



# K.RAMAKRISHNAN COLLEGE OF ENGINEERING

Permanently Affiliated to Anna University Chennai and Approved by AICTE, New Delhi  
ISO 9001:2015 Certified Institution, Accredited with 'A' grade by NAAC  
Samayapuram, Trichy, Tamilnadu



## ACADEMIC AUDIT AND IMPLEMENTATION ACTIVITIES

Academic Year 2022-2023





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# ACADEMIC AUDIT

- To promote **self reflection** among all departments being audited.
- To promote **self improvement measures** among all departments being audited.
- To conduct **quality checks** on different activities undertaken in all departments to meet expected outcomes.
- To promote adoption of **best practices**.



# Scope Of Academic Audit

	<b>The audit team will assess the</b>
<b>1.</b>	<b>Design and development activities in curriculum.</b>
<b>2.</b>	<b>Teaching-learning Process.</b>
<b>3.</b>	<b>Student learning assessment process and student engagement programs.</b>
<b>4.</b>	<b>Activities involved in developing learning outcomes.</b>
<b>5.</b>	<b>The quality of resources and general ambience from perspective of meeting the learning outcome.</b>
<b>6.</b>	<b>Assess the quality and quantity of research outcomes.</b>
<b>7.</b>	<b>Opportunities and scope of Improvements in the major functional areas.</b>
<b>8.</b>	<b>Outreach programmes conducted by the college.</b>



# Academic Audits In KRCE

1. IQAC and Academic Affairs conducts department level academic audit three times every Academic year.  
**Internal Audit : 02 (ODD & EVEN SEM) ; External Audit : 01**
2. The Audit team will visit and conduct onsite evaluation through check of documents and interaction . The audit report will be prepared based on the academic audit check list. The **Audit report analysis** is done by the Principal in discussion with Department Heads and IQAC Members. Suggestions and appreciations are recorded.
3. The suggestions and Appreciations are informed to the **department faculty members** by the HoD's and action taken report is submitted to IQAC.
4. **Consolidated audit summary** and **Action taken report** is presented during IQAC meeting in the presence of Principal, Department Heads & IQAC Committee members.
5. **Recommendation of quality enhancements** are discussed and initiated during the IQAC meeting.



# Schedule of the External Academic Audit 2022-2023

S.No	Department	Date & Time	Auditor's Name
1.	COMPUTER SCIENCE ENGINEERING	20.02.23 09.00am-04.00 pm	Dr M. Brinda, Associate Professor, Department of CSE, National Institute of Technology, Tiruchirapalli - 620015
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	20.02.23 09.00am-04.00 pm	Dr.R.Pandeeswari, Associate Professor, Department of ECE, National Institute of Technology, Tiruchirappalli - 620 015
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	21.02.23 09.00am-04.00 pm	Dr. S. Senthil Kumar Associate Professor, Department of EEE, National Institute of Technology, Tiruchirappalli - 620 015



## Schedule of the External Academic Audit (Contd..)

S.No.	Department	Date & Time	Auditor's Name
4.	MECHANICAL ENGINEERING	21.02.23 09.00 am -04.00 pm	Dr. R.Jeyapal, Professor Department of Production Engineering, National Institute of Technology, Tiruchirappalli - 620 015
5.	INFORMATION TECHNOLOGY	22.02.23 09.00 am -04.00 pm	Dr. B. Janet, Assistant Professor Grade I, Department of Computer Applications, National Institute of Technology, Tiruchirappalli - 620 015
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	22.02.23 09.00 am -04.00 pm	Dr V. Lavanya, Asst.Prof. Department of MBA, National Institute of Technology, Tiruchirappalli. - 620 015
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	23.02.23 09.00 am -04.00 pm	Dr.E. SIVASANKAR, Associate Professor, Department of CSE, National Institute of Technology, Tiruchirappalli. - 620 015



## Schedule of the External Academic Audit (Contd..)

S.No	Department	Date & Time	Auditor's Name
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	23.02.23 09.00 am -04.00 pm	Dr.E. SIVASANKAR, Associate Professor, Department of CSE, National Institute of Technology, Tiruchirappalli - 620 015
9.	MASTER OF BUSINESS ADMINISTRATION	24.02.23 09.00 am-04.00 pm	Dr. V. Lavanya, Assistant Professor, Department of MBA, National Institute of Technology, Tiruchirappalli - 620 015
10.	SCIENCE & HUMANITIES	13.03.23 09.00 am-04.00 pm	Dr. S.Velmathi, Professor, Department of Chemistry, National Institute of Technology, Tiruchirappalli - 620 015





# AUDIT ASSESSMENT DETAILS

## (Parameters Stipulated by NBA & NAAC)

<b>CRITERIA 1</b>	<b>Vision, Mission and Program Educational Objectives</b>
<b>CRITERIA 2</b>	<b>Program Curriculum and Teaching Learning Process</b>
<b>CRITERIA 3</b>	<b>Course outcome and Program Outcome</b>
<b>CRITERIA 4</b>	<b>Students Performance</b>
<b>CRITERIA 5</b>	<b>Faculty Information and Contribution</b>
<b>CRITERIA 6</b>	<b>Facilities and Technical Support</b>
	<b>General files</b>



