Action Taken

After intense deliberations and detail analysis for each question of feedback received form Students, Teachers, Alumni and Employers, the *Academic Committee* has made recommendations in the Action Taken Report for the feedback report to be shared with departments and teachers. Academic Committee also made a combine report and put some point to change in curriculum and send a mail to Dean Academic Affairs, RTU, KOTA.

In general, the feedback has been positive with all stakeholders expressing satisfaction with the outcomes. The response received from all stakeholders noticed to be positive concerning content. Some feedbacks are subjective which have been studied and considered.

It has been noticed that there can be improvements made in the process of feedback collection. It is noted that some stakeholders do not respond after the students' graduate. It could be more effective to collect the feedback before they finish their final exams by placing the feedback forms on the website.

ARYA College of Engg. & Research Centre
(Affiliated to Rajasthan Technical University, Kota • Approved by AICTE, New Delhi)
• S.P.-40, Kukas Industrial Area (RIICO) Jaipur - 302028 • Website : www.acerc.org
• Ph.: 0141-5148801, 5148802, 5148803 • Fax : 01428-510040

ACERC/ Academic/2016-17/ 849 **Dated 27.03.2017**

Dean Academic Affairs
Rajasthan Technical University
Akelgarh, Rawatbhata Road
KOTA - 324010

Sub:- Feedback/suggestion for the updation of the existing curriculum of University B. tech Courses.
Ref:- Your Letter RTU/Acad./F(17)04/17/16243 dated 10.03.17

Sir,

Kindly refer to your above cited letter desiring suggestions for updation of existing B. Tech curriculum of the University.

As you are aware, Arya College of Engineering and research Centre is affiliated to Rajasthan Technical University and is imparting quality education in core branches of Engineering in conformity with the schemes/syllabus prescribed by RTU for respective branches. Large Number of students has been taking admission in various Streams and the college has as ever, been striving hard to provide them placement even before passing out of the college. College has seen numerous students securing campus placement with their B Tech degree.

The faculties while imparting knowledge as per existing RTU curriculum have in, some cases, experienced problems in interacting with the students due to unsystematic arrangement of topics/subjects. Opportunity rendered by RTU vide the subject link has been hailed by the faculty and they have taken keen interest in furnishing their suggestions on the said google link.

GENERAL PERCEPTION TOWARDS EXISTING CURRICULUM:-

While offering comments under this clause, it has been a general perception that RTU curriculum is heavily loaded both in terms of theory Subjects as well as Practical lab work when comparing it with that prevailing in most of the national institutes like IIT Kharagpur, IIT Kanpur, IIT Bombay etc. A comparison of curriculum applicable in these IIT's and that enforced by RTU is placed hereunder:

	IIT Kharagpur		IIT Kanpur		IIT Bombay		RTU	
	Th.	Pr.	Th.	Pr.	Th.	Pr.	Th.	Pr.
Elect. Engg.	35	23	42	12	39	14	45	36
Civil. Engg.	35	24	43	19	38	17	45	38
Comp. Sc. & Engg.	35	23	40	15	37	14	45	34

It is need of the hour that the teaching load on RTU Student is also made compatible with the National Institutes and is reduced in all branches to the following suggested level.

Suggested level of teaching load for RTU B. Tech courses (Aggregate for four years)

	Theory	Practical Lab Work
All Branches	40	30

Above consideration has been kept in view while suggesting removal of some irrelevant subjects so as to render more space for greater concentration on more pertinent and specific subjects as also, for increased participation in co-curricular/extra-curricular activities/courses for multi faceted development of the student. This would not only immensely benefit the student but their improved performance would greatly enhance RTU's reputation.

Department wise suggestions in the prescribed google link format have also been discussed with the faculties and it has been gathered that the faculties and students have, by and large, offered relevant suggestions; on some of which our departmental experts have also shown consensus. These justifiable suggestions are tabulated hereunder, department wise, to emphasize the necessity of expeditious revision in the curriculum.

1. ELECTRICAL ENGINEERING :

a) Removal of Subjects

Code	Subject Name	Remarks/ Justification
3EE4A	Object Oriented Programming	Electrical Disciples need to generally deal with only interfacing projects where knowledge in C programming language which is already covered in 206_Fundamental of Computer Programming would suffice. So this 3EE4A_Object Oriented Programming is of little significance in electrical branch but still, practical knowledge of a few relevant topics would be rendered in 3EE10A- C++ Programming Lab..
4EE1A	Analog Electronics	Most of the contents of this subject are already covered in 3EE1A_Electronic Devices & Circuits. Other contents specific to electrical branch are also covered in respective Electrical subjects viz. PSI, EMI, Static relaying etc. So repetitive knowledge of this subject is not necessary.

5EE4A	Data Base Management System	This subject gives idea only about Data storage management on computer memory and is not very useful to Electrical Core. So this subject needs to be removed as core subject but can be included as an elective subject.
6EE1A	Modern Control Theory	Most of the contents of this subject are already covered in 5EE3A-Control Systems. So repetitive knowledge of this subject is not necessary as core subject but it can be added as elective subject.
7EE3A	Artificial Intelligence Techniques	Currently, Computer is knowledge based and, moving from Knowledge based computer to Artificial Computer, is a big challenge for the Computer Science Engineers themselves. Therefore, Superficial knowledge of this subject to Electrical Engineers, is very difficult to be put to application by them. Nevertheless, the subject can be inserted as an elective subject.

