

**External Academic
&
Administrative Audit
from 2018-19 & 2019-20**



Nagar Yuwak Shikshan Sanstha's

Yeshwantrao Chavan College of Engineering

(An Autonomous Institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University)

(Accredited 'A' Grade by NAAC with a score of 3.25)

Preamble :

Yeshwantrao Chavan College of Engineering, Nagpur is an Autonomous Institution affiliated to RTM Nagpur University. The institute was started in the year 1984 and currently running 8 UG programmes with intake of 1200 and 5 PG programmes with intake of 115 students. The 6 UG and 3 PG programmes are accredited by NBA, New Delhi. The institution is also accredited by NAAC with A Grade. The Institution has got NIRF ranking within 150 since 2016. In NIRF 2020 ranking the Institution is at 139th rank.

All departments are the approved research centers of RTM Nagpur University for award of Ph.D. degree. As on date 44 research scholars are pursuing their research work, 13 have submitted their Ph.D. thesis and 135 research scholars received Ph.D. from RTM Nagpur University.

The institution carried out the audit previously on 30-31 October, 2013 and 24-25 August, 2018 to strengthen teaching learning, academic and administrative process implemented.

The following expert committee conducted the Academic and Administrative Audit (AAA) in online mode on 12th May 2021 :-

- 1. Dr. O.G. Kakde – IIT, Nagpur**
- 2. Dr. A.G. Keskar – VNIT, Nagpur**
- 3. Dr. N.C. Shivaprakash – IISc, Bangalore**

The committee went through ATR of previous audit and expressed their satisfaction on ATR report. The committee followed schedule given by college for this audit which includes presentation by the Principal, Dean (Academic Matters), Controller of Examination, HoD's, and First Year BE Coordinator, interaction with faculty members, video tour of special facilities created and detailed information report about the institution and activities conducted.

The committee went through the SWOC Analysis presented by the Principal and given their suggestions for its modifications. The modified SWOC Analysis as per observation of Expert Committee is given below:-

SWOC ANALYSIS:-

Strengths:

- The college maintains high academic quality standards; the certification by the NAAC, NBA and NIRF ranking is the testimony of the same
- Adequate infrastructure, good academic ambience, and conducive T-L environment
- Well qualified, experienced and dedicated competent faculty
- Preferred autonomous institution in the region located in the center of the country
- Recognized research centers by RTM Nagpur University for PhD
- Restructured OBE based curriculum to suit the current needs of stakeholders
- Good placement record in MNC's
- Centers of Excellence and TBI Incubation Center
- Appreciable number of patents/copyrights published and R&D Projects

Weaknesses:

- Lower percentage of faculty members with doctoral qualification
- Inadequate commercialization of intellectual property generated
- Limited Industry collaboration towards advanced research
- Limited consultancy in collaboration with national agencies and industries
- Over-reliance on IT industry for placements

Opportunities:

- Exploring the ways to offer certificate courses, cross-disciplinary and recent developing areas related degree programs
- To increase the number of PhDs and reach 70% in due course of time
- To improve peer reviewed journal publications (Scopus, WoS, citation index, h-index)
- To explore benefits of funding agencies to strengthen laboratories with research facility
- To improve industry-institute linkages for quality students' projects, internships and trainings to hone the practical skills
- To offer industry aligned courses to cater the competent manpower need of industries
- To groom entrepreneurial skills through incubation facilities for startups.
- To develop strong alumni base to further strengthen linkages

Challenges:

- Tuning to changing needs of government policies, industry and society
- Keeping pace with global development in pedagogy, research, and competitive employment scenarios in professional organizations
- Attracting meritorious students due to mushroom growth of engineering institutions
- Non-availability of faculty with industrial exposure
- Attracting core engineering company placements catering to all domains

At the end of audit, honourable Expert Committee members have provided recommendations for the improvement of various processes implemented in autonomy, are included at the end of report.