## Criteria 1 : Vision, Mission and Program Educational Objectives

- 1. Vision and Mission of the Department and Institute.**
- 2. Program Educational Objectives (PEOs)**
- 3. Where and how the Vision, Mission and PEO's are published and disseminated among stakeholders**
- 4. Process for defining the Vision and Mission of the Department and PEO's of the program**
- 5. Establish consistency of PEOs with Mission of the Department.**



## CRITERIA 1: VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES

### Audit Report (Department Wise)

S.No	Department	External Audit Member Suggestions	Action Taken
1.	COMPUTER SCIENCE ENGINEERING	➤ <b>PEO justification</b> needed.	➤ Justification for PEO is mentioned.
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	•Defined and Justified	NIL
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	•Defined and Justified	NIL
4.	MECHANICAL ENGINEERING	➤ <b>Periodic review</b> of PEO, PO, Vision & Mission have to be conducted	➤ Review meeting for periodic review of PEO, PO, Vision & Mission <b>will be planned and executed</b> .
5.	INFORMATION TECHNOLOGY	➤ <b>Curriculum book</b> must be given to students	➤ Once all the semester syllabus are finalized and approved, then curriculum book will be printed and distributed to students.



# Criteria 1: Vision, Mission and Program Educational Objectives Audit Report (Department Wise) (Contd..)

6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	NIL	NIL
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	1. <b>Mini projects</b> can be tied up with any of the programming core subjects.	1. It will be considered for <b>upcoming regulation</b> .
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	1. <b>Mini projects</b> can be tied up with any of the programming core subjects.	1. It will be considered for <b>upcoming regulation</b> .
9.	MASTER OF BUSINESS ADMINISTRATION	1. <b>Vision to be modified</b> by considering society both in the institute and in the department. PEO – Planning, decision making risk taking to be added, Life long learning to be reframed as continuous learning .	1. Communicated to respective Higher Authority for <b>further action</b> .



## Criteria 1: Vision, Mission and Program Educational Objectives Audit Report (Department Wise) (Contd..)

10.	SCIENCE & HUMANITIES (MATHEMATICS)	<ol style="list-style-type: none"><li>1. <b>Specific PEO's</b> are required.</li><li>2. Graduation Pass percentage can be mentioned as higher or maximum in the objective.</li></ol>	<ol style="list-style-type: none"><li>1. Branch wise specific PEO's <b>are included</b>.</li><li>2. Graduation pass percentage mentioned in objective has been changed as maximum.</li></ol>
	PHYSICS	<ol style="list-style-type: none"><li>1. <b>Specific PEOs and PSOs</b> are required for every department</li></ol>	<ol style="list-style-type: none"><li>1. Branch-wise specific PEOs are included.</li></ol>
	CHEMISTRY	<ol style="list-style-type: none"><li>1. <b>Program Education Objectives should be specific</b> and relevant to the supporting department which offers the course for parent department.</li></ol>	<ol style="list-style-type: none"><li>1. <b>PEO is modified</b> related to parent department wise.</li></ol>



## Criteria 2 : Program Curriculum and Teaching Learning Process

1. **Structure of curriculum**
2. **Components of curriculum**
3. **Curricular gap analysis**
4. **Approval by BoS**
5. **Approval by Academic Council and Governing Body**
6. **Value Added Courses**
7. **NPTEL Courses**
8. **Elective and Open Courses**
9. **Employability/Entrepreneurship/ Skill development courses**
10. **Stakeholder feedback on curriculum, design and review of syllabus (From Faculty, Alumni, Employers and students)**
11. **Process followed to improve Teaching Learning Process**  
**Academic Calendar/Event calendar Work load, Class Timetable, Lesson Plan**  
**Log book, Course File, Pedagogical initiatives, Methodologies to support weak students and encourage bright students, Conduct of experiments and assessment (Observation in lab), Student feedback in teaching learning process**



## Criteria 2 : Program Curriculum and Teaching Learning Process (Contd.)

- |     |   |
|-----|---|
| 12. | Quality of End semester examination, internal semester question papers, assignment and evaluation, Periodical Test Question, Scheme of Evaluation, Question Bank, Previous University Questions, Content beyond Syllabus, Continuous Internal Assessment mark, Web portal Entry, Periodical CIA review Analysis, End Semester Result Analysis |
| 13. | Quality of student projects   |
| 14. | Initiatives related to industry interaction , industry internship /summer training (Industry supported labs, industry involved program design and curriculum, industrial trainings, industrial/internship training)   |



## Criteria 2: Program Curriculum and Teaching Learning Process Audit Report (Department Wise)

S.No	Department	External Audit Member Suggestions	Action Taken
1.	COMPUTER SCIENCE ENGINEERING	1. <b>Industry supported laboratory</b> can be established.	1. <b>Communicated with two industries</b> for laboratory establishment.





