

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
TIRUPATI
(Autonomous)**

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Department of Civil Engineering

**Feedback on curriculum by Stakeholders
Academic Year 2021-22**

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

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**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF CIVIL ENGINEERING
ACADEMIC YEAR 2021-22**

Feedback form different stakeholders namely Students, Faculty, Alumni and Employers were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms was used for the collection of student feedback on curriculum. The IV, III and II year students studied three curricula namely R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) respectively. Individual analysis was carried out for different curricula. Total number of responses received from IV, III and II year students were 83, 83 and 159 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum ?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback on R15 curriculum of JNTUA was taken from the final year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	41.0	43.4	10.8	4.8	Excellent & good	84.3
Q2	42.2	45.8	9.6	2.4	Excellent & good	88.0
Q3	41.0	41.0	16.9	1.2	Excellent & good	81.9
Q4	42.2	39.8	13.3	4.8	Excellent & good	81.9
Q5	51.8	36.1	9.6	2.4	Excellent & good	88.0
Q6	39.8	39.8	18.1	2.4	Excellent & good	79.5
Q7	45.8	37.3	13.3	3.6	Excellent & good	83.1
Q8	42.2	36.1	15.7	6.0	Excellent & good	78.3
Q9	49.4	27.7	16.9	6.0	Excellent & good	77.1
Q10	30.1	54.2	10.8	4.8	Excellent & good	84.3
Average (%)	42.5	40.1	13.5	3.9		82.7

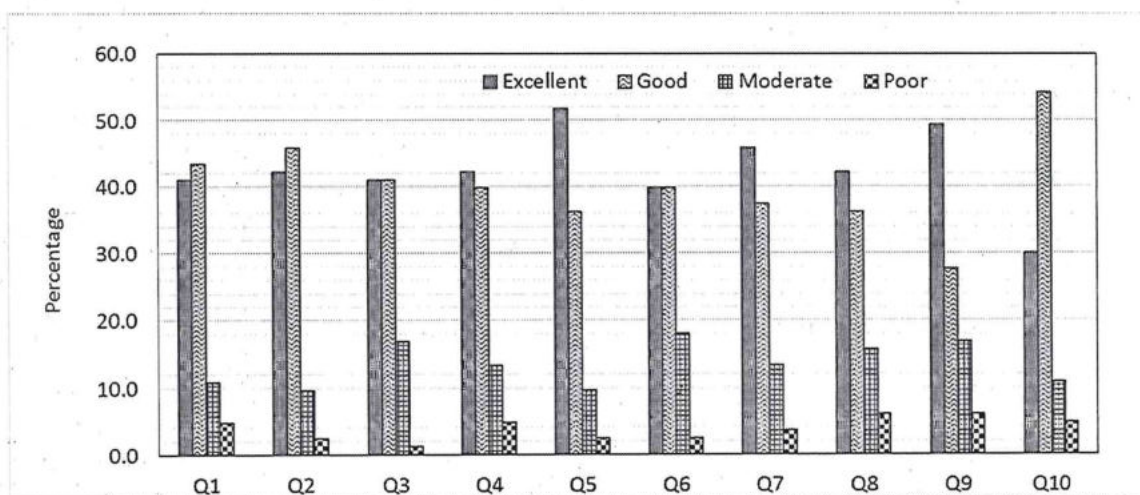


Figure 1 Consolidated analysis of R15 curriculum

From the table 2, it is observed that 43.4 % of the students rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 45.8% of the students rated “good” for the allocations of the hours and credits to the courses. 41 % of the students rated both “excellent” and “good” for the relevance of electives to the technological advancements. 42.2 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 51.8 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 39.8 % of the students rated both “excellent” and “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 45.8 % of the

students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 42.2 % of the students rated “excellent” for skill development courses in your curriculum. 49.4 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 54.2 % of the students rated “good” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 82.7 %

The critical suggestions are as follows

- *Require practical exposure to water resource engineering*
- *Need more understanding on environmental engineering*

AK19 curriculum

Feedback on AK19 curriculum of AITS (autonomous), was taken form the third year students. The consolidated analysis of the responses is presented in Table 3 and Figure 2.

Table 3: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	44.6	41.0	10.8	3.6	Excellent & good	85.5
Q2	48.2	38.6	9.6	3.6	Excellent & good	86.7
Q3	47.0	38.6	12.0	2.4	Excellent & good	85.5
Q4	41.0	45.8	10.8	2.4	Excellent & good	86.7
Q5	45.8	38.6	13.3	2.4	Excellent & good	84.3
Q6	37.3	39.8	18.1	4.8	Excellent & good	77.1
Q7	42.2	45.8	9.6	2.4	Excellent & good	88.0
Q8	45.8	38.6	14.5	1.2	Excellent & good	84.3
Q9	42.2	44.6	10.8	2.4	Excellent & good	86.7
Q10	47.0	38.6	8.4	6.0	Excellent & good	85.5
Average (%)	44.1	41.0	11.8	3.1		85.1

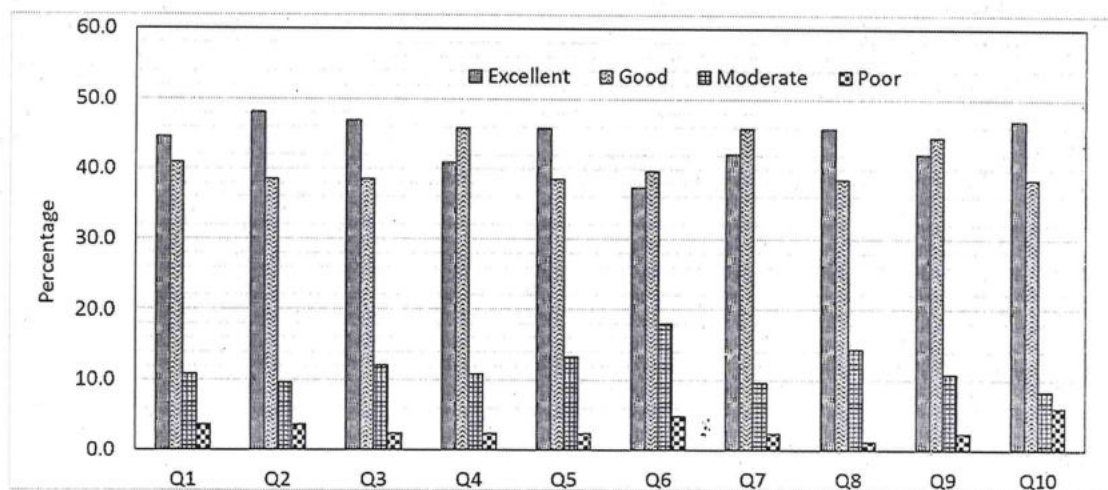


Figure 2: Consolidated analysis of AK19 curriculum

From the table 3, it is observed that 44.6 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 48.2 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 47 % of the students rated “excellent” for the relevance of electives to the technological advancements. 45.8 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 45.8 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 39.8 % of the students rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 45.8 % of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 45.8 % of the students rated “excellent” for skill development courses in your curriculum. 44.6 % of the students rated “good” for Quality of Internships provided by the Department/ College. 47 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 85.1 %

The critical suggestions are as follows

- *Provide real time experience to concrete production*
- *Conduct technical competition*

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken form the second year students. The consolidated analysis of the responses is presented in Table 4 and Figure 3.

Table 4: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	47.8	45.3	6.3	0.6	Excellent & good	93.1
Q2	51.6	37.7	10.1	0.6	Excellent & good	89.3
Q3	45.3	44.0	8.2	2.5	Excellent & good	89.3
Q4	44.0	50.9	5.0	0.0	Excellent & good	95.0
Q5	49.7	39.0	9.4	1.9	Excellent & good	88.7
Q6	40.3	37.7	15.7	6.3	Excellent & good	78.0
Q7	40.9	48.4	7.5	3.1	Excellent & good	89.3
Q8	46.5	43.4	8.2	1.9	Excellent & good	89.9
Q9	48.4	34.6	14.5	2.5	Excellent & good	83.0
Q10	47.8	42.1	7.5	2.5	Excellent & good	89.9
Average (%)	46.2	42.3	9.2	2.2		88.6

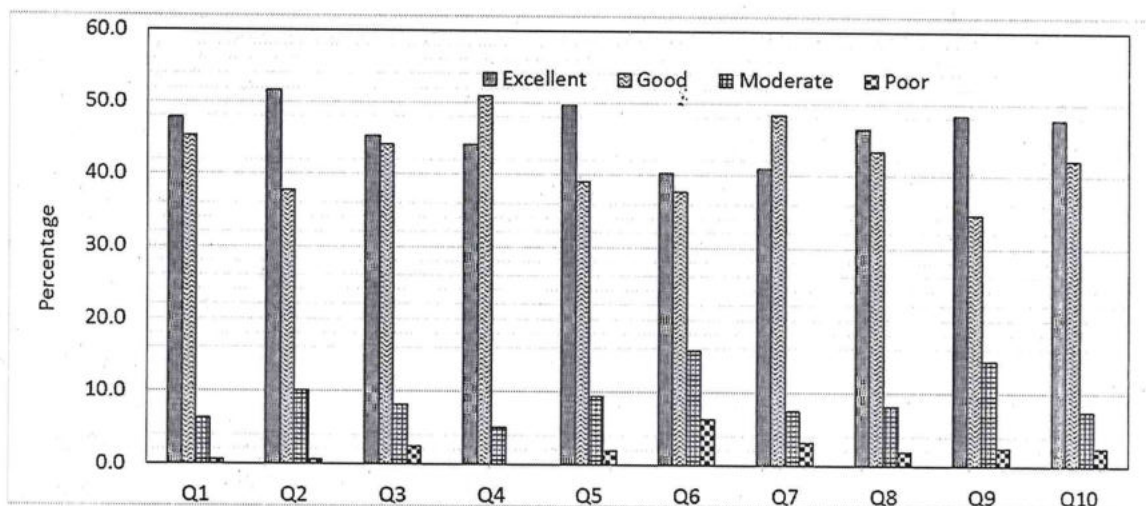


Figure 3: Consolidated analysis of AK 20 curriculum

From the table 4, it is observed that 47.8 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 51.6 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 45.3 % of the students rated “excellent” for the relevance of electives to the technological advancements. 50.9 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 49.7 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 40.3 % of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 48.4 % of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 46.5 % of the students rated “excellent” for skill development courses in your curriculum. 48.4 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 47.8 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinions for all the question falls in the “excellent” and “good” categories. The average percentage of opinion is found to 88.6 %

The critical suggestion is as follows

- *Increase the number of hours for problematic subjects*

Overall Analysis on Students feedback on different curricula

Overall, the percentage of ratings in the academic year 2021-2022 by students for different curricula such as R15, AK19 and AK20 are presented in table 5 and Figure 4.

Table 5: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	42.5	40.1	13.5	3.9	82.7
AK19	44.1	41.0	11.8	3.1	85.1
AK20	46.2	42.3	9.2	2.2	88.6

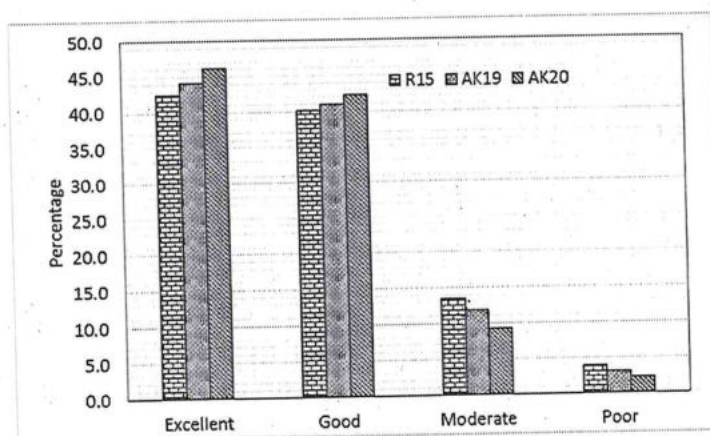


Figure 4: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor categories is 42.5%, 40.1 %, 13.5% and 3.9% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 44.1%, 41 %, 11.8% and 3.1% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor categories is 46.2%, 42.3 %, 9.2 % and 2.2% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 82.7 %, 85.1 % and 88.6 % respectively. It is inferred that the rating for latest curriculum (AK20) by the students are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the students.

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms was used for the collection of teacher feedback on curriculum. The teachers were asked to rate the R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) curricula. Feedback was collected from 31 teachers. Individual analysis was carried out for different curricula. As listed in table 6, ten standard questions were asked for the responses from the teachers.

Table 6: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Google form was used to collect the feedback from the teachers for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 7 and Figure 5.

Table 7. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	38.7	51.6	9.7	0.0	Excellent & good	90.3
Q2	35.5	48.4	12.9	3.2	Excellent & good	83.9
Q3	45.2	41.9	9.7	3.2	Excellent & good	87.1
Q4	48.4	38.7	6.5	6.5	Excellent & good	87.1
Q5	41.9	38.7	12.9	6.5	Excellent & good	80.6
Q6	48.4	35.5	16.1	0.0	Excellent & good	83.9
Q7	51.6	41.9	3.2	3.2	Excellent & good	93.5
Q8	45.2	32.3	16.1	6.5	Excellent & good	77.4
Q9	38.7	41.9	12.9	6.5	Excellent & good	80.6
Q10	45.2	35.5	12.9	6.5	Excellent & good	80.6
Average (%)	43.9	40.6	11.3	4.2		84.5

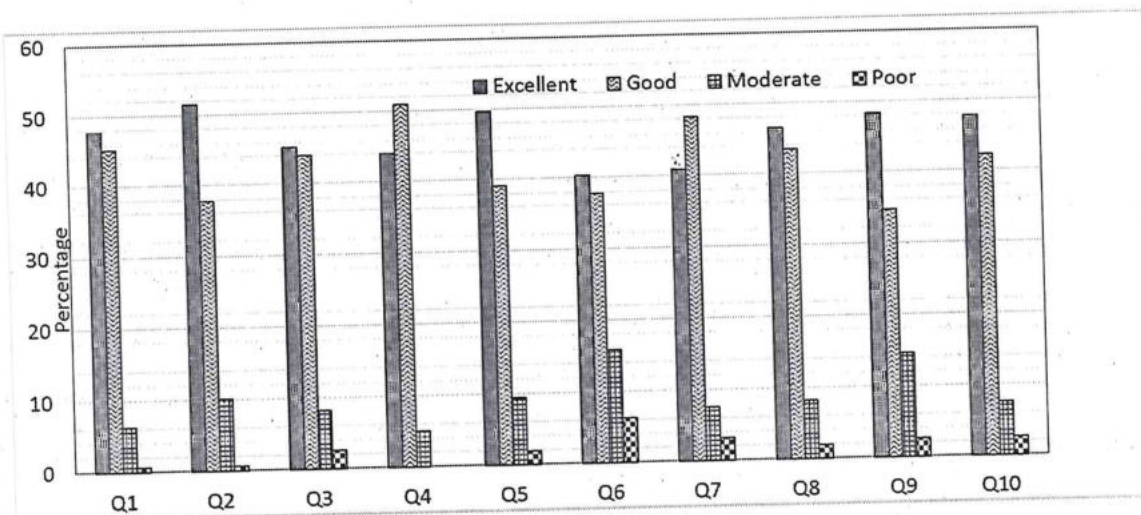


Figure 5 Consolidated analysis of R15 curriculum

From the table 7, it is observed that 51.6 % of the teachers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 48.4% of the teachers rated “good” for the allocations of the hours and credits to the courses. 45.2 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 48.4 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 41.9 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 48.4 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 51.6 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 45.2 % of the teachers rated “excellent” for skill development courses in your curriculum. 41.9 % of the teachers rated “good” for Quality of Internships provided by the Department/ College. 45.2 % of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 84.5 %

The critical suggestions are as follows

- Add advance courses such as Engineering materials and sustainability and intelligent transport system.
- Upgrade the existing courses such as water resource engineering-II and rehabilitation and retrofitting of structures

AK19 curriculum

Google form was used to collect the feedback from the teachers for AK19 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 8 and Figure 6.

Table 8: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	38.7	41.9	19.4	0.0	Excellent & good	80.6
Q2	38.7	45.2	16.1	0.0	Excellent & good	83.9
Q3	58.1	35.5	6.5	0.0	Excellent & good	93.5
Q4	48.4	41.9	6.5	3.2	Excellent & good	90.3
Q5	54.8	38.7	6.5	0.0	Excellent & good	93.5
Q6	48.4	32.3	16.1	3.2	Excellent & good	80.6
Q7	41.9	38.7	12.9	6.5	Excellent & good	80.6
Q8	38.7	48.4	9.7	3.2	Excellent & good	87.1
Q9	32.3	54.8	12.9	0.0	Excellent & good	87.1
Q10	45.2	45.2	3.2	6.5	Excellent & good	90.3
Average (%)	44.5	42.3	11.0	2.3		86.8

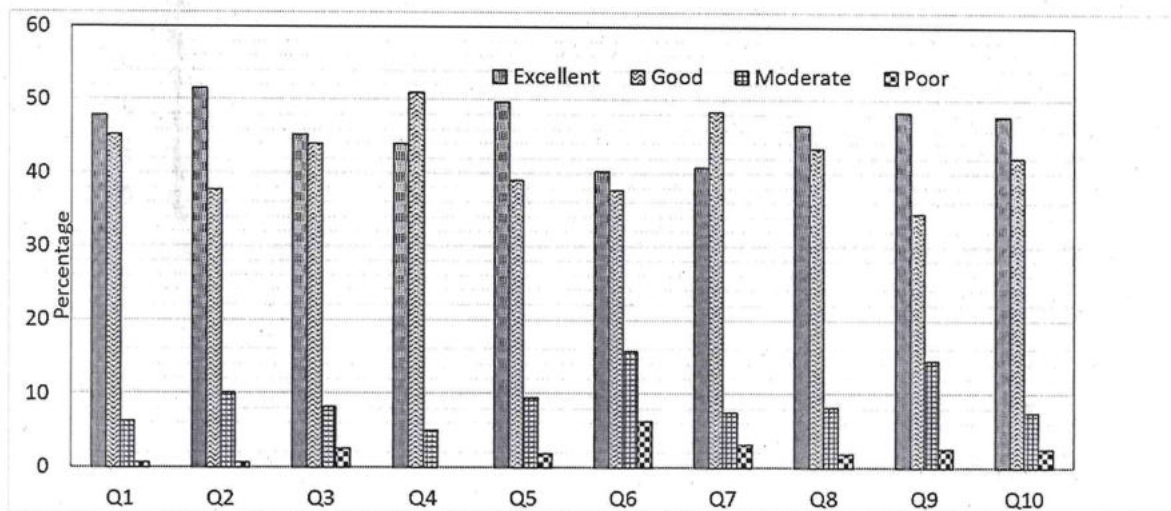


Figure 6: Consolidated analysis of AK19 curriculum

From the table 8, it is observed that 41.9 % of the teachers rated “good” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 45.2% of the teachers rated “good” for the allocations of the hours and credits to the courses. 58.1 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 48.4 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 54.8 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 48.4 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 41.9 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 48.4 % of the teachers

rated “good” for skill development courses in your curriculum. 54.8 % of the teachers rated “good” for Quality of Internships provided by the Department/ College. 45.2 % of the teachers rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 86.8 %

The critical observation is as follows

Add courses to improve the technical skills

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 9 and Figure 7.

Table 9: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	45.2	45.2	9.7	0.0	Excellent & good	90.3
Q2	48.4	45.2	6.5	0.0	Excellent & good	93.5
Q3	45.2	38.7	12.9	3.2	Excellent & good	83.9
Q4	48.4	48.4	3.2	0.0	Excellent & good	96.8
Q5	51.6	38.7	9.7	0.0	Excellent & good	90.3
Q6	38.7	48.4	12.9	0.0	Excellent & good	87.1
Q7	51.6	41.9	3.2	3.2	Excellent & good	93.5
Q8	54.8	32.3	9.7	3.2	Excellent & good	87.1
Q9	32.3	58.1	9.7	0.0	Excellent & good	90.3
Q10	58.1	35.5	6.5	0.0	Excellent & good	93.5
Average (%)	47.4	43.2	8.4	1.0		90.6

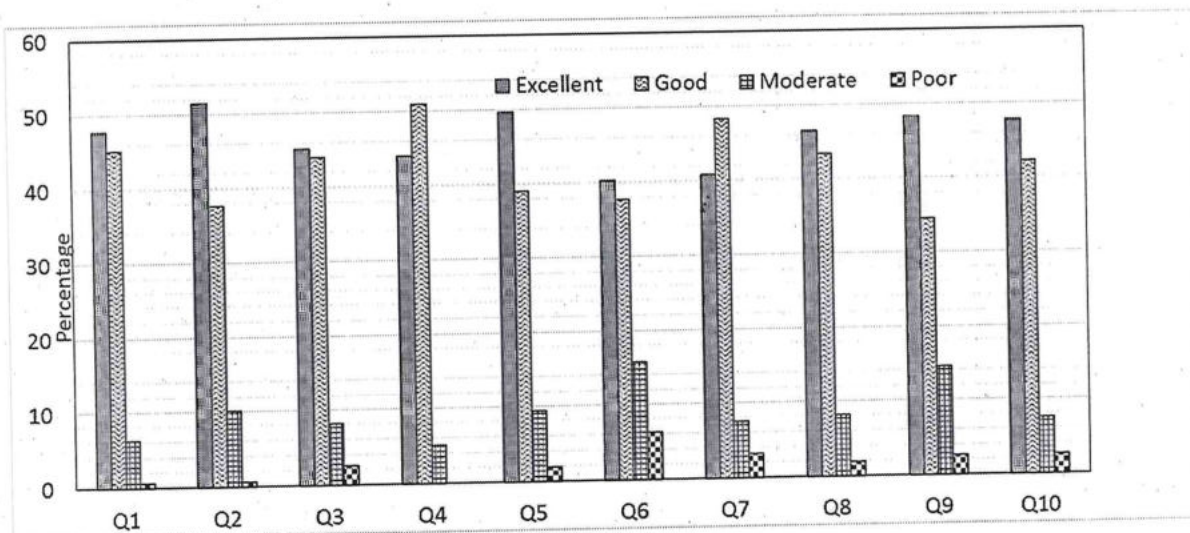


Figure 7: Consolidated analysis of AK 20 curriculum

From the table 9, it is observed that 45.2 % of the teachers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 48.4 % of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 45.2 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 48.4 % of the teachers rated “excellent” and “good” for the availability of textbooks/reference books as recommended in the syllabus. 51.6 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 48.4 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 51.6 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 54.8 % of the teachers s rated “excellent” for skill development courses in your curriculum. 58.1 % of the teachers rated “good” for Quality of Internships provided by the Department/College. 58.1 % of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 90.6 %

The critical suggestion is as follows

Suggested to undergo certified training courses for students

Overall Analysis on teachers feedback on different curricula

Overall, the percentage of ratings in academic year 2021-2022 by teachers for different curricula such as R15, AK19 and AK20 are presented in Table 10 and Figure 8.

Table 10: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	43.9	40.6	11.3	4.2	84.5
AK19	44.5	42.3	11.0	2.3	86.8
AK20	47.4	43.2	8.4	1.0	90.6

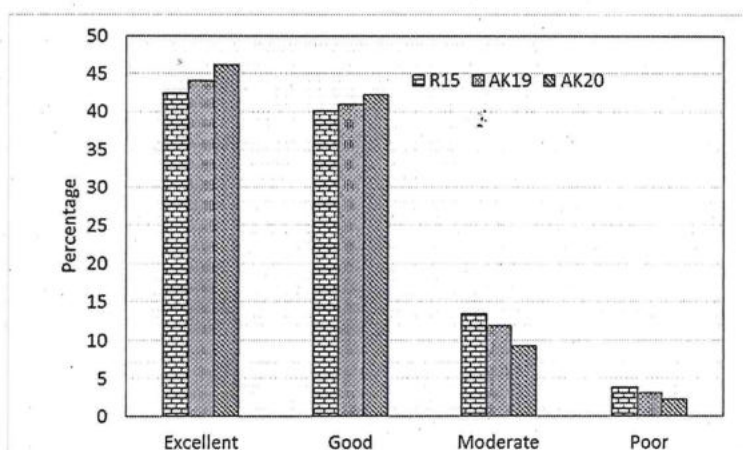


Figure 8: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor is 43.9%, 40.6 %, 11.3% and 4.2% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 44.5%, 42.3%, 11.0% and 2.3% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor is 47.4%, 43.2 %, 8.4 % and 1% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 84.5 %, 86.8 % and 90.6.6 % respectively. It is inferred that the rating for latest curriculum (AK20) by the teachers are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the teachers.

ALUMNI FEEDBACK ON CURRICULUM

Our alumni feedback is valuable for us by providing valuable inputs regarding employability of our students. Offline mode was followed to collect the alumni feedback in the academic year 2021-22. Total number of responses received from the alumni's are 15. As listed in Table 11, eight standard questions were asked for the responses from the alumni.

Table 11: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the relevance of electives to the technological advancements?
Q3	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q4	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q5	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q6	How will you rate the skill development courses in your curriculum?
Q7	How will you rate the Quality of Internships provided by the Department/ College?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the alumni was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 12 and Figure 9.