b) Addition of Subjects

----------None----------

c) Revision in the Syllabus

Sub Code	Subject Name	Remarks/ Justification
6EE3A	Switchgear & Protection	Syllabi of 6EE3A & 8EE3A are jumbled up. There is no systematic approach for deciding units. For step by step learning of Relays & Protection, following order is suggested in two subjects: **6EE3A_Switchgear & Protection- Syllabus:** Unit 1: Causes and consequences of dangerous currents (Covered as Unit 1: 8EE3A_ Protection of Power System) Unit 2: Overcurrent Protection (Covered as Unit 2: 8EE3A_ Protection of Power System) Unit 3: Static Relays (Covered as Unit 1: 6EE3A_ Switchgear & Protection) Unit 4: Circuit Breakers- I (No change) Unit 5: Circuit Breakers- II (No Change) **8EE3A_ Protection of Power System- Syllabus:** Unit 1: Static Differential Relays (Covered in Unit 2: 6EE3A_Switchgear & Protection) Unit 2: Carrier Current Protection: Distance Protection(Covered in Unit 3: 6EE3A_Switchgear & Protection) Unit 3: (No Change) Unit 4: (No Change) Unit 5: (No Change)
8EE3A	Protection of Power System	----------As above----------

2. CIVIL ENGINEERING

a) Removal of Subjects

Subject Code	Subject Name	Remarks/ Justification
3CE2A	Civil Engineering Materials	This subject seems redundant as most of the topics are covered in its associated 3CE 7A Civil Engineering Materials Lab. The Lab comprises of Study topics as well as performing topics so study of the same topics in theory paper is not necessary.
4CE5A	Building Planning	This subject also seems redundant as most of the topics are covered in its associated 4CE 10A Building Drawing-II. The Lab comprises of Study topics as well as performing topics so study of the same topics in theory paper is not necessary. Left out topics are also covered in 5CE10a_computer aided building design lab
5CE2A	Environmental Engineering- I	This subject also seems redundant as most of the topics are covered in its associated 5CE7AEnvironmental Engineering Lab-I. The Lab comprises of Study topics as well as performing topics so study of the same topics in theory paper is not necessary. A few Left out topics are also covered 6CE3A-Environmental Engineering-II
6CE5A	Transportation Engineering- I	Most of the topics are of Signals, signs and geometrical designs of pavement and these could be added to 7CE4A_Transportation Engineering- II. So that extra theory needs to be removed from curriculum.
7CE1A	Water Resources Engineering- I	This subject is divided in two parts: Agriculture and Irrigation. Agriculture part has little significance from Civil Engineering point of View. Also Irrigation part can be added with 8CE1A_Water Resources Engineering- II.
7CE5A	Application of Numerical Methods In Civil Engineering	This subject gives only idea about algorithms of numerical methods but it is not sufficient for research work in Civil Engineering and is also of little significance to Civil Core. So this subject needs to be removed from Curriculum but can be included as an elective subject.

b) Addition of Subjects

Subject Code	Subject Name	Remarks/ Justification
7TH SEM	Bridge And Tunnel Engineering	This is a core subject and covered by most of the national institutes like IITs in Civil Engg. Curriculum. It would equip engineering students with latest technologies and would also help them in undertaking project work.

c) Revision in the Syllabus

Subject Code	Subject Name	Remarks/ Justification
4CE1A	Strength Of Materials- II	In unit 2: Area Moment Method has to be removed as this topic is available in unit 3rd.

6CE4A	Design Of Concrete Structures- I	Add Limit State of Collapse : Torsion, in Unit-3 and remove it from 7CE3A-Design Of Concrete Structures- II, because it is a basic concept for understanding 6CE4A-Design Of Concrete Structures- I.

3. COMPUTER SCIENCE AND ENGINEERING

a) Removal of Subjects

Sub code	Subject Name	Remark/ Justification
Theory Subjects		
3CS4A	Linux and Shell Programming – Removed	This subject generally deals with commands of Linux and Unix programming which are already covered in the lab 3CS11A Unix shell Programming Lab. Therefore, repetition is not necessary.
4CS5A	Principles of Communication – Removed	Contents of this subject are generally covered in 5CS3A Telecommunication Fundamentals A few Chapters are also covered in 6CS1A Computer Networks. Therefore, the syllabus could be merged in only one subject after proper moderation with name 5CS3A-Principles of Telecommunication.
4CS6A	Principles of Programming Language – Removed	Students have already studied C programming language in second semester and acquired concepts of programming language so it is not required to study the subject again in fourth semester.
5CS2A	Digital Logic Design – Removed	Contents of the subject can be merged with 3CS3A Digital Electronics as the contents of both the subjects are similar.
5CS6.2	Digital Signal Processing – Removed	Subject is not directly related with computer Engg. and the contents of syllabus are not relevant in respect of CS branch.
6CS4A	Computer Graphics and Multimedia Techniques	Subject is not core subject for Computer Engg. The subject can be inserted as elective paper.
7CS4A	Computer Aided Design for VLSI – Removed	The subject is not so relevant to computer branch.
Practical Lab Work		
4CS8A	Communication Lab – Removed	Lab can be removed as the relevant subject 4CS5A Principles of Communication is proposed to be merged in one subject
5CS8A	System design in UML Lab – Removed	The content can be merged with 4CS9A Computer Aided Software Engg. Lab
5CS10A	Digital Hardware Design Lab – Removed	Contents of the Lab can be merged with 3CS9A Digital Electronics Lab as the contents of both the subjects are similar.
6CS8A	Computer Graphics and Multimedia Lab	The lab is not required in 6th sem.

shifted in 4th Sem.

