# ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

'UGC AUTONOMOUS'

(Permanently Affiliated to Andhra University, Approved by AICTE, Accredited by NBA & NAAC with 'A'Grade) SANGIVALASA - 531 162, BHEEMUNIPATNAM MANDAL, VISAKHAPATNAM DIST.,

Phones: 08933 - 225083, 225084, 226131, Fax: 08933 - 226395

e-mail: principal@anits.edu.in Website: www.anits.edu.in

18.11.2020

From

HOD, ECE Anil Necrukonda Institute of Technology & Sciences Sangivalasa

To Prof.P. V. Sree Devi Professor & Chairperson, BOS Department of ECE Andhra University (A) Visakhapatnam-530022

Sir.

Sub: Invitation for IQAC external audit member ANITS ECE Department - Reg.

It gives me immense pleasure in inviting you as Subject expert for IAQC External audit for the Department of Electronics and Communication Engineering (ECE) of Anil Neerukonda Institute of Technology & Sciences (ANITS) at 09:30 AM on 21.11.2020 (SATURDAY) in ECE Department.

I request you to make it convenient to attend the academic audit and offer for your valuable suggestions for the development of the department.

With warm regards,

Prof & HOD, ECE

Head of the Department Department of ECE Anil Neerukonda Institute of Technology & Comme Sim

# ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

'UGC AUTONOMOUS'

(Permanently Affiliated to Andhra University, Approved by AICTE, Accredited by NBA & NAAC with 'A'Grade) SANGIVALASA - 531 162, BHEEMUNIPATNAM MANDAL, VISAKHAPATNAM DIST.,

Phones: 08933 - 225083, 225084, 226131, Fax: 08933 - 226395 e-mail: principal@anits.edu.in

Website: www.anits.edu.in

18.11.2020

From

HOD, ECE Anil Neerukonda Institute of Technology & Sciences Sangivalasa

To Prof.M. S. Anuradha Professor Department of ECE Andhra University (A) Visakhapatnam-530022

Sir,

Sub: Invitation for IQAC external audit member ANITS ECE Department - Reg.

It gives me immense pleasure in inviting you as Subject expert for IAQC External audit for the Department of Electronics and Communication Engineering (ECE) of Anil Neerukonda Institute of Technology & Sciences (ANITS) at 09:30 AM on 21.11.2020 (SATURDAY) in ECE Department.

I request you to make it convenient to attend the academic audit and offer for your valuable suggestions for the development of the department.

With warm regards,

Prof & HOD, ECÉ

Head of the Department Department of ECE Anii Neerukonda Institute of Technology & Sciences 1-67 E24 16/



### ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

(UGC AUTONOMOUS)

(Affiliated to AU, Approved by AICTE & Accredited by NBA) Sangivalasa-531162, Bheemunipatnam Mandal, Visakhapatnam Dt. Phone: 08933-225084,226395

#### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING Summary of Academic audit 2019-2020

#### **Grading System:**

| S. No. | Parameters of Evaluation                   | Max Marks | Marks Awarded |
|--------|--|-----------|---------------|
| 1.     | Curricula                                  | 120       | 106           |
| 2.     | Academic Facilities                        | 100       | 80            |
| 3.     | Teaching Learning proves                   | 130       | 108           |
| 4.     | Evaluation System                          | 140       | 121           |
| 5.     | Result                                     | 100       | 75 .          |
| 6.     | General Academic Activities                | 100       | 75.           |
| 7.     | Feedback and Corrective Action             | 100       | 77.           |
| 8.     | Faculty Performance / Upgradation          | 110       | 75            |
| 9.     | Attainment of CO's and PO's of all courses | 100       | 82            |
| 10.    | Total                                      | 1000      | 802           |

| Grade | Details        | Total Marks scored |
|-------|----------------|--------------------|
| A+    | Excellent      | 800 and above 🗸    |
| Α     | Good           | 700-799            |
| В     | Acceptable     | 600-699            |
| C     | Not-acceptable | Below 600          |

1. Strengths: 1. Snahy of student projects is good and project works is hutlished in 45 Journals is good and project.
2). Number of placements is good:
2. Weaknesses tiling was done of a student project. D. Need to Jours on RED Projects and consultancy

3. Suggestions based on information 1. Enter preneurship Cell need to he shrengter 2). Encourage—the 8 hidents fis higher soundies (GATE etc.)
3). Ales must be made with fresh fater 1. 1.

