

## Internal Quality Assurance Cell (IQAC)

### EXTERNAL ACADEMIC AND ADMINISTRATIVE AUDIT REPORT (ACADEMIC YEAR: 2017-18)

Date of Audit: 14-07-2018

Name and Designation of Audit Member-1: Prof. A. Venu Gopal, Dept. of Mechanical Engineering, NIT Warangal

Name and Designation of Audit Member-2: Prof. Meera Saheb, Dept. of Mechanical Engineering, University College of Engineering, JNTUK

*(The activities are to be graded on the following scale)*

Excellent	Good	Satisfactory	Needs improvement
A	B	C	D

Details of Programmes in the college:

S.No.	Name of the Programme	Sanctioned Strength	Actual Strength
<b>UG</b>			
1	Civil Engineering	120	115
2	Electrical and Electronics Engineering	120	118
3	Mechanical Engineering	240	238
4	Electronics and Communication Engineering	300	300
5	Computer Science and Engineering	180	180
6	Information Technology	60	57
8	<b>UG Total</b>	<b>1020</b>	<b>1008</b>
<b>PG</b>			
1	ECE-Embedded Systems	18	04
2	ECE-VLSI - SD	18	05
3	EEE-Power Electricals and Electric Drives	18	05
4	Mech-CAD-CAM	18	06
5	Computer Science and Engineering	18	06
6	Computer Science	18	00
	<b>PG Total</b>	<b>108</b>	<b>26</b>
	<b>UG and PG Total</b>	<b>1128</b>	<b>1034</b>

## 1. Curricular Aspects

S.No.	Item	HEIs i/p	Grade	Remarks
1.1	Curricula developed /adopted have relevance to the local/national /regional/global developmental needs with learning objectives including program outcomes, program specific outcomes and course outcomes of all programs offered by the Institution	R-16 (I & II yr) Autonomous) R-13 (JNTUK)- III and IV Yrs	A	AICTE Guidelines followed. CBCE implemented
1.2	Percentage of new courses introduced of the total number of courses across all programs	ECE- I year (16/63) -25.8% II, III, IV year (20/64)-31.25% EEE: 12.3% (8/65) Mech:9.37% (6/64) IT: 16.9% (12/17) CSE: 12.2%	B	New courses have not been introduced in some departments
1.3	Percentage of programs in which Choice Based Credit System (CBCS) / Elective course system has been implemented	CBCS has been introduced in all the programs	A	
1.4	Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum	ECE: Environmental studies (ES), Professional Ethics and Human values (PE & HV) EEE-ES, PE & HV Mech; ES, PE & HV CSE: ES, PE & HV IT: ES, PE & HV CE: ES, PE & HV	A	
1.5	Number of Value-added courses imparting transferable and life skills offered	ECE: 4 courses (NPTEL-1,MOOCs-1 APSSDC-2) EEE:-2; Civil: Nil Mech:7(NPTEL-1, APSSDC-6; Welding-1; CNC-1; CBT-1; R&AC-1; DASSAULT-1; ARC-1) IT: Ruby on Rails CSE: 2 (NPTEL, MOOCs) BS&H -1 (NPTEL)	A	Promoting NPTEL, MOOCs and skill development courses
1.6	Feedback on curriculum and other aspects from stakeholders	The feedback on curriculum is collected regularly from the stakeholders, Alumni, Employers.	A	

## 2. Teaching-Learning and Evaluation

S.No.	Item	HEIs i/p	Grade	Remarks
2.1	Demand Ratio (% of students admitted)	ECE: 91.9% (UG-100% & PG-25%) EEE: 89.1% (UG-98.3%; PG-27.77%) Mech: 94.5% ( UG: 991%; PG: 33.33%) CSE: 86.11% (UG-100%; PG-33.33%)	A	UG Admissions are very good.

