Best Practice I

1. Title of the Practice: ‘Industry Institute Interaction’

2. Goal

Main objective is to establish and maintain relationships with the corporate world through MoUs, Centre of Excellence, sponsored projects, industrial visits and in-plant training for students and faculty members.

3. The Context

Institution has taken initiative to interact with various industries through the Industry Institute Interaction committee that maintains professional relations with industries.

4. The Practice

Under this, following practices are performed

1. Membership of Professional Technical Bodies (ASHRAE, SAE, ASME,CSI,IETE,ISTE)
2. MoU with industries (Baker Gauges India,CSI,ICT Academy)
3. Lab development under Center of Excellence(NI Lab, Tribo Lab, Baker Gauges Lab, TechNex, JALTAP, Sapours, StackZeal, ICT,SDR lab)
4. Industrial visit,
5. Guest Lecture,
6. Promotion to do internship and industry sponsored project for students
7. Curriculum development at par with industry requirement

5. Evidence of Success

1. Membership of Professional Technical Bodies :
   a. Faculties and students are encouraged to take membership of professional societies. In this year membership of SAE, ASHRE were taken by faculty of the mechanical department. CSI by Computer Engineering and IETE by E&TC Engineering.
2. MoU with industries (Baker Gauges India,CSI,ICT Academy )
   a. Institute formed MoU with ICT academy and conducted different programs under it to promote students and faculty in the area of IOT, Artificial intelligence etc.
   b. Institute formed MoU with TechNex Technologies Pvt. Ltd, JALTAP, Spurs Technology Pvt. Ltd., StackZeal Pvt. Ltd., Seed Infotech, ICT academy and conducted different programs under it to promote students and faculty in the various areas.
3. Lab development under Center of Excellence(NI Lab, Tribo Lab, Baker Gauges Lab, Advanced Manufacturing, TechNex, JALTAP, Sapours, StackZeal, ICT,HPC)
a. New version with additional tool of MATLAB were purchased for Software Lab
b. Maintenance and additional lab equipment were purchased for different labs.
c. MODROB proposal under AICTE Scheme were filled for upgradation of CAD/CAM lab to facilitate it for 3D Printing Technology and provisionally sanctioned by AICTE.

4. Industrial visit
   a. Industrial visits were organised for Mechanical Engineering students to different industries and government establishments e.g. Mahindra and Mahindra Pvt Ltd. Chakan, Cold Storage Plant etc. in Semester I & II.
   b. Industrial visit to Persistent Systems, Hinjewadi, Pune organized on 14.02.2020 for TE Computer students to enhance interpersonal skills and communication techniques.
   c. Industrial visit to Giant Metrewave Radio Telescope (GMRT) at Khodad, Pune on 28.02.2020 for SE Computer students to make students aware of industry standards, career opportunities, and product development life cycle.
   d. Industrial visit at Chheda Electricals and Electronics Pvt.Ltd. on 14th Feb 20 and Bhira Power Plant 7th Feb. 20 for E&TC students.
   e. Some scheduled visits like visits to Tata automotive and Power plant were cancelled due to COVID 19

5. Guest Lecture
   a. Total 6 Guest lectures by eminent personalities from central research facilities and industries were conducted e.g Guest on sustainable environment, emission and alternate energy sources.
   b. Total 13 Guest lectures by eminent personalities from central research facilities and industries were conducted in the Computer Engineering Department on Ethical Hacking etc.
   c. Total 2 Guest lectures by eminent personalities from central research facilities and industries were conducted in E&TC Engineering Department on National language processing etc.

6. Promotion to do internship and industry sponsored project for students

7. Four projects from the mechanical department, 5 projects from E&TC and 3 projects from Computer department were sponsored projects by industries.

8. Curriculum development at par with industry requirement
   a. Faculty from Mechanical Dept.,Prof. Dr. V. N. Chougule participated in the structure revision process of SE Mechanical Program and introduced new courses like Geometric Drawing & Tolerance which were designed in collaboration with industry needs.
   b. Faculty from Computer Dept., Dr. (Mrs.) N. F. Shaikh, Dr. (Mrs.) R. A. Khan, Dr.(Mrs.) S. K. Wagh, Dr. (Mrs.) J. R. Pansare, Dr.(Mrs.) A. P. Kale, etc. participated in the structure revision process of SE Computer Program and introduced new courses like Computer Graphics, Humanities and Social Science, Object Oriented Programming, Principles of Programming Language,
Data Structure respectively which were designed in collaboration with experts from other colleges of SPPU as per industry needs.
c. Dr.(Mrs.) Manisha P. Dale was selected as a member of committee by SPPU to design syllabus of SE (E&TC) Data Structure subject. Also Dr. P.N. Kota worked as member of syllabus design committee SPPU for the subject DC-SE E&TC.

6. Problems Encountered –

Due to COVID pandemic,

a. Many scheduled activities like industrial visits, guest lectures, STTPs etc were cancelled

b. Manufacturing / Fabrication of students projects were suspended due to lockdown hence funds allocated for project were not utilized
Title of Practice: Student Skill Development Activity

1. **Goal**: Development of students' technical skill and job skills necessary for industries through Co-curricular and Extracurricular activities.

2. **The Context:**
   Co-curricular activities are significant for enriching students on an emotional, cognitive, physical, and social level. At the same time, extracurricular activities incorporating NSS, art, and music can play a vital role in nation-building, psychomotor development, and dexterity.