6CS7A	Java Programming Lab (Removed)	The Lab is proposed in 4th semester so there is no need of redundancy and it should be removed from 6th semester,
7CS8A	VLSI physical design Lab (Removed)	As the subject is not relevant, the lab is also not relevant.
8CS5A	Unix Network Programming and Simulation Lab	Relevant topics can be covered in the newly proposed lab in sixth semester namely Network Programming Lab

b) Addition of Subjects

Sub Code	Subject Name	Remark/ Justification
4th Sem	Core Java programming	JAVA, being independent of any specific Operating System, is the most useful Object Oriented Programming Language and is therefore, widely used in Internet and 'remote transfer of data' applications even with different Operating Systems and, also where security aspects are paramount. RTU syllabus for B. Tech Computer Science does not incorporate subjects related to core JAVA/Advance JAVA programming in any of the Eight Semesters except one, JAVA programming Lab in Sixth Semester which is not at all, enough. In view of the importance attached to this programming language, there is need to include atleast Core Java programming,
5th Sem	Advance Java Programming	The subject should be included as elective paper in fifth semester. Almost all placement agencies insist on sound knowledge of Advance programming lab like Advanced JAVA programming .
4th Sem	Java programming Lab	JAVA, is the most useful Object Oriented Programming Language and is widely used in Internet etc even with different Operating Systems. While including theory, there is need to include Core Java progg. Lab also in 4th Sem.
5th Sem	Communication Lab	Alongwith updated subject 5CS3A Principle of Telecommunication the students will gain practical knowledge in this lab.
6th SEM	Network Programming Lab	We have 6CS1A Computer Networks as compulsory Subject but practical knowledge of subject is also required so corresponding Network Programming Lab should be included

c) Revision of the Syllabus

Sub Code.	Subject Name	Remark/ Justification
3CS3A	Digital Electronics	Content of 5CS2A Digital Logic Design can be merged with 3CS3A Digital Electronics as the contents of both the subjects are similar.

3CS9A	Digital electronics Lab	Content of 5CS10A Digital Logic Design Lab can be merged with 3CS9A Digital Electronics Lab as the contents of both the subjects are similar.
4CS9A	Computer Aided Software Engg. Lab	Contents 5CS8A System design in UML Lab can be merged with 4CS9A Computer aided software Engg. Lab
4CS9A	Computer Aided Software Engg. Lab	The contents 5CS8A System design in UML Lab can be merged with 4CS9A Computer aided software engg. Lab
5CS3A	Telecommunication Fundamentals	Contents of 5CS 5A Principles of Communication are generally covered in 5CS3A Telecommunication Fundamentals. A few Chapters are also covered in 6CS1A Computer Networks also. Therefore, the syllabus could be merged in only one subject after proper moderation with name 5CS3A-Principles of Telecommunication.

PROPOSED CURRICULUM

It may be observed that the existing Curriculum has been exhaustively and critically analyzed based on experience in teaching and present day needs in respective subjects. The removal, addition and updation of the subjects/syllabus has been judiciously done, keeping also in view, the overall study load on the students while pursuing B.Tech Courses. With the suggested changes, the overall theory and practical lab work in each branch shall work out as under:

	Electrical Engg.		Civil Engg.		Comp. sc. & Engg.	
	Th.	Pr.	Th.	Pr.	Th.	Pr.
1st Semester	5	5	5	5	5	5
2nd Semester	6	5	6	5	6	4
3rd Semester	5	5	5	5	5	5
4th Semester	5	5	5	5	5	4
5th Semester	5	5	5	5	5	4
6th Semester	5	5	5	4	5	4
7th Semester	5	3	5	4	5	4
8th Semester	4	3	4	5	4	4
Total	40	36	40	38	40	34

Although, theory subjects have been reduced generally @ one subject per semester from 3rd Sem to 7th Sem, no change in the number of practical lab work could be suggested. However, it would be prudent if Lab work is also brought down to 30. The students will be benefitted due to reduced number of subjects concentrating more on relevant and pertinent topics

STANDARDIZATION OF TEACHING DAYS

It has been observed that the academic calendar in past has been quite erratic. Due to less number of days available for teaching, the teachers were compelled to make hectic efforts so as to complete

the syllabus and other course work. Students also experienced difficulty in systemic learning. It is, therefore, pertinent for effective and quality teaching/learning that the teaching days available in a semester i.e. from the date of commencement of classes to the last working day are planned for atleast 120 days. Ideal break up of the Semester duration could be as follows:

1	**Teaching days required for effective teaching (first day of the commencement of classesto the last working day)**	**120 days**
2	University Practical Exams.	10 days
3	Exam Preparation Leave	14 days
4	University Theory Exam.	14 days
5	Semester Break at the end of Semester	15 days
6	Other govt. Holidays during the Semester	10 days
	Gross days in a Semester (Half Year)	183 days

RATIO OF FINAL EXAM AND TERM TESTS/SESSIONALS
TO BE KEPT AS 70%:30% INSTEAD OF EXISTING 80%:20%:

The existing examination scheme keeps only 20% marks of the theory paper at the disposal of the teaching institute. This provision is on lower side and students place little significance on the teaching methodology, regular assignments and mid Term tests conducted by the institute as they rely mostly on self study and are attempting the RTU examination merely on the basis of pass books available in the market. If the allocation of marks for mid Term Tests, regular assignments and Unit tests, is enhanced in the ratio 30%: 70% instead of existing 20 % : 80%, it would result in better discipline, sincerity and regular attendance of the student toward the teaching institute.

PATTERN OF QUESTION PAPER

From interaction with the students and faculty it has emerged that the existing patter of asking one question with 100% internal choice from ech unit is well devised and compels the student to study all units. This system seems therefore, better than the other two options and should be retained. If change in inevitable, the second option having three parts with short, long and very long questions with 20%,20% and 30 % choice respectively, is suggested.

SUPERVISION OF FINAL(EXTERNAL) LABs, SEMINAR
AND PROJECT ASSESSMENT BY EXTERNAL EXAMINERS:

For more Serious and authentic work on the part of faculty and students in executing and recording laboratory work, it should be made mandatory that the final examinations in all laboratory practical works are invariably supervised through external impartial examiners to be deployed by the University. This will add sincerity, seriousness and impartiality in the practical and project examinations.