## Criteria 2: Program Curriculum and Teaching Learning Process

S.No	Department	External Audit Member Suggestions	Action Taken
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	<ol style="list-style-type: none"><li>1. NPTEL COURSE-More faculty can be motivated to <b>enroll in NPTEL courses.</b></li><li>2. Stakeholder <b>feedback on curriculum, design and review of syllabus-Feedback</b> from employers can be included.</li><li>3. <b>Pedagogical initiatives-Consolidated</b> report can be prepared and included.</li><li>4. Quality of End semester examination, internal semester question <b>papers-End semester question paper to be maintained.</b></li></ol>	<ol style="list-style-type: none"><li>1. <b>All the faculty members have registered in NPTEL</b> for April 2023 examinations.</li><li>2. Feedback will be obtained on curriculum from <b>employers through Placement cell.</b></li><li>3. <b>Innovative teaching is implemented</b> and report is updated.</li><li>4. <b>Blooms taxonomy is followed</b> to prepare the CIA question paper. Question paper will be maintained in the department.</li></ol>

6/23/2023



## Criteria 2: Program Curriculum and Teaching Learning Process(Contd..)

S.No.	Department	External Audit Member Suggestions	Action Taken
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	<ol style="list-style-type: none"><li>1. The Stakeholder <b>Feedback can be collected</b> from all the students.</li><li>2. <b>Faculty feedback</b> can be collected by subject wise.</li><li>3. In academic calendar <b>common event can be planned</b> for all departments in a common day.</li><li>4. <b>Student counseling</b> can be done through CAMU software.</li></ol>	<ol style="list-style-type: none"><li>1. <b>Feedback collected from all students.</b></li><li>2. <b>Considered.</b> Upcoming semesters it will be implemented</li><li>3. <b>Under discussion</b>, next academic calendar year it will be implemented.</li><li>4. <b>Under discussion</b></li></ol>



## Criteria 2: Program Curriculum and Teaching Learning Process(Contd..)

S.N o.	Department	External Audit Member Suggestions	Action Taken
4.	MECHANICAL ENGINEERING	<ul style="list-style-type: none"><li>➤ Expected to have <b>courses on AI, Machine learning and Data analytics as electives</b>. More open electives have to be offered.</li><li>➤ <b>Smart class room</b> to be installed for effective teaching and learning process.</li><li>➤ <b>Feedback</b> from stakeholders to be <b>linked with curriculum and follow up to be done</b>.</li><li>➤ To strengthen the <b>industry tie-up</b>.</li></ul>	<ul style="list-style-type: none"><li>➤ Elective courses and credits for students to be introduced in <b>the next curriculum</b>.</li><li>➤ Plan for implementing smart class room is in <b>progress</b></li><li>➤ Feedback from alumni and stakeholders to be <b>considered for syllabus framing</b></li><li>➤ More MOU to be planned in future. A MOU <b>with High Energy Batteries</b> was signed on <b>24.03.2023</b>.</li></ul>



## Criteria 2: Program Curriculum and Teaching Learning Process (Contd..)

S.No	Department	External Audit Member Suggestions	Action Taken
5.	INFORMATION TECHNOLOGY	<p><b>1. Suggested to print PO, PEO, vision and mission in log book.</b></p> <ul style="list-style-type: none"><li>•CO attainment to be added in log book.</li><li>•Observation and Record note book can be combined.</li><li>•Course file and logbook can be combined.</li><li>•CO attainment details can be included in CIA review analysis</li></ul>	<p><b>CO attainment details are included in the CIA Review Analysis</b></p>
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	<p><b>1. Application oriented questions can be given for assignment.</b></p>	<p><b>1. Faculties are insisted to give application oriented questions for assignment.</b></p>



## Criteria 2: Program Curriculum and Teaching Learning Process(Contd..)

S.No	Department	External Audit Member Suggestions	Action Taken
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	<ol style="list-style-type: none"> <li>1. <b>Operating systems Lab may be included in the 4<sup>th</sup> semester along with corresponding theory subject.</b></li> <li>2. Students <b>Feedback question format</b> can be improved.</li> <li>3. Internal question format can be improved <b>(30-40% problem solving questions can be encouraged).</b></li> <li>4. <b>Academic calendar</b> may be displayed in college website.</li> <li>5. <b>MOU with Tier-1 software service providers can be explored.</b></li> </ol>	<ol style="list-style-type: none"> <li>1. If it's possible, Operating Systems lab can be included in upcoming regulation.</li> <li>2. IQAC format feedback format followed . Given <b>suggestion will be considered in future.</b></li> <li>3. Given suggestion will be <b>followed</b> with respect to internal exam question paper.</li> <li>4. Academic calendar <b>is displayed in college website</b> after getting approval from the higher authorities.</li> <li>5. MOU with Tier-1 software service providers can be <b>explored in future.</b></li> </ol>