Table 12. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	53.3	33.3	13.3	0.0	Excellent & good	86.7
Q2	46.7	40.0	13.3	0.0	Excellent & good	86.7
Q3	40.0	40.0	13.3	6.7	Excellent & good	80.0
Q4	53.3	26.7	13.3	6.7	Excellent & good	80.0
Q5	40.0	53.3	6.7	0.0	Excellent & good	93.3
Q6	40.0	46.7	6.7	6.7	Excellent & good	86.7
Q7	46.7	33.3	13.3	6.7	Excellent & good	80.0
Q8	46.7	40.0	13.3	0.0	Excellent & good	86.7
Average (%)	45.8	39.2	11.7	3.3		85.0

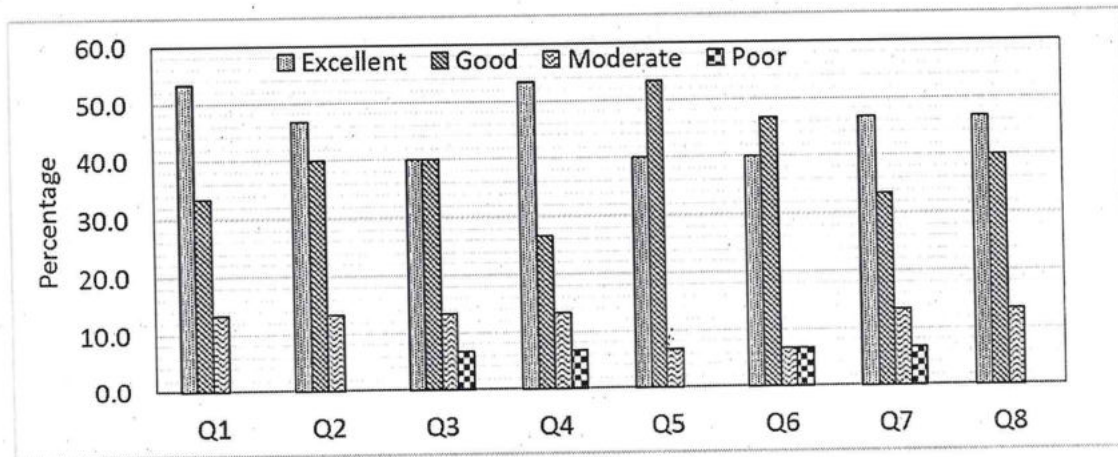


Figure 9 Consolidated analysis of R15 curriculum

From the table 12, it is observed that 53.3 % of the alumni rated “excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 46.7% of the alumni rated “excellent” for the relevance of electives to the technological advancements. 40 % of the alumni rated “excellent” and “good” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 53.3 % of the alumni rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 53.3 % of the alumni rated “good” for the relationship of experiments in the lab courses to the real life applications. 46.7 % of the alumni rated “good” for skill development courses in your curriculum. 46.7 % of the alumni rated “excellent” for Quality of Internships provided by the Department/ College. 46.7 % of the alumni rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of alumni opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 85 %

The critical suggestion is as follows

- *Expose to advance structural design softwares.*

EMPLOYER FEEDBACK ON CURRICULUM

Employer feedback is the most important determinant to evaluate the curriculum from the point of quality graduates. Offline system was used to collect the employer feedback for the academic year 2021-22. Four employers participated to rate the curriculum. Table 13 presents the list of questions.

Table 13: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will rate the exposure of curriculum to relevant softwares
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the practical exposure of graduate to undertake real time projects?
Q5	How will you rate the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the presence of analytical / problem solving / critical thinking / innovative skills in the courses?
Q7	How will you rate the quality of internships undergone by the students?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the employers was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 14 and Figure 10.

Table 14. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50	50	0	0	Excellent & good	100.0
Q2	25	50	25	0	Excellent & good	75.0
Q3	50	50	0	0	Excellent & good	100.0
Q4	50	25	25	0	Excellent & good	75.0
Q5	50	50	0	0	Excellent & good	100.0
Q6	75	25	0	0	Excellent & good	100.0
Q7	50	25	25	0	Excellent & good	75.0
Q8	50	25	25	0	Excellent & good	75.0
Average (%)	50	37.5	12.5	0		87.5

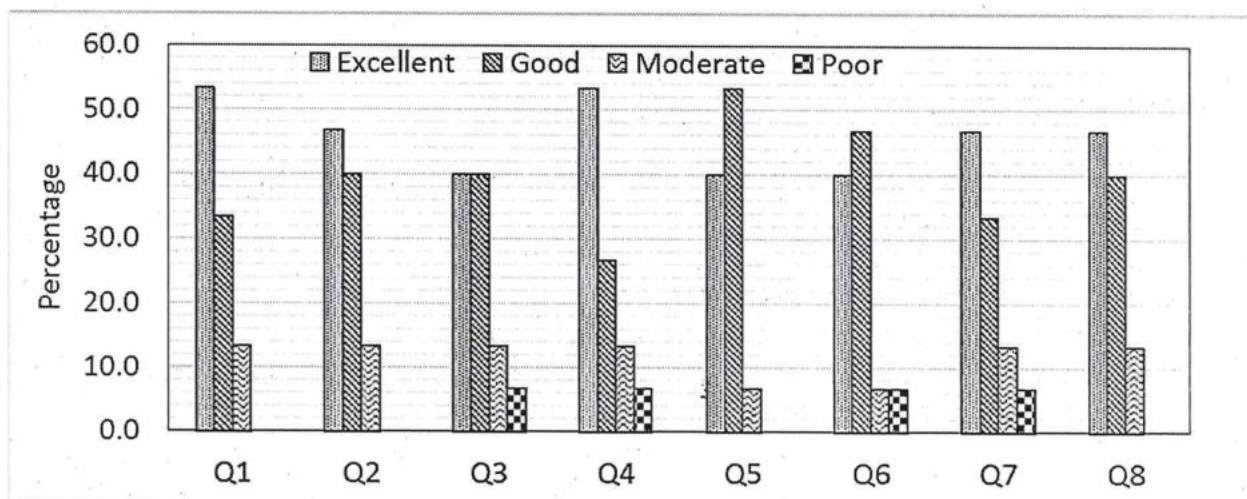


Figure 10 Consolidated analysis of R15 curriculum

From the table 14, it is observed that 50 % of the employers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 50% of the employers rated “good” for the exposure of curriculum to relevant softwares. 50 % of the employers rated “excellent” and “good” for the relevance of electives to the technological advancements. 50 % of the employers rated “excellent” for the practical exposure of graduate to undertake real time projects. 50 % of the employers rated “excellent” and “good” for the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 75 % of the employers rated “excellent” for the presence of analytical / problem solving / critical thinking / innovative skills in the courses. 50 % of the employers rated “excellent” for the quality of internships undergone by the students. 50 % of the employers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of employers opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.5 %

The critical suggestion is as follows

Include courses to meet the construction company needs

K. S. Srinivasan
Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
TIRUPATI
(Autonomous)**

(KARAKAMBADI ROAD, VENKATAPURAM VILL., RENIGUNTA MANDAL)



**Department of Electronic and Communication
Engineering**

**Feedback on Curriculum by Stakeholders
Academic Year 2021-22**

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

Venkatapuram(V), Karakambadi Road, Renigunta(M), Tirupati-517 520, Chittoor, A.P

**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students, Faculty, Alumni and Employers were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms was used for the collection of student feedback on curriculum. The IV, III and II year students studied three curricula namely R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) respectively. Individual analysis was carried out for different curriculum. Total number of responses received from IV, III and II year students were 152, 198 and 175 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum ?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback on R15 curriculum of JNTUA was taken from the final year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	46.7	39.5	11.2	2.6	Excellent & good	86.2
Q2	42.8	46.7	9.2	1.3	Excellent & good	89.5
Q3	46.7	38.2	14.5	0.7	Excellent & good	84.9
Q4	52.6	31.6	11.8	3.9	Excellent & good	84.2
Q5	62.5	26.3	9.9	1.3	Excellent & good	88.8
Q6	40.8	42.8	15.1	1.3	Excellent & good	83.6
Q7	59.2	26.3	12.5	2.0	Excellent & good	85.5
Q8	50.7	31.6	15.1	2.6	Excellent & good	82.3
Q9	38.2	50.0	7.9	3.9	Excellent & good	88.2
Q10	56.6	20.4	13.8	9.2	Excellent & good	77.0
Average (%)	45.3	35.3	12.1	2.9		85.0

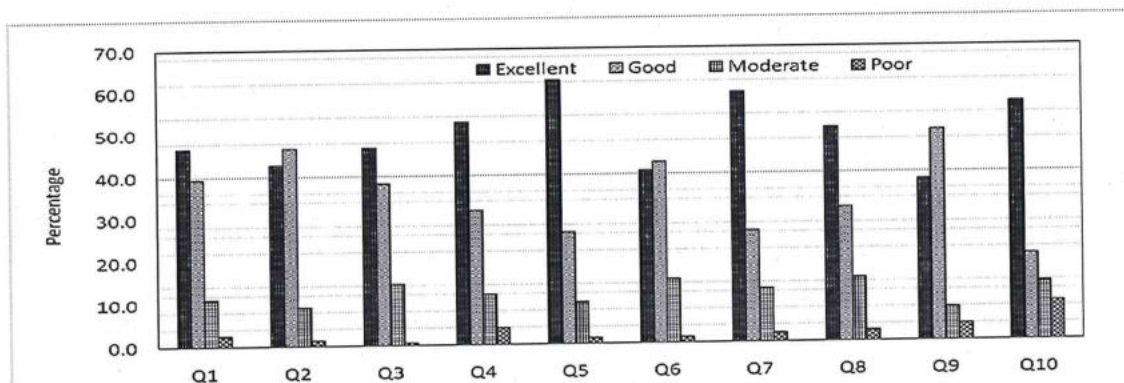


Figure 1 Consolidated analysis of R15 curriculum

From the table 2, it is observed that 46.7% of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 46.7 of the students rated “good ”for the allocations of the hours and credits to the courses. 46.7 % of the students rated “excellent” for the relevance of electives to the technological advancements. 52.6 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 62.5 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 42.8% of the students rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 59.2% of the students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 50.7 % of the students rated “excellent” for skill development courses in your curriculum.

50% of the students rated "good" for Quality of Internships provided by the Department/ College. 56.6 % of the students rated "excellent" for the relevance of courses from the point of employability.

From the analysis, the scale of student's opinion for all the questions falls in the "excellent" and 'good' categories. The average percentage of opinion is found to 85.0 %

The critical suggestion is as follows

- *Field exposure to hardware industries.*

AK19 curriculum

Feedback on AK19 curriculum of AITS (autonomous). was taken from the third year students. The consolidated analysis of the responses is presented in Table 3 and Figure 2.

Table 3: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50.0	37.4	10.1	2.5	Excellent & good	87.4
Q2	54.5	33.8	8.1	3.5	Excellent & good	88.3
Q3	50.5	37.9	9.6	2.0	Excellent & good	88.4
Q4	42.4	48.0	8.1	1.5	Excellent & good	90.4
Q5	49.5	38.9	9.6	2.0	Excellent & good	88.4
Q6	39.9	39.9	15.2	5.1	Excellent & good	79.8
Q7	49.5	41.4	7.6	1.5	Excellent & good	90.9
Q8	48.0	37.4	13.6	1.0	Excellent & good	85.4
Q9	39.4	43.9	13.1	3.5	Excellent & good	83.3
Q10	49.5	40.9	5.6	4.0	Excellent & good	90.4
Average (%)	47.3	40.0	10.1	2.7		87.3

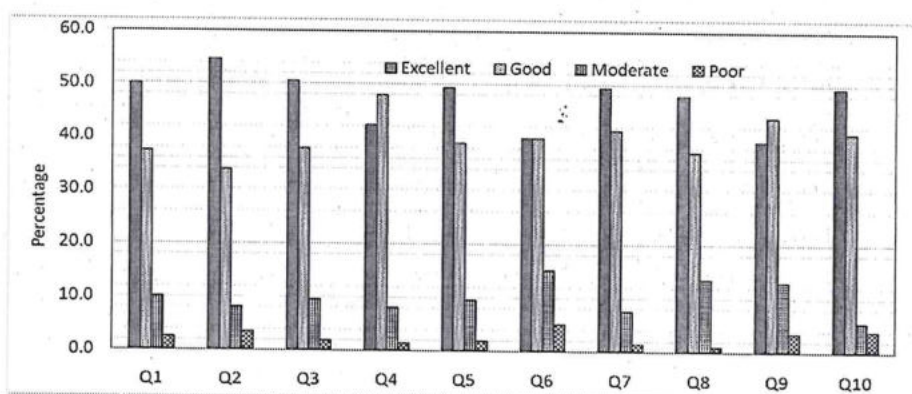


Figure 2: Consolidated analysis of AK19 curriculum

From the table 3, it is observed that 50 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 54.5% of the students rated “excellent” for the allocations of the hours and credits to the courses. 50.9 % of the students rated “excellent” for the relevance of electives to the technological advancements. 48.0 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 49.5 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 39.9% of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the

gap between academic and industrial needs. 49.5 % of the students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 48.0 % of the students rated “excellent” for skill development courses in your curriculum. 43.9 % of the students rated “good” for Quality of Internships provided by the Department/ College. 49.5 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.3%

The critical suggestion is as follows:

- *Arrange projects expo and workshops on drone technology.*

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken from the second year students. The consolidated analysis of the responses is presented in Table 4 and Figure 3.

Table 4: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	46.3	45.7	7.4	0.6	Excellent & good	92.0
Q2	52.6	37.7	9.1	0.6	Excellent & good	90.3
Q3	46.9	42.9	8.0	2.3	Excellent & good	89.8
Q4	40.6	53.1	6.3	0.0	Excellent & good	93.7
Q5	49.7	40.0	8.6	1.7	Excellent & good	89.7
Q6	37.7	37.7	16.6	8.0	Excellent & good	75.4
Q7	40.0	49.7	7.4	2.9	Excellent & good	89.7
Q8	44.6	45.7	8.0	1.7	Excellent & good	90.3
Q9	48.0	36.0	13.7	2.3	Excellent & good	84.0
Q10	46.9	42.9	6.9	3.4	Excellent & good	89.8
Average (%)	49.7	43.1	9.2	2.3		88.5

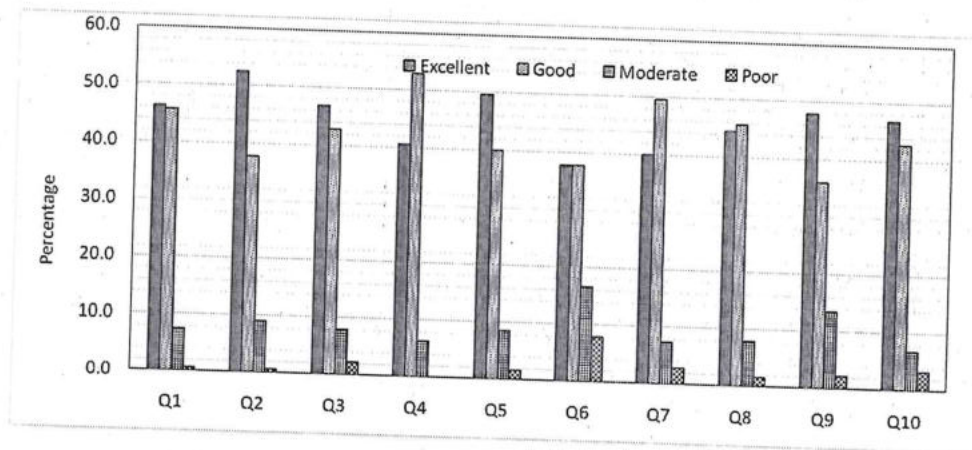


Figure 3: Consolidated analysis of AK 20 curriculum

From the table 4, it is observed that 46.3 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 52.6 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 46.9 % of the students rated “excellent” for the relevance of electives to the technological advancements. 53.1 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 49.7 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 37.7 % of the students

rated both "excellent" and "good" for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 49.7 % of the students rated "good" for the relationship of experiments in the lab courses to the real life applications. 45.7% of the students rated "good" for skill development courses in your curriculum. 48 % of the students rated "excellent" for Quality of Internships provided by the Department/ College. 46.9 % of the students rated "excellent" for the relevance of courses from the point of employability.

From the analysis, the scale of student's opinions for all the question falls in the "excellent" and "good" categories. The average percentage of opinion is found to 88.5 %

The critical suggestion is as follows:

- *Need skill improvement courses.*

Overall Analysis on Students feedback on different curriculum

Overall, the percentage of ratings in the academic year 2021-2022 by students for different curricula such as R15, AK19 and AK20 are presented in table 5 and Figure 4.

Table 5: Comparison of different curriculum

Curriculum	Excellent	Good	Moderate	Poor	% of Opinion
R15	45.3	35.3	12.1	2.9	85
AK19	47.3	40.0	10.1	2.7	87.3
AK20	49.7	43.1	9.2	2.3	88.5

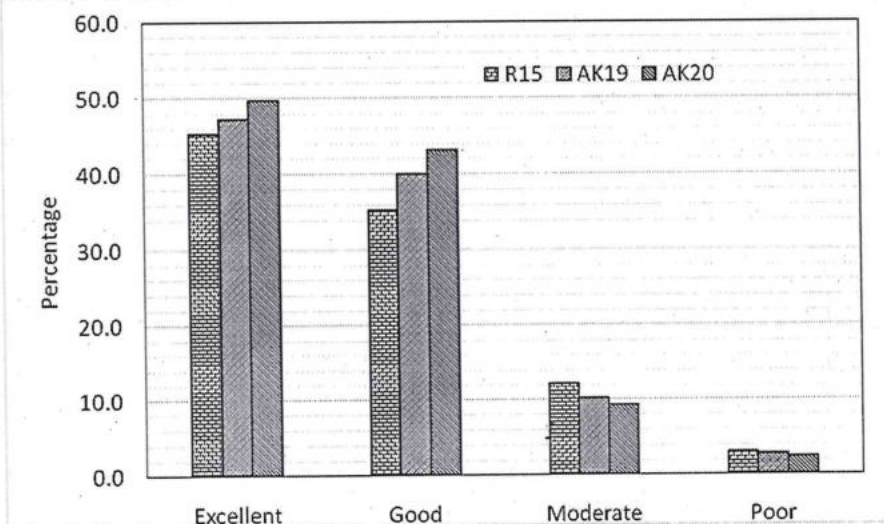


Figure 4: Overall analysis for different curriculum in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor categories is 45.3, 35.3 %, 12.1% and 2.9% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 47.3%, 40.0 %, 10.1% and 2.7% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor categories is 49.7%, 43.1 %, 9.2 % and 2.3% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 85 %, 87.3 % and 88.5 % respectively. It is inferred that the rating for latest curriculum (AK20) by the students are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the students.

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms was used for the collection of teacher feedback on curriculum. The teachers were asked to rate the R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) curricula. Feedback was collected from 43 teachers. Individual analysis was carried out for different curricula. As listed in table 6, ten standard questions were asked for the responses from the teachers.

Table 6: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Google form was used to collect the feedback from the teachers for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 7 and Figure 5.

Table 7. Consolidated analysis of R15 curriculum

Q NO	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	27.9	62.8	9.3	0.0	Excellent & good	90.7
Q2	37.2	41.9	18.6	2.3	Excellent & good	79.1
Q3	34.9	55.8	7.0	2.3	Excellent & good	90.7
Q4	51.2	27.9	14.0	7.0	Excellent & good	79.1
Q5	39.5	39.5	16.3	4.7	Excellent & good	79.0
Q6	46.5	39.5	14.0	0.0	Excellent & good	86.0
Q7	48.8	39.5	9.3	2.3	Excellent & good	88.3
Q8	41.9	37.2	14.0	7.0	Excellent & good	79.1
Q9	37.2	46.5	11.6	4.7	Excellent & good	83.7
Q10	58.1	27.9	9.3	4.7	Excellent & good	86.0
Average(%)	42.3	41.8	12.3	3.5		84.2

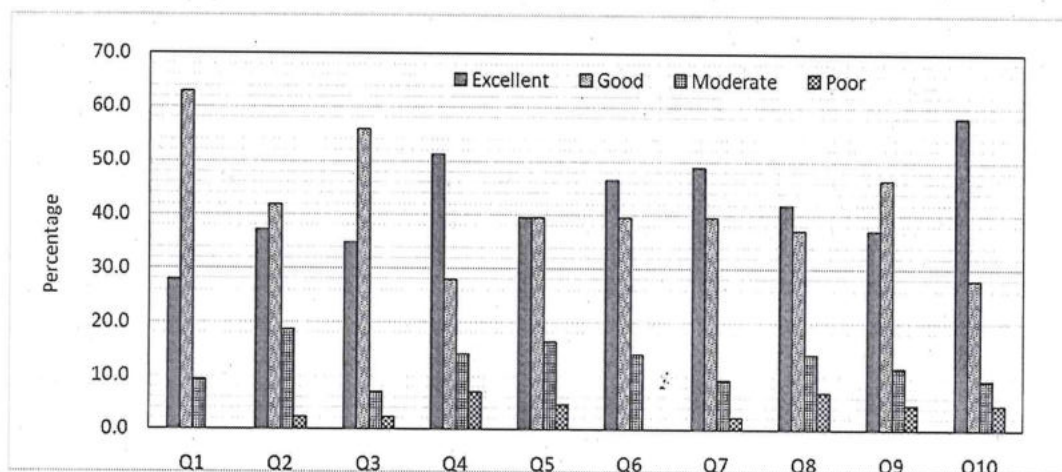


Figure 5 Consolidated analysis of R15 curriculum

From the table 7, it is observed that 62.8% of the teachers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 41.9% of the teachers rated “good” for the allocations of the hours and credits to the courses. 55.8 % of the teachers rated “good” for the relevance of electives to the technological advancements. 51.2 % of the

rated "good" for the relevance of electives to the technological advancements. 51.2 % of the teachers rated "excellent" for the availability of textbooks/reference books as recommended in the syllabus. 39.5% of the teachers rated both "excellent" and "good" for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities and Core. 46.5 % of the teachers rated "excellent" for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 48.8 % of the teachers rated "excellent" for the relationship of experiments in the lab courses to the real life applications. 41.9 % of the teachers rated "excellent" for skill development courses in your curriculum. 46.5 % of the teachers rated "good" for Quality of Internships provided by the Department/ College. 58.1 % of the teachers rated "excellent" for the relevance of courses from the point of employability.

From the analysis, the scale of teacher's opinion for all the questions falls in the "excellent" and "good" categories. The average percentage of opinion is found to 84.2%

The critical suggestions are as follows:

- *Add new lab courses such as Internet of things(IOT) lab and unmanned aerial vehicle (UAV) lab .*
- *Students are required to improve the technical writing skills.*

AK19 curriculum

Google form was used to collect the feedback from the teachers for AK19 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 8 and Figure 6.

Table 8: Consolidated analysis of AK19 curriculum

Q NO	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	41.9	44.2	14.0	0.0	Excellent & good	86.1
Q2	34.9	48.8	16.3	0.0	Excellent & good	83.7
Q3	58.1	37.2	4.7	0.0	Excellent & good	95.3
Q4	53.5	37.2	4.7	4.7	Excellent & good	90.7
Q5	58.1	37.2	4.7	0.0	Excellent & good	95.3
Q6	46.5	32.6	16.3	4.7	Excellent & good	79.1
Q7	41.9	39.5	11.6	7.0	Excellent & good	81.4
Q8	37.2	51.2	7.0	4.7	Excellent & good	88.4
Q9	25.6	58.1	16.3	0.0	Excellent & good	83.7
Q10	41.9	48.8	4.7	4.7	Excellent & good	90.7
Average(%)	43.9	43.5	10.0	2.6		87.4

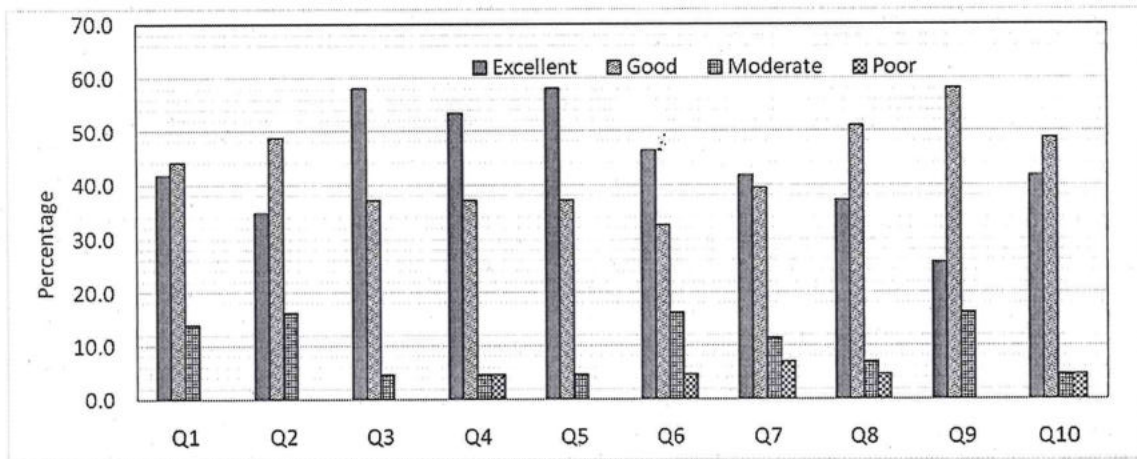


Figure 6: Consolidated analysis of AK19 curriculum

From the table 8, it is observed that 44.2 % of the teachers rated “good” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 48.8% of the teachers rated “good” for the allocations of the hours and credits to the courses. 58.1 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 53.5 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 58.1 % of the teachers rated “excellent” for the composition of

the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 46.5 % of the teachers rated "excellent" for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 41.9 % of the teachers rated "excellent" for the relationship of experiments in the lab courses to the real life applications. 51.2 % of the teachers rated "good" for skill development courses in your curriculum. 58.1 % of the teachers rated "good" for Quality of Internships provided by the Department/ College. 48.8 % of the teachers rated "good" for the relevance of courses from the point of employability.