		Civil: 95.8% (UG-95.8%) IT: 95% (UG-95%)		
2.2	Number of full-time teachers	ECE: 59; Prof. 2, Asso. Pr. 6, Asst. Pr. 51 EEE: 29 Prof. 2, Asso. Pr. 1, Asst. Pr. 26 Mech: 59 Prof. 5, Asso. Pr. 0, Asst. Pr. 54 CSE: 36, Prof. 3, Asso. Pr. 9, Asst. Pr. 24 BS & H: 69, Prof. 2, Asso. Pr. 5, Asst. Pr. 62 Civil: 24, Prof. 1, Asso. Pr. 0, Asst. Pr. 23 IT: 12, Prof. 1, Asso. Pr. 1, Asst. Pr. 10	B	Number of Faculty with Ph.D. is a concern.
2.3	Number of students enrolled	ECE: UG-300, LE: 47 Total- 347, PG-9 EEE: UG: 118; LE: 33; Total-151, PG: 5 Mech: UG-238; LE: 60; Total-295, PG-6 CSE: UG-180, LE: 6, Total-186, PG-6 IT: 57; Civil: 115, LE: 31, Total: 146	A	
2.4	Student - Full time teacher ratio	ECE: 16.35:1; EEE: 15.68:1 Mech: 15.03:1, IT: 15:1 BS & H: 14.78:1; Civil: 18.37:1; CSE: 14.02:1	A	
2.5	No. of permanent faculty with Ph.D	ECE: 3; EEE: 3; Mech: 5 CSE: 3; IT: 1; BS&H: 3, Civil: 1	B	Less than 10% faculty are with PhD
2.6	Average teaching experience of full time teachers in years	ECE: 10.80; EEE: 6; Mech: 2.8 CSE:5; IT: 6.16; Civil:3 BS&H-10	A	
2.7	Total No. of teaching days	180	A	
2.8	Preparation and adherence to Academic Calendar and Teaching plans	Academic calendar and teaching Plans are adhered without fail.	A	
2.9	Innovative processes adopted in Teaching and Learning	Power Point Presentation, Video lectures	A	
2.10	Teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources, MOODLES etc.	Faculty are using ICT facilities effectively. LMS is being used partially. (NPTEL-done by faculty )	A	
2.11	Remedial Classes for slow learners and backlog students	Remedial classes are conducted regularly for Students with less than 50% of first Mid marks and with 3 backlog subjects.	A	Remedial Classes resulted in substantial improvement.
2.12	GATE Classes for Advanced Learners	---	B	Interested students may be identified and classes may be conducted.

2.13	Mentoring System	Mentoring system has been adopted by means of counselling by faculty mentors. 20 to 24 students are allocated to each faculty and their progress is continuously monitored.	A	
2.14	Adequate facilities for teaching – learning, viz., classrooms, laboratories, computing equipment, etc.	Yes, Available	A	
2.15	Advanced Research Centres	One research Centre with ANSYS, CRED, MATLAB is established.	C	Central Instrumentation centre may be set up.
2.16	Teachers attending professional development programs	ECE: 32 , EEE: 18 Mech: F- 13; FDP-4; IT: 9, Civil: Nil CSE-25	A	
2.17	Organisation of Guest Lectures, Industrial Visits, Workshops, etc.,	ECE: Guest Lectures–2; Industrial visits – 4 Workshops- 3; APSSDC–740 students EEE: GL-3; IV-5; WS-2; APSSDC: 87, Seminar-3 Mech: GL-9, IV-5, WS-6; APSSDC-55, CSE: GL-3, APSSDC-6, HYDSPIN-WS-6 IV-2, seminars-11 IT: GL-8, IV-1, WS-2 Civil: GL-1, WS-1, IV-2 BS&H: GL-5;	A	
2.18	Online Certification Programmes	ECE: Accorded with all India rank with 'AA' grade by NPTEL Faculty–10, Students– 59 EEE:F-2, S-12 Mech: NPTEL-F-1, S-7; IUCEE- F-49, S-87, Webinars-10 IT: F-5,S-50; BS&H: F-4: S-5; Civil: NPTEL-F-2,S-4; CSE: NPTEL F-13, S-10.	A	
2.19	Student Professional Society Chapter and Association Activities	ECE: IETE–7; GL-2, Workshop-4 EEE: ISTE-18; Mech: ISTE-4, Mechanical Engineers Association - 2 CSE:CSI & ISTE-11, Pragsoft-26; IT-CSI-2; ISTE-8 Civil: Nil	A	
2.20	No. of Students undertaking field projects / internships	ECE: 201(internships) EEE: 49; Mech: 95; IT: -2 Civil: 2; CSE-242.	A	
2.21	Dissemination of PEOs, POs, PSOs, COs	Disseminated at prominent places such as: Institute Website, Notice Boards, Department Offices, Library etc.	A	