3. **The Practice:**
   Under this, following practices are performed
   
   1. Formation Different Student Chapter (ASME, SAE, ASHRE, ACE, IETE, ISTE)
   2. Promoting and Financial Support to students to participate in different national and international competitions (M-BAJA, E-BAJA, RoboCon, SIH 2020)
   3. Co-Curricular and Extra Co Curricular Activities
   4. Development of a lab with the latest experimentation facility and machines.
   5. Latest software and computing facility as per and beyond curriculum for academic development (MatLab, Ansys, etc.)
   6. Support for Internship and Sponsored Project
   7. Provision of E-content for advance Learning (NPTEL, video Lectures)

4. **Evidence of Success**
   Following activities were performed in AY 2019-20 as part of student skill development practice
   
   1. **Formation Different Student Chapter (ASME, SAE, ASHRE, ACE, IETE)**
      a. SAE Student chapter is formed under which student were financed and motivated to participate in events like M-Baja which is Multi Terrain vehicle making competition and E-Baja which electric vehicle making competition to enhance students technical skill, build teamwork, leadership and presentation skill, Institute continuously support students to participate in such competition for from Year 2012. Special provision in department Budget is made for manufacturing vehicles under M-BAJA and E-BAJ. Secured an overall 14th rank amongst 120 participants.
      b. ASHRE, a student’s chapter is formed to promote students' interest in the area of Refrigeration and Air conditioning and also enhance their knowledge about this core area of mechanical engineering.
      c. Initiative is started to form ASME student chapter to increase students interest in Mechanical engineering by conducting different activities
      d. Students are encouraged to take membership of Professional Technical bodies. In this year 62 Students enrolled in IETE membership
      e. ACE Event “ALPHA QUEST 2019” has been organized on 24.09.2019 to develop the ability to express ideas through oral communication.
AlphaQuest 2019 is an Intra-Collegiate event which includes the following 14 events.

f. ACE Event “Quarantine Digital Renaissance 2020” has been organized on 24.09.2019. Inline with it’s name it is truly a renaissance amidst the lockdown to help everyone utilize their time and sharpen their skills. It’s time to say goodbye to the lockdown boredom as everyone participates in the Quarantine Digital Renaissance 2020. Prizes for this national level event are sponsored by TechNex Harvestgrid Pvt Ltd, Pune and registration is completely free.

2. Co-Curricular and Extra-Curricular Activities
   a. Different Co-Curricular Activities under MESA Technical Event “PHOENIX-2k19-20” were conducted to develop different technical and life skills like teamwork, presentation, stage daring, leadership soft skills etc.
   b. Different days were conducted to promote awareness about social issues like environment and brotherhood in students e.g. Independence Day, Swachha & Swasth Bharat Abhiyan (Shramsanskar Shibir) etc.
   c. Different Co-Curricular Activities under ACEMESA Technical Event “ALPHA QUEST 2019” were conducted to develop different technical and life skills like teamwork, presentation, stage daring, leadership soft skills etc.
   d. ETSA Association “Cygus 2019” has been organized on 19th and 20th September 2019. The fest consisted of 10 events in total. They were broadly categorized into Technical and Non technical events to enhance student’s technical and non technical skills.
   e. ETSA group “INERVE 2020” was organized on 10th Feb.2020 which contained technical and non-technical activities. It consists of 7 events to help everyone utilize their time and sharpen their skills.

3. Development of a lab with the latest experimentation facility and machines.
   a. Labs were provided with latest software and instrument to give students facility to do their interest research area and also provide correct experimentation reading hence helping them to correctly correlate the theory and practical knowledge
   b. CMM machine were purchased for Advanced Manufacturing Lab so student will get chance to witness and understand the advance manufacturing process’
   c. Latest version of MATLAB were purchased with additional tool for simulation

4. Support for Internship and Sponsored Project
   a. Institute allocate special budget to finance students project to promote students innovative ideas in the form of projects
   b. Department gives special permission to attend and complete internships and support them by providing relaxation in attendance criteria.
   c. Computer Students participated and received achievement in Smart India Hackathon 2020 (SIH-2020)-Total 18 Teams have participated for SIH 2019. Two teams were selected for final Round. 18 Teams have given solutions to 58 different hardware and software problem statements. Two teams were selected for the final Round which is virtual from 2nd Aug to 4th Aug 2020.
d. AICTE Vishwakarma Awards 2019 is being organized by All India Council for Technical Education [AICTE] for promoting innovative spirit and scientific temperament for holistic development of society. The details of shortlisted proposal are:

Name of the Project: Automated Hydroponics - Soilless farming
Category: Farm and Flock
Team Members: Students of BE 2020 batch
1. Barkha Chainani [E&TC]
2. Rohit Tondare [E&TC]
3. Mohammed Arbaaz Shaikh [Computer]
4. Vishnuvardhan Chappidi [Computer]
Guide: Mrs. P. M. Bagul
Co-Guide: Dr. A. C. Mitra

5. **Provision of E-content for advance Learning**
   a. Library is having access to different elearning material like NPTEL, journals both technical and non technical to expose students to the latest development in mechanical engineering.

5. **Problems Encountered and Resources required**
   1. Due to COVID19 epidemic, the Annual Gathering function planned on March 19 which promotes students' hobbies and non technical skills like dancing, singing, acting were postponed and then cancelled.