From the analysis, the scale of teacher's opinion for all the questions falls in the "excellent" and "good" categories. The average percentage of opinion is found to 87.4 %

The critical suggestion is as follows:

Chip design methodology is required.

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 9 and Figure 7.

Table 9: Consolidated analysis of AK20 curriculum

Q NO	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	46.5	44.2	9.3	0.0	Excellent & good	90.7
Q2	48.8	44.2	7.0	0.0	Excellent & good	93.0
Q3	44.2	41.9	11.6	2.3	Excellent & good	86.1
Q4	46.5	51.2	2.3	0.0	Excellent & good	97.7
Q5	46.5	39.5	14.0	0.0	Excellent & good	86.0
Q6	41.9	48.8	9.3	0.0	Excellent & good	90.7
Q7	48.8	44.2	7.0	0.0	Excellent & good	93.0
Q8	51.2	32.6	14.0	2.3	Excellent & good	83.8
Q9	27.9	60.5	11.6	0.0	Excellent & good	88.4
Q10	60.5	32.6	7.0	0.0	Excellent & good	93.1
Average(%)	46.3	44.0	9.3	0.5		90.3

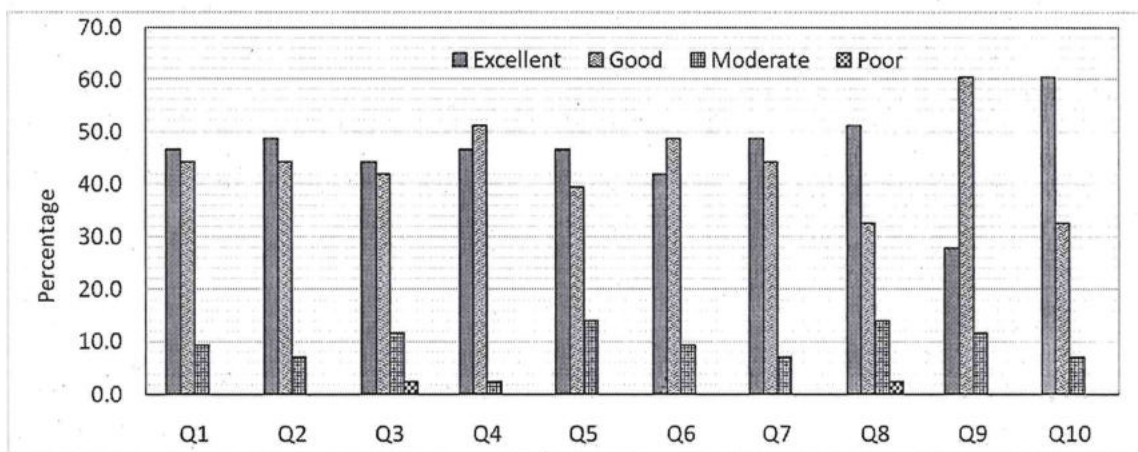


Figure 7: Consolidated analysis of AK 20 curriculum

From the table 9, it is observed that 46.5 % of the teachers rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 48.8% of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 44.2 % of the teachers

rated "excellent" for the relevance of electives to the technological advancements. 51.2% of the teachers rated "good" for the availability of textbooks/reference books as recommended in the syllabus. 46.5 % of the teachers rated "excellent" for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 48.8 % of the teachers rated "good" for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 48.8 % of the teachers rated "excellent" for the relationship of experiments in the lab courses to the real life applications. 51.2 % of the teachers rated "excellent" for skill development courses in your curriculum. 60.5 % of the teachers rated "good" for Quality of Internships provided by the Department/College. 60.5 % of the teachers rated "excellent" for the relevance of courses from the point of employability.

From the analysis, the scale of teacher's opinion for all the questions falls in the "excellent" and "good" categories. The average percentage of opinion is found to 90.3 %

The critical suggestion is as follows:

Students must under go certified training on Microsoft courses such as AI fundamentals, Azure fundamentals and Microsoft 365 fundamentals.

Overall Analysis on teachers feedback on different curriculum

Overall, the percentage of ratings in academic year 2021-2022 by teachers for different curricula such as R15, AK19 and AK20 are presented in Table 10 and Figure 8.

Table 10: Comparison of different curriculum

Curriculum	Excellent	Good	Moderate	Poor	% of Opinion
R15	42.3	41.8	12.3	3.5	84.2
AK19	43.9	43.5	10.0	2.6	87.4
AK20	46.3	44.0	9.3	0.5	90.3

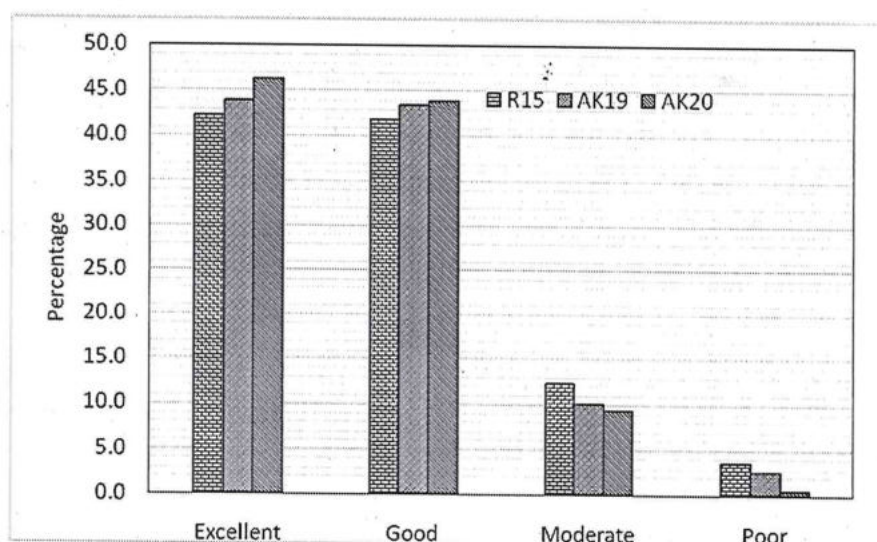


Figure 8: Overall analysis for different curriculum in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor is 42.3%, 41.8 %, 12.3% and 3.5 % respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 43.9%, 43.5%, 10.0% and 2.6% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor is 46.3%, 44.0 %, 9.3 % and 0.5% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 84.2%, 87.4 % and 90.3 % respectively. It is inferred that the rating for latest curriculum (AK20) by the teachers are better than R15 and AK19 curriculum in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the teachers.

ALUMNI FEEDBACK ON CURRICULUM

Our alumni feedback is valuable for us by providing valuable inputs regarding employability of our students. Offline mode was followed to collect the alumni feedback in the academic year 2021-22. Total number of responses received from the alumni's are 20. As listed in Table 11, eight standard questions were asked for the responses from the alumni.

Table 11: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the relevance of electives to the technological advancements?
Q3	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q4	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q5	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q6	How will you rate the skill development courses in your curriculum?
Q7	How will you rate the Quality of Internships provided by the Department/ College?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the alumni was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 12 and Figure 9.

Table 12. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	45.0	40.0	15.0	0.0	Excellent & good	85.0
Q2	45.0	35.0	20.0	0.0	Excellent & good	80.0
Q3	35.0	45.0	15.0	5.0	Excellent & good	80.0
Q4	45.0	35.0	15.0	5.0	Excellent & good	80.0
Q5	45.0	45.0	10.0	0.0	Excellent & good	90.0
Q6	40.0	40.0	10.0	10.0	Excellent & good	80.0

Q7	40.0	35.0	20.0	5.0	Excellent & good	75.0
Q8	45.0	40.0	15.0	0.0	Excellent & good	85.0
Average (%)	42.5	39.4	15.0	3.1		81.9

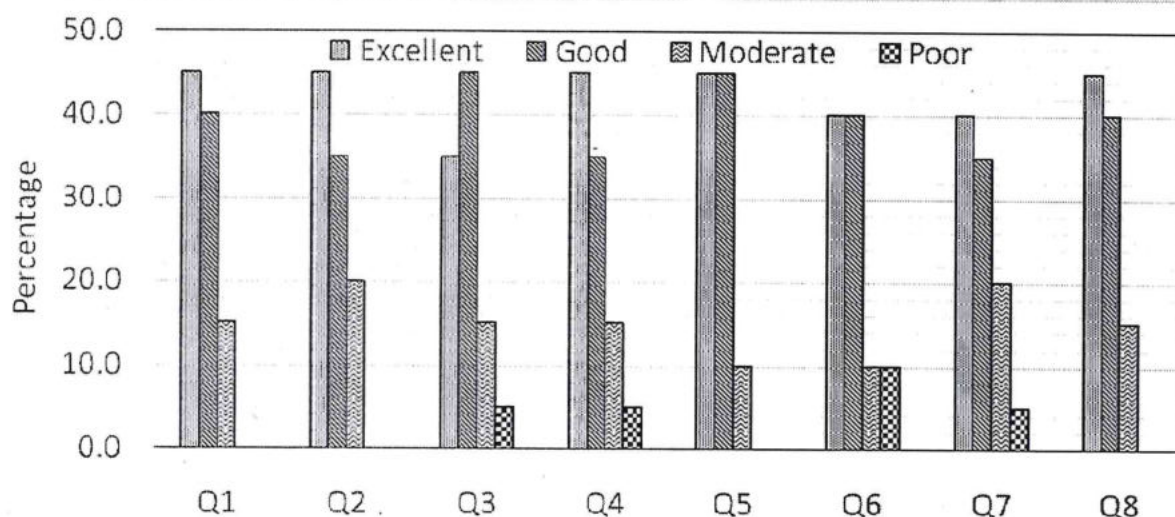


Figure 9 Consolidated analysis of R15 curriculum

From the table 12, it is observed that 45 % of the alumni rated “excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 45% of the alumni rated “excellent” for the relevance of electives to the technological advancements. 45 % of the alumni rated “good” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 45 % of the alumni rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 45 % of the alumni rated "excellent and “good” for the relationship of experiments in the lab courses to the real life applications. 40% of the alumni rated "excellent and “good” for skill development courses in your curriculum. 40 % of the alumni rated “excellent” for Quality of Internships provided by the Department/ College. 45 % of the alumni rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of alumni opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 81.9%

The critical suggestions are as follows:

- *Introduce advanced courses related to data analysis and networking.*
- *Projects related to time problems*

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
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EMPLOYER FEEDBACK ON CURRICULUM

Employer feedback is the most important determinant to evaluate the curriculum from the point of quality graduates. Offline system was used to collect the employer feedback for the academic year 2021-22. Six employers participated to rate the curriculum. Table 13 presents the list of questions.

Table 13: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will rate the exposure of curriculum to relevant Softwares
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the practical exposure of graduate to undertake real time projects?
Q5	How will you rate the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the presence of analytical / problem solving / critical thinking / innovative skills in the courses?
Q7	How will you rate the quality of internships undergone by the students?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the employers was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 14 and Figure 10.

Table 14. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50.0	33.3	16.7	0.0	Excellent & good	83.3
Q2	66.7	33.3	0.0	0.0	Excellent & good	100.0
Q3	50.0	16.7	33.3	0.0	Excellent & good	66.7
Q4	50.0	33.3	16.7	0.0	Excellent & good	83.3
Q5	33.3	66.7	0.0	0.0	Excellent & good	100.0
Q6	66.7	33.3	0.0	0.0	Excellent & good	100.0

Q7	50.0	33.3	16.7	0.0	Excellent & good	83.3
Q8	50.0	33.3	16.7	0.0	Excellent & good	83.3
Average (%)	52.1	35.4	12.5	0.0		87.5

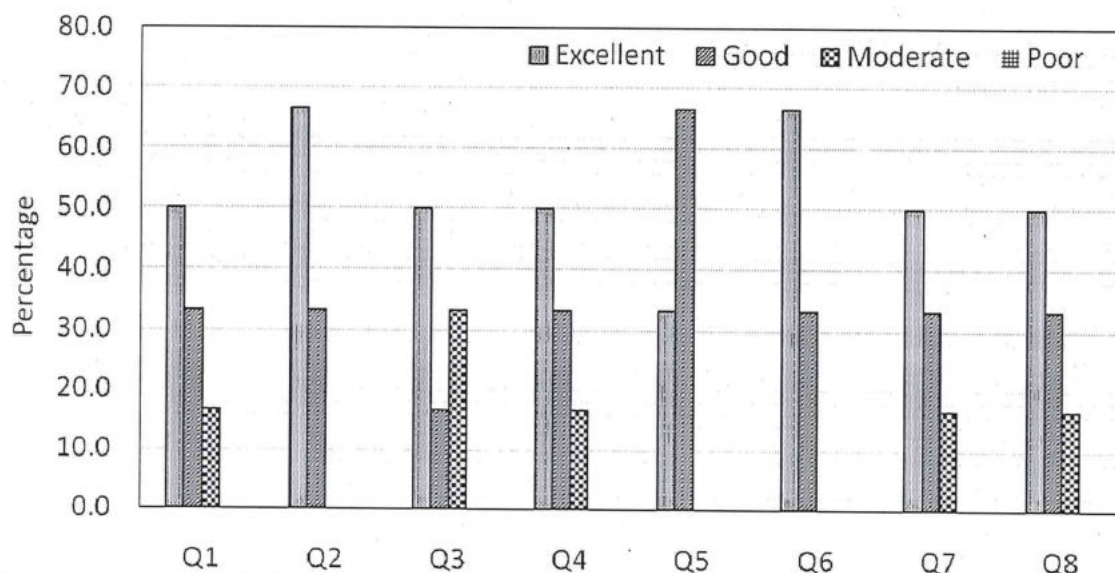


Figure 10 Consolidated analysis of R15 curriculum

From the table 14, it is observed that 50 % of the employers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 66.7% of the employers rated “good” for the exposure of curriculum to relevant softwares. 50 % of the employers rated “excellent” and “good” for the relevance of electives to the technological advancements. 50 % of the employers rated “excellent” for the practical exposure of graduate to undertake real time projects. 66.7 % of the employers rated “good” for the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 66.7 % of the employers rated “excellent” for the presence of analytical / problem solving / critical thinking / innovative skills in the courses. 50 % of the employers rated “excellent” for the quality of internships undergone by the students. 50 % of the employers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of employers opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.5 %

The critical suggestion is as follows:

Incorporate job oriented courses to meet the demand of industrial needs.

K.B. Deep Kumar
Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
TIRUPATI
(Autonomous)**

(KARAKAMBADI ROAD, VENKATAPURAM VILL., RENIGUNTA MANDAL)



**Department of Mechanical Engineering
Feedback on Curriculum by Stakeholders
Academic Year 2021-22**

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

Venkatapuram(V), Karakambadi Road, Renigunta(M), Tirupati-517 520, Chittoor, A.P

**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF MECHANICAL ENGINEERING
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students, Faculty, Alumni and Employers were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms was used for the collection of student feedback on curriculum. The IV, III and II year students studied three curricula namely R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) respectively. Individual analysis was carried out for different curricula. Total number of responses received from IV, III and II year students were 79, 69 and 95 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback on R15 curriculum of JNTUA was taken from the final year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	41.8	44.3	11.4	2.5	Excellent & good	86.1
Q2	40.5	46.8	8.9	3.8	Excellent & good	87.3
Q3	40.5	41.8	16.5	1.3	Excellent & good	82.3
Q4	40.5	39.2	15.2	5.1	Excellent & good	79.7
Q5	51.9	36.7	8.9	2.5	Excellent & good	88.6
Q6	40.5	39.2	17.7	2.5	Excellent & good	79.7
Q7	44.3	36.7	12.7	6.3	Excellent & good	81.0
Q8	41.8	34.2	17.7	6.3	Excellent & good	75.9
Q9	49.4	31.6	15.2	3.8	Excellent & good	81.0
Q10	30.4	54.4	10.1	5.1	Excellent & good	84.8
Average (%)	42.2	40.5	13.4	3.9		82.7

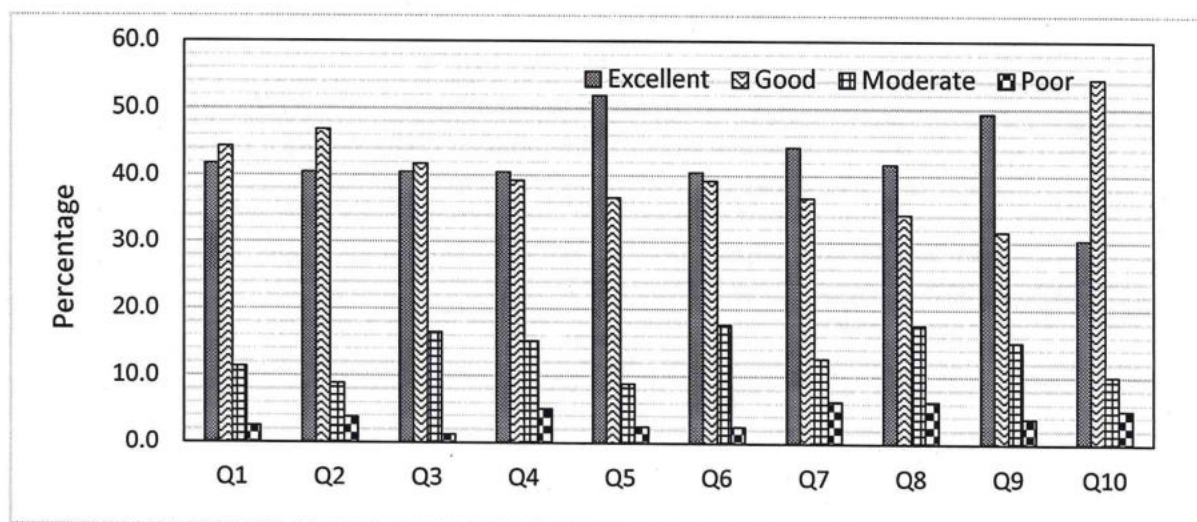


Figure 1 Consolidated analysis of R15 curriculum

From the table 2, it is observed that 44.3 % of the students rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 46.8% of the students rated “good” for the allocations of the hours and credits to the courses. 41.8 % of the students rated “good” for the relevance of electives to the technological advancements. 40.5 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 51.9 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 40.5 % of the students rated both “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 44.3 % of the students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 41.8 % of the

students rated “excellent” for skill development courses in your curriculum. 49.4 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 54.4 % of the students rated “good” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 82.7 %

The critical suggestions are as follows

- *Organize field trips to manufacturing units*

AK19 curriculum

Feedback on AK19 curriculum of AITS (autonomous). was taken from the third year students. The consolidated analysis of the responses is presented in Table 3 and Figure 2.

Table 3: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	47.8	40.6	8.7	2.9	Excellent & good	88.4
Q2	49.3	37.7	8.7	4.3	Excellent & good	87.0
Q3	47.8	40.6	10.1	1.4	Excellent & good	88.4
Q4	40.6	49.3	7.2	2.9	Excellent & good	89.9
Q5	47.8	40.6	10.1	1.4	Excellent & good	88.4
Q6	34.8	40.6	18.8	5.8	Excellent & good	75.4
Q7	44.9	46.4	7.2	1.4	Excellent & good	91.3
Q8	42.0	40.6	15.9	1.4	Excellent & good	82.6
Q9	34.8	42.0	18.8	4.3	Excellent & good	76.8
Q10	43.5	39.1	13.0	4.3	Excellent & good	82.6
Average (%)	43.3	41.7	11.9	3.0		85.1

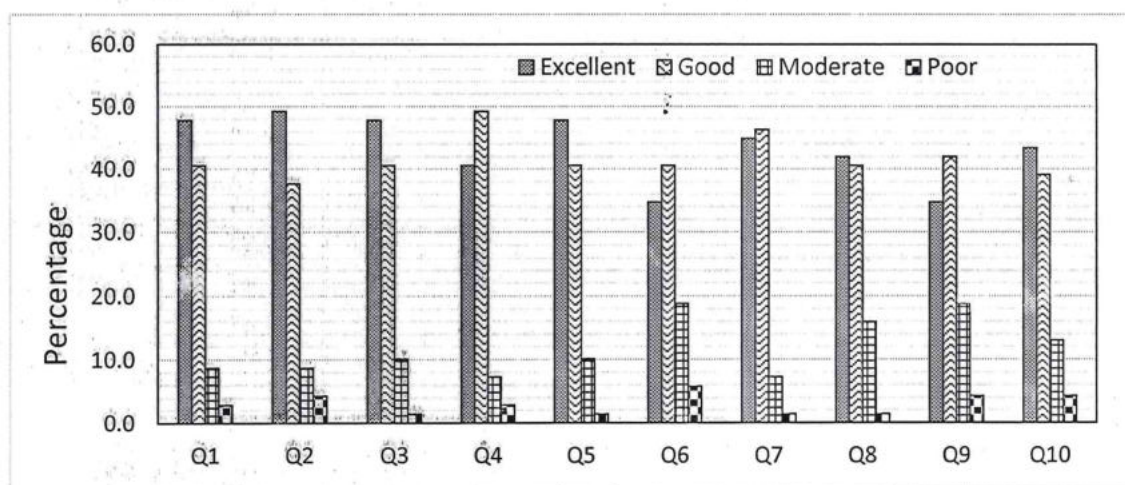


Figure 2: Consolidated analysis of AK19 curriculum

From the table 3, it is observed that 47.8 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 49.3% of the students rated “excellent” for the allocations of the hours and credits to the courses. 47.8 % of the students rated “excellent” for the relevance of electives to the technological advancements. 49.3 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 47.8 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 40.6 % of the students rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 46.4 % of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 42 % of the students rated “excellent” for skill development courses in your curriculum. 42 % of the students rated “good” for Quality of Internships provided by the Department/ College. 43.5 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 85.1 %

The critical suggestions are as follows

- *Organize guest lecture on Operations Research*

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken from the second year students. The consolidated analysis of the responses is presented in Table 4 and Figure 3.

Table 4: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	47.4	38.9	9.5	4.2	Excellent & good	86.3
Q2	49.5	40.0	7.4	3.2	Excellent & good	89.5
Q3	50.5	38.9	8.4	2.1	Excellent & good	89.5
Q4	48.4	41.1	7.4	3.2	Excellent & good	89.5
Q5	51.6	37.9	8.4	2.1	Excellent & good	89.5
Q6	40.0	45.3	11.6	3.2	Excellent & good	85.3
Q7	44.2	47.4	6.3	2.1	Excellent & good	91.6
Q8	45.3	43.2	10.5	1.1	Excellent & good	88.4
Q9	45.3	46.3	6.3	2.1	Excellent & good	91.6
Q10	44.2	37.9	5.3	2.1	Excellent & good	82.1
Average (%)	47.1	42.1	8.2	2.6		88.3

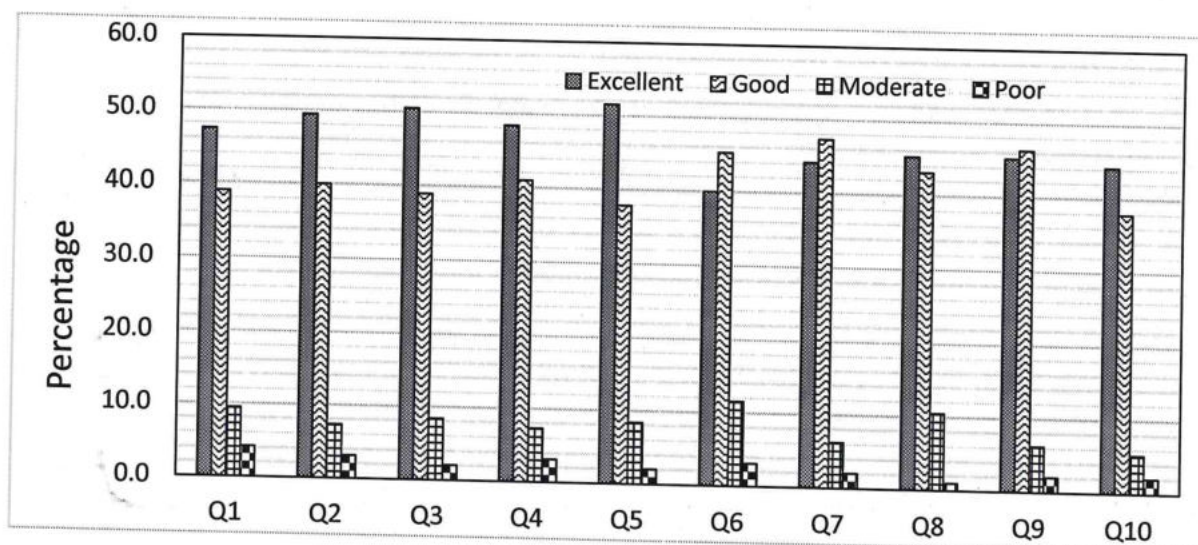


Figure 3: Consolidated analysis of AK 20 curriculum

From the table 4, it is observed that 47.4 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 49.5 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 50.5 % of the students rated “excellent” for the relevance of electives to the technological advancements. 48.4 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 51.6 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 45.3 % of the students rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 47.4 % of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 45.3 % of the students rated “excellent” for skill development courses in your curriculum. 46.3 % of the students rated “good” for Quality of Internships provided by the Department/ College. 44.2 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinions for all the question falls in the “excellent” and “good” categories. The average percentage of opinion is found to 88.3 %

The critical suggestions as follows

- *Application oriented knowledge required*

Overall Analysis on Students feedback on different curricula

Overall, the percentage of ratings in the academic year 2021-2022 by students for different curricula such as R15, AK19 and AK20 are presented in table 5 and Figure 4.