## Criteria 2: Program Curriculum and Teaching Learning Process(Contd..)

S.No	Department	External Audit Member Suggestions	Action Taken
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	<ol style="list-style-type: none"> <li>1. <b>Operating systems Lab may be included in the 4<sup>th</sup> semester</b> along with corresponding theory subject.</li> <li>2. Students <b>Feedback question format</b> can be improved.</li> <li>3. Internal question format can be improved (<b>30-40% problem solving questions can be encouraged</b>).</li> <li>4. <b>Academic calendar</b> may be displayed in college website.</li> <li>5. <b>MOU with Tier-1 software service providers can be explored.</b></li> </ol>	<ol style="list-style-type: none"> <li>1. If it's possible, Operating Systems lab can be included in upcoming regulation.</li> <li>2. IQAC feedback format followed . Given <b>suggestion will be considered in future.</b></li> <li>3. Given suggestion will be <b>followed</b> with respect to internal exam question paper.</li> <li>4. Academic calendar <b>is displayed in college website</b> .</li> <li>5. MOU with Tier-1 software service providers can be <b>explored in future.</b></li> </ol>



	Department	External Audit Member Suggestions	Action Taken
9.	MASTER OF BUSINESS ADMINISTRATION	<ul style="list-style-type: none"><li>• <b>Subject Title to be reframed</b> for SWC, IRLW, OM and Summer Training</li><li>• <b>Digital signature</b> from BOS Members</li><li>• <b>Value added courses</b> during semester holidays</li><li>• <b>Electives</b> to be floated among students</li><li>• <b>Academic calendar</b> consolidation</li><li>• <b>Workload</b> consolidation,</li><li>• <b>Pedagogical initiatives</b> –ICT, Case studies, Activity based learning, supporting weak students-counseling, mentor mentee meetings, Application and real time oriented assignments topics to be improved, Application oriented and case studies can be asked in the continuous internal test question papers</li></ul>	<ul style="list-style-type: none"><li>• Subject Title change will be implemented in <b>the next BOS Meeting</b></li><li>• Informed to BOS members</li><li>• Will be <b>considered</b> in the coming semester holidays</li><li>• Will be <b>considered</b> in the upcoming semester</li><li>• <b>Completed</b></li><li>• <b>Completed</b></li><li>• <b>ICT, Activity based learning, real time oriented assignments topics</b> will be implemented in the current semester</li></ul>



## Criteria 2: Program Curriculum and Teaching Learning Process(Contd..)

S.No.	Department	External Audit Member Suggestions	Action Taken
10.	SCIENCE & HUMANITIES (MATHEMATICS)	1. It is suggested to take the <b>NPTEL courses related to core subject.</b>	All faculty members have <b>registered in the core subject during the academic year 2022-23.</b>
	PHYSICS	<p>1. There is <b>no curriculum gap in the syllabus</b> and it is verified.</p> <p>2. <b>Subject-related NPTEL courses</b> can be chosen. It is followed in the Physics department.</p> <p>3. <b>Action taken report</b> can be recorded.</p> <p>4. <b>Open elective courses</b> can be chosen by students.</p>	<p>1. The same Curriculum and syllabus will be followed.</p> <p>2. All the faculties suggested to pursue <b>Physics related NPTEL courses.</b></p> <p>3. Action taken report is <b>recorded.</b></p> <p>4. Will be implemented .</p>





## Criteria 2: Program Curriculum and Teaching Learning Process(Contd..)

S.No.	Department	External Audit Member Suggestions	Action Taken
	CHEMISTRY	<ol style="list-style-type: none"><li>1. It is suggested to take the <b>NPTEL courses</b> related to subject and it will corrected for future. It is suggested to offer open elective course to the students.</li></ol>	<ol style="list-style-type: none"><li>1. All faculty members <b>have registered in the core subject during the academic year 2022-23</b></li></ol>
	ENGLISH	Staff members have to do <b>NPTEL courses</b>	Staff members are <b>insisted to do NPTEL courses.</b>



## Criteria 3 : Course outcome and Program Outcome

- 1. PO, PEO and CO**
- 2. CO Mapping with PO**
- 3. Assessment tools (Direct and Indirect)**
- 4. Course data sheet**
- 5. Innovative Teaching Methods**



## Criteria 3: Course outcome and Program Outcome

S.No	Department	External Audit Member Suggestions	Action Taken
1.	COMPUTER SCIENCE ENGINEERING	1. <b>CO – PO attainment calculation</b> is to be defined.	1. CO – PO attainment calculation is <b>defined</b> .
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	1. <b>Innovative Teaching Methods-Guest lecture</b> can be arranged and report may be included in the file.	1. Guest lecture is <b>arranged</b> from reputed institutions for analytical papers to enhance the knowledge of the students
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	1. Documents are properly maintained and evidenced.	NIL
4.	MECHANICAL ENGINEERING	1. Award for <b>best teaching faculty</b> .	1. Award for best teaching faculty <b>will be given in annual day</b>