PROVISION OF INTERNSHIP AFTER 6TH SEMESTER :

Existing provision of Industrial Practical Training in 6th Semester, needs to be replaced by provision of **Internship**. Reputed companies who are willing to provide such internship could be part financed by the teaching institute. This would attract good reputed industrial houses for this remunerative job and students could thus be got trained through their qualified expert trainers on consideration basis. This system would also provide a platform for future hiring of deserving and meritorious students.

COMPULSORY REGISTRATION OF FACULTY :

Faculties are virtual service providers and are back bone of the teaching Institutes. There should, therefore, be a procedure for compulsory registration of all faculty and their eligibility for teaching should be adjudged through a process of performance evaluation at regular intervals say, yearly. This way the teachers would always be on their toes to deliver their best with renewed zeal and enthusiasm.

It is therefore, suggested that Rajasthan Technical University should consider to review the current Academic Scheme of B.Tech Course and, render due cognizance to the aforesaid suggestions by incorporating them in the Curriculum. This would help the students in getting better equipped with technical and practical knowledge pertinent to their specific branch and necessary to face current and future challenges.

Thanking You

Yours Truly,

(Principal)
Principal
Arya College of Engg. & Research Cen...
SP-40, RIICO Industrial Area
Kukas, JAIPUR (Raj.)

Student feedback report

A scale containing five items was asked to measure students satisfaction on different aspects of their educational experience at ACERC, Jaipur. Presented in Figure is the percentage of satisfaction level on each of the seven items. The five items were “The course objectives were clear, The course workload was manageable, Is this Subject is Industrial Oriented, The Course enhance my ability & Skills, The course Provided a mixture of explaination and practice.

The first item on this scale asked students satisfaction on “The course objectives were clear” As is expected from a reputed institute ,96% students were satisfied with PSP ,96% were satisfied with PSA ,89% with AI ,90% with NCES , 90% with PSE ,91% with EOPS 91% with PPS lab , 90% with PSMS lab , 90% with IEM Lab , 91% with PTS, 90% with Project-I.

The Second item on this scale asked students satisfaction on “The course workload was manageable” As is expected from a reputed institute ,92% students were satisfied with PSP ,93% were satisfied with PSA ,87% with AI ,93% with NCES , 94% with PSE ,93% with EOPS 93% with PPS lab , 94% with PSMS lab , 93% with IEM Lab , 93% with PTS, 93% with Project-I.

The Third item on this scale asked students satisfaction on “Is this Subject is Industrial Oriented”. As is expected from a reputed institute ,92% students were satisfied with PSP ,93% were satisfied with PSA ,89% with AI ,92% with NCES , 92% with PSE ,92% with EOPS 92% with PPS lab , 93% with PSMS lab , 92% with IEM Lab , 93% with PTS, 92% with Project-I.

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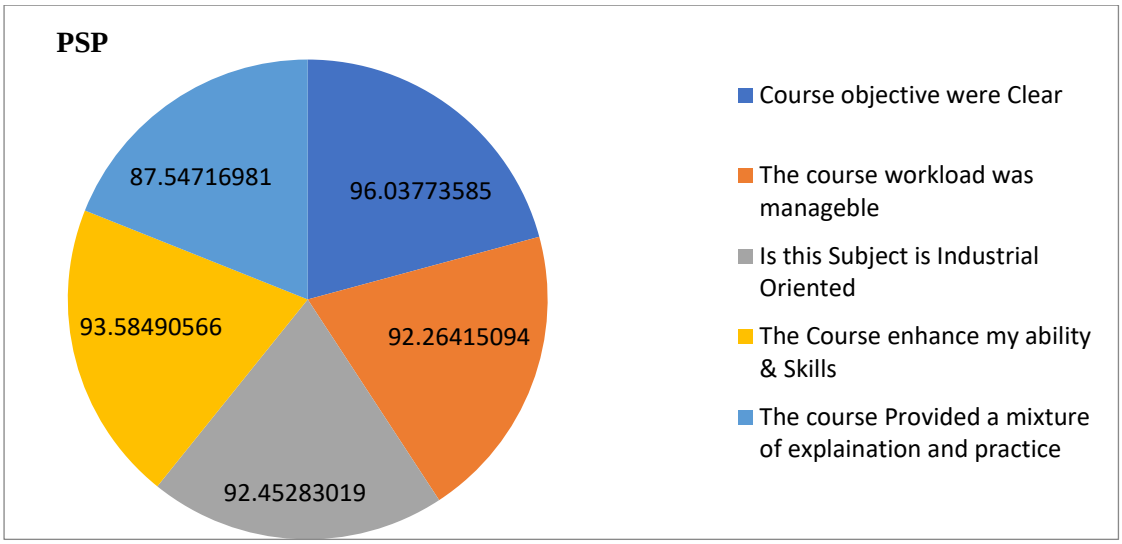
The Fourth item on this scale asked students satisfaction on “The Course enhance my ability & Skills” As is expected from a reputed institute ,94% students were satisfied with PSP ,94% were satisfied with PSA ,94% with AI ,93% with NCES , 92% with PSE ,92% with EOPS 92% with PPS lab , 93% with PSMS lab , 93% with IEM Lab , 92% with PTS, 93% with Project-I.

The Fifth item on this scale asked students satisfaction on “The course Provided a mixture of explaination and practice” As is expected from a reputed institute ,88% students were satisfied with PSP ,87% were satisfied with PSA ,88% with AI ,92% with NCES , 93% with PSE ,92% with EOPS 93% with PPS lab , 93% with PSMS lab , 92% with IEM Lab , 93% with PTS, 92SS% with Project-I.