Table 5: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	42.2	40.5	13.4	3.9	82.7
AK19	43.3	41.7	11.9	3.0	85.1
AK20	47.1	42.1	8.2	2.6	88.3

Figure 4: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor categories is 42.2%, 40.5 %, 13.4% and 3.9% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 43.3%, 41.7 %, 11.9% and 3% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor categories is 47.1%, 42.1 %, 8.2 % and 2.6% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 82.7 %, 85.1 % and 88.3 % respectively. It is inferred that the rating for latest curriculum (AK20) by the students are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the students.

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms was used for the collection of teacher feedback on curriculum. The teachers were asked to rate the R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) curricula. Feedback was collected from 31 teachers. Individual analysis was carried out for different curricula. As listed in table 6, ten standard questions were asked for the responses from the teachers.

Table 6: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Google form was used to collect the feedback from the teachers for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 7 and Figure 5.

Table 7. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	31.6	47.4	21.1	0.0	Excellent & good	78.9
Q2	36.8	36.8	15.8	10.5	Excellent & good	73.7
Q3	52.6	36.8	10.5	0.0	Excellent & good	89.5
Q4	52.6	31.6	10.5	5.3	Excellent & good	84.2
Q5	57.9	26.3	10.5	5.3	Excellent & good	84.2
Q6	47.4	31.6	15.8	5.3	Excellent & good	78.9
Q7	42.1	42.1	15.8	0.0	Excellent & good	84.2
Q8	36.8	52.6	10.5	0.0	Excellent & good	89.5
Q9	26.3	52.6	15.8	5.3	Excellent & good	78.9
Q10	42.1	42.1	5.3	10.5	Excellent & good	84.2
Average (%)	42.6	40.0	13.2	4.2		82.6

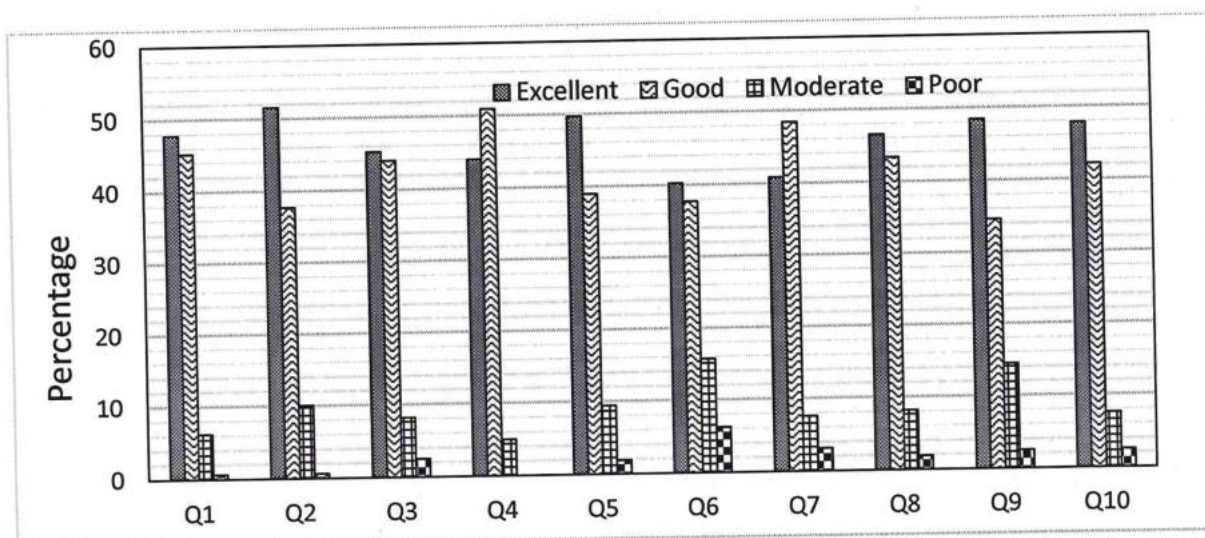


Figure 5 Consolidated analysis of R15 curriculum

From the table 7, it is observed that 47.4% of the teachers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 36.8% of the teachers rated “excellent” and “good” for the allocations of the hours and credits to the courses. 52.6% of the teachers rated “excellent” for the relevance of electives to the technological advancements. 52.6 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 57.9 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 47.4% of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 42.1 % of the teachers rated “excellent” and “good” for the relationship of experiments in the lab courses to the real life applications. 52.6% of the teachers rated “good” for skill development courses in your curriculum. 52.6% of the teachers rated “good” for Quality of Internships provided by the Department/ College. 42.1% of the teachers rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 82.6 %.

The critical suggestions are as follows

- *Add new course related to design and analysis in production and automobile fields*
- *Advised to modify materials and manufacturing course*

AK19 curriculum

Google form was used to collect the feedback from the teachers for AK19 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 8 and Figure 6.

Table 8: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	31.6	47.4	21.1	0.0	Excellent & good	78.9
Q2	42.1	47.4	10.5	0.0	Excellent & good	89.5
Q3	57.9	36.8	5.3	0.0	Excellent & good	94.7
Q4	52.6	31.6	10.5	5.3	Excellent & good	84.2
Q5	68.4	26.3	5.3	0.0	Excellent & good	94.7
Q6	57.9	26.3	10.5	5.3	Excellent & good	84.2
Q7	52.6	31.6	15.8	0.0	Excellent & good	84.2
Q8	36.8	52.6	10.5	0.0	Excellent & good	89.5
Q9	26.3	52.6	15.8	5.3	Excellent & good	78.9
Q10	42.1	42.1	5.3	10.5	Excellent & good	84.2
Average (%)	46.8	39.5	11.1	2.6		86.3

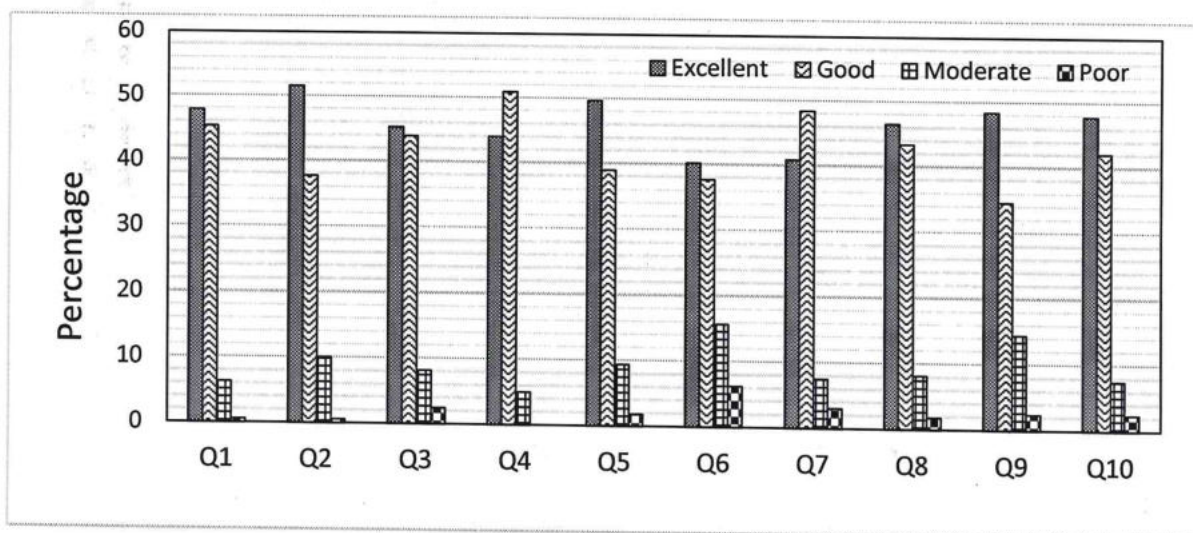


Figure 6: Consolidated analysis of AK19 curriculum

From the table 8, it is observed that 47.4% of the teachers rated “good” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 47.4% of the teachers rated “good” for the allocations of the hours and credits to the courses. 57.9% of the teachers rated “excellent” for the relevance of electives to the technological advancements. 52.6 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 68.4% of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 57.9% of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 52.6% of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 52.6% of the

teachers rated “good” for skill development courses in your curriculum. 52.6% of the teachers rated “good” for Quality of Internships provided by the Department/ College. 42.1% of the teachers rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 86.3 %.

The critical suggestions given

- *Introduce courses to improve the quality in technology*

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 9 and Figure 7.

Table 9: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	47.4	42.1	10.5	0.0	Excellent & good	89.5
Q2	47.4	47.4	5.3	0.0	Excellent & good	94.7
Q3	42.1	36.8	15.8	5.3	Excellent & good	78.9
Q4	47.4	47.4	5.3	0.0	Excellent & good	94.7
Q5	52.6	42.1	5.3	0.0	Excellent & good	94.7
Q6	36.8	52.6	10.5	0.0	Excellent & good	89.5
Q7	52.6	42.1	5.3	0.0	Excellent & good	94.7
Q8	57.9	26.3	10.5	5.3	Excellent & good	84.2
Q9	31.6	57.9	10.5	0.0	Excellent & good	89.5
Q10	26.3	57.9	15.8	0.0	Excellent & good	84.2
Average (%)	44.2	45.3	9.5	1.1		89.5

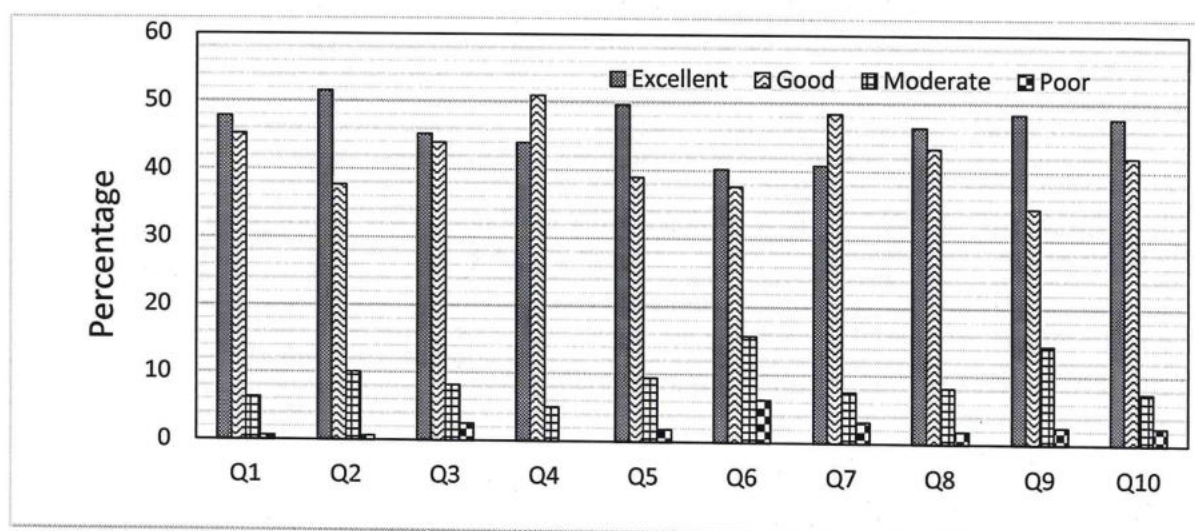


Figure 7: Consolidated analysis of AK 20 curriculum

From the table 9, it is observed that 47.4% of the teachers rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 47.4% of the teachers rated “excellent” and “good” for the allocations of the hours and credits to the courses. 42.1 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 47.4% of the teachers rated “excellent” and “good” for the availability of textbooks/reference books as recommended in the syllabus. 52.6 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 52.6% of the teachers rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 52.6% of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 57.9% of the teachers rated “excellent” for skill development courses in your curriculum. 57.9% of the teachers rated “good” for Quality of Internships provided by the Department/College. 57.9% of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 89.5 %

The critical suggestion is as follows

- *Suggested to undergo hands-on training in Automobile Engineering course*

Overall Analysis on teachers feedback on different curricula

Overall, the percentage of ratings in academic year 2021-2022 by teachers for different curricula such as R15, AK19 and AK20 are presented in Table 10 and Figure 8.

Table 10: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	42.6	40.0	13.2	4.2	82.6
AK19	46.8	39.5	11.1	2.6	86.3
AK20	44.2	45.3	9.5	1.1	89.5

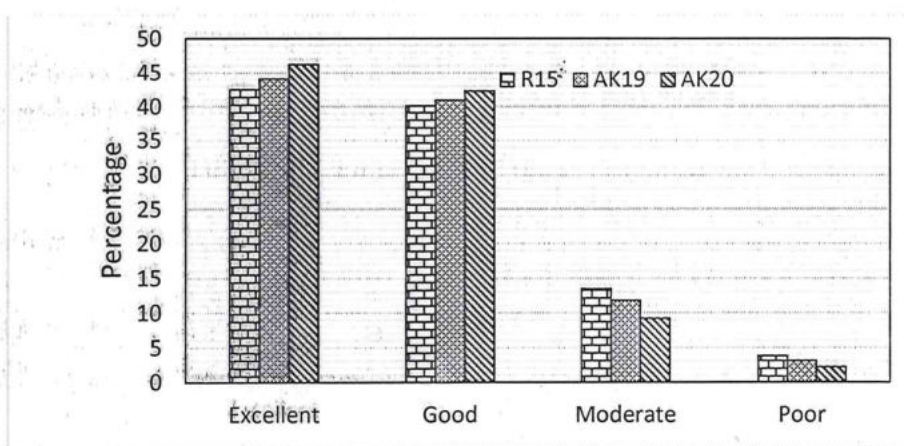


Figure 8: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor is 42.6%, 40 %, 13.2% and 4.2% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 46.8%, 39.5%, 11.1% and 2.6% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor is 44.2%, 45.3 %, 9.5 % and 1.1% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 82.6 %, 86.3 % and 89.6 % respectively. It is inferred that the rating for latest curriculum (AK20) by the teachers are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the teachers.

ALUMNI FEEDBACK ON CURRICULUM

Our alumni feedback is valuable for us by providing valuable inputs regarding employability of our students. Offlinemodewas followed to collect the alumni feedback in the academic year 2021-22. Total number of responses received from the alumni's are 12. As listed in Table 11, eight standard questions were asked for the responses from the alumni.

Table 11: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the relevance of electives to the technological advancements?
Q3	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q4	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q5	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q6	How will you rate the skill development courses in your curriculum?
Q7	How will you rate the Quality of Internships provided by the Department/ College?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the alumni was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 12 and Figure 9.

Table 12. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	66.7	25.0	8.3	0.0	Excellent & good	91.7
Q2	58.3	33.3	8.3	0.0	Excellent & good	91.7
Q3	41.7	33.3	16.7	8.3	Excellent & good	75.0
Q4	41.7	25.0	25.0	8.3	Excellent & good	66.7
Q5	41.7	50.0	8.3	0.0	Excellent & good	91.7
Q6	33.3	50.0	8.3	8.3	Excellent & good	83.3
Q7	50.0	33.3	16.7	0.0	Excellent & good	83.3
Q8	50.0	41.7	8.3	0.0	Excellent & good	91.7
Average (%)	47.9	36.5	12.5	3.1		84.4

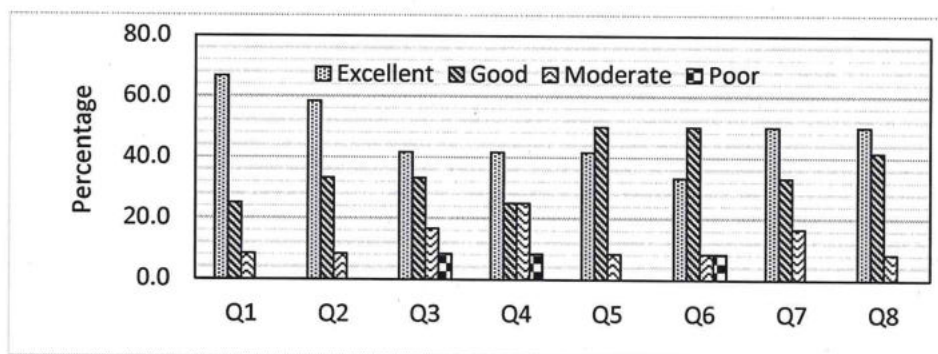


Figure 9 Consolidated analysis of R15 curriculum

From the table 12, it is observed that 66.7 % of the alumni rated “excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 58.3 % of the alumnirated “excellent” for the relevance of electives to the technological advancements. 41.7 % of the alumni rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 41.7 % of the alumni rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 50.0% of the alumni rated “good” for the relationship of experiments in the lab courses to the real life applications. 50.0 % of the alumni rated “good” for skill development courses in your curriculum. 50.0% of the alumni rated “excellent” for Quality of Internships provided by the Department/ College. 50.0 % of the alumni rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of alumni opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 84.4 %

The critical suggestion is as follows

- *Require Simulation software labs.*

EMPLOYER FEEDBACK ON CURRICULUM

Employer feedback is the most important determinant to evaluate the curriculum from the point of quality graduates. Offline system was used to collect the employer feedback for the academic year 2021-22. Two employers participated to rate the curriculum. Table 13 presents the list of questions.

Table 13: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will rate the exposure of curriculum to relevant softwares
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the practical exposure of graduate to undertake real time projects?
Q5	How will you rate the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?

Q6	How will you rate the presence of analytical / problem solving / critical thinking / innovative skills in the courses?
Q7	How will you rate the quality of internships undergone by the students?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the employers was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 14 and Figure 10.

Table 14. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50	50	0	0	Excellent & good	100.0
Q2	50	50	0	0	Excellent & good	100.0
Q3	50	50	0	0	Excellent & good	100.0
Q4	50	50	0	0	Excellent & good	100.0
Q5	50	0	50	0	Excellent & good	50.0
Q6	50	50	0	0	Excellent & good	100.0
Q7	0	50	50	0	Excellent & good	50.0
Q8	50	50	0	0	Excellent & good	100.0
Average (%)	43.75	43.75	12.5	0		87.5

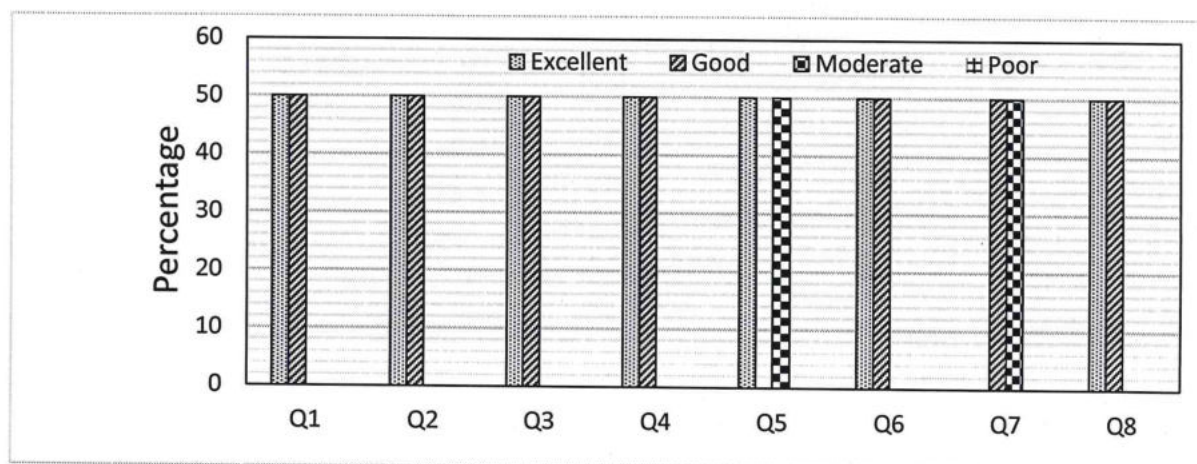


Figure 10 Consolidated analysis of R15 curriculum

From the table 14, it is observed that 50 % of the employers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 50% of the employers rated “excellent” and “good” for the exposure of curriculum to relevant softwares. 50 % of the employers rated “excellent” and “good” for the relevance of electives to the technological advancements. 50 % of the employers rated “excellent” and “good” for the practical exposure of graduate to undertake real time projects. 50 % of the employers rated “excellent” and “Moderate” for the composition of the courses in terms of Basic Sciences,

Engineering Sciences, Humanities, and Core. 50 % of the employers rated “excellent” and “excellent” for the presence of analytical / problem solving / critical thinking / innovative skills in the courses. 50 % of the employers rated “Good” and “Moderate” for the quality of internships undergone by the students. 50 % of the employers rated “excellent” and “Good” for the relevance of courses from the point of employability.

From the analysis, the scale of employers opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.5 %

The critical suggestion is as follows

- *Implement job-oriented internships*



Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
TIRUPATI
(Autonomous)**

(KARAKAMBADI ROAD, VENKATAPURAM VILL., RENIGUNTA MANDAL)



Department of MBA

**Feedback on Curriculum by Stakeholders
Academic Year 2021-22**

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

Venkatapuram(V), Karakambadi Road, Renigunta(M), Tirupati-517 520, Chittoor, A.P

**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF MBA
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students, Faculty, Alumni and Employers were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms were used for the collection of student feedback on curriculum. The students have studied AK19 (Autonomous) curriculum. Analysis was carried out for the above curriculum. Total number of responses received from I and II year students were 114 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

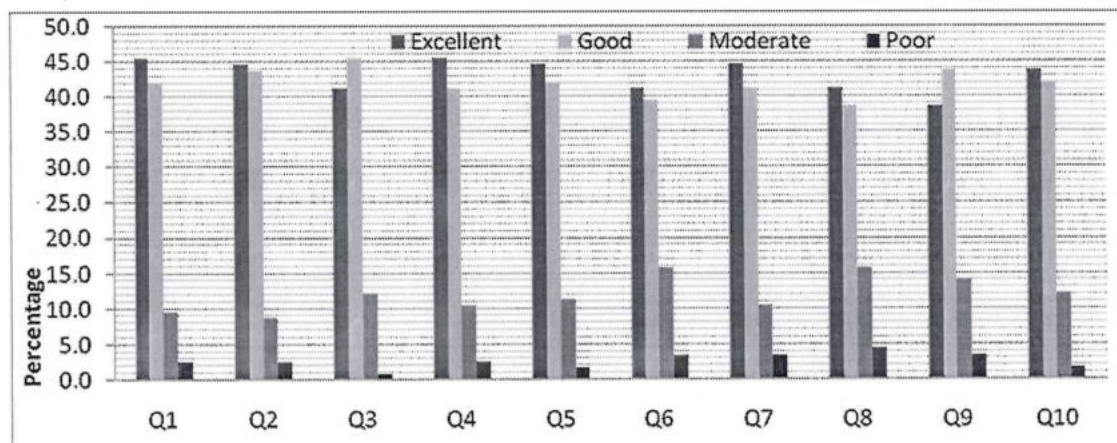
Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK19 curriculum

Feedback on AK19 curriculum of AITS (autonomous) was taken from the first and second year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	45.6	42.1	9.6	2.6	Excellent & good	87.7
Q2	44.7	43.9	8.8	2.6	Excellent & good	88.6
Q3	41.2	45.6	12.3	0.9	Excellent & good	86.8
Q4	45.6	41.2	10.5	2.6	Excellent & good	86.8
Q5	44.7	42.1	11.4	1.8	Excellent & good	86.8
Q6	41.2	39.5	15.8	3.5	Excellent & good	80.7
Q7	44.7	41.2	10.5	3.5	Excellent & good	86.0
Q8	41.2	38.6	15.8	4.4	Excellent & good	79.8
Q9	38.6	43.9	14.0	3.5	Excellent & good	82.5
Q10	43.9	42.1	12.3	1.8	Excellent & good	86.0
Average (%)	43.2	42.0	12.1	2.7		85.2

**Figure 1: Consolidated analysis of AK19 curriculum**

From the table 2, it is observed that 45.6 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 44.7% of the students rated “excellent” for the allocations of the hours and credits to the courses. 45.6% of the students rated “good” for the relevance of electives to the technological advancements. 45.6 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 44.7 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 41.2 % of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 44.7 % of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 41.2 % of the students rated “excellent” for skill development courses in your curriculum. 43.9 % of the students rated “good” for Quality of Internships provided by the Department/ College.

