N.A |
| 2 | Average No. of Ph.Ds Awarded per Year (Average of last three years) | 7 |
| 3 | Publications per Faculty in Indexed Journals/Year (Average of last three years) | 10 |
| 4 | Average Citations per Faculty / Year (Last-Three Years) (Web of Science / Scopus) | N.A |
| 5 | Recognitions; Awards(National / International) to Faculty / Students | N.A |
| 6 | Consultancy and Externally Funded Projects | N.A |
| 7 | No. of Ph. D. graduates who took Academics as Career (Last 5 Years) | 10 |

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Suggested Research Areas for Improvement

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

i. Strength:

- 1) Teaching and laboratory experiments/practice (including updating of assignments in yearly basis) for catering to the overall engineering students.
- 2) Research and publications to the credit of individual faculty members
- 3) Achievement in above-mentioned activities in spite of crunch in number of faculty members




ii. Weakness:

- 1) Lack of departmental course at UG & PG levels which is needed to retain good faculty members through offering growth opportunity in their own field.
- 2) Lack of involvement in delivering talk in department organised in-house training programs/FDP/seminars/conferences/workshops
- 3) Shortage of faculty members

iii. Suggestions for Improvement:

- 1) Launch of a departmental course (may be a PG course in Engineering Physics) may be considered
- 2) Number of Faculty Members may be considered to be increased through proper regularization of recruitment process.
- 3) Taking ^{the} opportunity of organizing GIAN or similar events may be considered

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| <p>Date: 08/11/19</p> | <p>Signature of the Expert: </p> <p>Name & Designation: DR. TAPOBRATA LAHIRI, Prof. & Dean (Acad. & Res.) - IIT - Allahabad</p> <p>Address: IIT - Allahabad</p> |
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Note: Original papers duly signed by the experts are to be kept by the Department for record. Photocopies shall be enclosed with summary sheet.