2.22	Attainment of COs, POs, PSOs	Attainment of COs, POs, PSOs is done.	B	Additional inputs may be required to improve attainment of POs 6-12.
2.23	Online student satisfaction survey	Teaching-Learning survey is taken three times in a semester along with Course end feedback	A	

### 3. Research and Innovation

S.No.	Item	HEIs i/p	Grade	Remarks
3.1	The institution has a well-defined policy for promotion of research	Incentives are provided for publications, patent filing, Results, Professional Body memberships, Attending conferences and Faculty retention.	A	
3.2	The institution provides seed money to its teachers	Not in practice	C	Research seed money may be introduced to help faculty pursue research.
3.3	Teachers recognised as research guides	Mech: 1 (JNTUK) BS&H: 1 (JNTUK & AU)	B	Steps may be taken to recognize all professors as guides.
3.4	Sponsored research Projects and consultancy	BS&H: BRNS, BARC, Mumbai: Major Research project-1	C	No Engineering Dept. has Sponsored research projects
3.5	Workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices	A mandatory audit course on IPR & Patents for all students is introduced.	A	
3.6	Research Publications	ECE: UGC Approved – 2 Others: 9; EEE: SCI-1; UGC-6 Mech: Scopus-1; Others - 8 Civil- UGC 7; Others - 1 BS&H: UGC-7; CSE: UGC-37, Scopus- 4 IT: Scopus-2; UGC-3	B	Quality & quantity of Research Publications need improvement.
3.7	No. of Faculty participated in conferences and symposia	ECE-4; EEE: Nil; CSE-17; Civil-Nil Mech: 4, IT-1; BS&H; 15	A	
3.8	Books and chapters in edited volumes / books published, and papers in national/international conference-proceedings.	ECE:4 (papers in national / international conference - proceedings) EEE: Nil; Mech: Conferences - 4	B	Book Chapters and books limited to CSE

		CSE:Papers-17;Book-1, Book Chapters-2; IT-4		Dept.
3.9	Revenue generated from Consultancy	-----	C	Consultancy activity is absent.
3.10	Linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc.	ECE: 2 (Siemens lab-1, APSSDC-1) EEE-1 ( Siemens Lab); IT & CSE-3 ( APSSDC, HYDSPIN, Deloitte) Mech-1 ( APSSDC Welding Lab)	A	
3.11	Functional MoUs	ECE: 6; EEE-3; IT-1  CSE & IT-- TCS, TCS ion, CYIENT, E&ICT, Mission R&D, Intenshala;  Mech-1 APSSDC  Civil-Nil, BS&H-Nil	B	MoUs with organizations related to the core areas to be strengthened.

#### 4. Central library Facility

S.No.	Item	HEIs i/p	Grade	Remarks
4.1	Library is automated using Integrated Library Management System (ILMS)	Yes	A	
4.2	Collection of rare books, manuscripts, special reports or any other knowledge resource for library enrichment	Yes	B	Special resources may be identified and procured.
4.3	Does the institution have the following: e – journals, e-Shodh Sindhu, Shodhganga membership, e-books, Databases	Yes N List Delnet, ASCE, ASME	A	
4.4	Expenditure for purchase of books and journals	12,06,374/-	A	
4.5	Availability of digital library with a provision for remote access on intranet	Yes 25 (Systems Available)	A	
4.6	Per day usage of library by teachers and students	250	A	
4.7	No. Of Titles, Volumes and Print Journals (As on 1.7.2018)	Titles: 10212  Volumes: 51857  Print Journals: 135	A	