## Criteria 3: Course outcome and Program Outcome

S.NO.	Department	External Audit Member Suggestions	Action Taken
5.	INFORMATION TECHNOLOGY	<ol style="list-style-type: none"> <li>1. Mapping of PO, PEO and CO to be added in all files.</li> <li>2. PO and CO attainment to be included in course file.</li> </ol>	<ol style="list-style-type: none"> <li>1. CO attainment is included in the Course file.</li> <li>2. PO and PEO attainment will be added after passing out of first batch</li> </ol>
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	Documented	-----
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	<ol style="list-style-type: none"> <li>1. Some more innovative teaching methods can be recommended.</li> </ol>	<ol style="list-style-type: none"> <li>1. Will be implemented in forthcoming semester.</li> </ol>
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	<ol style="list-style-type: none"> <li>1. Some more innovative teaching methods can be recommended.</li> </ol>	<ol style="list-style-type: none"> <li>1. Will be implemented in forthcoming semester</li> </ol>
9.	MASTER OF BUSINESS ADMINISTRATION	<ol style="list-style-type: none"> <li>1. PO, CO mapping implementation to be improved</li> </ol>	<ol style="list-style-type: none"> <li>1. Work in progress</li> </ol>



## Criteria 3: Course outcome and Program Outcome

S.No.	Department	External Audit Member Suggestions	Action Taken
10.	SCIENCE & HUMANITIES (MATHEMATICS)	Documents verified and found correct. No suggestion is given.	--
	PHYSICS	Documents verified and found correct. No suggestion is given.	--
	CHEMISTRY	Documents verified and found correct. No suggestion is given.	--
	ENGLISH	Documents verified and found correct. No suggestion is given.	--



## Criteria 4 : Students Performance

1. **Students Strength**
  - Student Profile**
  - Students participation in co- curricular activities**
  - Students participation in extracurricular activities**
  - Mini project/Projects**
  - Industrial/Field Visit/ Field work/In-plant Training**
  - Participation in competitive examinations**
  - Internships, Online courses**
2. **Achievements and awards**
3. **Students receiving financial assistance from the Management**
4. **Graduation details**
5. **Placement details**
6. **Pursuing higher studies after graduation**



## Criteria 4 : Students Performance (Contd..)

	<b>Criteria 4 : Students Performance (Contd..)</b>
<b>7.</b>	<b>Students Drop-out details</b>
<b>8.</b>	<b>Students as Entrepreneurs</b>
<b>9.</b>	<b>Students Scholarships</b>
<b>10.</b>	<b>Student Publications</b>
<b>11.</b>	<b>a) Patent applied/published /granted</b>
	<b>a) Students participation in other states</b>



## Criteria 4: Students Performance Academic Audit Report (Department Wise)

S.No	Department	External Audit Member Suggestions	Action Taken
1.	COMPUTER SCIENCE ENGINEERING	NIL	NIL
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	<p><b>1. Mini project/Projects-Outcomes</b> maybe included for projects</p> <p><b>2. Students receiving financial assistance from the Management-Summary</b> can be prepared and proof can be validated alongside summary.</p> <p><b>3. Graduation details, scholarship and Placement details-</b> Valid proof must be maintained.</p>	<p><b>1. Mini project Report with outcome will be enclosed from this year.</b></p> <p><b>2. Report of the financial assistance from management will be included.</b></p> <p><b>3. Account details of students receiving scholarship are attached.</b> Appointment Letter of alumni is maintained academic year wise. Graduands details from university will be updated.</p>





## Criteria 4: Students Performance

S.No	Department	External Audit Member Suggestions	Action Taken
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	<p><b>1. Sufficient weightage</b> have to be given for NPTEL courses in academics, scores gained through <b>NPTEL can be transferred as credit.</b></p> <p>2. Event organized by the department, <b>consolidated list has to be maintained.</b></p> <p>3. In financial assistant to student file, required <b>circular copies also have to be maintained.</b></p> <p>4. In dropout students file, year wise <b>dropout can be maintained</b> as list showing percentage of dropout also a chart can be prepared portraying the same.</p> <p>5. Separate files can be maintained for <b>patent with respect to students and faculties.</b></p> <p>6. A <b>list can be prepared</b> show casing the status of patent (ie. applied / filed / published / granted) and the same has to be maintained year wise.</p>	<p>1. Implemented</p> <p>2. Initiated.</p> <p>3. Initiated.</p> <p>4. Initiated.</p> <p>5. Implemented</p> <p>6. Implemented</p>