43.9 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 85.2 %

The critical suggestions are as follows:

- *Arrange industry–institute interface by increasing visits to nearby manufacturing/service units*
- *Expert talks*
- *Conduct management related competitions*

TEACHERS FEEDBACK ON CURRICULUM

Teachers’ feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms were used for the collection of teacher feedback on curriculum. The teachers were asked to rate the AK19 (Autonomous) curriculum. Feedback was collected from 18 teachers. Individual analysis was carried out for the curriculum. As listed in table 4, ten standard questions were asked for the responses from the teachers.

Table 3: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK19 curriculum

Google form was used to collect the feedback from the teachers for AK19 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 4 and Figure 2.

Table 4: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	38.9	55.6	5.6	0.0	Excellent & good	94.4
Q2	27.8	55.6	16.7	0.0	Excellent & good	83.3
Q3	55.6	38.9	5.6	0.0	Excellent & good	94.4
Q4	50.0	38.9	5.6	5.6	Excellent & good	88.9
Q5	50.0	44.4	5.6	0.0	Excellent & good	94.4
Q6	38.9	38.9	16.7	5.6	Excellent & good	77.8
Q7	44.4	44.4	5.6	5.6	Excellent & good	88.9
Q8	33.3	50.0	11.1	5.6	Excellent & good	83.3
Q9	16.7	61.1	22.2	0.0	Excellent & good	77.8
Q10	44.4	50.0	5.6	0.0	Excellent & good	94.4
Average (%)	40.0	47.8	10.0	2.2		87.8

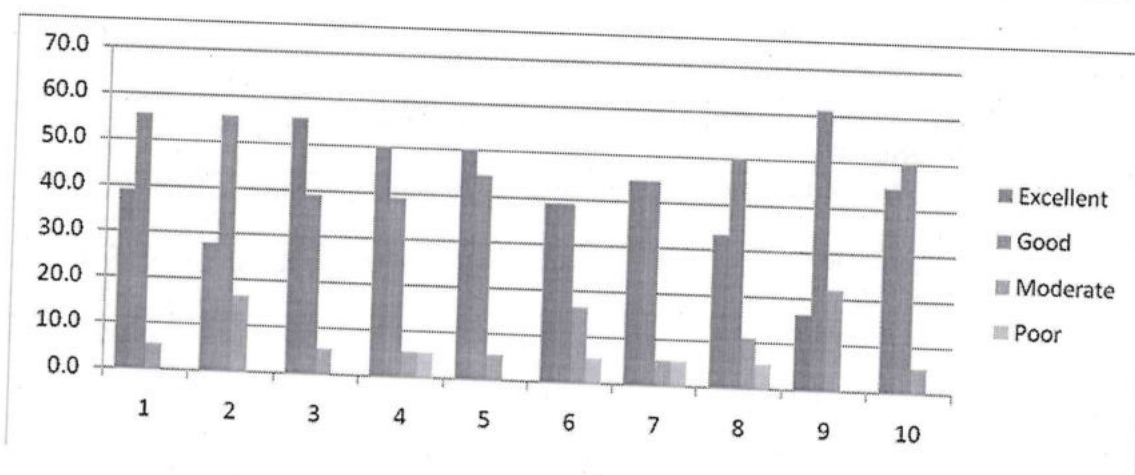


Figure 2: Consolidated analysis of AK19 curriculum

From the table 4, it is observed that 55.6 % of the teachers rated “good” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 55.6% of the teachers rated “good” for the allocations of the hours and credits to the courses. 55.6 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 50.0 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 50.0 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 38.9 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 44.4 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 50.0 % of the teachers rated “good” for skill development courses in your curriculum. 61.1 % of the teachers rated “good” for Quality of

Internships provided by the Department/ College. 50.0 % of the teachers rated “good” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.8 %

The critical observation is as follows

- *Add elective courses based on market needs*
- *Add more courses in the curriculum to improve the skills for employment like Tally, ERP etc.*
- *Improve the quality of internships*

ALUMNI FEEDBACK ON CURRICULUM

Our alumni feedback is valuable for us as they provide valuable inputs regarding employability of our students. Offline mode was followed to collect the alumni feedback in the academic year 2021-22. Total number of responses received from the alumni’s are 15. As listed in Table, eight standard questions were asked for the responses from the alumni.

Table 5: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the relevance of electives to the technological advancements?
Q3	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q4	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q5	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q6	How will you rate the skill development courses in your curriculum?
Q7	How will you rate the Quality of Internships provided by the Department/ College?
Q8	How will you rate the relevance of courses from the point of employability?

AK19 curriculum

Feedback from the alumni was collected for the AK19 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 6 and Figure.3

Table 6. Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	53.3	40.0	6.7	0.0	Excellent & good	93.3
Q2	46.7	40.0	13.3	0.0	Excellent & good	86.7
Q3	46.7	33.3	13.3	6.7	Excellent & good	80.0

Q4	46.7	26.7	20.0	6.7	Excellent & good	73.3
Q5	40.0	53.3	6.7	0.0	Excellent & good	93.3
Q6	33.3	46.7	13.3	6.7	Excellent & good	80.0
Q7	33.3	40.0	13.3	13.3	Excellent & good	73.3
Q8	40.0	46.7	13.3	0.0	Excellent & good	86.7
Average (%)	42.5	40.8	12.5	4.2		83.3

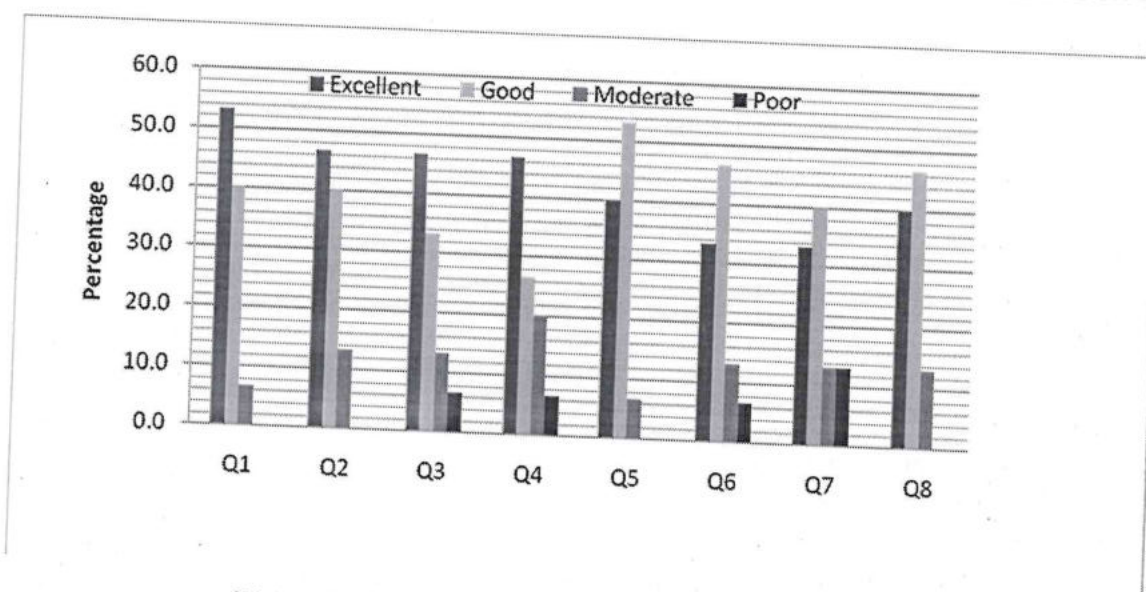


Figure 3. Consolidated analysis of AK19 curriculum

From the table 6, it is observed that 53.3 % of the alumni rated “excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 46.7% of the alumni rated “excellent” for the relevance of electives to the technological advancements. 46.7 % of the alumni rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 46.7 % of the alumni rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 53.3 % of the alumni rated “good” for the relationship of experiments in the lab courses to the real life applications. 46.7 % of the alumni rated “good” for skill development courses in your curriculum. 40 % of the alumni rated “good” for Quality of Internships provided by the Department/ College. 46.7 % of the alumni rated “good” for the relevance of courses from the point of employability.

From the analysis, the scale of alumni opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 83.3 %

The critical suggestion is as follows

- *Improve the quality of internships and projects*
- *Increase the number of guest lectures and industrial visits*

EMPLOYER FEEDBACK ON CURRICULUM

Employer feedback is the most important determinant to evaluate the curriculum from the point of quality of graduates. Offline system was used to collect the employer feedback for the academic year 2021-22. Three employers participated to rate the curriculum. Table presents the list of questions.

Table 7: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will rate the exposure of curriculum to relevant software?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the practical exposure of graduate to undertake real time projects?
Q5	How will you rate the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the presence of analytical / problem solving / critical thinking / innovative skills in the courses?
Q7	How will you rate the quality of internships undergone by the students?
Q8	How will you rate the relevance of courses from the point of employability?

AK19 curriculum

Feedback from the employers was collected for the AK19 (autonomous) curriculum. The consolidated analysis of the responses is presented in Table 8 and Figure 4.

Table 8. Consolidated analysis of AK19 Curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	33.3	66.6	0	0	Excellent & good	100.0
Q2	33.3	66.6	0	0	Excellent & good	100.0
Q3	0	100	0	0	Excellent & good	100.0
Q4	33.3	33.3	33.3	0	Excellent & good	66.7
Q5	33.3	33.3	33.3	0	Excellent & good	66.7
Q6	66.6	33.3	0	0	Excellent & good	100.0
Q7	33.3	33.3	33.3	0	Excellent & good	66.7
Q8	66.6	33.3	0	0	Excellent & good	100.0
Average (%)	37.5	50.0	12.5	0.0		87.5

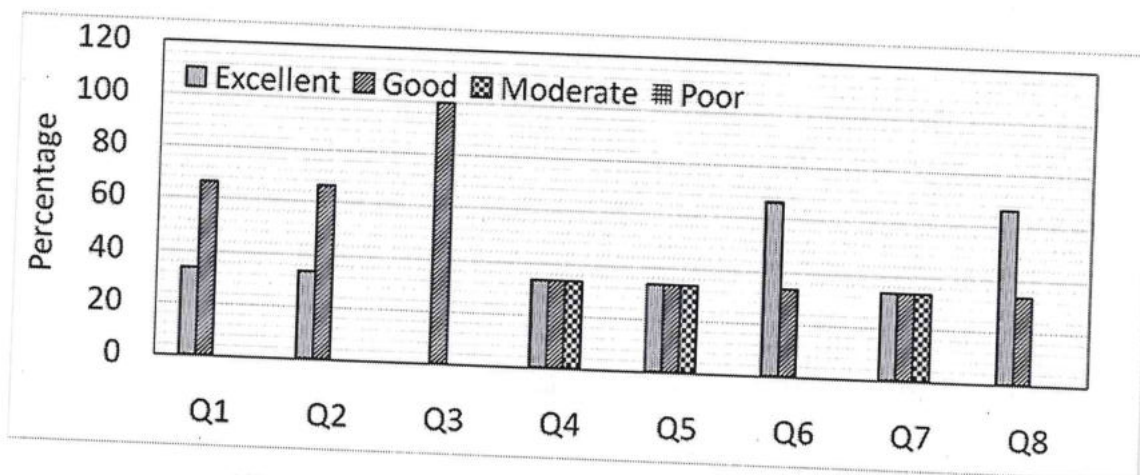


Figure 4. Consolidated analysis of AK19 curriculum

From the table 8, it is observed that 66 % of the employers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 66% of the employers rated “good” for the exposure of curriculum to relevant software. 100 % of the employers rated “good” for the relevance of electives to the technological advancements. 33.3 % of the employers rated “excellent” and “good” for the practical exposure of graduate to undertake real time projects. 33.3 % of the employers rated “excellent” and “good” for the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 66.6 % of the employers rated “excellent” for the presence of analytical / problem solving / critical thinking / innovative skills in the courses. 33.3 % of the employers rated “excellent” and “good” for the quality of internships undergone by the students. 66.6 % of the employers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of employers’ opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.5 %

The critical suggestion is as follows

- *Provide real-time projects/internships for students*

[Signature]
Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
TIRUPATI
(Autonomous)**

(KARAKAMBADI ROAD, VENKATAPURAM VILL., RENIGUNTA MANDAL)



Department of Computer Science and Engineering

**Feedback on Curriculum by Stakeholders
Academic Year 2021-22**

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

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**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students, Faculty, Alumni and Employers were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms were used for the collection of student feedback on curriculum. The IV, III and II year students studied three curricula namely R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) respectively. Individual analysis was carried out for different curricula. Total number of responses received from IV, III and II year students were 162, 177 and 180 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback on R15 curriculum of JNTUA was taken from the final year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	46.3	43.2	8.6	1.9	Excellent & good	89.5
Q2	43.2	43.8	12.3	0.6	Excellent & good	87.0
Q3	48.1	34.6	13.6	3.7	Excellent & good	82.7
Q4	40.1	46.9	9.3	3.7	Excellent & good	87.0
Q5	40.1	47.5	9.3	3.1	Excellent & good	87.7
Q6	37.0	43.2	15.4	4.3	Excellent & good	80.2
Q7	44.4	43.2	8.6	3.7	Excellent & good	87.7
Q8	37.0	49.4	9.3	4.3	Excellent & good	86.4
Q9	43.8	45.7	8.0	2.5	Excellent & good	89.5
Q10	49.4	38.3	9.9	2.5	Excellent & good	87.7
Average (%)	43.0	43.6	10.4	3.0		86.5

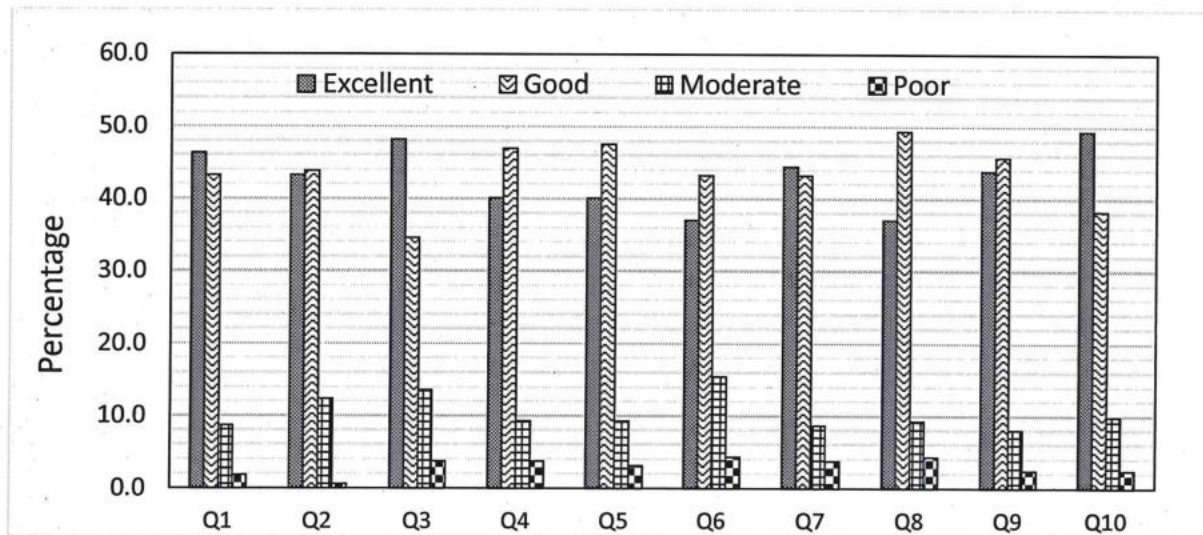


Figure 1 Consolidated analysis of R15 curriculum

From the table 2, it is observed that 46.3 % of the students rated “Excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 43.8% of the students rated “good” for the allocations of the hours and credits to the courses. 48.1 % of the students rated both “excellent” for the relevance of electives to the technological advancements. 46.9 % of the students rated “good” for the availability of textbooks/reference books as

recommended in the syllabus. 47.5 % of the students rated “good” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 43.2 % of the students rated both “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 44.4 % of the students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 49.4 % of the students rated “excellent” for skill development courses in your curriculum. 45.7 % of the students rated “good” for Quality of Internships provided by the Department/ College. 49.4 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 86.5 %

The critical suggestions are as follows

- Arrange webinars on latest technologies
- Promoting Various Club Activities.
- Arrange Industrial Visits.

AK19 curriculum

Feedback on AK19 curriculum of AITS (autonomous). was taken form the third year students. The consolidated analysis of the responses is presented in Table 3 and Figure 2.

Table 3: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50.8	40.7	6.8	1.7	Excellent & good	91.5
Q2	48.0	42.9	8.5	0.6	Excellent & good	91.0
Q3	42.4	43.5	11.3	2.8	Excellent & good	85.9
Q4	42.4	48.6	6.8	2.3	Excellent & good	91.0
Q5	42.9	45.2	8.5	3.4	Excellent & good	88.1
Q6	45.2	37.9	11.3	5.6	Excellent & good	83.1
Q7	44.6	47.5	5.6	2.3	Excellent & good	92.1
Q8	49.2	45.2	4.0	1.7	Excellent & good	94.4
Q9	49.2	43.5	5.1	2.3	Excellent & good	92.7
Q10	50.8	42.4	5.6	1.1	Excellent & good	93.2
Average (%)	46.6	43.7	7.3	2.4		90.3

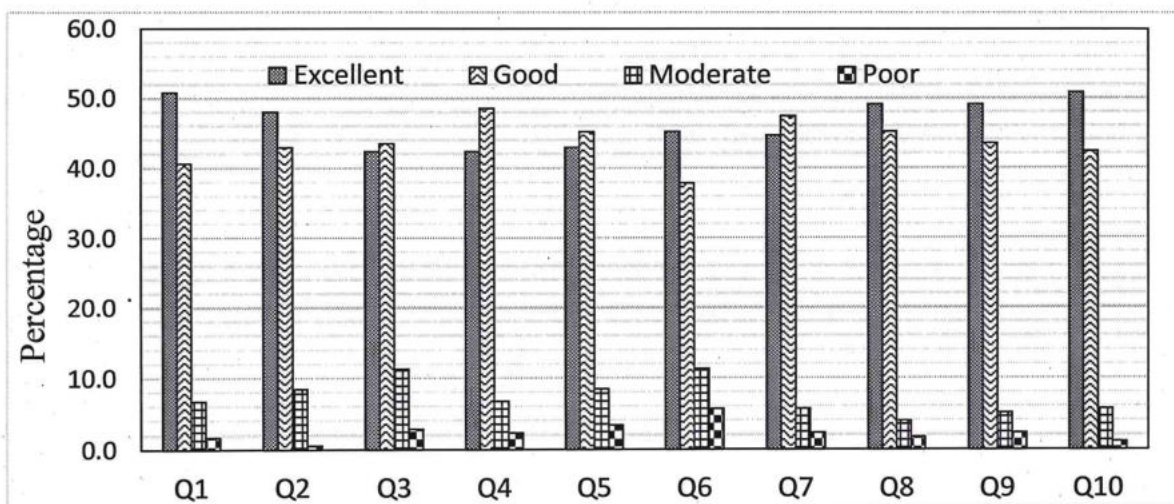


Figure 2: Consolidated analysis of AK19 curriculum

From the table 3, it is observed that 50.8 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 48.0 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 43.5% of the students rated “good” for the relevance of electives to the technological advancements. 48.6 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 45.2 % of the students rated “good” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 45.2 % of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 47.5% of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 49.2 % of the students rated “excellent” for skill development courses in your curriculum. 49.2 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 50.8 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 90.3 %

The critical suggestions are as follows

- *Arrange Guest Lectures*
- *Conduct technical competition and Project Expo's.*

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken from the second year students. The consolidated analysis of the responses is presented in Table 4 and Figure 3.

Table 4: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50.0	41.7	6.7	1.7	Excellent & good	91.7
Q2	51.7	41.7	6.1	0.6	Excellent & good	93.3
Q3	41.7	52.8	3.3	2.2	Excellent & good	94.4
Q4	47.2	47.8	2.2	2.8	Excellent & good	95.0
Q5	43.9	50.0	4.4	1.7	Excellent & good	93.9
Q6	44.4	36.1	13.9	5.6	Excellent & good	80.6
Q7	43.9	49.4	3.9	2.8	Excellent & good	93.3
Q8	50.0	44.4	3.9	1.7	Excellent & good	94.4
Q9	51.1	44.4	1.7	2.8	Excellent & good	95.6
Q10	41.7	46.1	11.1	1.1	Excellent & good	87.8
Average (%)	46.6	45.4	5.7	2.3		92.0

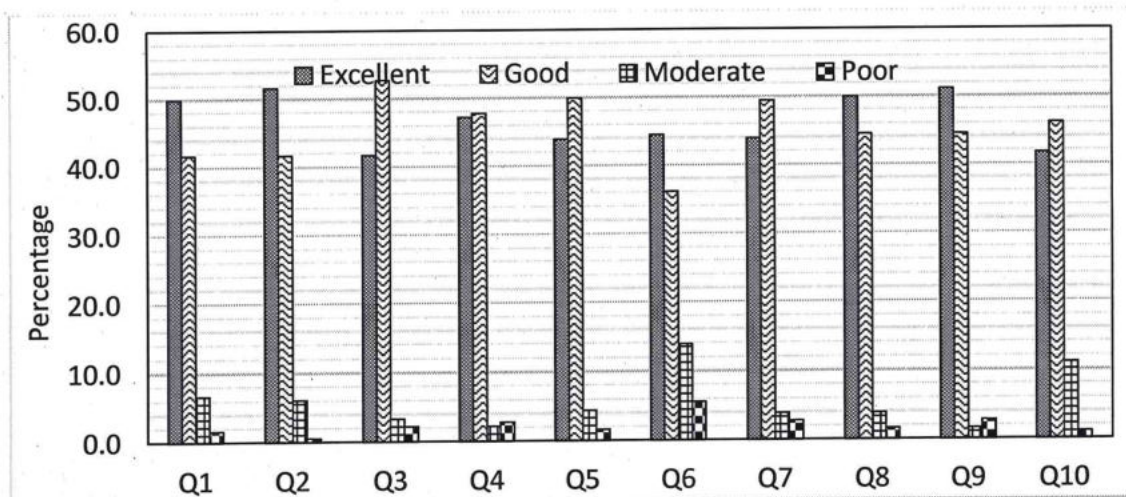


Figure 3: Consolidated analysis of AK 20 curriculum

From the table 4, it is observed that 50.0 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 51.7% of the students rated “excellent” for the allocations of the hours and credits to the courses. 52.8 % of the students rated “good” for the relevance of electives to the technological advancements. 47.8 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 50.0 % of the students rated “good” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 44.4 % of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 49.4 % of the students rated “good” for the relationship of experiments in the lab courses to the real life applications. 50.0 % of the students rated “excellent” for skill development courses in your curriculum. 51.1 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 46.1% of the students rated “good” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinions for all the question falls in the “excellent” and “good” categories. The average percentage of opinion is found to 92.0 %

The critical suggestion is as follows

- *Arrange Webinars and Industrial Visit.*
- *Arrange in-house labs.*

Overall Analysis on Students feedback on different curricula

Overall, the percentage of ratings in the academic year 2021-2022 by students for different curricula such as R15, AK19 and AK20 are presented in table 5 and Figure 4.

Table 5: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	43.0	43.6	10.4	3.0	86.5
AK19	46.6	43.7	7.3	2.4	90.3
AK20	46.6	45.4	5.7	2.3	92.0

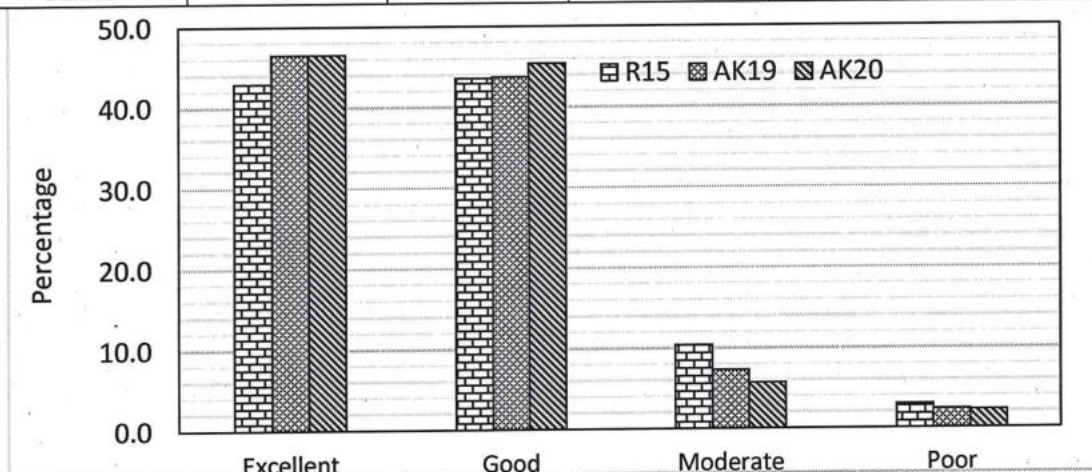


Figure 4: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor categories is 43.0%, 43.6 %, 10.4% and 3.0% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 46.6%, 43.7 %, 7.3% and 2.4% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor categories is 46.6%, 45.4 %, 5.7 % and 2.3% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 86.5 %, 90.3 % and 92.0 % respectively. It is inferred that the rating for latest curriculum (AK20) by the students are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the students.

