

**INTERNAL QUALITY ASSURANCE CELL (IQAC)
V R SIDDHARTHA ENGINEERING COLLEGE**

ACADEMIC AUDIT

Evaluation Sheet

(with effect from 2020-21)

Department Name : Electronics and Instrumentation Engineering

Programme Name : B.Tech.

Academic Year : 2020-21

Annual department plan (enclose a separate sheet along with the previous 3 years planned & achieved data)

I. POs, PSOs and Curriculum		
S. No	Criteria	Observations
1.	POs & PSOs attainment along with sample calculation sheet	Data is available in POs and PSOs attainment File.
2.	Stakeholders feedback collected, analyzed & action taken related to curriculum design (with evidences)	Student exit feedback collected and their suggestions were recorded and considered in the VR-20 curriculum design.
3.	Extent of stakeholders satisfaction with curriculum revision	The stakeholder suggestions were discussed in BOS meeting and considered in VR-20 curriculum revision.
4.	-New courses introduced -Courses upgraded with more than 25% of course content	No. of new courses introduced – 10 VR-20: 34.15% courses revised. VR-17: 44.12% courses revised.
5.	Lab component - New labs added - No. of new experiments introduced - New Hardware / Software developed	Rs.11,19,362 worth of new equipment procured for all the laboratories of EIE Dept. in 2020-21 A.Y. Data is available in the corresponding lab stock registers.
6.	No & % age of courses focusing on employability/ entrepreneurship/ skill development.	VR-20: Skill-65%, Employability-30% & Entrepreneurship-5% VR-17: Skill-66%, Employability-31% & Entrepreneurship-3%
7.	No of students undertaken -full time field projects: -full time internships:	04 students done field projects for the A.Y:2020-21 105 students done internships (more than 3 weeks) for the A.Y. 2020-21.

II. Faculty information and their contribution		
S. No	Criterion	Observations
1.	Teacher- student ratio	No. of faculty: 21, Total No. of Studnets:436 Teacher-Student ratio: 20.76
2.	Faculty Cadre ratio	Professors :1 -Associate Professors:3 Assistants Professors:17
3	Faculty experience & retention	90% of the faculty retained for last 3 academic years.

4.	Faculty qualifications: Percentage of existing faculty with PhD Faculty awarded with PhD: Faculty submitted their PhD: Faculty pursuing PhD: Faculty registered for PhD:	Percentage of Existing faculty with PhD: 19.04% Faculty with Phd: 04 Faculty awarded with PhD:01 Faculty submitted their PhD: 01 Faculty pursuing PhD: 13 Faculty registered for PhD: 13
5.	Faculty with Post-Doctoral Fellowship or Pursuing it:	Nil
6.	Faculty guiding /guided PhDs:	Faculty guiding PhDs: 01 No. research scholars: 05
7.	Percentage of faculty contributing inresearch publications:books:chapters:	Faculty contribution in research publications: 18/21= 85.71% Faculty contribution in Book chapters: 03/21= 14.2%
8.	e-Content development / Lectures added to Web-resources	--
9.	Faculty contribution in professional organizations/ Reviewer / Editorial boards: <i>(not mere memberships)</i>	Reviewers: 1.Dr.N.Swathi 2. V.Naga Prudhvi Raj 2. P.Rajesh
10.	Academic Awards/Rewards received:	Nil
11.	Faculty contribution in Industry / Institute collaborative projects	Nil
12.	Faculty trained in Industry	Nil
13.	Faculty contribution in obtaining internships/ Placements/ MoUs	02 Faculty members contributed to obtain internships in industries for students.
14.	Faculty as resource persons in webinars/ workshops / key note speaker / training activities	Resource Persons: Dr.A.Sumalatha for Webinar & Dr.S.Srinivasulu Raju for FDP.
15.	National level events organized -Conferences: -Workshops/ Seminars: - Webinars - FDPs: International level events organized - Conferences - Webinars -Workshops/Seminars	National Level events organized: Workshops: 01 FDPs: 02 Webinars:03 Guest Lectures: 04 International level events organized : Nil
16.	List of conferences/seminars/ webinars/ workshops/FDPs attended for the enrichment of teaching - learning process	No of FDPs attended by faculty: 203 No. of workshops attended by faculty: 72 No. of Seminars/Webinars attended by faculty: 125
17.	Faculty interaction with outside world (BOS/NBA/Examiner for PhD evaluation / selection committee / Academic auditing / Chairperson /Chief guest /etc.)	Dr.G.N.Swamy is a BOS member in Bapatla Engineering College, Bapatla and Andhra Loyola College of Engineering, Vijayawada.