## Criteria 4: Students Performance

S.No	Department	External Audit Member Suggestions	Action Taken
4.	MECHANICAL ENGINEERING	<ul style="list-style-type: none"> <li>➤ Concentrate on <b>PG admission strength</b></li> <li>➤ More participation on <b>Competitive exams is required.</b></li> <li>➤ <b>Internships</b> can be made compulsory.</li> <li>➤ Encourage students for <b>higher studies.</b></li> <li>➤ Need to go beyond patent <b>publication and to commercialization</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ PG admission strength to be increased at forth coming years.</li> <li>➤ More <b>awareness on higher studies and competitive exams</b> were given to students by several study centers.</li> <li>➤ Students <b>approached IPR cell</b> for conversion of their projects to patents.</li> </ul>
5.	INFORMATION TECHNOLOGY	1. Identify the Student <b>entrepreneurs.</b>	1. <b>Entrepreneurship awareness programmes</b> are organized to identify student entrepreneurs .
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	1.To focus on maximum student <b>participation activities.</b>	1. Under progress
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	1. Motivate the students <b>for higher studies and competitive exams.</b>	1. Under progress



## Criteria 4: Students Performance

S.No	Department	External Audit Member Suggestions	Action Taken
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	1. Motivate the students <b>for higher studies and competitive exams</b>	1. Under progress
9.	MASTER OF BUSINESS ADMINISTRATION	<ul style="list-style-type: none"><li>• <b>Students profile</b> – inclusion of Parents mail id, and Profession for company connect for placement.</li><li>• External participants <b>via clubs</b> and committees can be improved, and for department regular functional activities students committees can be utilized.</li></ul>	<ul style="list-style-type: none"><li>• <b>Will be followed</b> in the next academic year</li><li>• Clubs and Committees are formed</li></ul>



## Criteria 4: Students Performance

S.No.	Department	External Audit Member Suggestions	Action Taken
10.	SCIENCE & HUMANITIES (MATHEMATICS)	Documents verified and found correct. No suggestion is given.	---
	PHYSICS	Documents verified and found correct. No suggestion is given.	----
	CHEMISTRY	Documents verified and found correct. No suggestion is given.	----
	ENGLISH	Documents verified and found correct. No suggestion is given.	-----



# Criteria 5: Faculty Information and Contribution

## 1. Faculty Strength , Student Faculty Ratio, Faculty Profile

List of Ph.D. holders

List of staff Pursuing Ph.D.

Faculty Recruitment

Recruitment of Supporting Staff

Visiting Professor

Competency in Academic

Faculty awards and achievements

Publications in Journals(SCI & Scopus)

Publications in Conference

Publication in Books/Chapters

Google Scholar Citations and h index

Ph.D Guidance and DC members

On-going Research Projects

Research funds received

## 2. Consultancy

## 3. Patents



## Criteria 5: Faculty Information and Contribution

4.	<b>MoU Details</b>
5.	<b>Seed Money for research</b>
6.	<b>Seminar / Conference/ Workshops /FDP/STTP/ Hands on Training Organized</b>
7.	<b>Events organized in the department with geo tagged photos</b>
8.	<b>Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights(IPR), entrepreneurship, skill development</b>
9.	<b>Collaborative activities with other institutions/ research establishments/industry for research and academic development of faculty members and students</b>
10	<b>Faculty Participation in FDP/STTP/Seminar/Workshop</b>
11.	<b>Sponsorship offered by Management for attending Conference/FDP/STTP/ Seminar/Workshop</b>
	<b>Faculty as resource person</b>



## Criteria 5: Faculty Information and Contribution Audit Report (Department Wise)

S.No	Department	External Audit Member Suggestions	Action Taken
1.	COMPUTER SCIENCE ENGINEERING	<ul style="list-style-type: none"><li>• <b>Collaborative activities</b> with reputed institutions can be explored</li></ul>	<ul style="list-style-type: none"><li>• In <b>collaboration with AWS Academy</b>, AWS Certified Cloud Practitioner course was conducted to understand core offerings of the Amazon AWS Cloud from 28/02/2023 – 4/03/2023</li><li>• In collaboration with ICT academy and Cognizant foundation a Centre for Women Empowerment (CWE) is established from 16/03/2023 and 80 Pre final year girl students are nominated for the course “Microsoft Data Analyst Associate”.</li></ul>