Recommendation of Previous Audit for 2015-16, 2016-17 & 2017-18 conducted on 24th & 25th August, 2019

Recommendation:

1. Maximum Weightage should be to MSE (60%) and to ESE (40 %) examination.
2. The detention of students shall be based on the number of lectures as prescribed by the SoE and in syllabus rather than actual number of lectures conducted by the faculty
3. For direct second year admitted students, the mid semester examination may be scheduled as conveniently decided by the DAM so that they get appropriate time for preparation of the examination
4. Average students' performance in GATE and other all India level examinations is to be improved.
5. Financial support / reimbursement of registration for paper presentation , workshop and training for student at IIT and NIT may be provided
6. More industry based subjects to be incorporated in the SoE
7. More emphasis may be given on Practical Knowledge in teaching learning process
8. Strategy for digital classrooms with networking and projection facilities should be implemented.
9. Setting question paper of ESE from EQB may not be suitable for all the subjects and hence should not be mandatory.
10. Question paper format require modification. Cut off for subject not to be very low.
11. Paper pattern should be flexible so that course teachers could design best possible paper for that particular course.
12. Preparation leave of at least one week should be given before start of ESE. Admit card/ Hall Ticket should be distributed to students at least one week before start of ESE.

Action Taken Report :

SN	Observations of the committee in preceding report	Section/ Functional Head concerned	Action Taken
1	Maximum Weightage should be to MSE (60%) and ESE (40 %) to examination	PRINCIPAL, DAM, CoE	Complied
2	The detention of students shall be based on the number of lectures as prescribed by the SoE and in syllabus rather than actual number of lectures conducted by the faculty.	DAM	Complied
3	For direct second year admitted students, the mid semester examination may be scheduled as conveniently decided by the DAM so that they get appropriate time for preparation of the examination.	DAM	Complied
4	Average students' performance in GATE and other all India level examinations is to be improved.	HoDs, DAM	Partly Complied and Efforts Are Still Being Taken
5	Financial support / reimbursement of registration for paper presentation, workshop and training for student at IIT and NIT may be provided	Principal/Registrar	Complied. The policy for the same is prepared and implemented.
6	More industry based subjects to be incorporated in the SoE	HoDs, DAM)	Complied. Initiated incorporating industry based PE for the current SoE. More subjects will be included in 2022 SoE
7	Strategy for digital classrooms with networking and projection facilities should be implemented.	Principal/Registrar	Complied.
8	As opined by HoDs, setting question paper of ESE from EQB may not be suitable for all the subjects and hence should not be mandatory.	Chairman BoS, CoE	The thought process is initiated.
9	Separate college Identity Card apart from Library Card need to be issued for each student	Principal/Registrar	The action is initiated not only for Id and Library but also for unique Mail Id from college.
10	The working of MIS is to be drastically improved. In 2018-19, lot of problems was faced by the faculty and students during SUMMER 2018 due to miss-working of MIS software, especially for open electives.	Principal/Registrar	Complied. However continued efforts are needed to fine-tune MIS
11	The attendance entry of free elective is to be improved by MIS software. The student details, phone, mail Id, address etc shall be retrievable through MIS.	DAM	Complied
12	Setting question paper of ESE from EQB may not be suitable for all the subjects and hence should not be mandatory.	Chairman BoS, CoE	The thought process is initiated.

Observation and Recommendation of the AAA Expert Committee for the Audit conducted for the AY 2018-19 & 2019-20 on 12.05.2021

General :-

1. YCCE has done good progress – well known institute.
2. Retention of faculty is good.
3. MIS is in place and implementing best practices in all the departments.
4. PG admissions are less. Introduce new PG programs related to cutting age technology.
5. PG publications are going down and must improve.
6. Cadre ratio need to be improved.
7. Student Faculty ratio should be below 15.
8. PhD seat vacancies should be filled.
9. Start full time PhD.
10. Research facilities to be improved.
11. Institute should send faculty for PhD through QIP.
12. Flexibility in curriculum of Minor and Major programs offered to be ensured.
13. Minor courses- Flexibility to register for minor courses to be defined in academic regulations.
14. Average placements pay package is to be improved.
15. MOOC courses – offer advance courses instead of fundamental courses.
16. Increase the GATE passing and appearing percentage.
17. Internet bandwidth is insufficient, needs to increase further.
18. Keep track of students joined internship and how many got placement in the same Industry where they have completed internship and other industries.