III. Teaching-Learning Process and Evaluation		
S. No	Criterion	Observations
1.	Student performance indices – Measures to reduce detentions -Attendance (detentions if any): -Exams (detentions if any):	No. of students detained in 2-1: Nil, 2-2: Nil, 3-1: 01, 3-2:Nil, 4-1: Nil, 4-2:Nil.
2.	Mechanism and activities for slow learners: Outcome:	Remedial classes were conducted for the students who are lagging in Assignment and Sessional examinations. The remedial classes were reflected in Quality Circle File.
3	Mechanism and activities for Fast learners to excel: Outcome:	1. Fast learners are encouraged to opt CBCS subjects. 2. NI academy training program is provided for fast learners.
4	Bridge courses: Value added courses:	Nil
5	Quality circles and Practice: Outcome:	Quality circle methodology is adopted for slow learners and outcome has shown in quality circle file.
6.	Student counseling /mentoring mechanism	Counseling Records are Periodically Verified by Program coordinator and HOD.
7.	Initiatives taken for innovative mini and major projects -Training for students & faculty	The following activities are organized by EIE Department for students to get awareness on various instrumentation areas. So, that students can able to select various topics for mini and major projects. *No. of Workshops organized: 01. *NI Academy Training Conducted for students *The details are available in a separate file.
8.	Best student projects with awards	03 students got appreciation certificates for their best projects
9	Student Model developments: Awards:	24 models were developed and 04 models got prizes for the A.Y.2020-21.
10	Student Innovation details: Awards:	12 student publications received for the academic year 2020-21.
11	Student Publications (other than IV.1) -UG: -PG:	UG- 12

12	Monitoring of teaching-learning process -- Mechanism for Assessment of teaching process in classrooms. -- Random verification of evaluated answer papers and question paper during the semester. -- Innovative teaching methods presented, if any -- Verification of course files	Data is prepared by P.Srinivas, program coordinator, EIE Department. Assessment: External results, Student feedback, COs and POs attainment and course end survey. Random verification of answer scripts: Verified by HOD and Program coordinator. Innovative teaching methods: PPTs with own annotations, Topics related NPTEL videos and model usage. Verification of course files: Verified by HOD and Program coordinator.
13	Student enrolment in CBCS	31 students were enrolled for CBCS courses in VI semester for the academic year 2020-21.
14	EPICS (Engineering projects in community service) Projects: Awards:	No. of projects: 30 Awards: Nil
15	Activities of students in professional bodies: Awards in co-curricular activities:	Total No. of Events under ISOI: 05 *Total No. of Students participated:114 No. of students won prizes: 08 (Co-Curricular)
16	Training programs / Seminars/ workshops organized for students:	Training Programs organized:01 (NI Academy) Seminars/Webinars: 03
17.	Guest lecturers conducted for Students:	04
18.	MoUs with Industries for Research / Consultancy/ internship / placements, etc.	Existing: 02, Newly added:02, Total:04
19.	Students feedback	Range of Feedback: above 4.0 Data is available in a Separate file.
20.	Feedback follow-up action	Feedback is above 4.0 for all the faculty. No follow-up action takes place.
21.	Scope for Self-learning: -Certificate courses -Online courses	Some of the relevant NPTEL and Coursera courses are approved for EIE students. Details are available in a separate file.
22.	Cut-off rank (Admission): Cut-off rank Previous year:..... OC: BC: SC: ST: PH: Audited year: OC: BC: SC: ST: PH: Improvement / no change / decline <i>Note: If there is <u>no improvement</u> it needs to discussed & suitable measures are to be taken up.</i>	2019-20 A.Y: Cut-off Ranks OC: 27377 BC-A: 74318, BC-B: 107007, BC-C: -- BC-D: 39935, SC: 46769, ST: 33268 Audited Year: 2020-21 Cut-off ranks OC: 25524 BC-A: 72415, BC-B: 55191, BC-C: 113356 BC-D: 57676, SC: 44686, ST: 55531 The overall performance of the department in admissions (2020) was improved compared to previous year (2019).