	Department	External Audit Member Suggestions	Action Taken
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	<p>1. <b>Visiting Professor</b>- As per norms file should be maintained.</p> <p>2. <b>Publications in Journals and conferences- Separate files should be maintained.</b></p> <p>3. <b>Collaborative work- Mail communication</b> can be attached until receiving original documents</p>	<p>1. <b>Steps are taken</b> to recruit industry person as Visiting professors.</p> <p>2. <b>Separate file is maintained</b></p> <p>3. <b>Mail communication</b> of consultancy and collaborative work will be maintained.</p>
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	<p>1. In <b>Competency matrix</b> file proof of faculty training can be maintained to show case the improvement in the competency level of every faculty.</p> <p>2. <b>Separate file</b> for faculty achievement and awards respectively need to be maintained.</p> <p>3. <b>Publications in journals and conferences, list of count year wise</b> may be maintained separately.</p> <p>4. Faculty qualification needs to be improved.</p> <p>5. Apply more <b>Research funding proposals.</b></p> <p>6. <b>Centre of excellence</b> can be improved.</p> <p>7. <b>Core placement</b> can be improved.</p> <p>8. <b>Book chapter publication</b> need to be improved.</p>	<p>1. Considered.</p> <p>2. Initiated</p> <p>3. Considered and implemented</p> <p>4. Under discussion</p> <p>5. Considered &amp; Initiation taken</p> <p>6. Initiation taken</p> <p>7. Steps taken</p> <p>8. Initiated</p>





S.No	Department	External Audit Member Suggestions	Action Taken
4.	MECHANICAL ENGINEERING	<ul style="list-style-type: none"> <li>➤ Cadre ratio has to be maintained</li> <li>➤ Plan for <b>research consultancy</b></li> <li>➤ Have some MoU's with academic institutes for credit transfer in higher studies.</li> <li>➤ <b>Collaborative workshops/conferences</b> can be organized.</li> </ul>	<ul style="list-style-type: none"> <li>➤ It is planned for maintaining the cadre ratio.</li> <li>➤ Several industries to be approached for consultancy works.</li> <li>➤ Collaborative workshops to be <b>planned in future.</b></li> </ul>
5.	INFORMATION TECHNOLOGY	<b>Summary of the events</b> have to be added in to the file.	Summary is included in the file
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	More <b>programs</b> were suggested to be organized	<b>Symposium was organized</b> in 23 <sup>rd</sup> March 2023
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	Motivate the <b>faculties to go outside as a resource person.</b>	Faculties <b>motivated</b> to go outside as a resource person.



S. No	Department	External Audit Member Suggestions	Action Taken
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	1. <b>Motivate the faculties</b> to go outside as a resource person.	1. Faculties motivated to go outside as a resource person.
9.	MASTER OF BUSINESS ADMINISTRATION	<ul style="list-style-type: none"><li>• List of <b>staff pursuing Ph.D</b> to be improved.</li><li>• <b>Publication and attending conferences</b> by faculty member to encouraged.</li><li>• <b>Collaborative activities</b> related to academics to be initiated</li></ul>	<ul style="list-style-type: none"><li>• Yet to register</li><li>• Work in progress</li><li>• Yet to initiate</li></ul>



	Department	External Audit Member Suggestions	Action Taken
10.	SCIENCE & HUMANITIES (MATHEMATICS)	1. Suggest <b>to apply seed money</b> for research.	1. Seed money (Rs.18,64,569) for research fund applied in SERB-SURE.
	PHYSICS	1. No. of Ph.D. holders in the Physics department – 5 2. No. of faculty members pursuing Ph.D. – 1 Suggested to <b>apply for minor projects</b> . 3. Encouraged to apply for Ph.D. guideship. 4. Apply for <b>Patents</b> 5. Suggested to apply for <b>seed money for research</b> . 6. Organize Seminar / Conference / Workshops / FDP / STTP/ Hands-on Training in the department	1. One Ph.D. holder has been recruited Faculty pursuing Ph.D. has submitted the thesis 2. A minor project for Rs. 5 Lakhs is applied for ICSSR 3. One faculty has Ph.D. guideship, eligible faculty members are directed to apply for the guideship 4. 3 patents were obtained. 5. Suggested to apply for seed money for research. Rs.5,05,000/- is approved as seed money for the establishment of an R&D lab for the Physics department. 6. Seminar organized – 2
	CHEMISTRY	1. It is suggested to apply <b>Research funds minor projects</b> . 2. <b>Ph.D guideship</b> and also suggested to get seed money to do research	1. Research proposals have been applied to the various funding agencies by the faculty members. 2. Guideship will apply for the academic year 2022-23



## Criteria 6: Facilities and Technical Support

**1.**

### **Department infrastructure details (Labs and classrooms)**

**Computing facility details**

**Equipment's Purchase & maintenance**

**Safety measures in Laboratories**

**Project laboratory/facilities**

**Lab Manual**

**Lab Master Record**

**Student Lab Record Note**

**Department infrastructure details (Labs and classrooms)**

**Computing facility details**



## Criteria 6 : : Facilities and Technical Support Audit Report (Department Wise)

S.No	Department	External Audit Member Suggestions	Action Taken
1.	COMPUTER SCIENCE ENGINEERING	--	-
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	-	-
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	-	-
4.	MECHANICAL ENGINEERING	-	-
5.	INFORMATION TECHNOLOGY	-	-
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	-	-
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	Research laboratory can be initiated.	Research laboratory will be initiated in future.
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	Research laboratory can be initiated.	Research laboratory will be initiated in future.
9.	MASTER OF BUSINESS ADMINISTRATION	Department of Faculty Meeting – circulars to be added and to be done in files.	Implemented