Computer Technology Department :-

1. Pedagogy in T-L like project-based learning should be incorporated.
2. Assignment should be used as a self-learning tool.
3. Quality of question paper as per the Blooms Taxonomy to be ensured.
4. Offer the elective courses as per the industry support advanced lab setups and Center of Excellence. Offer Courses on open CUDA.
5. Plan proper semester long internship
6. Need involvement of faculty members in coding clubs of department.
7. Test cases should be conducted in coding clubs.

Electronics & Telecommunication Engineering – Department :-

1. Overlap in EE and ETC curriculum to be identified and find what different can be offered.
2. Need to develop Industry sponsored labs. & CoE.
3. Good incubation ideas related to communication engineering should be searched.

Information Technology Department :-

1. Involve 2nd & 3rd year students in the project so that project can be continued further and converted into a startup or patent.
2. Multi-disciplinary projects need to be encouraged.
3. More improvement in paid internship is needed.

Mechanical Engineering Department :-

1. Improvement needed in placement in core companies.
2. Implement suggestions of students for their better placements.
3. Special training should be given to students for placement in core companies.
4. Revision in curriculum to include industry 4.0 requirements to increase core placement.

Civil Engineering Department:

1. Research laboratories with specific equipment to be used by PhD research scholars to be prepared. Make this equipment list available on college website.
2. Organize one day research conclave at institute level for all PhD scholars.
3. Very poor paper publication h-index
4. Revenue through consultancy need to improve.
5. Dept. should conduct National Conference.
6. Innovation in T-L pedagogy is needed.
7. Students who are not interested in placement - data to be compiled.
8. Consultancy, placement & industry involvement, collaboration activities to be improved.

Electronics Engineering Department

1. No funding for research proposal in last 5 years
2. Consultancy is a grey area.
3. Less number of FDP's are organized.
4. Specific innovative methods and T-L pedagogy should be adopted.
5. Minimum salary (1.8L) is very less TPO should give minimum acceptable salary.
6. Joint FDP's conducted are NIL.
7. No Industry aligned elective courses in the department.
8. VLSI activities are expected by the department.

Electrical Engineering Department

1. Minimum package is 1.2 lakh, need improvement.
2. Collaboration is needed in upcoming areas of electrical engineering like - Smart Grids
3. Add Smart grid as a course in SoE.
4. PG admissions are very less, strengthen PG programs.

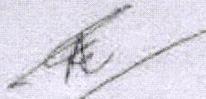
5. Innovative ideas implementation, incubation ideas need improvement.

Applied Sciences & Humanities

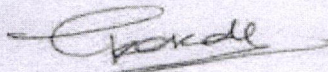
1. First year dept. faculty should do Joint projects /research proposals with engineering department faculty.
2. Encourage joint publication with engineering faculty of the college.
3. Proper analysis of killer subjects to be carried out and corrective measures should be taken.

Examination Section

1. Revaluation practice should be stopped. When evaluated answer sheets are being shared with students before declaration of result, revaluation system is not needed.
2. Good ICT reforms in examination section
3. Use of Question bank must be stopped for setting of question papers.
4. No internal choice in questions should be provided; all questions should be compulsory since relative grading system is implemented.



Dr. A.G. Keskar
Professor VNIT, Nagpur

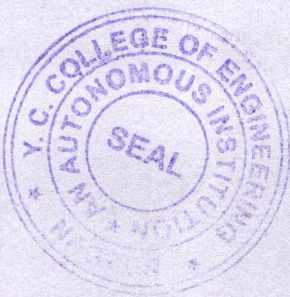


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The Management and faculties of YCCE Nagpur place on record their sincere thanks to AAA Committee for providing valuable recommendations and suggestions. These recommendations and suggestions shall be implemented in full academic spirit in the forthcoming sessions.



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