4). More programmes have I be conducted Name and signature of Auditor 1

Name and signature of Auditor 2

Dept. of Electronics & Commn. Engo U. College of Engs. (A)
Andhra University
Isakhapr Visakhapr

Professor Pept. of Electronics & Commn. Engg. A.U. College of Engg. (A) Andhra University Visakhepr



### Anil Neerukonda Institute of Technology & Sciences (Autonomous)

(Affiliated to AU, Approved by AICTE & Accredited by NBA & NAAC with 'A' Grade)
Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
Phone: 08933-225083/84/87 Fax: 226395

Website: www.anits.edu.in

email: principal@anits.edu.in

## Department of Electronics and Communication Engineering

Format for Academic Audit (to be filled up by Academic Experts) Academic year 2019-20

1. Name of the Auditor: Dr. P. V. Svidevi

Designation: Professor

Address Dept. of ECE, AUCECA), Andhra University, Visakharutnam.

Contact no. 9866 873310

Email ID PY56-5@ yahoo.com

2. Name of the Auditor: Dr. M.S. Anusad ha

Designation: Professor

Address: Dept of ECE, AUCECA), Andhra University, Visa kha Patnam

Contact no. 9441209464

Email ID! Jadhamsa @ & mail. com

3. The days and dates of visit: 2|-1|-2020



# Anil Neerukonda Institute of Technology & Sciences (Autonomous)

(Affiliated to AU, Approved by AICTE & Accredited by NBA & NAAC with 'A' Grade) Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District Fax: 226395 Phone: 08933-225083/84/87

Website: www.anits.edu.in

email: principal@anits.edu.in

#### Features of Academic Audit Format

- Academic Audit Format is designed to incorporate the guidelines provided by National Knowledge Commission for various parameters.
- Academic Audit Format is designed to incorporate the most of the parameters related to various stake holders.
- Evaluation is based on nine different parameters indicating academic ambience at the campus at the campus.
- Proper weightage to each parameter as shown below.

| S. No. | Parameters of Evaluation                   | Max Marks |
|--------|--|-----------|
|        |  | 120       |
| 1.     | Curricula                                  | 100       |
| 2.     | Academic Facilities                        | 130       |
| 3.     | Teaching Learning proves                   | 140       |
| 4.     | Evaluation System                          |           |
| 5.     | Result                                     | 100       |
|        | General Academic Activities                | 100       |
| 6.     | Feedback and Corrective Action             | 100       |
| 7.     |  | 110       |
| 8.     | Faculty Performance / Upgradation          | 100       |
| 9.     | Attainment of CO's and PO's of all courses |           |
| 10.    | Total                                      | 1000      |

- Evaluation is more objective rather than subjective.
- Evaluation provides the specific information about the shortcomings.
- Academic Audit Format includes evaluation of system, students and facility.
- Evaluation of faculty includes evaluation by students as well as higher officer.
- Evaluation of students includes internal continuous evaluation, end semester evaluation, curricular and co-curricular and evaluation and placement.
- Evaluation includes infrastructural and other facilities provided by the institute / department for overall development of students.
- Academic Audit Format manual is being prepared to facilitate the institute / department and the auditor to furnish the information and to evaluate respectively.