TEACHERS FEEDBACK ON CURRICULUM

Teachers’ feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms was used for the collection of teacher feedback on curriculum. The teachers were asked to rate the R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) curricula. Feedback was collected from 31 teachers. Individual analysis was carried out for different curricula. As listed in table 6, ten standard questions were asked for the responses from the teachers.

Table 6: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Google form was used to collect the feedback from the teachers for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 7 and Figure 5.

Table 7. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	40.4	51.1	6.4	2.1	Excellent & good	91.5
Q2	55.3	38.3	4.3	2.1	Excellent & good	93.6
Q3	36.2	40.4	21.3	2.1	Excellent & good	76.6
Q4	57.4	36.2	4.3	2.1	Excellent & good	93.6
Q5	40.4	29.8	25.5	4.3	Excellent & good	70.2
Q6	31.9	38.3	25.5	4.3	Excellent & good	70.2
Q7	40.4	42.6	14.9	2.1	Excellent & good	83.0
Q8	36.2	46.8	14.9	2.1	Excellent & good	83.0
Q9	44.7	46.8	4.3	4.3	Excellent & good	91.5
Q10	46.8	40.4	8.5	4.3	Excellent & good	87.2
Average (%)	43.0	41.1	13.0	3.0		84.0

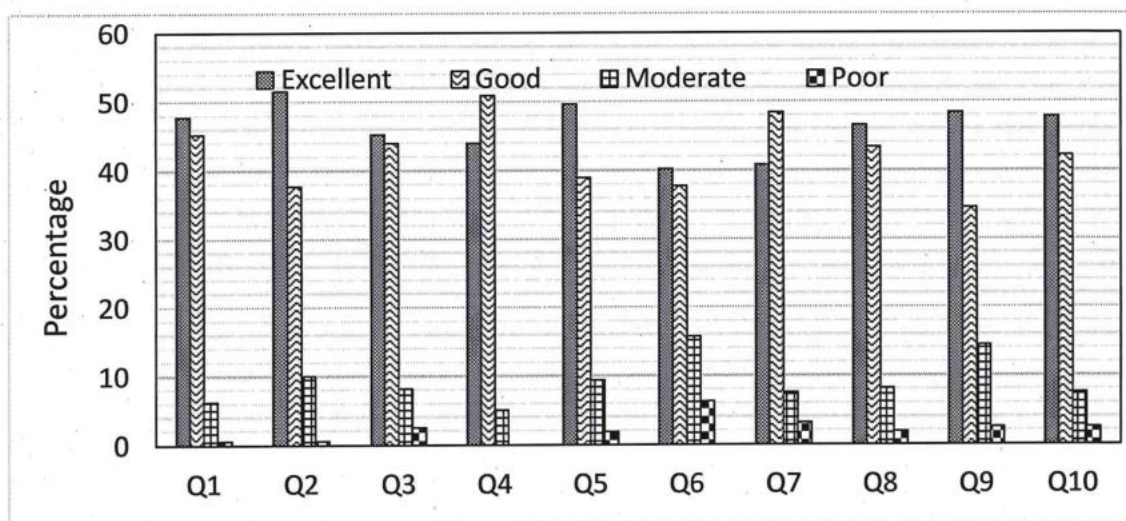


Figure 5 Consolidated analysis of R15 curriculum

From the table 7, it is observed that 51.1% of the teachers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 55.3% of the teachers rated “Excellent” for the allocations of the hours and credits to the courses. 40.4% of the teachers

rated “good” for the relevance of electives to the technological advancements. 57.4 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 40.4% of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 38.3% of the teachers rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 42.6% of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 46.8% of the teachers rated “excellent” for skill development courses in your curriculum. 46.8% of the teachers rated “good” for Quality of Internships provided by the Department/ College. 46.8% of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to **84.0%**

The critical suggestions are as follows

- *Add new courses such as IOT, Deep Learning, Design Thinking and Product Innovation.*
- *Modify existing courses such as Artificial Intelligence, Machine Learning and Data Analytics.*

AK19 curriculum

Google form was used to collect the feedback from the teachers for AK19 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 8 and Figure 6.

Table 8: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	51.1	40.4	6.4	2.1	Excellent & good	91.5
Q2	57.4	36.2	4.3	2.1	Excellent & good	93.6
Q3	46.8	42.6	6.4	4.3	Excellent & good	89.4
Q4	46.8	34.0	17.0	2.1	Excellent & good	80.9
Q5	44.7	29.8	21.3	4.3	Excellent & good	74.5
Q6	31.9	53.2	8.5	6.4	Excellent & good	85.1
Q7	40.4	42.6	10.6	6.4	Excellent & good	83.0
Q8	36.2	46.8	14.9	2.1	Excellent & good	83.0
Q9	44.7	46.8	4.3	4.3	Excellent & good	91.5
Q10	46.8	40.4	8.5	4.3	Excellent & good	87.2
Average (%)	44.7	41.3	10.2	3.8		86.0

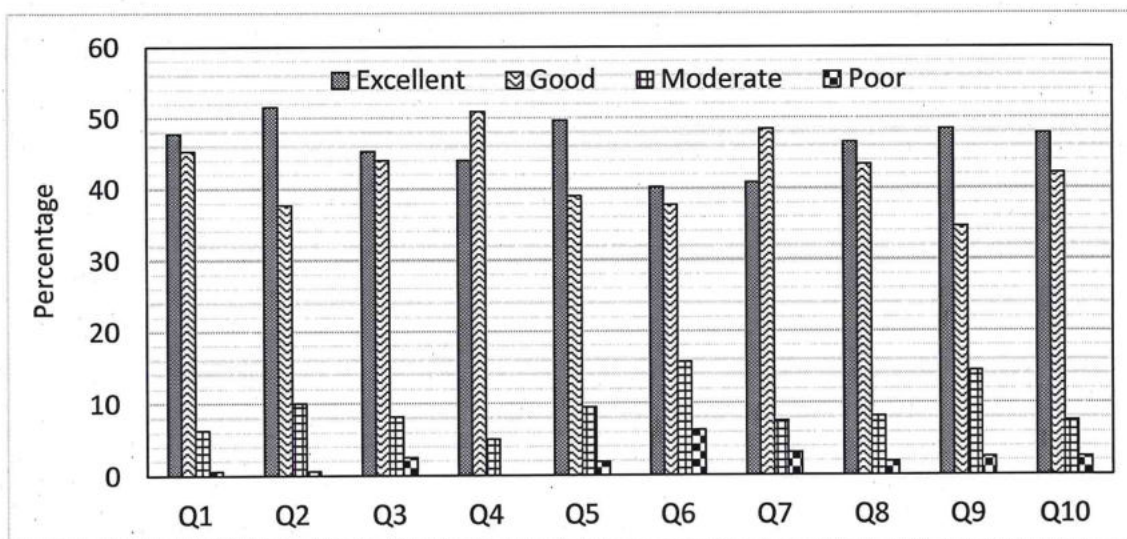


Figure 6: Consolidated analysis of AK19 curriculum

From the table 8, it is observed that 51.1% of the teachers rated “Excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 57.4% of the teachers rated “Excellent” for the allocations of the hours and credits to the courses. 46.8% of the teachers rated “excellent” for the relevance of electives to the technological advancements. 46.8% of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 44.7% of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 53.2% of the teachers rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 42.6% of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 46.8% of the teachers rated “good” for skill development courses in your curriculum. 46.8% of the teachers rated “good” for Quality of Internships provided by the Department/ College. 46.8% of the teachers rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 86.0 %

The critical observation is as follows

- *Latest Technology courses to be included.*

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 9 and Figure 7.

Table 9: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	40.4	51.1	6.4	2.1	Excellent & good	91.5
Q2	55.3	38.3	4.3	2.1	Excellent & good	93.6
Q3	42.6	48.9	4.3	4.3	Excellent & good	91.5
Q4	57.4	36.2	4.3	2.1	Excellent & good	93.6
Q5	44.7	29.8	21.3	4.3	Excellent & good	74.5
Q6	31.9	53.2	8.5	6.4	Excellent & good	85.1
Q7	40.4	42.6	10.6	6.4	Excellent & good	83.0
Q8	36.2	46.8	14.9	2.1	Excellent & good	83.0
Q9	44.7	46.8	4.3	4.3	Excellent & good	91.5
Q10	46.8	40.4	8.5	4.3	Excellent & good	87.2
Average (%)	44.0	43.4	8.7	3.8		87.4

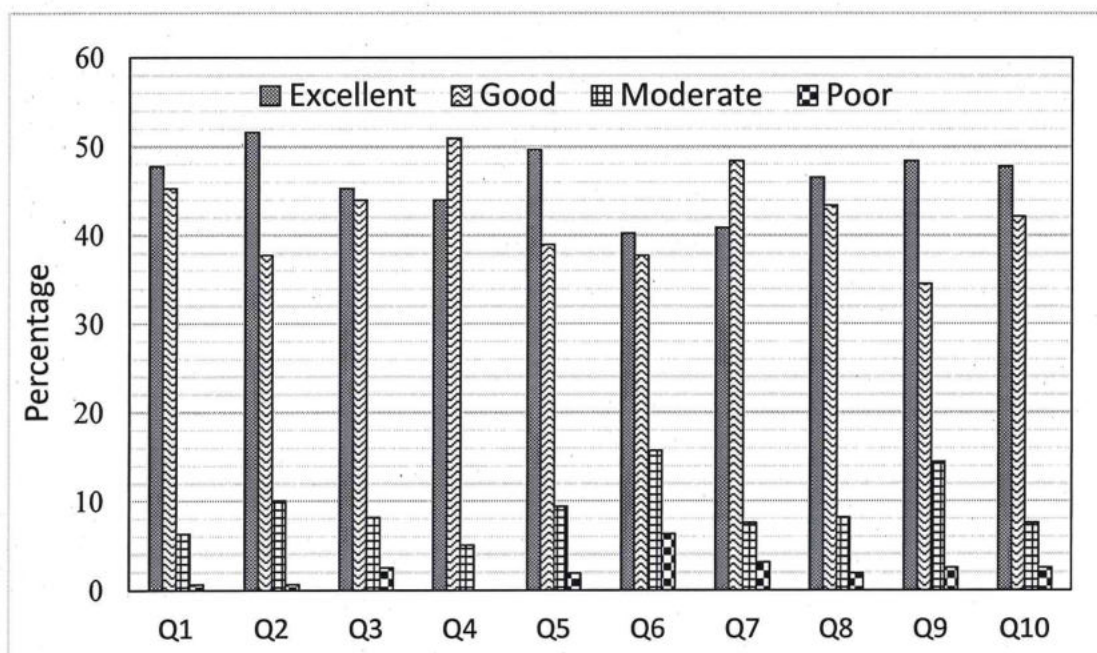


Figure 7: Consolidated analysis of AK 20 curriculum

From the table 9, it is observed that 51.1% of the teachers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 55.3% of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 48.9% of the teachers rated “excellent” for the relevance of electives to the technological advancements. 57.4% of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 44.7% of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 53.2% of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 42.6% of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 46.8% of the teachers s rated “good” for skill development courses in your curriculum. 46.8% of the teachers rated “good” for Quality of Internships provided by the Department/College. 46.8% of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.4 %

The critical suggestion is as follows

- *Community service is suggested during summer break.*
- *Advance courses to be incorporated.*

Overall Analysis on teachers feedback on different curricula

Overall, the percentage of ratings in academic year 2021-2022 by teachers for different curricula such as R15, AK19 and AK20 are presented in Table 10 and Figure 8.

Table 10: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	43.0	41.1	13.0	3.0	84.0
AK19	44.7	41.3	10.2	3.8	86.0
AK20	44.0	43.4	8.7	3.8	87.4

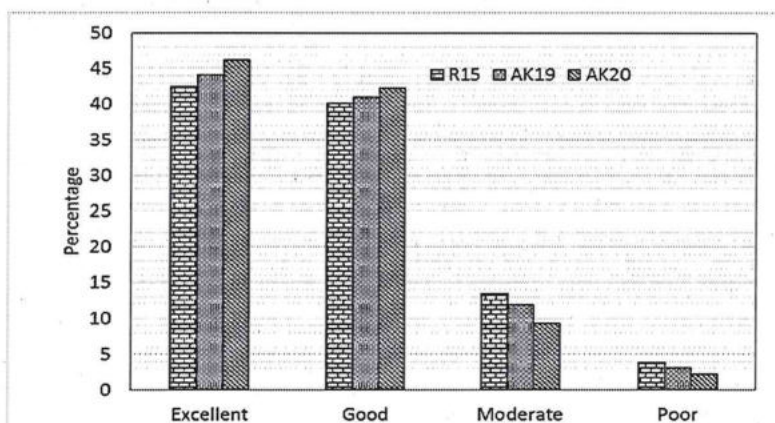


Figure 8: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor is 43.0%, 41.1 %, 13.0% and 3.0% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 44.7%, 41.3%, 10.2% and 3.8% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor is 44.0%, 43.4 %, 8.7 % and 3.8% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 84.0 %, 86.0 % and 87.4 % respectively. It is inferred that the rating for latest curriculum (AK20) by the teachers are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the teachers.

ALUMNI FEEDBACK ON CURRICULUM

Our alumni feedback is valuable for us by providing valuable inputs regarding employability of our students. Offline mode was followed to collect the alumni feedback in the academic year 2021-22. Total number of responses received from the alumni's are 15. As listed in Table 11, eight standard questions were asked for the responses from the alumni.

Table 11: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the relevance of electives to the technological advancements?
Q3	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q4	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q5	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q6	How will you rate the skill development courses in your curriculum?
Q7	How will you rate the Quality of Internships provided by the Department/ College?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the alumni was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 12 and Figure 9.

Table 12. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	62.5	25.0	7.5	5.0	Excellent & good	87.5
Q2	37.5	40.0	17.5	5.0	Excellent & good	77.5
Q3	67.5	27.5	5.0	0.0	Excellent & good	95.0
Q4	40.0	42.5	12.5	5.0	Excellent & good	82.5
Q5	65.0	32.5	2.5	0.0	Excellent & good	97.5
Q6	55.0	35.0	7.5	2.5	Excellent & good	90.0
Q7	62.5	32.5	5.0	0.0	Excellent & good	95.0
Q8	75.0	20.0	5.0	0.0	Excellent & good	95.0
Average (%)	58.1	31.9	7.8	2.2		90.0

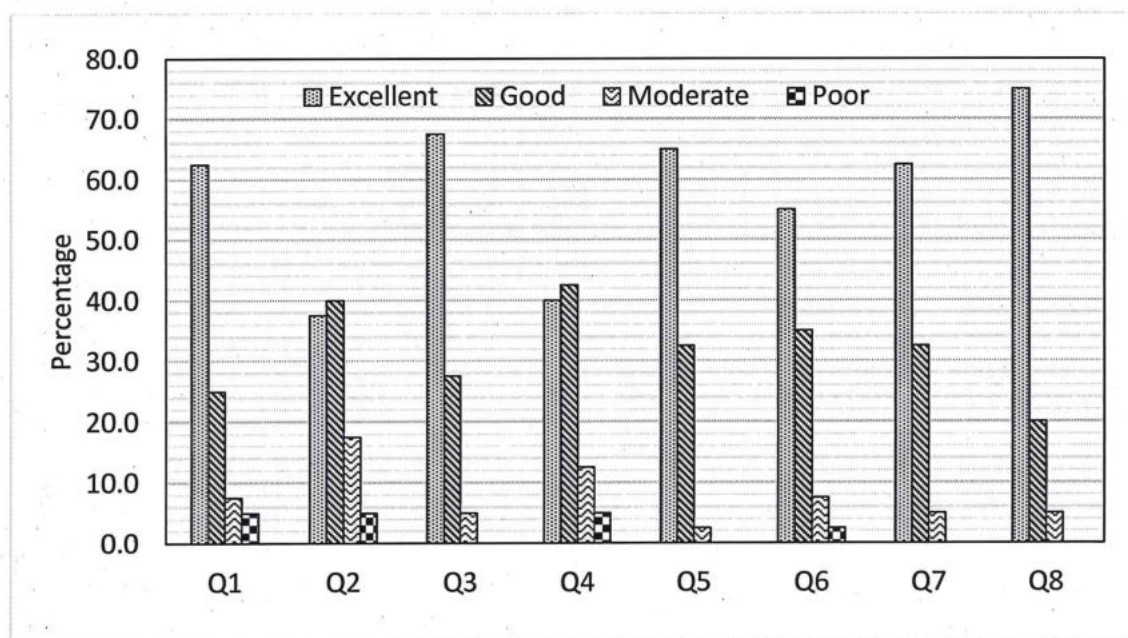


Figure 9 Consolidated analysis of R15 curriculum

From the table 12, it is observed that 62.5 % of the alumni rated “excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 40.0% of the alumni rated “good” for the relevance of electives to the technological advancements. 67.5 % of the alumni rated “excellent” for the composition of the Courses in terms of Basic Sciences,

Engineering Sciences, Humanities, and Core. 42.5 % of the alumni rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 65.0 % of the alumni rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 55.0 % of the alumni rated “excellent” for skill development courses in your curriculum. 62.5 % of the alumni rated “excellent” for Quality of Internships provided by the Department/ College. 75.0 % of the alumni rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of alumni opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 90%

The critical suggestion is as follows

- *Fill the academic and industry gap in curriculum.*
- *Upgrade the emerging technologies and future technologies.*

EMPLOYER FEEDBACK ON CURRICULUM

Employer feedback is the most important determinant to evaluate the curriculum from the point of quality graduates. Offline system was used to collect the employer feedback for the academic year 2021-22. Four employers participated to rate the curriculum. Table 13 presents the list of questions.

Table 13: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will rate the exposure of curriculum to relevant softwares
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the practical exposure of graduate to undertake real time projects?
Q5	How will you rate the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the presence of analytical / problem solving / critical thinking / innovative skills in the courses?
Q7	How will you rate the quality of internships undergone by the students?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the employers was collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 14 and Figure 10.

Table 14. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50	50	0	0	Excellent & good	100.0
Q2	40	50	10	0	Excellent & good	90.0
Q3	40	60	0	0	Excellent & good	100.0
Q4	40	50	10	0	Excellent & good	90.0
Q5	50	40	10	0	Excellent & good	90.0
Q6	70	30	0	0	Excellent & good	100.0
Q7	50	30	20	0	Excellent & good	80.0
Q8	50	50	0	0	Excellent & good	100.0
Average (%)	48.8	45.0	6.3	0.0		93.8

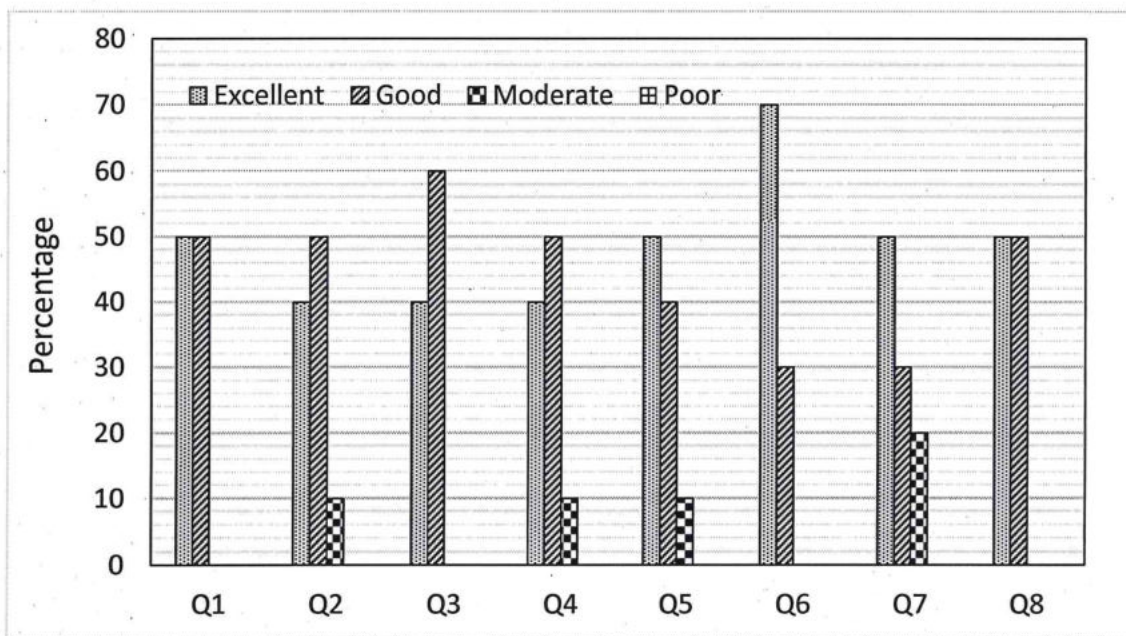


Figure 10 Consolidated analysis of R15 curriculum

From the table 14, it is observed that 50 % of the employers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 50% of the employers rated “good” for the exposure of curriculum to relevant softwares. 60 % of the employers rated “excellent” and “good” for the relevance of electives to the technological advancements. 50 % of the employers rated “excellent” for the practical exposure of graduate to undertake real time projects. 50 % of the employers rated “excellent” and “good” for the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 70 % of the employers rated “excellent” for the presence of analytical / problem solving / critical thinking / innovative skills in the courses. 50 % of the employers rated “excellent” for the quality of internships undergone by the students. 50 % of the employers rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of employers opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 93.8 %

The critical suggestion is as follows

- *Suggested to incorporate internships to meet industrial needs.*


Feedback Coordinator

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**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF CSE
(ARTIFICIAL INTELLIGENCE AND DATA SCIENCE)
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students, Faculty were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms were used for the collection of student feedback on curriculum. The II year students related to AK20 (Autonomous) curriculum. Total number of responses received from II year students were 62 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum ?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken from the second year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	51.6	35.5	9.7	3.2	Excellent & good	87.1
Q2	48.4	38.7	12.9	0.0	Excellent & good	87.1
Q3	45.2	41.9	12.9	0.0	Excellent & good	87.1
Q4	58.1	30.6	9.7	1.6	Excellent & good	88.7
Q5	51.6	41.9	6.5	0.0	Excellent & good	93.5
Q6	46.8	33.9	16.1	3.2	Excellent & good	80.6
Q7	48.4	37.1	12.9	1.6	Excellent & good	85.5
Q8	54.8	33.9	8.1	3.2	Excellent & good	88.7
Q9	58.1	32.3	6.5	3.2	Excellent & good	90.3
Q10	51.6	38.7	9.7	0.0	Excellent & good	90.3
Average (%)	51.5	36.5	10.5	1.6		87.9

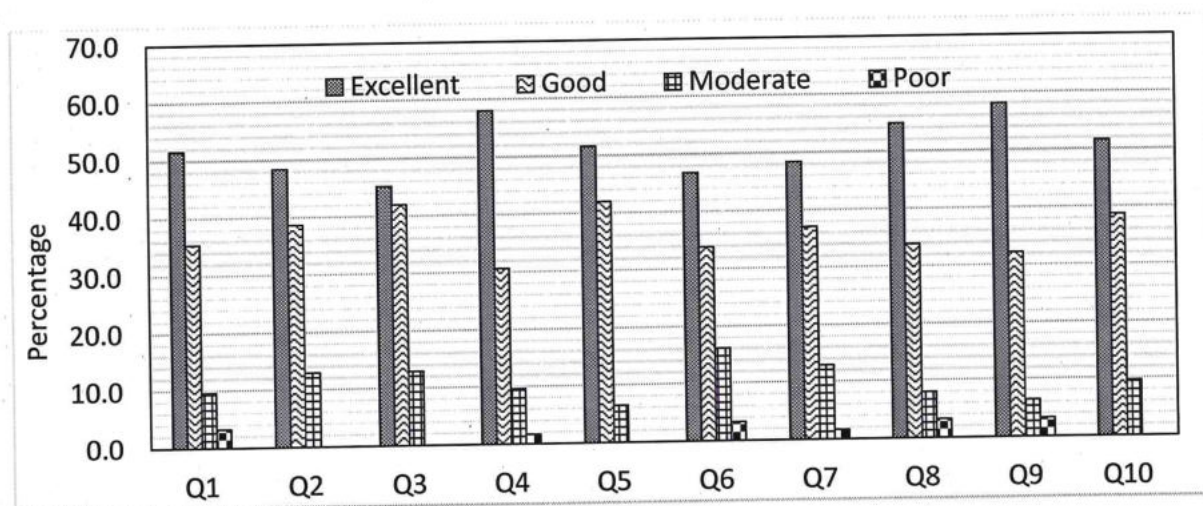


Figure 1: Consolidated analysis of AK 20 curriculum

From table 1, it is observed that 51.6 % of the students rated “excellent” for the curriculum in terms of structure, comprehensive, relevance and arrangement. 48.4 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 45.2 % of the students rated “excellent” for the relevance of electives to the technological advancements. 58.1 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 51.6 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 46.8 % of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 48.4 % of the students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 54.8 % of the students rated “excellent” for skill development courses in your curriculum.