23	Range of CGPA & % of students 10 -8 CGPA: 7 CGPA: 6 CGPA: 5 CGPA: No. & % age of failures: Success rate as per NBA guidelines:	Consolidation results of 2017-2021 batch. 10 -8 CGPA:14 7 CGPA: 40 6 CGPA: 31 5 CGPA: 22 % of pass: 59.69% % of Failure: 40.31%
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IV. Research, Consultancy and Extension		
S. No	Criterion	Observations
1.	Faculty publications in journals: (other than III.11) Scopus indexed: SCI / SCIE (Not ESCI): Total: h-index: Dept & Highest in the faculty.	Journal Publications: 15 Scopus Indexed: 06 SCI/SCIE Indexed: 05 Others: 04 Total: 15
2.	Publications in conferences: - National (Scopus, SCI & equivalent) - International (Scopus, SCI equivalent) - Total:	Conference Publications: 23
3.	Faculty contribution in:books:book chapters: (Books/Chapters with ISBN/ISSN only are considered)	Books Chapters: 03
4.	Paper Publications & Book chapters:	Q1: 02 Q2: 02 Q3: 01 Q4: 06 Total: 11
5.	Government: Funded R&D projects	Applied: 02 Total Amount: 50 lakhs Ongoing: - Total Amount: - Completed: - Total Amount: -
6.	Non- Government: Funded R&D projects / Industry sponsored projects	Nil
7.	Faculty involved in Consultancy & amount earned	Faculty: 07 & Amount: Rs.114500
8.	Faculty intellectual property rights / Patents:	Filed: 02, Published :Nil, Granted (Awarded): 01.
9.	In-house R&D grants & projects and their outcomes	One faculty received seed fund worth of Rs.2,00,000 for research in MEMS , sensor design, Microfluidics and energy harvesting.
10.	New research facilities/ laboratory facilities added	Innovation and Incubation center has established in 2020-21 AY.

11.	MOU's with industries/ R&D/ Premier Institutes Details of activities:	02 New MOUs are made in 2020-21 A.Y Total MOUs : 04
12.	Research centers of excellence established: Outcome in research centers:	Nil
13	Skill development centers established: outcome:	NI Academy and SIEMENS
14	Incubation centers: - Established with outside Industries: -Status of incubation:	Nil
15	Start-ups & Entrepreneurships: No of Start-ups & status: Awards from outside platforms:	Nil

V. Infrastructure and Learning Resources

S. No	Criterion	Observations
1.	Addition of infrastructural facilities to improve the teaching learning process Class rooms / Laboratories /ICT class rooms / e- class rooms/ Seminar halls / Syndicate rooms /Innovation center:	Class rooms:6 Laboratories:6 ICT class rooms / e- class rooms: 1 Seminar halls: 1 Syndicate rooms: Nil Faculty rooms: 17
2.	Internet facilities for faculty & Students:	*All the Faculty Rooms , Laboratories and Tutorial rooms are having Internet facility.(100MBPS)
3.	Technical manpower support added:	Total No of Technical Staff: 04
4.	Modern / new equipment added in Laboratories:	Data is available in the corresponding lab stock registers.
5.	New research facility /Computing facilities / laboratory added:	01 (Innovation and Incubation center)
6.	Dept. News letter / magazine:	EIE Dept. is having News Letter with 2 issues per year.
7.	Department library: New additions Text books / References / Journals	Nil

VI. Student information, Support and Progression		
S. No	Criterion	Observations
1	Industrial visits	Nil due to covid-19
2	Internships	114 Students are attended for internships.
3	Dept. student clubs: Activities:	Dept. student clubs: ISOI-Student Chapter No. of activities organized: 05
4	Details of coaching provided for GATE/GRE/any other competitive exams	Career counselling and soft skill development has given for the students.
6	Students qualified in -GATE -GRE/etc.	GATE: 01, TOEFL: 01 GRE: 03, GMAT/MAT: 01 IELTS: 03, TSPGCET-02. Total: 11 students
7	Students admitted for Higher studies (No & %):	No. of students admitted for higher studies: 04 No. of students appeared for competitive Exams: 25 % of Students admitted for higher students (w.r.t appeared): 44% % of Students admitted for higher students (w.r.t total admitted): 3.2%
8	Total Placements (No & %) in the Dept.: 2 - 4 Lakhs (No.): 4 Lakhs above (No.): 5 Lakhs above (No.): Highest salary (No.): Median salary:	Total Placements (No&%) in the Dept.:69 & 55.2% 2 - 4 Lakhs (No.): 53 4 Lakhs above (No.): 16 5 Lakhs above (No.): 00 Highest salary (No.): 4.5 LPA Median salary: 3.8 LPA
9	Student prizes:	NSS/NCC: Nil, Cultural: 01 (National Level), Sports: Nil National Level-01
10	Student Scholarships:	No. of students benefited by scholarships: 346 Total no of Students: 494 Average percentage of students benefited by scholarships and freships: 70%

VII. Governance, Leadership and Management		
S. No	Criterion	Observations
1	Setting of annual goals by individual faculty for their academic improvement.	HOD conducted several meetings regarding goals of all the faculty members.
2	Setting of departmental annual goals by HOD for the improvement of dept.	Annual goals are fixed by HOD
3	Teaching staff attended for skill development/ Industry training/ any professional development programs	The details are available in a separate file.
4	Non-teaching staff attended for skill development programs	Non-Teaching staff: 04 The details are available in a separate file.