#### 1. Curricula

| S. No.     | Sub-Parameter  | Marks<br>Assigned | Marks<br>scored |  |
|------------|--|-------------------|-----------------|--|
| 1.         | Curricula content to provide understanding concepts of   |                   |                 |  |
|            | (with sufficient practical exposure)   |                   |                 |  |
|            | Mathematics and basic sciences   | 5                 | 5               |  |
|            | Basic Engineering subjects   | 5                 | 4               |  |
|            | Management and Humanities  | 6                 | 6               |  |
|            | Programme Core   | 30                | 26              |  |
|            | Elective Subjects  | 6                 | 6               |  |
|            | Interdisciplinary elective subjects  | 4                 | 4               |  |
|            | Open Elective/Emerging subjects in curricula   | 4                 | 2               |  |
|            | NPTEL courses/MOOCs  | 4                 | 3               |  |
|            | Communication and computer skills  | 5                 | 5               |  |
|            | Proficiency in analysis, synthesis, modeling & simulation and  |                   |                 |  |
|            | problem-solving skills   | 5                 | 5               |  |
|            | Innovative and creative abilities  | 5                 | 4               |  |
|            | Human skills and relations, professional ethics, environment   | 4                 | 4               |  |
|            | Entrepreneurial skills   | 4                 | 1               |  |
|            | Hands on training and other industrial needs   | 4                 | 4               |  |
|            | Self learning practices  | 4                 | 4               |  |
| 2.         | Do the curricula take care of slow and fast learners learning simultaneously?  | 10                | 8               |  |
| 3.         | Revision / Upgradation of the curriculum to incorporate appropriate new knowledge systems (based on no. of BoS/APMC meeting) | 15                | 15              |  |
|            | Total  | 120               | 106             |  |
| based on a | Additional Comments / feedback / observations/ advice which may or may not be based on above points:                         |                   |                 |  |
| hee        | ) Activities Related to enterpreneurial skills<br>need to be inneared  |                   |                 |  |

#### 2. Academic Facilities

| S. No. | Sub-Parameter  | Marks<br>Assigned | Marks<br>scored |  |  |  |
|--------|--|-------------------|-----------------|--|--|--|
| 1.     | No of class rooms with LCDs  | 5                 | 5               |  |  |  |
| 2.     | No of laboratories and display of Cos and POs  | 5                 | 5               |  |  |  |
| 3.     | No of tutorial rooms   | 5                 | 4               |  |  |  |
| 4.     | Faculty rooms / cabins   | 5                 | 5               |  |  |  |
| 5.     | Equipments available (curricula and cost wise)   | 5                 | 5               |  |  |  |
| 6.     | Computing facilities (including software)  | 10                | 7               |  |  |  |
| 7.     | Research/Project laboratory  | 10                | 5               |  |  |  |
| 8.     | Electric power available for 24 x 7 and power backups  | 5                 | 2_              |  |  |  |
| 9.     | Audio visual facilities  | 5                 | 4               |  |  |  |
| 10.    | Class rooms furniture (quantity and quality)   | 5                 | 5               |  |  |  |
| 11.    | Laboratories furniture (quantity and quality)  | 10                | 8               |  |  |  |
| 12.    | No of books e-library, online journals and printed journals related to programme in the central library  | 10                | 8               |  |  |  |
| 13.    | Department library /life long learning resources   | 10                | 5               |  |  |  |
| 14.    | Internet and Wi-Fi facility  | 5                 | 4               |  |  |  |
| 15.    | Improvement made in infrastructural facilities during last year  | 5                 | 5               |  |  |  |
|        | Total  | 100               | 80              |  |  |  |
| may or | Any additional comments / feedback / observations / advice which may or may not be based on above points:  D Hore number of Renearch Lables  have do be provided.  2) Online accept faither has to  be arranged in department library. |                   |                 |  |  |  |

