NAAC/AQAR/2018-19

CRITERIA VII

Institutional Values & Best Practices

7.2 Best Practices

7.2.1 Following practices have contributed towards the achievement of the vision / mission and objectives as well as improvement of quality of various activities of LTCE. These activities have also served the purpose of socio-economic development and inclusivity on a macro level , thus adding value to the student progress.

Best Practice-1

1. **Title of the Practice :**

Strengthening of Student Support and Welfare through Project Based Learning. (PBL)

2. Goal

- To extract leadership qualities and technical outcome of students through financial and non-financial assistance.
- To develop managerial capabilities through project management.
- To develop holistic approach for the engineering problems.
- To practice time management.
- To address the issues of socio-economic development & inclusivity.
- To add value to the student performance.

3. The Context

- Engineers seem to thrive on competition at student level due to resonant energy present inside them. This is in reference to provide platform for students to show their intellectual skills and talent in the events organised at National and International levels.
- To develop techno-commercial acumen in the learner.
- To develop inquisitiveness about how stuff works and develop penchant for research.
- The students learn the whole gamut of designing , developing fabricationg the vehicle & testing of integrity under static / dynamic conditions.

4.The Practice

- The Society of Automotive Engineers (SAE) and ROBOCON club is established at institute level and students from different branches are participating enthusiastically. Institute provides inhouse resources & financial support for participating in different events and competition.
- Students are passionate about these activities and participate whole heartedly.
- The activity consists of developing a CAD model & prototype under the guidelines.given by SAE & ROBOCON.
- The students have to qualify the virtual design competetion first & then they are allowed to make a prototype.
- On qualifying in virtual design they are given an engine of 500 cc . The have to develop / build all terrain vehicle & it is tested in static / dynamic events.
- Similarly ROBOCON gives theme every year & students have to design & develop the robot .

5. Evidence of Success

We have participating groups every year . This tradition shows the passion for the activity.SAE members develop the car and compete in the events.i.e. Formula SAE (Team SCHNELL RACING), BAJA (Team TT), ROBOCON India and other super mileage competitions organised at National and International levels. Many students are attracted to our institute owing to encouragement of ours to this activity. Mnay passionate students have been appointed by companies like Mahindra & Mahindra Ltd. . Some students have pursued higher education in the fiels of robotics & automobile abroad .Some students have been appointed as SAE coordinators globally.

Team TT Racing India (SAE BAJA)

BAJA is one of the toughest competitions held in India where different teams from various parts of the country participate. Among the different teams, our team named 'Team TT Racing INDIA' also participates in the same.

- Our SAE BAJA Team got an opportunity to partcipate in SAE CHINA competetion after their success in MARYLAND , USA in April 2018. Our team stood third amongst 90 teams all over world. It was the only Indian team to participate.Subsequently our students Shubham Mhapankar & Bhoumik Momaya have been appointed as liason officers for SAE CHINA for internationalising the competetion. Shubham Mhapankar has joined Oxford university to pursue masters in Motosports.
- SAE BAJA Team selected for USA Event Our BAJA Team stood 6th among 450 colleges in SAE BAJA virtual 2017 held at Christ University, Bangalore in June 2016. The team was selected for SAE BAJA INTERNATIONAL USA among top 100 universities all around the globe and became one of the 5 Indian teams to represent the nation at world's toughest competition to be held at MARYLAND, USA.
- In Enduro Student India 2017, which was held at Coimbatore, the team stood overall 22nd among 74 institutes and also stood AIR 7th in Business presentation, AIR 20th in Cost event, AIR 24th in Manoeuvrability and AIR 19th in Endurance race and achieved top 15 ranking in Design at SAE BAJA India held at Indore. Conceiving, designing, building and testing a formula race car at student level and then competing against various other teams from different universities all over the country is a challenging task but exciting as well. It's a demonstration of creativity, engineering expertise and engineering skills by a group of passionate students and that‟s what a team of 10 engineering students known as team Schnell Racing.
- The team has participated in FORMULA BHARAT 2017 which was held in Kari Motor Speedway, Coimbatore from 26-29th January 2017. Team was ranked overall 19th among 68 teams that participated in the competition and this being a student engineering design competition the team managed to hold 9th position in the design event. This is what team Schnell Racing is doing since 2014 and did it in 2017 with their car **SR38**.
- The team participated in SAE Supra India, 2014 and stood All india rank (AIR) 42nd overall then in the year 2016 they have participated in Formula Student India held at Buddh International Circuit, Greater Noida and stood 13th in COST and 22nd overall in India Schnell Racing

ROBOCON India:

It is an international robotics competition where two teams compete each other on a set of hurdles or problems given in the problem statement. It is broadcasted by the Asia Pacific Broadcasting Union (ABU). Robocon 2015 was the first attempt of Lokmanya Tilak College of Engineering in this prestigious competition. In its very first endeavour, the team earned praises from colleges from all around India. The team secured a commendable 23rd ranking all over India and 5th all over Mumbai. The team also boasts of being the only team to have a match tied with the 7 time defending champions – Nirma University.