58.1 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 51.6 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinions for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 87.9 %

The critical suggestion is as follows

- Arrange guest lecture on Python*
- Arrange guest lecture on Machine Learning*
- Need guest Lecture on Artificial Intelligence.*

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms used for the collection of teacher feedback on curriculum. The teachers were asked to rate the AK20 (Autonomous) curriculum. Feedback was collected from 47 teachers As listed in table 3, ten standard questions were asked for the responses from the teachers.

Table 3: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 4 and Figure 2.

Table 3: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	61.7	31.9	2.1	4.3	Excellent & good	93.6
Q2	63.8	27.7	6.4	2.1	Excellent & good	91.5
Q3	61.7	31.9	4.3	2.1	Excellent & good	93.6
Q4	53.2	36.2	6.4	4.3	Excellent & good	89.4
Q5	63.8	29.8	4.3	2.1	Excellent & good	93.6
Q6	31.9	42.6	19.1	6.4	Excellent & good	74.5
Q7	31.9	42.6	21.3	4.3	Excellent & good	74.5
Q8	48.9	40.4	4.3	6.4	Excellent & good	89.4
Q9	48.9	36.2	8.5	6.4	Excellent & good	85.1
Q10	44.7	40.4	10.6	4.3	Excellent & good	85.1
Average (%)	51.1	36.0	8.7	4.3		87.0

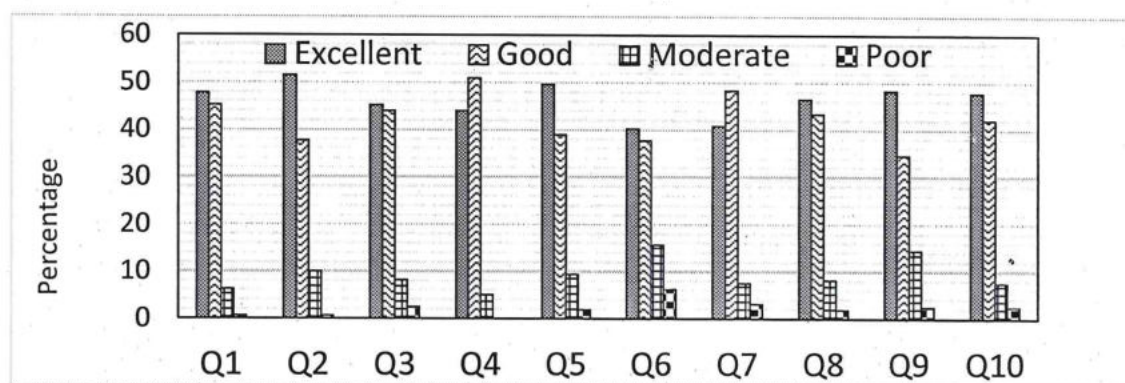


Figure 2 : Consolidated analysis of AK 20 curriculum

From the table 3, it is observed that 61.7 % of the teachers rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 63.8 % of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 61.7 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 53.2 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 63.8 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 42.6 % of the teachers rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 42.6 % of the teachers rated “good”

for the relationship of experiments in the lab courses to the real life applications. 48.9 % of the teachers rated "excellent" for skill development courses in your curriculum. 48.9 % of the teachers rated "good" for Quality of Internships provided by the Department/College. 44.7 % of the teachers rated "excellent" for the relevance of courses from the point of employability.

From the analysis, the scale of teacher's opinion for all the questions falls in the "excellent" and "good" categories. The average percentage of opinion is found to 87.0 %

The critical suggestion is as follows

-Add new courses such as Principles of Data science, Conversational AI/Chatbot creation.

-Include Bigdata Technology in the curriculum.


Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

Venkatapuram(V), Karakambadi Road, Renigunta(M), Tirupati-517 520, Chittoor, A.P

**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF CSE
(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)
ACADEMIC YEAR 2021-22**

Feedback form different stakeholders namely Faculty were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms were used for the collection of teacher feedback on curriculum. The teachers were asked to rate the AK20 (Autonomous) curriculum. Feedback was collected from 47 teachers. As listed in table 1, ten standard questions were asked for the responses from the teachers.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	57.4	25.5	12.8	4.3	Excellent & good	83.0
Q2	44.7	38.3	10.6	6.4	Excellent & good	83.0
Q3	51.1	31.9	8.5	8.5	Excellent & good	83.0
Q4	42.6	25.5	29.8	2.1	Excellent & good	68.1
Q5	57.4	27.7	8.5	6.4	Excellent & good	85.1
Q6	46.8	38.3	10.6	4.3	Excellent & good	85.1
Q7	53.2	31.9	10.6	4.3	Excellent & good	85.1
Q8	42.6	38.3	14.9	4.3	Excellent & good	80.9
Q9	48.9	36.2	8.5	6.4	Excellent & good	85.1
Q10	44.7	40.4	10.6	4.3	Excellent & good	85.1
Average (%)	48.9	33.4	12.6	5.1		82.3

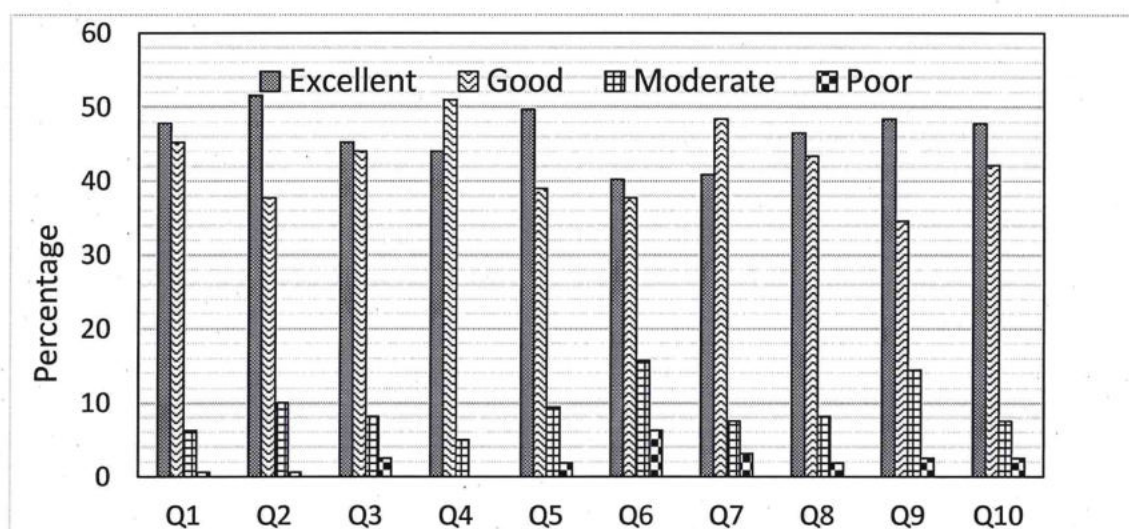


Figure 1 : Consolidated analysis of AK 20 curriculum

From the table 2, it is observed that 57.4 % of the teachers rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 44.7 % of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 51.1 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 42.6 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 57.4 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 46.8 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 53.2 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 42.6 % of the teachers s rated “excellent” for skill development courses in your curriculum. 48.9 % of the teachers rated “excellent” for Quality of Internships provided by the Department/College. 44.7 % of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 82.3 %

The critical suggestion is as follows

- *Incorporate skilled courses such as Machine Learning*


Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: TIRUPATI
(AUTONOMOUS)**

Venkatapuram(V), Karakambadi Road, Renigunta(M), Tirupati-517 520, Chittoor, A.P

**ANALYSIS OF STAKEHOLDER FEEDBACK ON CURRICULUM
DEPARTMENT OF CSE (IOT AND CYBER SECURITY INCLUDING
BLOCKCHAIN TECHNOLOGY)
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students and Faculty were collected to rate the curriculum. Analysis was performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms were used for the collection of student feedback on curriculum. The II year students related to AK20 (Autonomous) curriculum. Total number of responses received from II year students were 46 respectively. As listed in table 1, ten standard questions were framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken from the second year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) was taken from the second year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	54.3	34.8	10.9	0.0	Excellent & good	89.1
Q2	56.5	34.8	8.7	0.0	Excellent & good	91.3
Q3	43.5	39.1	15.2	2.2	Excellent & good	82.6
Q4	52.2	32.6	13.0	2.2	Excellent & good	84.8
Q5	56.5	26.1	13.0	4.3	Excellent & good	82.6
Q6	54.3	26.1	17.4	2.2	Excellent & good	80.4
Q7	47.8	43.5	8.7	0.0	Excellent & good	91.3
Q8	60.9	26.1	13.0	0.0	Excellent & good	87.0
Q9	65.2	21.7	10.9	2.2	Excellent & good	87.0
Q10	58.7	30.4	10.9	0.0	Excellent & good	89.1
Average (%)	55.0	31.5	12.2	1.3		86.5

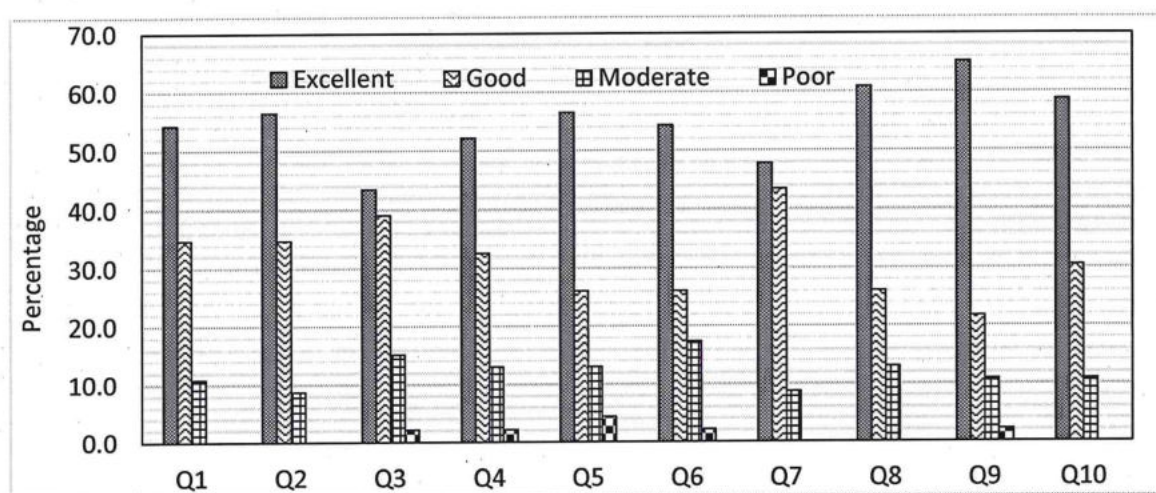


Figure 1: Consolidated analysis of AK 20 curriculum

From table 1, it is observed that 54.3 % of the students rated “excellent” for the curriculum in terms of structure, comprehensive, relevance and arrangement. 56.5 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 43.5 % of the students rated “excellent” for the relevance of electives to the technological advancements. 52.2 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 56.5 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 54.3 % of the students rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 47.8 % of the students rated “excellent” for the relationship of experiments in the lab courses to the real life applications. 60.9 % of the students rated “excellent” for skill development courses in your curriculum. 65.2 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 58.7 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinions for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to **86.5 %**

The critical suggestions are as follows

- *Arrange guest lecture on Artificial Cryptography concepts*
- *Arrange workshop on Python.*

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms were used for the collection of teacher feedback on curriculum. The teachers were asked to rate the AK20 (Autonomous) curriculum. Feedback was collected from 47 teachers. As listed in table 3, ten standard questions were asked for the responses from the teachers.

Table 3: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

AK20 curriculum

Google form was used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 4 and Figure 2.

Table 3: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	46.8	38.3	12.8	2.1	Excellent & good	85.1
Q2	59.6	27.7	10.6	2.1	Excellent & good	87.2
Q3	57.4	31.9	8.5	2.1	Excellent & good	89.4
Q4	53.2	36.2	10.6	0.0	Excellent & good	89.4
Q5	63.8	29.8	4.3	2.1	Excellent & good	93.6
Q6	29.8	44.7	21.3	4.3	Excellent & good	74.5
Q7	31.9	40.4	23.4	4.3	Excellent & good	72.3
Q8	46.8	42.6	6.4	4.3	Excellent & good	89.4
Q9	42.6	42.6	12.8	2.1	Excellent & good	85.1
Q10	44.7	42.6	12.8	0.0	Excellent & good	87.2
Average (%)	476.6	376.6	123.4	23.4		85.3

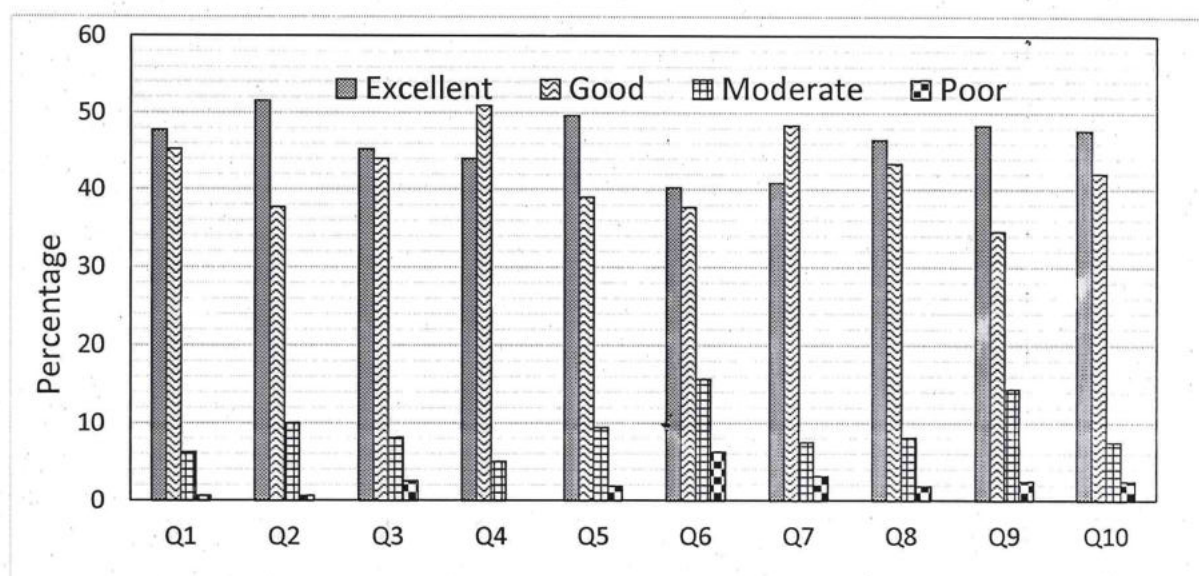


Figure 2: Consolidated analysis of AK 20 curriculum

From the table 3, it is observed that 46.8 % of the teachers rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 59.6 % of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 57.4 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 53.2 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 63.8 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 44.7 % of the teachers rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 40.4 % of the teachers rated “good” for the relationship of experiments in the lab courses to the real life applications. 46.8 % of the teachers rated “excellent” for skill development courses in your curriculum. 42.6 % of the teachers rated “excellent” and “good” for Quality of Internships provided by the Department/College. 44.7 % of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 85.3 %

The critical suggestions are as follows

- *Add new courses such as Fundamentals of Blockchain technologies.*
- *Include Advanced IOT Programs.*


Feedback Coordinator

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
TIRUPATI
(Autonomous)**

(KARAKAMBADI ROAD, VENKATAPURAM VILL., RENIGUNTA MANDAL)



Department of Electrical and Electronics Engineering

**Feedback on Curriculum by Stakeholders
Academic Year 2021-22**

**ANALYSIS OF STAKEHOLDERS FEEDBACK ON CURRICULUM
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
ACADEMIC YEAR 2021-22**

Feedback from different stakeholders namely Students, Faculty, Alumni and Employers is collected to rate the curriculum. Analysis is performed to identify the opinion and suggestion of stakeholders.

STUDENTS FEEDBACK ON CURRICULUM

The students are the most important stakeholders of Higher Education. The support and interest of students at all levels play a key role. Google forms are used for the collection of student feedback on curriculum. The IV, III and II-year students studied three curricula namely R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) respectively. Individual analysis is carried out for different curricula. Total number of responses received from IV, III and II-year students were 44, 43 and 55 respectively. As listed in table 1, ten standard questions are framed on curriculum aspects.

Table 1: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real-life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback on R15 curriculum of JNTUA is taken from the final year students. The consolidated analysis of the responses is presented in Table 2 and Figure 1.

Table 2. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	38.6	47.7	9.1	4.5	Excellent & good	86.4
Q2	31.8	52.3	13.6	2.3	Excellent & good	84.1
Q3	36.4	47.7	13.6	2.3	Excellent & good	84.1
Q4	43.2	38.6	9.1	9.1	Excellent & good	81.8
Q5	47.7	34.1	13.6	4.5	Excellent & good	81.8
Q6	36.4	45.5	15.9	2.3	Excellent & good	81.8
Q7	50.0	29.5	15.9	4.5	Excellent & good	79.5
Q8	45.5	34.1	11.4	9.1	Excellent & good	79.5
Q9	27.3	47.7	13.6	9.1	Excellent & good	75.0
Q10	45.5	31.8	11.4	11.4	Excellent & good	77.3
Average (%)	40.2	40.9	12.7	5.9		81.1

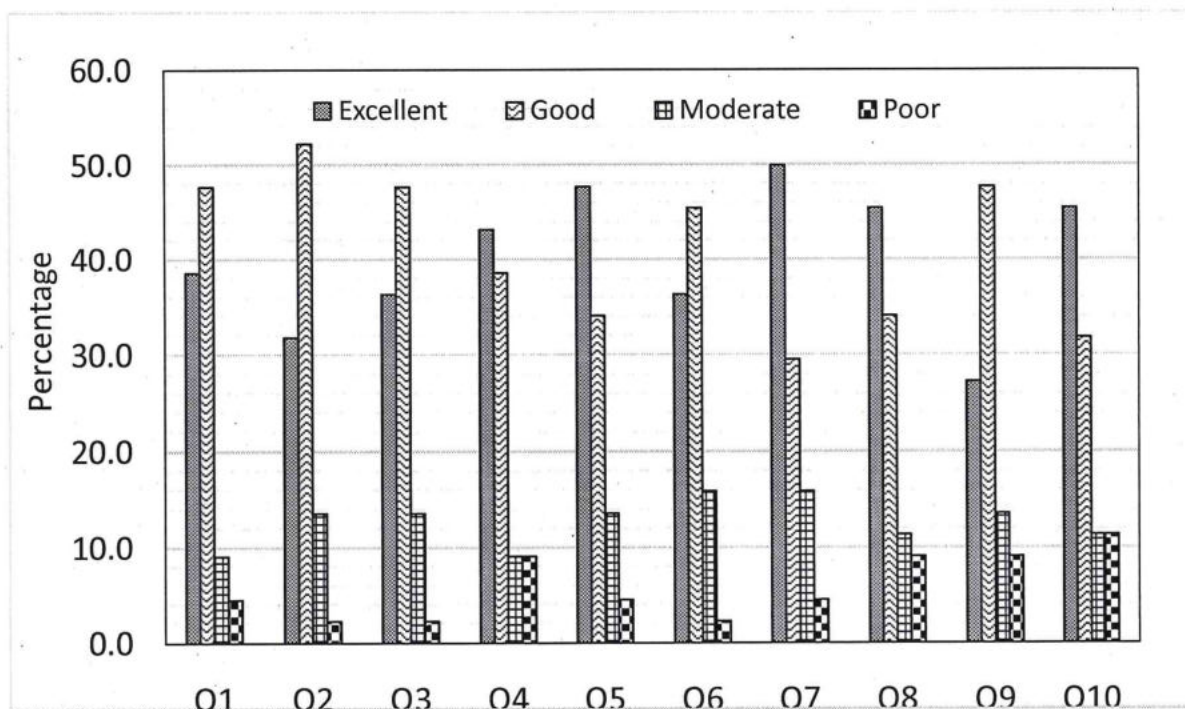


Figure 1 Consolidated analysis of R15 curriculum

From the table 2, it is observed that 47.7 % of the students rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 52.3% of the students rated “good” for the allocations of the hours and credits to the courses. 47.7% of the students rated both “good” for the relevance of electives to the technological advancements. 43.2 % of the students rated “excellent” for the availability of textbooks/reference books as recommended

in the syllabus. 47.7 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 45.5% of the students rated both “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 50.0% of the students rated “excellent” for the relationship of experiments in the lab courses to the reallife applications. 45.5 % of the students rated “excellent” for skill development courses in your curriculum. 47.7% of the students rated “good” for Quality of Internships provided by the Department/ College. 45.5% of the students rated “good” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 82.7 %

The critical suggestions are as follows

- *Need hands on workshop.*
- *Arrange guest lecturers in industrial IOT.*

AK19 curriculum

Feedback on AK19 curriculum of AITS (autonomous) is taken from the third year students. The consolidated analysis of the responses is presented in Table 3 and Figure 2.

Table 3: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	46.5	39.5	9.3	4.7	Excellent & good	86.0
Q2	37.2	51.2	7.0	4.7	Excellent & good	88.4
Q3	48.8	37.2	9.3	4.7	Excellent & good	86.0
Q4	20.9	60.5	14.0	4.7	Excellent & good	81.4
Q5	46.5	34.9	14.0	4.7	Excellent & good	81.4
Q6	39.5	41.9	16.3	2.3	Excellent & good	81.4
Q7	48.8	39.5	7.0	4.7	Excellent & good	88.4
Q8	41.9	39.5	16.3	2.3	Excellent & good	81.4
Q9	44.2	41.9	9.3	4.7	Excellent & good	86.0
Q10	46.5	46.5	2.3	4.7	Excellent & good	93.0
Average (%)	42.1	43.3	10.5	4.2		85.3

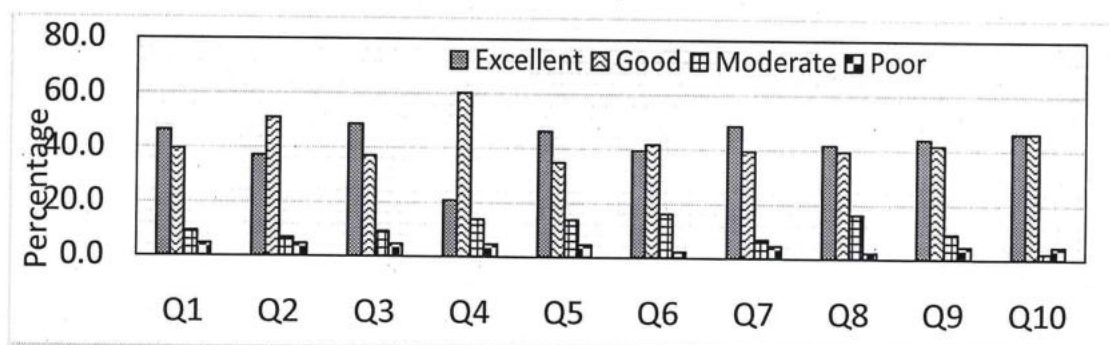


Figure 2: Consolidated analysis of AK19 curriculum

From the table 3, it is observed that 46.5 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 37.2% of the students rated “excellent” for the allocations of the hours and credits to the courses. 48.8 % of the students rated “excellent” for the relevance of electives to the technological advancements. 60.5 % of the students rated “good” for the availability of textbooks/reference books as recommended in the syllabus. 46.5% of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 41.9 % of the students rated “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 39.5% of the students rated “good” for the relationship of experiments in the lab courses to the real-life applications. 41.9% of the students rated “excellent” for skill development courses in your curriculum. 41.9% of the students rated “good” for Quality of Internships provided by the Department/ College. 46.5 % of the students rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 85.1 %

The critical suggestions are as follows

- *Arrange guest lecturer in Electric Vehicle*
- *Conduct technical fest*

AK20 curriculum

Feedback on AK20 curriculum of AITS (autonomous) is taken from the second-year students. The consolidated analysis of the responses is presented in Table 4 and Figure 3.