#### 3. Teaching – Learning Process

| Sr. No.   | Sub-Parameter  | Marks<br>Assigned | Marks<br>scored |
|-----------|--|-------------------|-----------------|
| 1.        | Theory Courses   |                   |                 |
|           | Course File (Syllabus sheet, Course material, content betond   |                   |                 |
|           | syllabus, MID question papers, Answer sheets, Assignments,   |                   |                 |
|           | External QP, Quizes and Activites)   |                   |                 |
|           | % of subjects for which teaching plan (including books to be referred)   | 10                |                 |
|           | is prepared and execution plan submitted at the end of semester  |                   | 9               |
|           | (including quality of execution)   |                   |                 |
|           | Quality of teaching plan and notes prepared by faculty   | 10                | 9               |
|           | Quality of Assignments   | 10                | 8               |
|           | Case studies/ Mini Projects given as activity for core courses   | 10                | 7               |
|           | Novel techniques used for effective teaching learning process (including use of A/V aids, development of software/ teaching aids, use or available software, use of available learning resources etc.) | 10                | 7               |
| 2.        | Practical  |                   |                 |
|           | Quality of experiments conducted (Do the experiments designed facilitate the students in generating creative thoughts?)  | 10                | 7               |
|           | Availability of laboratory manual and its quality  | 10                | 9               |
|           | Maintenance of laboratory equipments and new addition  | 10                | 10              |
|           | New experiments designed by UG/PG Students   | 10                | 6               |
| 3.        | Corrective action taken by department against the students who are absent to the classes regularly   | 10                | 9               |
| 4.        | Staff development programs for Faculty and / or supporting staff including FDP / STTP etc.   | 10                | 9               |
| 5.        | Actions taken by department to improve performance of academically weaker students   | 10                | 9               |
| 6.        | Efforts taken by department to improve overall performance of students including Workshop / Short term course/Hackathons/ Tech fest outside institute etc.   | 10                | 9               |
|           | Total  | 130               | 108             |
| n above r | ional comments / feedback / observations/ advice which may or may points:  |                   |                 |
| 1. It     | is observed and appriciated that relets were being med in teaching   | Bubjet            |                 |

### 4. Examination and Evaluation System

| Sr. No. | Sub-Parameter  | Marks<br>Assigned | Marks scored |
|---------|--|-------------------|--------------|
| 1       | Examination Process  |                   | 5            |
|         | Strict execution of academic calendar for all examinations   | 5                 |              |
|         | Strict execution of academic calendar for declaration of   | 5                 | 5            |
|         | result including revaluation, redressal etc.   | -                 |              |
|         | Transparency in the processes like internal assessment;  | 5                 | 5            |
|         | scrutiny and declaration of result   | _                 |              |
|         | Appropriate weightage for continuous evaluation and end semester examination.  | 5                 | 5            |
|         | Staff appointed for examination (invigilator, squad, office staff etc).  | 5                 | 5            |
|         | Process of appointment of paper setters/ examiners / evaluators / moderators etc.  | 5                 | 5            |
|         | Process of question paper printing and distribution (including quality and format of question paper)                                     | 5                 | 5            |
| 2       | Quality of internal question papers  |                   |              |
|         | Appropriate coverage of syllabus in class test and labelling   | 5                 | 5            |
|         | of COs on the question paper   |                   |              |
|         | Difficulty level of the question papers including numerical  | 5                 | 4            |
|         | Innovation in question paper (Volume of repeated questions, correlation of question with competitive examinations)                       | 5                 | 4            |
| 3       | Quality of external question papers  |                   |              |
|         | Coverage of all COs  | 5                 | 5            |
|         | Difficulty level of the question papers (simple to pass and difficult to serve i.e. take care of average as well as sharp                | 5                 | 3            |
|         | students)  Do the questions, test and develop the problem –solving skills and students' proficiency in analysis and design?              | 5                 | 3            |
|         | Whether the marks assigned to the questions appropriate?  Are the model answers submitted by paper setters to  Examination Cell          | 5                 | 4            |
|         | Language / Clarity / Variety etc in questions (Majority of the questions should not be just like write short note/explain / discuss etc. | 5                 | 3            |
| 4       | Does the moderation of each question papers completed before paper printing?   | 5                 | 5            |
| 6       | Assessment of Project work / Industrial training/  |                   |              |
|         | Internship term work  Continuous assessment of project works/seminars through  | 5                 | 5            |
|         | rubrics  |                   |              |
| 7       | Assessment Process of theory external papers   | 5                 | 5            |
|         | Presence of Process for evaluating external papers   | 5                 | 3            |
|         | Model answers and marking scheme  Evaluation quality (% of students applying for revaluation   |                   | 4            |
|         | and of change in mark cases)   |                   |              |
|         | Average experience of evaluators   | 5                 | 2            |
|         | Moderation process   | 5                 | 4            |
|         | Revaluation and recounting of answer sheets within mentioned period  | 5                 | 4            |