## 5. Examination Section

S.No.	Item	HEIs i/p	Grade	Remarks
5.1	Number of days from the date of last semester-end/ year- end examination till the declaration of results	4 weeks	A	
5.2	Percentage of student complaints/grievances about evaluation against total number appeared in the examinations	No Complaints 3.61% (Revaluation)	A	
5.3	Percentage of applications for revaluation leading to change in marks	0.82%	A	
5.5	Status of automation of Examination division along with approved Examination Manual	Yes 100% Automation	A	
5.6	Pass percentage of outgoing students	71.05%	A	

## 6. Amenities and Sports facilities

S.No.	Item	HEIs i/p	Grade	Remarks
6.1	The institution has adequate facilities for sports, games (indoor, outdoor, gymnasium, yoga centre etc.,) and cultural activities	Out Door: Kho-Kho; Kabadi, Volley Ball, Basket Ball, Cricket, Throw Ball, Tennicoit Gym & Yoga Centre Present	A	
6.2	Awards/medals for outstanding performance in sports, Yoga /cultural activities at national/international level	National-3 State level-73	A	
6.3	Number of sports, Yoga and cultural activities / competitions organised at the institution level.	Sports-9, Games-11 Yoga-yes	A	

## 7. Internet Connectivity

S.No.	Item	HEIs i/p	Grade	Remarks
7.1	Institution frequently updates its IT facilities including Wi-Fi	Wi-Fi enabled campus	A	

7.2	Student - Computer ratio	Total number of computers for academic purpose: 955  Student - Computer ratio: 4:1	A	
7.3	Available bandwidth of internet connection in the Institution	190 Mbps	A	
7.4	Facilities for e-content development such as Media centre, recording facility, Lecture Capturing System (LCS)	No	A	

## 8.Placements and Higher Education

S.No.	Item	HEIs i/p	Grade	Remarks
8.1	Capability enhancement and development schemes	<ul style="list-style-type: none"> <li>CRT Program</li> <li>Mock interviews by industry experts</li> <li>Company Specific training</li> </ul>	A	
8.2	No of students benefited by guidance for competitive examinations and career counselling offered by the institution	Higher Studies: 47 Entrepreneur: 2	A	
8.3	Number of placements of outgoing students	666 Offers 552 students	B	Core placements and average salary package need substantial improvement.
8.4	Students Qualified in Competitive Examinations	-----		Data not available.

## 9.Alumni Engagement

S.No.	Item	HEIs i/p	Grade	Remarks
9.1	The Alumni Association / Chapters	PEC AA established in 2006.	A	
9.2	Alumni contributions	Guest Lectures Mock Interviews	B	Alumni may be involved in the development of the Institute.



9.3	Alumni Association / Chapters meetings Conducted	Alumni meet is conducted once in a year	A	
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## 10.Social service and Extension activities

S.No.	Item	HEIs i/p	Grade	Remarks
10.1	Initiatives taken to engage with and contribute to local community	<ol style="list-style-type: none"> <li>1. During Special Camp 2017-2018 Literary activities, Health Check Up and Eye Checkup camp were organised.</li> <li>2. For school children sports activities were conducted during Janmabhoomi maa Vooru Programme(4<sup>th</sup> &amp; 5<sup>th</sup> Jan 2018)</li> </ol>	A	
10.2	No. of Activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national social cohesion as well as for observance of fundamental duties integration and communal harmony	<ol style="list-style-type: none"> <li>1. The NSS Unit and college eco club organized world environment day on 05-06-2017.</li> <li>2. On 22-06-2017 the NSS Unit Organized International Yoga Day in association with NCC with 50 volunteers.</li> <li>3. A Blood Donation camp was organized in the college campus in association with Indian Red Cross Society, Kakinada on 01-09-2017. A total of 216 donors donated their blood.</li> <li>4. On 24-09-2017 the NSS Unit conducted NSS Day Celebrations with 100 volunteers.</li> <li>5. On 26-11-2017 the NSS Unit conducted Constitution Day Programme with 39 volunteers.</li> <li>6. NSS unit of the college in association with NCC Unit of the college observed Communal Harmony Week:" from</li> </ol>	A	A mandatory audit course on Social responsibility for all students. Every student participates in social responsibility activities.