5	Financial support received from the Management: Seed Grant for faculty: Incentive for Sponsored projects: Incentive for paper publications: Attending FDPs/ Seminars/ etc: Attending overseas seminars: Interaction with R & D personnel: Others:	Seed Grant received by the faculty: 01 Incentive for paper publications: 01 faculty member
6	Financial support received from the Management: Student Projects: Model developments & exhibition: Student Innovations & exhibition:	Nil
7	Quality policy & Quality objectives Committees & duties: Cells & duties:	Prepared by program coordinator and HOD. Available in a separate file.
8	Maintenance -General -Laboratory -Others	Each lab is having a separate maintenance register.
9	Financial support/ leaves for qualification/ skill up- gradation:	College is providing financial support for Workshops/Journals/Conferences.
10.	Risk evaluation/ safety measures:	No. Of Fire extinguishers: Labs:5 + Dept. Office:1+ Seminar Hall:1

P. Daggadur 17/9/2021
Dept. IQAC In-charge

A. Srinivas 17/9/21
Academic Auditor (Int.)

B. K. N. Srinivas 17/9/2021
Academic Auditor (Ext.)

Ext. Academic Auditor details:-

B. K. Naga Srinivasa Rao.
Assistant Professor
Department of ECE,
NIT Warangal.

G. N. S. 17/9/21
Head of the Dept.
HEAD

Dept of Electronics & Instrumentation Engg.
V R Siddhartha Engineering College
VIJAYAWADA-520 007

Academic Audit Report (Consolidated)

1. **Name of Department:** Department of Electronics and Instrumentation Engineering
Year:2020-21
2. **No. of full time permanent faculty:** 21
3. **No. of Visiting/Adjunct faculty:** 03
4. **No. of PG / UG courses:** 01 (UG-B.Tech)
5. **Curriculum Revisions Information:** UG (B.Tech)
Major changes: 12.19%
New courses: 10 Modified courses (min 20-25% change): 34.15 Employable courses: 30%
6. **Research:** Ph.D. Theses submitted: 01 awarded:01
Faculty guiding / guided Ph.Ds:.....01.../...05.....
Publications in Jrs: SCI/SCIE: 05 Scopus: 06 Others: 04 Total: 15
Publications in Conferences: SCI/SCIE: Scopus: 11 Others: 12 Total: 23
Student Publications
 -UG: SCI/SCIE: Nil Scopus: 01 WoS: Nil Others: 11 Total:12
Dept. H-index (Scopus data base): 02(Avg.) Highest H-Index of faculty: 05
Publications: Q1: 02, Q2:02, Q3: 01, Q4: 06 Total: 11
7. **Sponsored projects:** Amount: Applied: 50 Lakhs, Ongoing: -- Completed: --
8. **Consultancy Amount earned:** Rs: 1,14,500.
9. **Start-ups & Entrepreneurship:** No...Nil...Awards from outside
platforms:.....Nil....
10. **Incubation centers:** established.....Nil, Status of incubation:Nil
11. **Patents:** Filled: 02 ..Published:...Nil.....Granted:.....01.....
12. **Innovations:** ...Nil..., Awards from outside platforms (reputed Institutions only) :.....Nil
13. **Books / Book chapters** (with ISBN/ISSN only are considered):.....03.....
14. **e-Content developed:** Lectures added to Web-resources:Nil.
15. **Placements:** No:.....69..., Percentage:...55.2..., Median salary:...,3.8 LPA..., Highest salary:...4.5LPA.....
16. **Higher Education:** GATE No...01., GRE No...03....Others (specify):...07....
Percentage: 11/125=8.8%
17. **New Equipment and Infrastructure** added: (Name & amount): Rs.11,19,362 worth of new equipment procured for all the laboratories of EIE Dept. in 2020-21 A.Y.
18. **Student feedback** on Curriculum, infrastructure and facilities: Yes

19. Strengths:

- (1) Good faculty retention ratio.
- (2) Good improvement in placements.

20. Weaknesses (mandatory field to fill) :

- (1) Less no of Industrial tours for the students.
- (2) Unable to attract good quality (EAMCET cutoff ranks) students.

21. Suggestions for improvement (mandatory field to fill):

- (1) R&D projects and paper publications by the faculty need to be improved.
 - (2) Student- Faculty ratio and Cadre ratio need to be improved.
18. Document addressing previous academic year weaknesses and suggestions for improvement.

Enclosed: **Yes** If 'yes' enclose an appropriate document. If "No" furnish proper explanation.

*Initiation for the improvement in R&D Projects for the A.Y 2020-21 is attached.

P. Durga Prasad 17/9/2021
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Dept. IQAC In-charge

B.K.N. Srinivas 17/09/2021
.....
Academic Auditor (Ext.)

G.N.S 17/9/20
.....
Head of the Dept.
HEAD

A. Jay. Sri 17/8/21
.....
Academic Auditor (Int.)

M.R
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20/9/21
IQAC Coordinator

Dept of Electronics & Instrumentation Engg
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Ext. Academic Auditor Details:-

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