INDIAN INSTITUE OF TECHNOLOGY, ROORKEE

DEPARTMENTAL REVIEW TEMPLATE

1. **Name of Department/Center :** Dept. of Electronics & Communication Engineering
2. **Reviewers :**
   Dr. S.N. Joshi
   Dr. A.K. Singh
   Dr. Surendra Pal
3. **Date of Review:** 19 May 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)	9
3.	Evaluation Process i. Continuing Evaluation ii. Mid-term Evaluation iii. End-term Evaluation	9

4.	Academic Ambience	9
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	9
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	9
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	8
10.	Faculty –Student Interaction	10
11.	Faculty Mentoring of Students	10
12.	Faculty Advisor System for Students/Class of Students	10
13.	Self Study Courses for Student	9
14.	Effective Teaching Mechanism for Enhanced Number of Students in Various Classes	10
15.	Effectiveness of Assisted Learning: Tutorial System for B.Tech Students/ Seminars	9

I.2	**Graduate Programmes(Masters)**	**Score**
1.	Curriculum i. Curricular Structure ii. Course Syllabi iii. Flexibility	9
2.	Formal Academic Load on Students i. Teaching ii. Laboratory/Practical iii. Seminar/Dissertation	9
3.	Evaluation Process i. Continuing Evaluation ii. Mid-Term Evaluation iii. End-Term Evaluation	9
4.	Academic Ambience	9
5.	Opportunity for Peer-Based Learning	9
6.	Opportunity for further Learning(Breadth and Depth) Elective Courses (Specialization Electives)	10
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	10
9.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	8
10.	Faculty –Student Interaction	10
11.	Faculty Mentoring/Supervising of Students	10
12.	Faculty Advisor System for Students/Class of Students	10
13.	Effectiveness of Assisted Learning: Home Assignments/Seminars/Presentations	10

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

II. RESEARCH

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

FuturisticAreas For Hiring Faculty Members Signal Processing, Embedded Systems, VLSI, Microwave Imaging, MM & THz technology, Wireless Communication & Sensor network, Radar Systems
Research Areas for Improvement Communication Systems & Signal Processing
Comments (not more than 100 words for each given below) **Strength:** Young & motivated faculty with excellent research & academic aptitude. **Weakness:** (i) Inadequate student to faculty ratio (ii) Extra infrastructure needed (both in terms of Space & laboratory equipments) **Suggestions for improvement:** (i) Extra infrastructure needed (both in terms of Space & Laboratory equipments) (ii) B.Tech students to be encouraged for research (iii) Institute must finance for patent.

III. Departmental Infrastructure

		Score
1.	Adequacy of Class Rooms and Multi-Media Facility	9
2.	Availability of Laboratories	9
3.	Availability of Conference/Seminar Room, etc.	9
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	10
7.	Computing Facilities and Software	9
8.	Adequacy of Offices and Furnishing for Faculty	9
9.	Faculty- Student Ratio	8
10.	Support Staff (Technical/Administrative) Adequacy	8

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

Same as given in Sec. II.

Weakness: "

Suggestions for improvement: "

IV. Admissions of Ph.DStudents

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

Suggestions:
Area of research to be increased with industry interaction.

9

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	10
4.	Average Citations per Faculty/Year (Last-Three Years) (Web of Science/Scopus)	9
5.	Recognitions; Awards(National/International) to Faculty/Students	9
6.	Consultancy and Projects	10
7.	No. of Ph.D. graduates who took Academics as Career(Based on Data of Last 5 Years)	9

Comments and Suggestions for improvement:

(i) Faculty should be given at least 25 Lakhs as seed money to start research

(ii) B.Tech. students to be encouraged & inspired to take up research as carrier.

Date: 19/05/2014

(Prof. Surendra Pal)
ISRO Bangalore

(Dr. S.N. Joshi)
Ex Scientist-G,
CSIR-CEERI, Pilani

(Dr. A.K. Singh)
Scientist-G & Project Director
LRDE/DRDO, Bangalore