PSP
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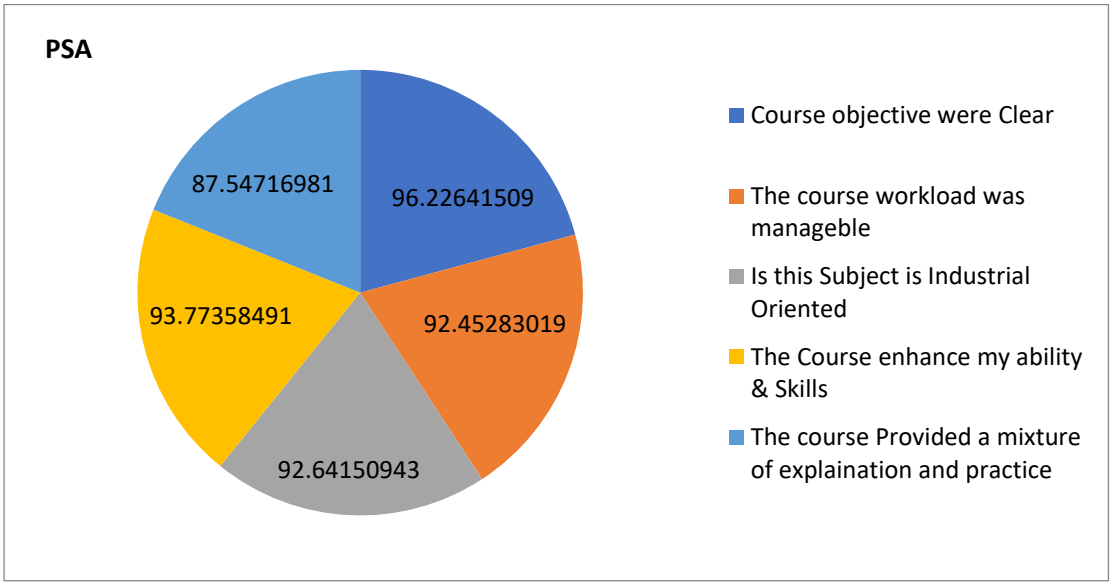
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice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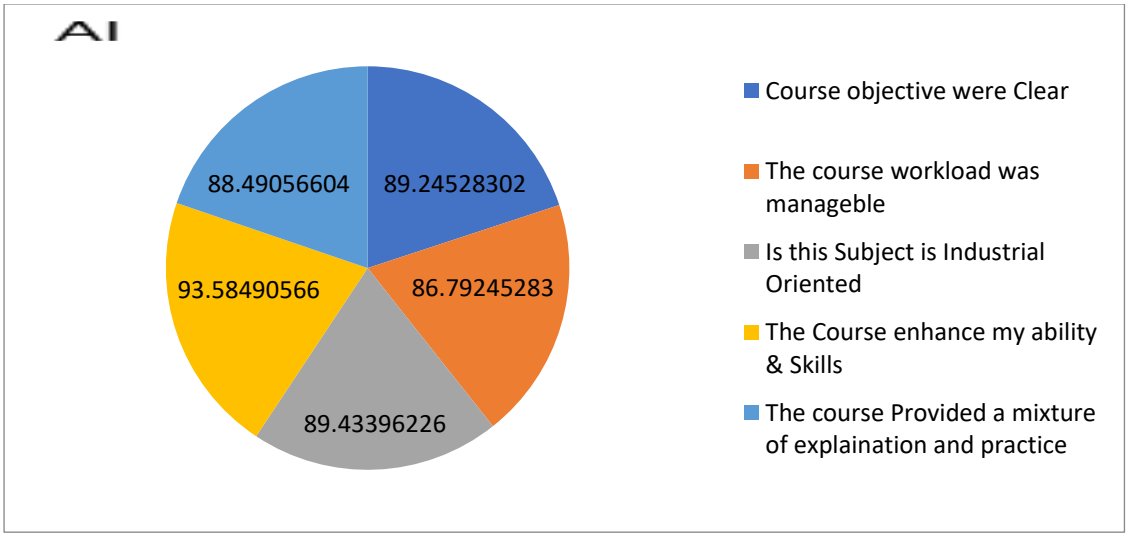
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice


AI
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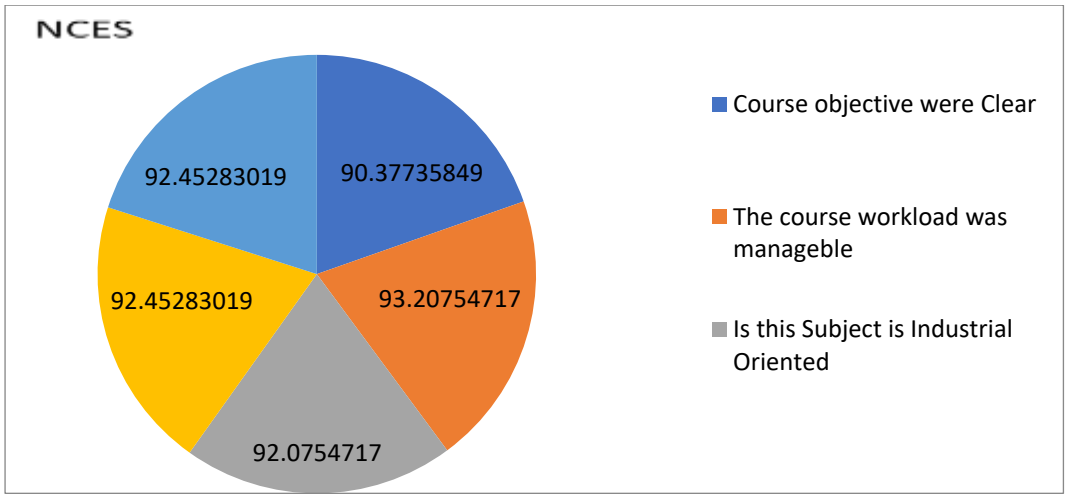
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice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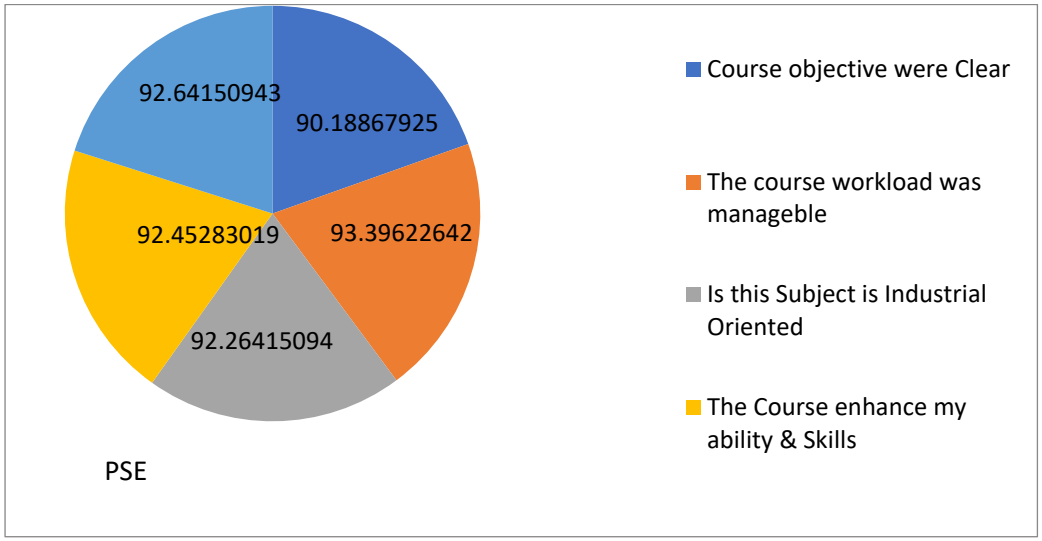
Is this Subject is Industrial Oriented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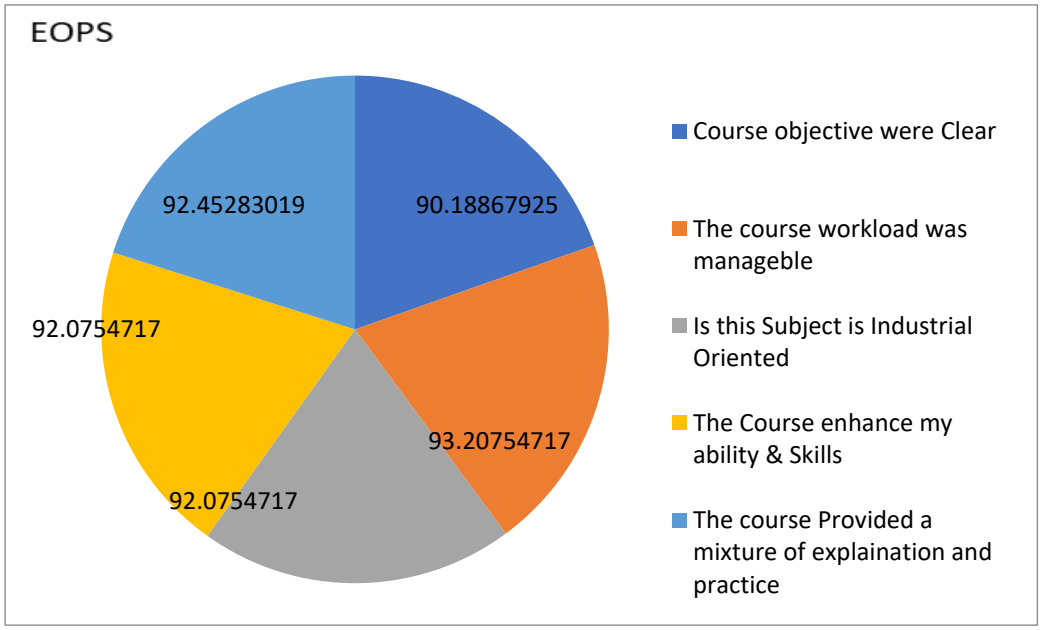
PSE
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills


EOPS
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Course objective were Clear
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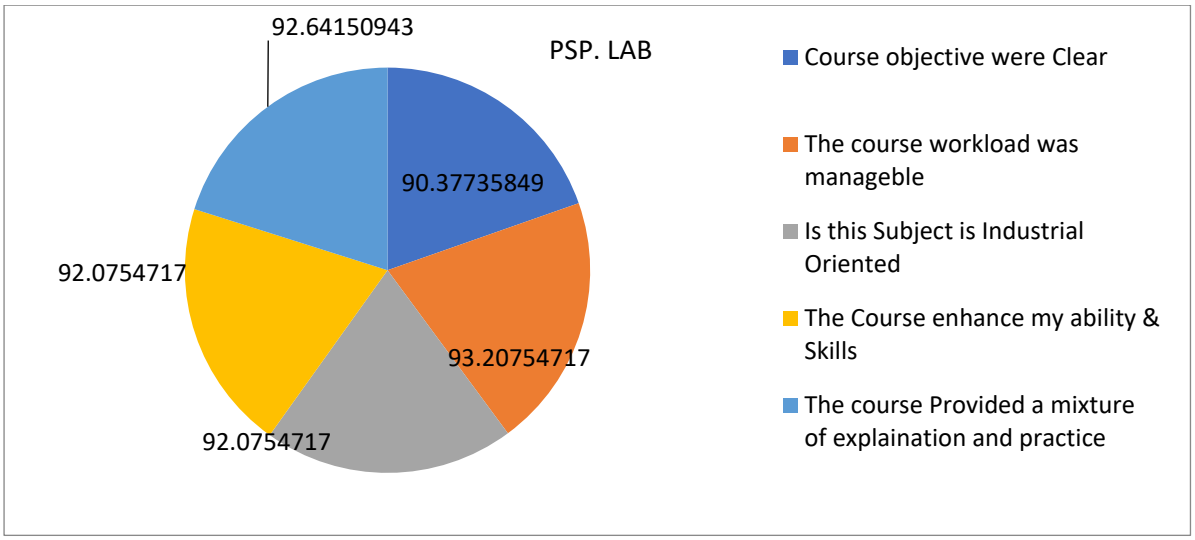
The course Provided a mixture of explaination and practice