|                  | Does the Complaint Redressal Committee exist to tackle the cases of lapses associated with examinations? | 5   | 3   |  |  |
|------------------|--|-----|-----|--|--|
|                  | Whether the photocopy of the assessed paper is made available the students, if requested ? Its duration. | 5   | 5   |  |  |
| 8                | Involvement of external faculty member in the examination work as  |     |     |  |  |
|                  | Paper setter   | 5   | 5   |  |  |
|                  | Evaluator  | 5   | 5   |  |  |
|                  | Examiner for practical / oral examination  | 5   | 5   |  |  |
|                  | Total  | 140 | 121 |  |  |
| Addition points: | Additional comments / feedback / observations/ advice which may or may not be based on above points:     |     |     |  |  |
| 1.               | 1. Rubnius need to be distributed to students, before  |     |     |  |  |

#### 5. Results

| S. No.    | Sub-Parameter   | Marks<br>Assigned | Marks<br>scored |
|-----------|---|-------------------|-----------------|
| 1         | Performance of students in examinations (Without backlogs)                | 60                |                 |
|           | % of students passing IV year *0.15                                       |                   | 9               |
|           | % of students passing III year *0.15                                      |                   | 10              |
|           | % of students passing II year *0.15                                       |                   | 10              |
|           | % of students passing I year *0.15  |                   | 13              |
| 2         | Overall Performance of students (With backlogs)                           | 40                |                 |
|           | % of students passing IV year *0.1  |                   | 8               |
|           | % of students passing III year *0.1                                       |                   | 9               |
|           | % of students passing II year *0.1  |                   | 8               |
|           | % of students passing I year *0.1   |                   | <u> </u>        |
|           | Total   | 100               | 75              |
| based on  | al comments / feedback/ observations / advice which may or mabove points: |                   |                 |
| ) ()<br>上 | verall performance of students ackloys heed to be employed.               | - bither          |                 |
|           |   |                   |                 |
|           |   |                   |                 |

#### 6. General Academic Activities

| S. No.   | Sub-Parameter  | Marks<br>Assigned | Marks<br>scored |  |
|--|--|-------------------|-----------------|--|
| 1.   | Whether all activities performed as per academic calendar?   | 10                | 10              |  |
| 2.   | Whether academic processes are student development centric?  | 10                | 10              |  |
| 3.   | % of students actually enroll for co-curriculum activities in or out of the Institute >70% 10 marks 30% to 70% linearly distributed <30% 00 marks. | 10                | 7               |  |
| 4.   | Whether co-curriculum activities of institute /department are evenly disturbed throughout the year?  | 5                 | 4               |  |
| 5.   | Are emergency issues resolved by conducting Academic Council / Examination Committee meetings which are ratified in subsequent meetings?           | 5                 | 4               |  |
| 6.   | How much is overall placement of students (in % based on eligible students) and annual pay package?  | 10                | 8               |  |
| 7.   | How is the performance of students in Extension of services through NSS / NCC /Unnath Bharath Abhiyan?   | 10                | 5               |  |
| 8.   | Industrial visits organized by department  | 10                | 8               |  |
| 9.   | Technical events organized by the department for faculty and students including STTP / Expert lectures / Model or project competition / GD/ etc.   | 10                | 8               |  |
| 10.  | Entrepreneurship/ Techno idea activities contest in the department   | 10                | 8               |  |
| 11.  | Performance in competitive examinations like GATE/ CAT/GRE etc   | 10                | 3               |  |
| 4 7 7040   | Total  | 100               | 75              |  |
| Additional comments / feedback/ observations / advice which may or may not be based on above points:  Denterpre neurship techno idea activities have be be avoraged. |  |                   |                 |  |