Table 4: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	47.3	50.9	1.8	0.0	Excellent & good	98.2
Q2	45.5	34.5	20.0	0.0	Excellent & good	80.0
Q3	54.5	43.6	1.8	0.0	Excellent & good	98.2
Q4	56.4	43.6	0.0	0.0	Excellent & good	100.0
Q5	49.1	30.9	20.0	0.0	Excellent & good	80.0
Q6	45.5	45.5	7.3	1.8	Excellent & good	90.9
Q7	45.5	49.1	5.5	0.0	Excellent & good	94.5
Q8	58.2	32.7	9.1	0.0	Excellent & good	90.9
Q9	56.4	20.0	23.6	0.0	Excellent & good	76.4
Q10	50.9	45.5	3.6	0.0	Excellent & good	96.4
Average (%)	50.9	39.6	9.3	0.2		90.5



Figure 3: Consolidated analysis of AK 20 curriculum

From the table 4, it is observed that 47.3 % of the students rated “excellent” for curriculum in terms of structure, comprehensive, relevance and arrangement. 45.5 % of the students rated “excellent” for the allocations of the hours and credits to the courses. 54.5 % of the students rated “excellent” for the relevance of electives to the technological advancements. 56.4 % of the students rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 49.1 % of the students rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 45.5 % of the students rated “excellent” and “good” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 49.1 % of the students rated “good” for the relationship of experiments in the lab courses to the real-life applications. 58.2 % of the students rated “excellent” for skill development courses in your curriculum. 56.4 % of the students rated “excellent” for Quality of Internships provided by the Department/ College. 50.9 % of the students rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of student’s opinions for all the question falls in the “excellent” and “good” categories. The average percentage of opinion is found to 88.6 %

The critical suggestion is as follows

- *Additional classes required*

Overall Analysis on Students feedback on different curricula

Overall, the percentage of ratings in the academic year 2021-2022 by students for different curricula such as R15, AK19 and AK20 are presented in table 5 and Figure 4.

Table 5: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	40.2	40.9	12.7	5.9	81.1
AK19	42.1	43.3	10.5	4.2	85.3
AK20	50.9	39.6	9.3	0.2	90.5

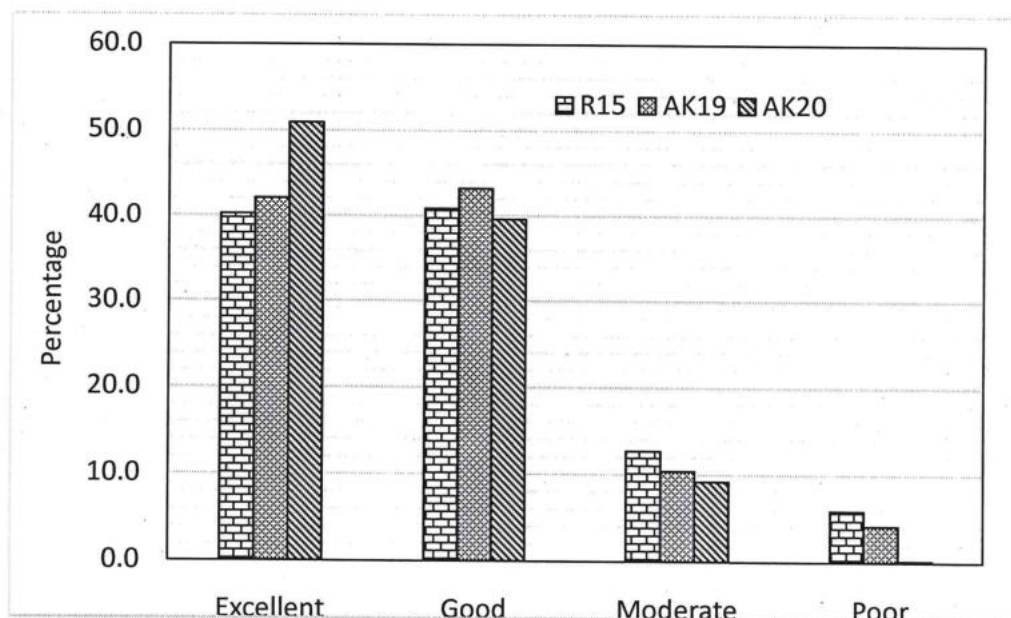


Figure 4: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor categories is 40.2%, 40.9%, 12.7% and 5.9% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 42.1%, 43.3%, 10.5% and 4.2% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor categories is 50.9%, 39.6%, 9.3 % and 0.2% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 81.1%, 85.3% and 90.5% respectively. It is inferred that the rating for latest curriculum (AK20) by the students are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the students.

TEACHERS FEEDBACK ON CURRICULUM

Teachers' feedback is an important parameter for quality improvement of the curriculum and the quality of the student in an institution. Google forms are used for the collection of teacher feedback on curriculum. The teachers are asked to rate the R15 (JNTU), AK19 (Autonomous) and AK20 (Autonomous) curricula. Feedback is collected from 23 teachers. Individual analysis is carried out for different curricula. As listed in table 6, ten standard questions are asked for the responses from the teachers.

Table 6: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the Allocations of the hours and credits to the courses?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the availability of textbooks/reference books as recommended in the syllabus?
Q5	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q7	How will you rate the relationship of experiments in the lab courses to the real-life applications?
Q8	How will you rate the skill development courses in your curriculum?
Q9	How will you rate the Quality of Internships provided by the Department/ College?
Q10	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Google form is used to collect the feedback from the teachers for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 7 and Figure 5.

Table 7. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	34.8	56.5	8.7	0.0	Excellent & good	91.3
Q2	30.4	52.2	13.0	4.3	Excellent & good	82.6
Q3	39.1	43.5	13.0	4.3	Excellent & good	82.6
Q4	43.5	39.1	8.7	8.7	Excellent & good	82.6
Q5	43.5	39.1	13.0	4.3	Excellent & good	82.6
Q6	43.5	34.8	21.7	0.0	Excellent & good	78.3
Q7	52.2	43.5	4.3	0.0	Excellent & good	95.7
Q8	43.5	30.4	21.7	4.3	Excellent & good	73.9
Q9	34.8	43.5	13.0	8.7	Excellent & good	78.3
Q10	47.8	34.8	17.4	0.0	Excellent & good	82.6
Average (%)	41.3	41.7	13.5	3.5		83.0

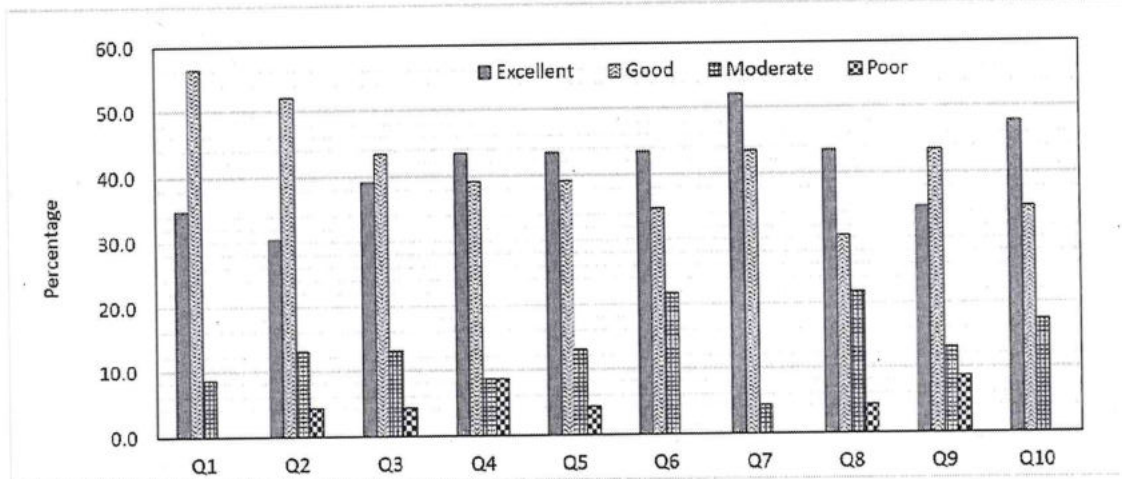


Figure 5 Consolidated analysis of R15 curriculum

From the table 7, it is observed that 56.5 % of the teachers rated “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 52.5% of the teachers rated “good” for the allocations of the hours and credits to the courses. 39.1 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 43.5 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 43.5 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 43.5 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 52.2 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real-life applications. 43.5 % of the teachers rated “excellent” for skill development courses in your curriculum. 34.8 % of the teachers rated “good” for Quality of Internships provided by the Department/ College. 47.8% of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 83.0 %

The critical suggestions are as follows

- *Revise existing courses such as Power systems and embedded system.*

AK19 curriculum

Google form is used to collect the feedback from the teachers for AK19 curriculum of AITS (autonomous). The consolidated analysis of the responses is presented in Table 8& Figure 6.

Table 8: Consolidated analysis of AK19 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	43.5	52.2	4.3	0.0	Excellent & good	95.7
Q2	34.8	47.8	17.4	0.0	Excellent & good	82.6
Q3	52.2	39.1	8.7	0.0	Excellent & good	91.3
Q4	52.2	39.1	4.3	4.3	Excellent & good	91.3
Q5	60.9	39.1	0.0	0.0	Excellent & good	100.0
Q6	47.8	30.4	17.4	4.3	Excellent & good	78.3
Q7	43.5	39.1	8.7	8.7	Excellent & good	82.6
Q8	39.1	43.5	13.0	4.3	Excellent & good	82.6
Q9	21.7	60.9	17.4	0.0	Excellent & good	82.6
Q10	47.8	47.8	4.3	0.0	Excellent & good	95.7
Average (%)	44.3	43.9	9.6	2.2		88.3

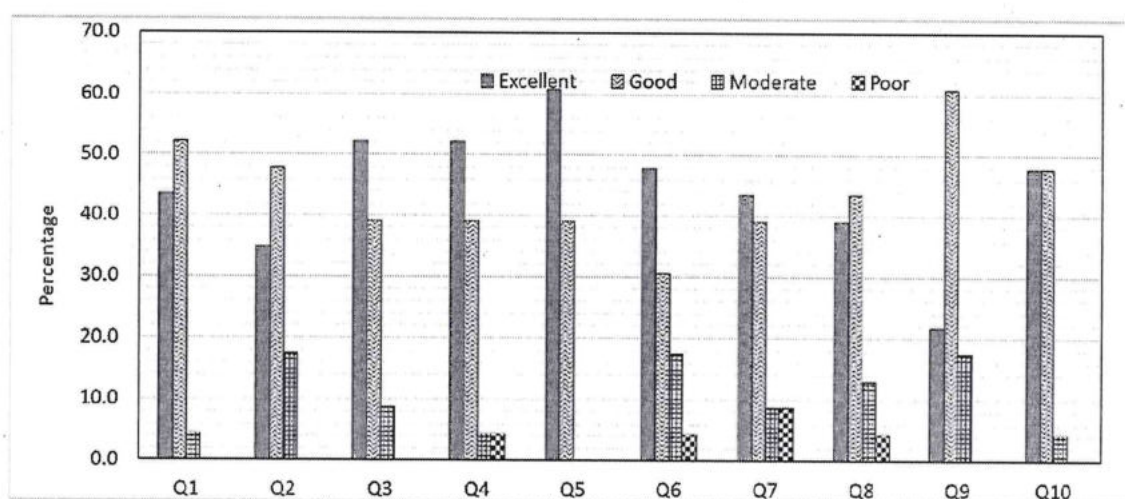


Figure 6: Consolidated analysis of AK19 curriculum

From the table 8, it is observed that 52.2 % of the teachers rated “good” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 47.8% of the teachers rated “good” for the allocations of the hours and credits to the courses. 52.2 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 52.2 % of the teachers rated “excellent” for the availability of textbooks/reference books as recommended in the syllabus. 60.9 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 47.8 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 43.5 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real-life applications.

48.4 % of the teachers rated “good” for skill development courses in your curriculum. 43.5 % of the teachers rated “good” for Quality of Internships provided by the Department/ College. 47.8% of the teachers rated “excellent” and “good” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 86.8 %

The critical observation is as follows

- *Add lab courses to improve the technical skills*

AK20 curriculum

Google form is used to collect the feedback from the teachers for AK20 curriculum of AITS (autonomous).The consolidated analysis of the responses is presented in Table 9& Figure 7.

Table 9: Consolidated analysis of AK20 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	60.9	30.4	8.7	0.0	Excellent & good	91.3
Q2	47.8	43.5	8.7	0.0	Excellent & good	91.3
Q3	56.5	26.1	17.4	0.0	Excellent & good	82.6
Q4	56.5	39.1	4.3	0.0	Excellent & good	95.7
Q5	47.8	34.8	13.0	4.3	Excellent & good	82.6
Q6	47.8	34.8	17.4	0.0	Excellent & good	82.6
Q7	52.2	43.5	4.3	0.0	Excellent & good	95.7
Q8	47.8	34.8	13.0	4.3	Excellent & good	82.6
Q9	47.8	47.8	4.3	0.0	Excellent & good	95.7
Q10	56.5	39.1	4.3	0.0	Excellent & good	95.7
Average (%)	52.2	37.4	9.6	0.9		89.6

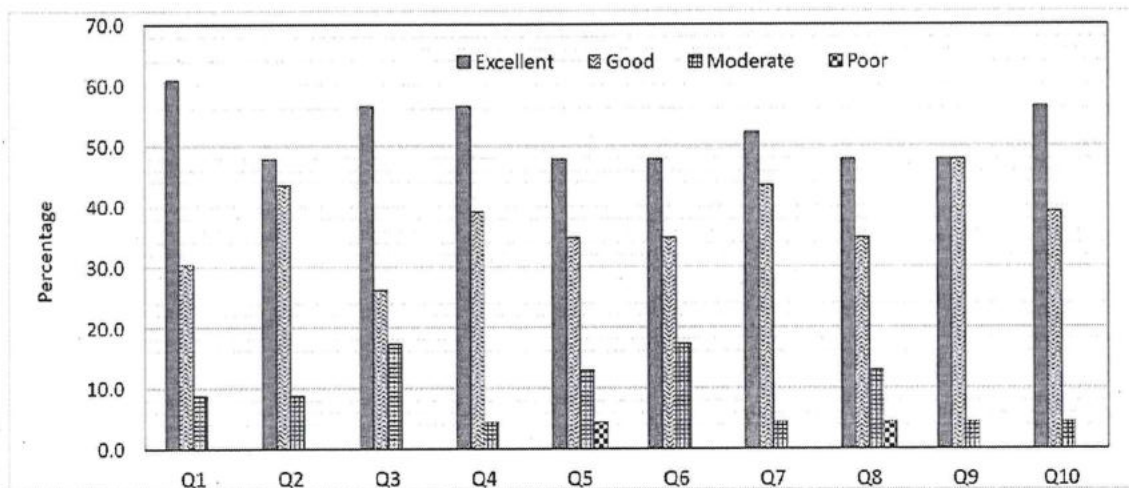


Figure 7: Consolidated analysis of AK 20 curriculum

From the table 9, it is observed that 45.6% of the teachers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 47.8 % of the teachers rated “excellent” for the allocations of the hours and credits to the courses. 56.5 % of the teachers rated “excellent” for the relevance of electives to the technological advancements. 56.5 % of the teachers rated “excellent” and “good” for the availability of textbooks/reference books as recommended in the syllabus. 47.8 % of the teachers rated “excellent” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 47.8 % of the teachers rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 52.2 % of the teachers rated “excellent” for the relationship of experiments in the lab courses to the real-life applications. 47.8 % of the teachers rated “excellent” for skill development courses in your curriculum. 47.8 % of the teachers rated “good” for Quality of Internships provided by the Department/College. 56.5 % of the teachers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of teacher’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 89.6 %

The critical suggestion is as follows

- *undergo NPTEL courses on Renewable Energy*

Overall Analysis on teachers feedback on different curricula

Overall, the percentage of ratings in academic year 2021-2022 by teachers for different curricula such as R15, AK19 and AK20 are presented in Table 10 and Figure 8.

Table 10: Comparison of different curricula

Curriculum	Excellent	Good	Moderate	Poor	% of opinion
R15	41.3	41.7	13.5	3.5	83.0
AK19	44.3	43.9	9.6	2.2	88.3
AK20	52.2	37.4	9.6	0.9	89.6

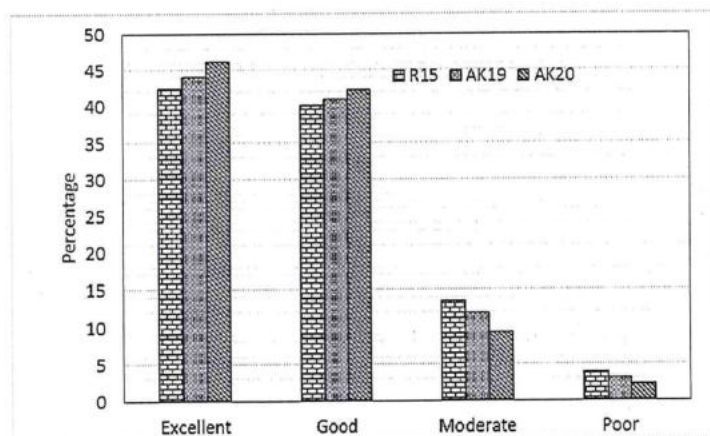


Figure 8: Overall analysis for different curricula in 2021-22

In R15 curriculum, the average rating for excellent, good, moderate and poor is 41.3%, 41.7 %, 13.5% and 3.5% respectively. In AK19 curriculum, the average rating for excellent, good, moderate and poor is 44.3%, 43.9%, 9.6% and 2.2% respectively. In AK20 curriculum, the average rating for excellent, good, moderate and poor is 52.2%, 37.4 %, 9.6 % and 0.9% respectively. The “% of opinion” for R15, AK19 and AK20 curricula are 83.0 %, 88.3 % and 89.6 % respectively. It is inferred that the rating for latest curriculum (AK20) by the teachers are better than R15 and AK19 curricula in all the questionnaires. The introduction of the new curriculum (AK20) is satisfactory for the teachers.

ALUMNI FEEDBACK ON CURRICULUM

Our alumni feedback is valuable for us by providing valuable inputs regarding employability of our students. Offline mode is followed to collect the alumni feedback in the academic year 2021-22. Total numbers of responses received from the alumni are 10. As listed in Table 11, eight standard questions were asked for the responses from the alumni.

Table 11: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will you rate the relevance of electives to the technological advancements?
Q3	How will you rate the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q4	How will you rate the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs?
Q5	How will you rate the relationship of experiments in the lab courses to the real-life applications?
Q6	How will you rate the skill development courses in your curriculum?
Q7	How will you rate the Quality of Internships provided by the Department/ College?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the alumni is collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 12 and Figure 9.

Table 12. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	60.0	20.0	20.0	0.0	Excellent & good	80.0
Q2	60.0	40.0	0.0	0.0	Excellent & good	100.0
Q3	50.0	40.0	0.0	10.0	Excellent & good	90.0
Q4	40.0	40.0	20.0	0.0	Excellent & good	80.0
Q5	30.0	70.0	0.0	0.0	Excellent & good	100.0
Q6	50.0	30.0	20.0	0.0	Excellent & good	80.0
Q7	70.0	20.0	10.0	0.0	Excellent & good	90.0
Q8	60.0	30.0	10.0	0.0	Excellent & good	90.0
Average (%)	52.5	36.3	10.0	1.3		88.8

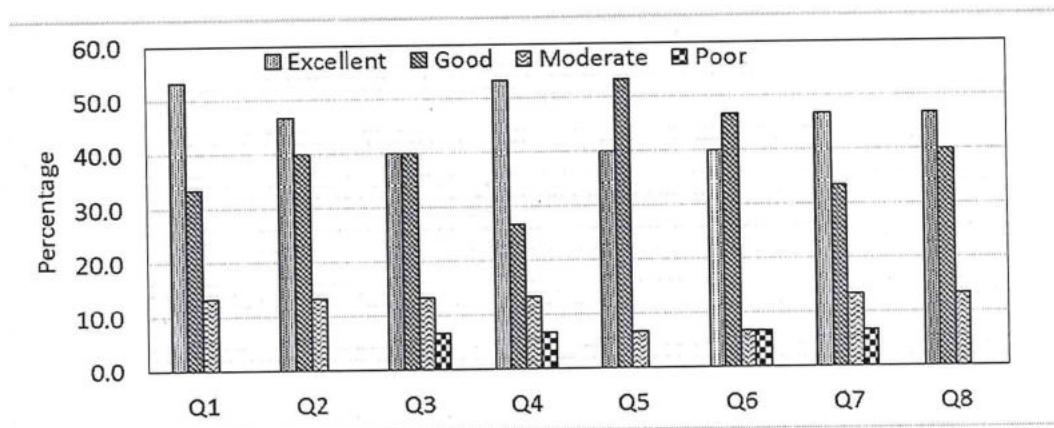


Figure 9 Consolidated analysis of R15 curriculum

From the table 12, it is observed that 60% of the alumni rated “excellent” for Curriculum in terms of structure, comprehensive, relevance and arrangement. 60% of the alumni rated “excellent” for the relevance of electives to the technological advancements. 45% of the alumni rated “excellent” and “good” for the composition of the Courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 40 % of the alumni rated “excellent” for the activities such as Guest Lecture and Industrial Visit for bridging the gap between academic and industrial needs. 70 % of the alumni rated “good” for the relationship of experiments in the lab courses to the real-life applications. 50% of the alumni rated “excellent” for skill development courses in your curriculum. 70% of the alumni rated “excellent” for Quality of Internships provided by the Department/ College. 60% of the alumni rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of alumni opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 88.8 %

The critical suggestion is as follows

- *Training in simulation software's.*
- *Projects related to real life problems.*

EMPLOYER FEEDBACK ON CURRICULUM

Employer feedback is the most important determinant to evaluate the curriculum from the point of quality graduates. Offline system is used to collect the employer feedback for the academic year 2021-22. Four employers participated to rate the curriculum. Table 13 presents the list of questions.

Table 13: List of questions

Q No	Questions
Q1	How will you rate the Curriculum in terms of structure, comprehensive, relevance and arrangement?
Q2	How will rate the exposure of curriculum to relevant software's?
Q3	How will you rate the relevance of electives to the technological advancements?
Q4	How will you rate the practical exposure of graduate to undertake real time projects?
Q5	How will you rate the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core?
Q6	How will you rate the presence of analytical / problem solving / critical thinking / innovative skills in the courses?
Q7	How will you rate the quality of internships undergone by the students?
Q8	How will you rate the relevance of courses from the point of employability?

R15 curriculum

Feedback from the employers is collected for the R15 curriculum of JNTUA. The consolidated analysis of the responses is presented in Table 14 and Figure 10.

Table 14. Consolidated analysis of R15 curriculum

Q No	Excellent	Good	Moderate	Poor	Scale of opinion	% of opinion
Q1	50	50	0	0	Excellent & good	100.0
Q2	0	100	0	0	Excellent & good	100.0
Q3	50	0	50	0	Excellent & good	50.0
Q4	100	0	0	0	Excellent & good	100.0
Q5	50	0	50	0	Excellent & good	50.0
Q6	100	0	0	0	Excellent & good	100.0
Q7	100	0	0	0	Excellent & good	100.0
Q8	50	0	50	0	Excellent & good	50.0
Average (%)	62.5	18.75	18.75	0		81.3

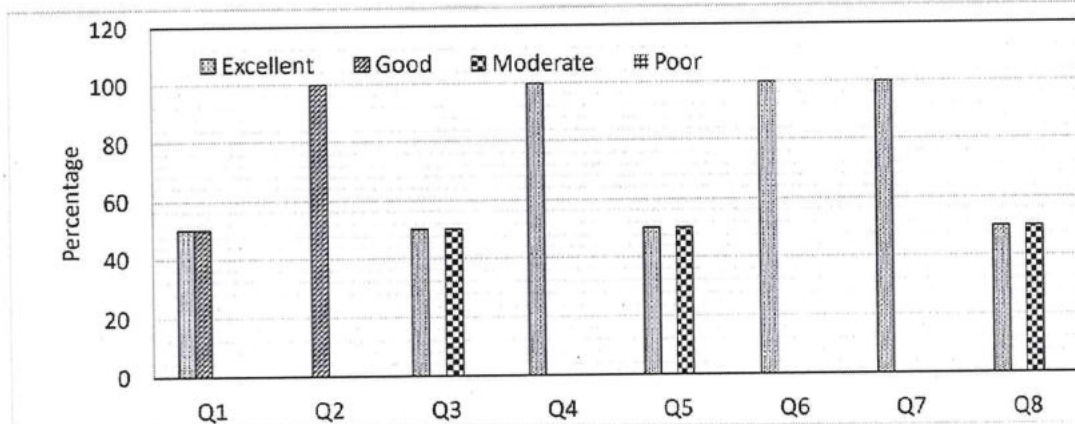


Figure 10 Consolidated analysis of R15 curriculum

From the table 14, it is observed that 50 % of the employers rated “excellent” and “good” for curriculum in terms of structure, comprehensive, relevance and arrangement. 100% of the employers rated “good” for the exposure of curriculum to relevant software’s. 50 % of the employers rated “excellent” for the relevance of electives to the technological advancements. 100 % of the employers rated “excellent” for the practical exposure of graduate to undertake real time projects. 50 % of the employers rated “excellent” and “good” for the composition of the courses in terms of Basic Sciences, Engineering Sciences, Humanities, and Core. 100 % of the employers rated “excellent” for the presence of analytical / problem solving / critical thinking / innovative skills in the courses. 100 % of the employers rated “excellent” for the quality of internships undergone by the students. 50 % of the employers rated “excellent” for the relevance of courses from the point of employability.

From the analysis, the scale of employer’s opinion for all the questions falls in the “excellent” and “good” categories. The average percentage of opinion is found to 81.3 %

The critical suggestion is as follows

- *Add courses to meet the industrial needs*


Feedback Coordinator