PSP. LAB
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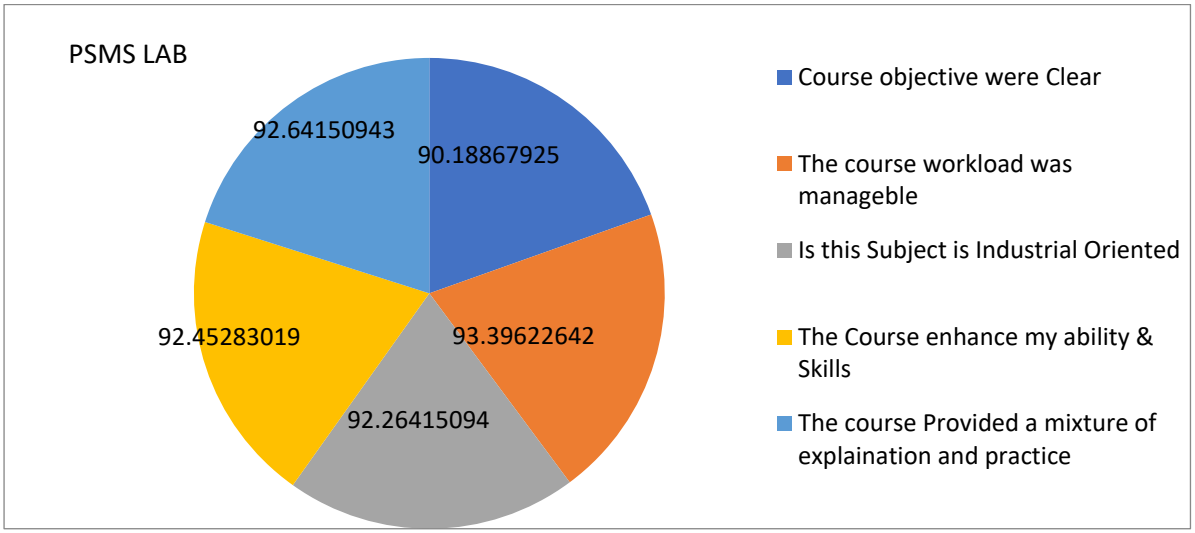
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice


PSMS LAB
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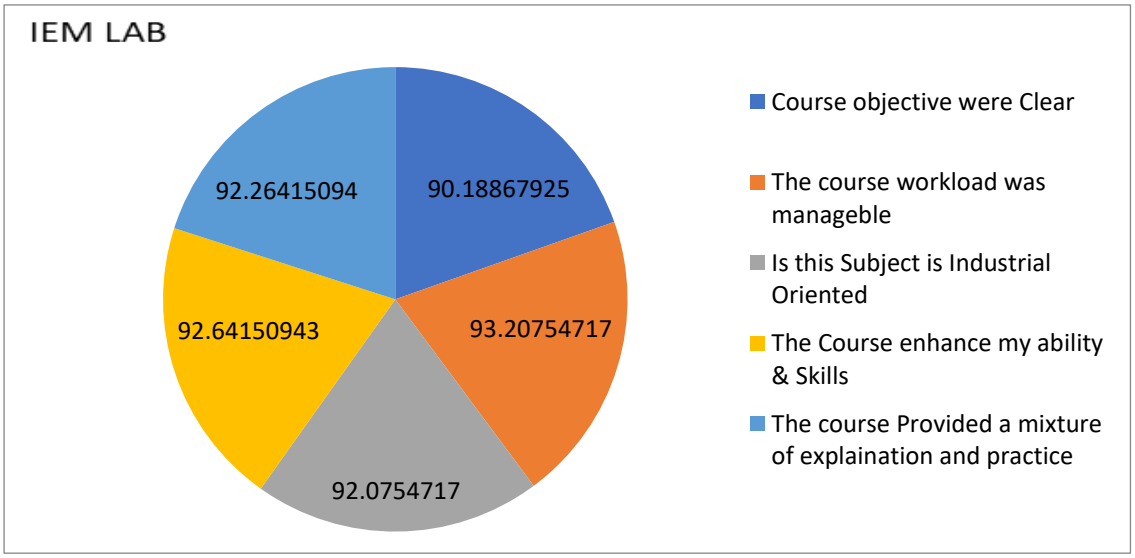
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice


IEM LAB
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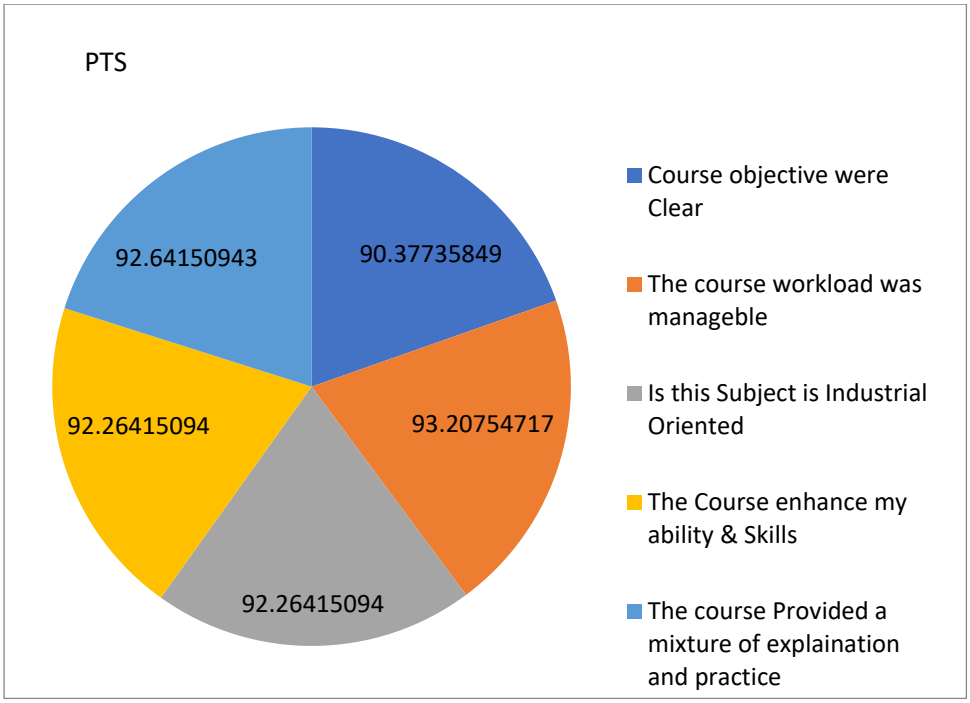
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice


PTS
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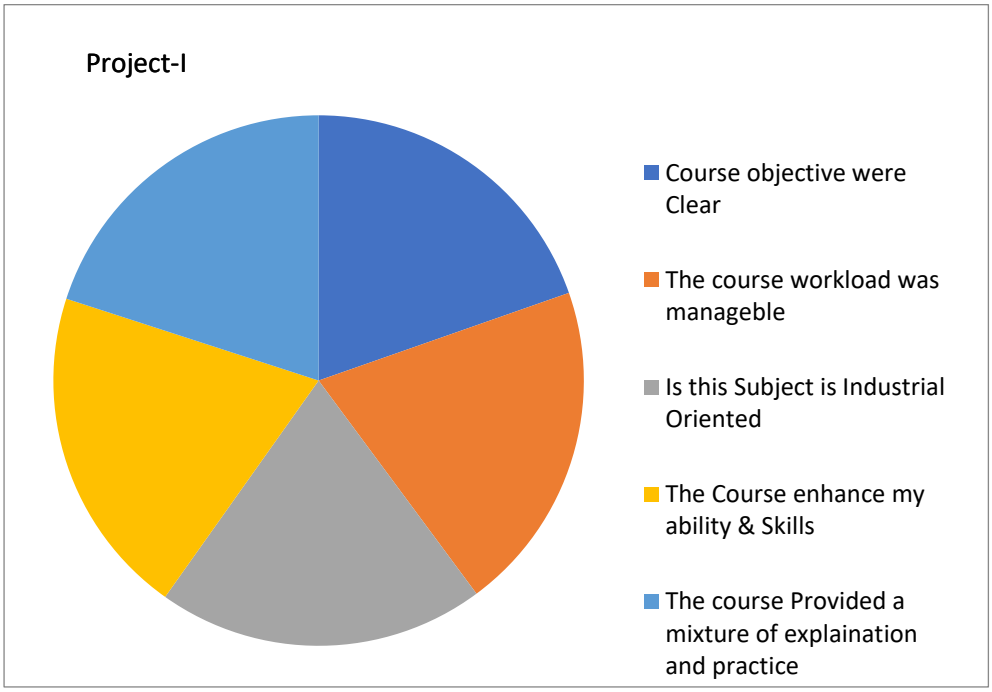
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice


Project-I
Course objective were Clear
The course workload was manageble
Is this Subject is Industrial Oriented
The Course enhance my ability & Skills
The course Provided a mixture of explaination and practice

ACTION TAKEN

Based on the collection of feedback from various stack holders following steps were taken by the college:

1. Students want to develop smart GSS lab s by using different Research Techniques.
Action: - we have conducted different MATLAB, Python, C, C++, Java Machine Learning and AI Courses for their betterment. So they can develop themselves. Instead of these courses we also conducted their classes for Aptitude, reasoning.
2. Business Communication and Presentation Skills subject was introduced to enhance the presentation and communication skills of students.
3. In order to fill the gap between college and industrial accepts, soft skill courses were introduced for the students in curriculum.
4. The students were encouraged to attend on-line programs such as Spoken Tutorial Project
5. Students want to learn to more about insulators breakdown strengths.
Action: - Based on Student Curiosity we have set up A high Voltage Engineering Lab in our Department. In this Lab they are performing different experiments on breakdown strength of insulators, transformer oil, sphere Gap EHV Transmission line and protection of transmission lines, circuit breakers etc.

Feedback report from Employer for all B. Tech. Programs:
Employer feedback was taken centrally. The feedback on curriculum is requested from companies and also companies where our alumni are employed directly.

Action taken report:
Based on the employer feedback, new courses which are more industrial oriented and as per today's scenario included in the respective program as given below:
1. Courses on Mobile computing and Machine learning are included in Computer Science and Engineering.
2. Courses on Transportation Engineering and Machine learning are included in Civil Engineering.
3. Courses on Human computer interaction and Real time systems are included in Computer Science and System Engineering.
4. Courses on Power quality and Smart grid technologies are included in Electrical Engineering.
5. Course on Mixed signal design is included in Electronics and Communication Engineering