		<p>19th Nov to 25th Nov, 2017. In the college. Volunteers carried a fund raising programme and a total of Rs 8,910 was collected and sent to National Foundation for Communal Harmony, New Delhi.</p> <p>7. On 12-03-2018 the NSS Unit and Department of Environmental Science organized a guest lecture on swatch bharath.</p>		
10.3	Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development	1. On 11-11-2017 the NSS Unit organized ODF Survey on identification of houses at Surempalem with volunteers.	A	Every student participates in social responsibility activities.
10.4	Awards and recognition received for extension activities	-----		
10.5	Extension and outreach programs conducted in collaboration Government Organisations, Non-Government Organisations	<p>1. The NSS volunteers participated in Blood Donation camp at Sri Kona Bhaskar Rao memorial music association Kakinada on 15-08-2017.</p> <p>2. The NSS volunteers participated in Blood Donation camp at Sri Kiran Eye Hospital silver jubilee function Kakinada on 04-01-2018.&amp; volunteers attended</p>	A	
10.6	Number of students participating in extension activities	737	A	
10.7	Village adaptation	Surampalem	A	
10.8	NCC (Awards)	<p>'B' Certificates awarded-29</p> <p>'C' Certificates awarded-27</p> <p>Two cadets attended NIC camp at Warangal, Telangana.</p>	A	

<b>11. Administrative Procedures</b>				
<b>S.No.</b>	<b>Item</b>	<b>HEIs Input</b>	<b>Grade</b>	<b>Remarks</b>
11.1	Budget allocation, excluding salary for infrastructure augmentation	Rs. 17,14,72,000	A	
11.2	Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component	Rs.16,31,39,271	A	
11.3	Established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.	Standard procedures are being followed.	A	Good campus upkeep and maintenance.
11.4	Students benefited by scholarships and freeships provided by the Government.	2470 students were benefited	A	
11.5	Students benefited by scholarships, freeships, etc. provided by the institution besides government schemes	590 students are benefited. Rs. 80.05 lakhs has been spent by the Management	A	Very good initiative from the management, benefitting a number of students.
11.6	Support to differently abled students	Facilities like ramps at all important places is in place. Also, wheel chair is made available in the ground floor.	A	
11.7	Transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases	All statutory provisions are in place.	A	
11.8	Presence of an active Student Council & representation of students on academic & administrative bodies/committees	Student representation in: IQAC, Anti-ragging, Transport and Hostel committees. Also, active Class representative and girl representative system is in place.	A	
11.9	Professional development / administrative training programs organized by the Institution for teaching and non-teaching staff	Faculty are encouraged to attend FDPs/Training programmes. Regn. Fee, travel are provided by the Management and On-duty	A	

		permission is given.		
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## 12. Governance, Leadership and Management

S.No.	Item	HEIs Input	Grade	Remarks
12.1	Governance of the institution is reflective of an effective leadership in tune with the vision and mission of the Institution	Governing Body of the college meets twice in a year to discuss various issues and aspects related to the development of the college. Governing Body considers the recommendations of Academic Council, Finance Committee, Boards of Studies, etc. and chalks out a roadmap to achieve the goals of the institution. After every meeting, minutes are recorded and circulated to all members. Also, the Action Taken Report is also prepared and shared with the members	A	
12.2	Decentralization and participative management	Proactive and participative management is in place.  Various academic and administrative activities in the college are decentralized and assigned to faculty members, viz, Examinations, Career guidance Cell, R&D, Training & Placement Cell, Sports, etc.	A	
12.3	Perspective/Strategic plan and deployment documents	Selective agenda items of strategic plan are discussed in governing body meeting and decisions are circulated to all the departments.	A	
12.4	Organizational structure of the Institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism	All are in place.	A	

