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
2. MoUs with industries
3. Lab development under Center of Excellence
4. Industrial visit, Guest Lecture,
5. Promotion to do internship and industry sponsored project for students
6. Curriculum development at par with industry requirement
7. Formation of Students Clubs

5. Evidence of Success:

1. Membership of Professional Technical Bodies :
   1. Faculties and students are encouraged to take membership of professional societies. Membership of SAE, ASHRE, ISHRE and ASME was taken by faculty of the mechanical department. CSI by Computer Engineering and IETE by E&TC Engineering.
2. MoUs with industries
   1. Institute formed a MoU with ICT academy and conducted different programs under it to promote students and faculty in the area of IOT, Artificial intelligence etc.
   2. MoU with Spoken Tutorial, Initiative by IIT, Mumbai to free training on Free Open Source Software (FOOS) like Openfoam, R Language, Python etc. for both students and faculties.
   3. 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(3D Printing Lab, NI Lab, Industrial Tribology Lab, Baker Gauges Lab, Advanced Manufacturing, TechNex, JALTAP, Sapours, StackZeal, ICT,HPC)
4. Industrial visit
   1. Multiple Industrial visits were organized for Mechanical Engineering students to different industries and government establishments e.g. Mahindra and Mahindra Pvt Ltd. Chakan, Cold Storage Plant etc.
   2. Industrial visit to Persistent Systems, Hinjewadi, Pune organized on 14.02.2020 for TE Computer students to enhance interpersonal skills and communication techniques.

3. 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.
4. Industrial visit at Chheda Electricals and Electronics Pvt.Ltd. on 14th Feb 20 and Bhira Power Plant 7th Feb. 20 for E&TC students.
5. Study tour Science Park, Chinchwad.was organised on 25 January,1 February and 8 February 2020 for FE students to encourage them to look beyond classrooms.

5. Guest Lecture
   1. Multiple Guest lectures by eminent personalities from central research facilities and industries were conducted by Mechanical department for both students and faculty e.g Guest lecture on sustainable environment, emission and alternate energy sources.
   2. Multiple Guest lectures by eminent personalities from central research facilities and industries were conducted in the Computer Engineering Department on various emerging topics.
   3. Multiple lectures by eminent personalities from central research facilities and industries were conducted in the E & TC Engineering Department on National language processing etc.
   4. Various webinars and workshops have been conducted under 4 cells of Institution's Innovation Council (IIC) MESCOE namely; IIC INNOVATION, IIC STARTUP, IIC IPR, IIC INTERNSHIP in collaboration with all departments such as Computer, E&TC, Mechanical, and FE.
   5. Various programs for FE Students on subjects like Introduction to College Facilities and activities,Yoga ,Essence of Engineering,Stress Management, Success Factors of Engineering, Art of learning ,Project Based Learning,Developing skills in self and others etc were organized under the Induction program for newly admitted students.
6. Internship opportunity to students in both core and other allied industries and also government research organization like DRDO, Ammunition factory (AY 2020-21, 22 students completed internship and in AY 2021 -22, 16 students registered for internship)
7. Project sponsorship for UG project: Students received sponsorship for their UG projects by both external agencies and institutes.
8. Curriculum development at par with industry requirement
   1. Senior faculties from all departments participated in the syllabus structure revision and implementation process for the subjects form SE to BE of SPPU Pune.

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 projects were not utilized.

Best Practice II

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
2. Promoting and Financial Support to students to participate in different national and international competitions
3. Co-Curricular and Extra Co-Curricular Activities
   a. Development of laboratories with the latest experimentation facility and machines like 3D Printing Lab.
4. Latest software and computing facility as per and beyond curriculum for academic development (MatLab, Ansys, etc.)
5. Support for Internship and Sponsored Project
6. Provision of E-content for advance Learning (NPTEL, video Lectures)

4. **Evidence of Success:**

   1. Formation Different Student Chapter (ASME, SAE, ASHRE,ACE,IETE)

      1. SAE Student chapter formed under which students were financed and motivated to participate in events like M-Baja which is Multi Terrain vehicle making competition and E-Baja which is electric vehicle making competition to enhance students technical skill, build teamwork, leadership and presentation skill. Institute continuously supports students to participate in such competitions. Special provision in department Budget is made available for manufacturing vehicles under M-BAJA and E-BAJA.
      2. 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. .
      3. Initiative is started to form ASME student chapter to increase students interest in Mechanical engineering by conducting different activities
      4. Students are encouraged to take membership of Professional Technical bodies. In this year 62 Students enrolled in IETE membership
      5. ACE Event "ALPHA QUEST 2019" was organized on 24.09.2019 to develop the ability to express ideas through oral communication. The Alpha Quest 2019 is an Intra-Collegiate event which includes the following 14 events.
      6. ACE Event "Quarantine Digital Renaissance 2020" was organized online during lockdown. In line with its 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 were sponsored by TechNex Harvestgrid Pvt Ltd, Pune and registration is completely free.
7. ACE Events "ALPHA QUEST 2020" and "ALPHA QUEST 2021" were organized online due to pandemics in 2020 and 2021 respectively.
2. Co-Curricular and Extra-Curricular Activities
    1. 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.
    2. 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.
    3. 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.
    4. ETSA Association "Cygus 2019" was 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.
    5. 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.
    6. Students were encouraged and supported to form different hobby clubs like Nakshatra Astronomy club, Google developer student club, Workattech MESCOE, Designers' Club etc.
3. Development of a lab with the latest experimentation facility and machines.
    1. 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
    2. Latest version of MATLab were purchased with additional tool for simulation
4. Support for Internship and Sponsored Project
    1. Institute provides special finance to students project to promote students innovative ideas in the form of projects
    2. Department gives special permission to attend and complete internships and support them.
    3. Computer Students participated and received achievement in Smart India Hackathon 2020 (SIH-2020)-Total 18 Teams had participated for SIH 2019. Two teams were selected for the final Round. 18 Teams had 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.
    4. Supporting students to participate in National project competitions. Two projects from the Mechanical engineering department participated in National Project Competition 2020 organized by MIT WPU, Pune and one project won First prize.
5. Provision of E-content for advance Learning
    1. Library has access to different eLearning material like NPTEL, journals both technical and non-technical to expose students to the latest developments in mechanical engineering.

5. **Problems Encountered and Resources required:**

- 1. Due to COVID19 pandemic, the Annual Gathering function planned on March 19, 2020 to promote students' hobbies and non-technical skills like dancing, singing, acting were postponed and then cancelled.