## Audited GENERAL FILES

1. Academic Audit and action taken report
2. Department Faculty meeting
3. Class committee meeting
4. Course committee meeting
5. Circle meeting
6. Parents -Teachers meeting
7. Department meeting with Principal
8. Book requirement meeting
9. General Feedback from Eminent Person
10. Feedback on infrastructure/facility
11. Student Exit Survey
12. Alumni Survey
13. Budget
14. Alumni Details
15. ISO audit details
16. National / International Days Celebrated

**General File Documents are updated and maintained properly till date according to Audit report**



# Academic Audit Mark Analysis Report

CRITERIA	PROGRAM LEVEL CRITERIA	MARKS AWARDED FOR EVALUATION ( KRCE)	NBA NORMS TIER-I	NBA NORMS TIER-II
Criteria 1	Vision, Mission and Program Educational Objectives	50	50	60
Criteria 2	Program Curriculum and Teaching Learning Process	100	100	120
Criteria 3	Course outcome and Program Outcome	100	175	120
Criteria 4	Students Performance	100	100	150
Criteria 5	Faculty Information and Contribution	200	200	200
Criteria 6	Facilities and Technical Support	80	80	80
	<b>General files VERIFICATION done for Continuous Improvement</b>	100	75	50
	<b>Total Marks</b>	<b>730</b>	<b>780</b>	<b>780</b>

## K RAMAKRISHNAN COLLEGE OF ENGINEERING

### EXTERNAL ACADEMIC AUDIT REPORT - ODD SEM 2022 – 23

Sl. No.	Criteria	Max. Marks	CSE	ECE	EEE	MECH	AI&DS	AI&ML	CSBS	IT	S&H	MBA
1	Vision, Mission and Program Educational Objectives	50	48	50	50	46	50	50	50	27	38	45
2	Program Curriculum and Teaching-Learning Processes	100	98	96	86	87	70	77	88	90	65/75	94
3	Course Outcomes and Program Outcomes	100	97	98	98	96	81	81	100	85	100	40
4	Students Performance	100	100	100	64	87	61	34	70	60	51/65	75
5	Faculty Information and Contributions	200	171	188	115	180	130	131	195	184	118/195	90
6	Facilities and Technical Support	80	80	80	77	80	56	56	80	65	80	70
7	General Files	100	90	100	87	98	64	64	70	65	73/85	95
<b>Total</b>		<b>730</b>	<b>684</b>	<b>712</b>	<b>577</b>	<b>674</b>	<b>512</b>	<b>493</b>	<b>653</b>	<b>576</b>	<b>525/650</b>	<b>509</b>
<b>NBA NORMS</b>	<b>% ge of Score</b>		<b>93.69</b>	<b>97.53</b>	<b>79.04</b>	<b>92.32</b>	<b>70.13</b>	<b>67.53</b>	<b>89.45</b>	<b>78.90</b>	<b>80.76</b>	<b>69.7</b>
>=75%	<b>GREEN - YES</b>	<b>Y</b>	7	7	5	7	2	3	5	4	6	5
>=60% and < 75%	<b>BLUE - CONCERN</b>	<b>C</b>	0	0	1	0	5	3	2	2	1	0
>=40% and < 60%	<b>YELLOW - WEAKNESS</b>	<b>W</b>	0	0	1	0	0	0	0	1	0	2
<40%	<b>RED - DEFECIENCY</b>	<b>D</b>	0	0	0	0	0	1	0	0	0	0





## FUTURE PLANS (Department Wise)

S.No	Department	External Audit Member Suggestions
1.	COMPUTER SCIENCE ENGINEERING	<ul style="list-style-type: none"><li>•Industry tie up with Labs.</li><li>•To start Research centre</li></ul>
2.	ELECTRONICS AND COMMUNICATION ENGINEERING	<ul style="list-style-type: none"><li>•To apply for R&amp;D projects, Consultancy and Patents</li></ul>
3.	ELECTRICAL AND ELECTRONICS ENGINEERING	<ul style="list-style-type: none"><li>•Improve the core placements</li><li>•To get Research Grants</li><li>•To create Centre of Excellence Lab</li></ul>
4.	MECHANICAL ENGINEERING	<ul style="list-style-type: none"><li>•NEP Implementation</li><li>•Industry Institute Interaction</li></ul>
5.	INFORMATION TECHNOLOGY	<ul style="list-style-type: none"><li>•Industry Institute Interaction</li></ul>



## FUTURE PLANS (Department Wise)

S.No	Department	External Audit Member Suggestions
6.	COMPUTER SCIENCE AND BUSINESS SYSTEMS	•Next level of up gradation in all academic activities
7.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	•Industry Institute Interaction
8.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	•Industry Institute Interaction
9.	MASTER OF BUSINESS ADMINISTRATION	• To organize maximum number of student driven activities

THANK  
YOU!

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