12.5	Implementation of e-governance in areas of operation	e-governance is in place in the following areas of operation: Administration Finance and Accounts Student Admission and Support Examination	A	
12.6	Effectiveness of various bodies/ cells/ committees is evident through minutes of meetings and implementation of their resolutions	Implemented effectively.	A	
12.7	Welfare measures for teaching and non-teaching staff	<ul style="list-style-type: none"> <li>• 10 / 15 years service awards</li> <li>• Group Insurance</li> <li>• Free transport</li> <li>• Paid Maternity and Medical leave</li> <li>• PF &amp; ESI facility.</li> <li>• Academic leave</li> </ul>	A	
12.8	Performance Appraisal System for teaching and non-teaching staff	Both Self and Performance appraisal is done once in a semester. Best performers are rewarded by additional incentives.	A	
12.9	Institutional strategies for mobilisation of funds and the optimal utilisation of resources	All departments and units of the college ensure proper budget proposal, sanction and Utilisation.	A	
12.10	Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies	Cash incentives are paid for faculty publications in reputed National/International journals. On Duty is provided for faculty presenting papers in National/ International conferences	A	

### 13. IQAC

S.No.	Item	HEIs Input	Grade	Remarks
13.1	Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes	Significant Contributions are made	A	
13.2	The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms	Yes, as per norms	A	
13.3	Quality initiatives by IQAC for promoting quality culture	Self Appraisals, Providing suggestions for improvements and Training Programmes for newly selected faculty	A	

**Best Practices followed in the Institute:**


1. Value addition by certification programs as well as technology training is focused through Skill Development Centre (APSSDC, IITB-RC, NPTEL, Spoken tutorial, Swayam Prabha).
2. The course coordinator system has been continued.
3. Additional Training on communication skills and soft skills is further increased.
4. Institute has signed some MOUs and established Tie ups/collaborations with reputed organizations and institutions
5. Improved class room facilities with ICT tools.
6. Incentives in terms of registration fee, travel and on-duty permission for attending conferences and workshops.
7. Fifty percent course fee is reimbursed by the management if they get AAA/AA rating in NPTEL courses.
8. Incentives for Highest pass percentage.
9. Full financial assistance provided to faculty for attending training abroad.
10. Free training to students at the skill-based centres.
11. Active NPTEL Local Chapter.

**Suggestions for improvement:**

1. Sponsored research and consultancy is very poor. Most of the Departments have been continuously applying for projects without much success. The Institute may take steps such as: conducting training/workshops on how to write good research proposals by inviting eminent researchers.
2. Research output by a way of publications in SCI / Scopus indexed journals needs a substantial improvement. Publishers such as Elsevier / Scopus etc. may be invited to address the faculty on aspects of writing good research papers.
3. Research seed money may be introduced to encourage faculty to involve in research.
4. Matching grant to faculty getting Sponsored research projects.
5. Consultancy activity is absent. Needs to take steps to improve.
6. Appropriate Group Insurance scheme for both faculty and students may be implemented.
7. PG admissions are poor. It is advised to revamp some of the courses to attract admissions. Otherwise it is recommended to close those PG programs, in which there are no admissions, for the last three years.
8. IQAC may organize induction programs for freshly recruited faculty.



14.7.2018

**Signature of AAA member 1****Name: Dr. A. Venu Gopal****Designation: Professor****Address: Dept. of Mechanical Engineering  
N.I.T. WARANGAL****Mobile No.: 9493 318 537**

14.7.2018

**Signature of AAA member 2****Name: Dr. Meera Saheb****Designation: Professor****Address: Dept. of Mechanical Engineering  
University College of Engineering,  
JNTUK****Mobile No.: 8008 612 555**