Robocon 2016 was the second attempt of LTCE in this prestigious competition. This year 105 teams from all over India participated in this event, among them we stood 6th all over India, 3rd in Maharashtraand 1st in Mumbai. That was the first huge achievement for the team. The team was even awarded with the „BEST ECONOMICAL ROBOT- 2016". Robocon Team (2014-15) This year theme takes inspiration from Japan"s traditional game Tosenkyo. The theme revolves around the word "asobi" (play), which is also a fundamental philosophy behind Robocon. In "asobi," playful, unique, original show of skills is often more important than winning or losing, as everyone – friend and foe alike – can applaud and enjoy them.

So, in the "asobi" spirit, the theme encourages playful, unique and original robot designs and strategies. The positive result of the competition is still to come.

5. Problems Encountered and Resources Required

The main problem which the team faced was the testing of the vehicle which requires a proper area with different types of hurdles which are used in the racing track. Team faced problem in the transportation of the vehicle as well as for testing robot due to space constraints. The team had to tow/transport the vehicle everyday for the testing to the nearest open ground that is almost 3-4 km away which incurred additional costs.

6. Notes (Optional)

By participating in these national level competitions the members had a subsequent boost in their confidence level as they interacted to some of the finest engineers from the automotive industries. Being able to represent the nation at the world"s biggest competition is the most appraisable achievement which makes our institute proud of this successful feat. This is the biggest motivation for other non-participating students to think out of the box and apply the theoretical knowledge in real life. Students were encouraged to file their own patents as well.

Best Practice-2

1. **Title of the Practice :**

Comprehensive Evaluation , emphasis on formative assesment & use of ICT tools

2. Goal

- Continuous evaluation of student's performance.
- To develop punctuality
- To give chance to student to improve performance
- To enable the student optimize performance through ICT tools.
- To facilitate easy learning
- A move towards autonomy.

3. The Context

- Student performance evaluation.
- Capacity for hard work, leadership, team work, motivation, critical thinking and skill development.
- Assessing the student performance throughout the semester.
- Grading of assessment for term work, mini projects, presentation, industrial visit, etc.
- Evaluation of term work for final year project based on PO/PSO.
- Continuous assessment of laboratory work based on performance indicators.
- To develop digital fluency.
- Encouragement for publishing technical paper or participating in project exhibition/competition for final year students.

• Felicitation of topper in academics and technical paper presentation.

4. The Practice

Institute has taken following steps to achieve the goal.

• Direct and indirect assessments are conducted as per COs.

• Various tools and performance indicators are used for assessing the level of understanding of the students.

• Typed manuals of the experiments (performance) are issued to students.

• Conducting remedial classes for slow learners and absentees.

• Maintenance of log book for conducting labs smoothly.

• Internal answer scripts are shown to the students.

• Conducting GATE classes for students interested in pursuing higher education / Jobs.

- Provision of multimedia lab in library for access to publications & other study material.
- Around 650 computers in LAN having internet and bandwidth of 160 mbps.
- Campus wify with 32 access points
- Provision of downloadable Springer e-books.
- Introduction of google-classrooms subject wise by teachers.
- NPTEL Chapter for certification courses.

5. Evidence of Success

• Continuous improvement of grade by the end of the semester, which in turn helps students in tracking their own progress.

• Uniformity and clarity of the experiment during explanation of theory by the faculty during laboratory session.

• Enhancing the learning capability of slow learners and updating students with important topics/ revision of topics with respect to examination.

• Uniformity of experiments with respect to results achieved by a particular batch and cross verification with the previous batch. Also to make faculty
aware about the status of experiments performed.

• More and more students are registering for GATE examination in the academic every year.

- Students are getting jobs based on the certification courses completed.

6. Problems Encountered and Resources Required

• Due to continuous evaluation process students gets less time for cocurricular /extra-curricular activities.

• Lack of familiarity with the evaluation system of newly appointed faculty.

• Problems encountered due to climatic condition and unforeseen circumstances.

• Less time for faculty to concentrate on research activities and administration work.

- Changing trends of learning & evaluation.

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排名	赛车编号	学校名称	竞赛分数	罚分	最终分数
1	U1	哈尔滨工业大学（威海）	132.80	0	132.80
2	U3	厦门理工学院	131.00	0	131.00
3	U2	广西科技大学鹿山学院	129.00	0	129.00
4	U41	Lokmanya Tilak Engineering College	128.40	0	128.40
5	U10	重庆理工大学	127.00	0	127.00
6	U26	武汉理工大学	126.60	0	126.60
7	U9	北京理工大学	125.00	0	125.00
8	U20	湖北汽车工业学院科技学院	122.30	0	122.30
9	U21	吉林大学	120.25	0	120.25
10	U12	大连理工大学	113.00	0	113.00

SAE CHINA PARTICIPANTS- August 2019

SAEBAJA, MARYLAND USA April 2018