#### 7. Student's Feedback and Corrective Action

| Sr. No. | Sub-Parameter  | Marks<br>Assigned | Marks<br>scored |
|---------|--|-------------------|-----------------|
| 1       | Feed back during the semester  |                   |                 |
|         | Frequency of obtaining student's feedback (Meetings of CRCs etc)                                     | 20                | 20              |
|         | Corrective action taken at the departmental level  | 20                | 15              |
| 2       | Suggestion box   |                   |                 |
|         | Availability of suggestion box   | 5                 | 3               |
|         | How frequently suggestion box is opened ?(Maximum marks for opening twice in a month)                | 5                 | 2               |
|         | Corrective action taken for suggestions at the departmental level                                    | 10                | 5               |
| 3       | Exit feed back   |                   |                 |
|         | Attainment of POs for the academic year  | 10                | 8               |
|         | Corrective Action of attainment of POs   | 10                | 8               |
| 4       | Survey on outcome of the course / individual class using web tools                                   | 20                | 16              |
|         | % of total courses for which survey is done * 20   |                   |                 |
|         | Total  | 100               | 77              |
|         | Additional comments / feedback/ observations / advice which may or may not be based on above points: |                   |                 |

#### 8. Faculty Performance

| Sr. No.   | Sub-Parameter   | Marks<br>Assigned | Marks<br>scored |  |  |
|---|---|-------------------|-----------------|--|--|
| 1   | Feedback from students (Department index on 15 points)  | 20                | 20              |  |  |
| 2   | Performance appraisal   | 20                | 20              |  |  |
| 3   | % of faculty received "outstanding" remark *0.2   |                   |                 |  |  |
|   | % of faculty received "Excellent" remark *0.15  |                   |                 |  |  |
|   | % of faculty received "positively good" remark *0.1   |                   |                 |  |  |
| 3   | Qualification enhancement of faculty  | 5                 | 5               |  |  |
| 4   | Overall performance of department faculty members, based on research paper published in journals, conferences and seminar.                                  | 15                | 10              |  |  |
| 5   | MODROB/ TAPEC/ RPS and other sponsored projects received by the department  | 5                 | 2               |  |  |
| 6   | Participation of faculty as resource person outside the Institution   | 10                | 2               |  |  |
| 7   | Performance of faculty, based on books publication, patent filed and awards.  | 10                | 4               |  |  |
| 8   | Performance of faculty, based on consultancy and internal revenue generation (IRG)  | 10                | 0               |  |  |
| 10  | Innovative ideas implemented by the faculty for overall development of students both in co-curricular (quality circle, hobby club etc) and extra curricular | 10                | 7               |  |  |
| 11  | Whether guided PG/ Research scholars  | 5                 | 5               |  |  |
|   | Total   | 110               | 75              |  |  |
| Additional comments / feedback/ observations / advice which may or may not be                                   |   |                   |                 |  |  |
| based on above points:  D. Performance of faculty members is need bothe employed i.e interms of Pullications in |   |                   |                 |  |  |
| in  | employed i.e interns of Publications in   |                   |                 |  |  |
|   | Scalus and Book chapter.  |                   |                 |  |  |

SEI, Scopus and Buck chapter.

2) Need more focus on Consultancy & internal Revenue generation.

### 9. COs and POs of the Programme

| Sr. No.  | Sub-Parameter   | Marks<br>Assigned | Marks<br>scored |
|--|---|-------------------|-----------------|
| 1  | Framing of COs to all the courses including theory, laboratory, project, Seminar, Industrial Training | 15                | 12              |
| 2  | Documentation of Justification table for CO-PO articulation table for all courses                     | 15                | 12              |
| 3  | Calculation of CO-PO attainment for all courses in the programme                                      | 20                | 17              |
| 4  | Calculation of POs by indirect attainment (with reasonable sample size)                               | 20                | 18              |
| 5  | Reasons for non-attainment of COs and POs if any  | 15                | 13              |
| 6  | Corrective measures for non-attainment of COs and POs   | 15                | 13              |
|  | Total   | 100               | 85              |
| Additional comments / feedback/ observations / advice which may or may not be based on above points: |   |                   |                 |