



## B.M.S. COLLEGE OF ENGINEERING, BENGALURU-19

Autonomous Institute, Affiliated to VTU

Annual Quality Assurance Report 2019-2020 (AQAR)

Period - 01.06.2019 To 31.05.2020

### 7.2.1 – Describe at least two institutional best practices

#### Best Practice -I

##### 1. Title of the Practice

National Level Technical Symposium – Phase Shift - 2019

##### 2. Objectives of the Practice

The two days technical symposium ‘Phase Shift’ organised every year is to commemorate India’s great Engineer’s Birthday, aims at bringing different disciplines of Engineering together on a common platform and give the stakeholders an opportunity to exhibit their technical skills. The incremental improvement brought into the technical expertise of the student community with proper handholding from academic fraternity and Industry collaborations can help in developing inquisitive, a better scientific temper among young minds. This enables them to apply both their knowledge and the relevant skills to produce masterpieces well beyond our time.

Phase Shift is an annual technical symposium conducted by B.M.S College of Engineering, from 2014 which has seen its earlier five episodes and helped in improving engineering application capability, innovation capacity, cooperation spirit, self-management ability and communication skills. The symposium has also been a medium for effective industry interaction in which the industries collaborated with BMSCE will showcase technical expertise and products exhibits. Over the span of two days, students will witness a competitive and collaborative atmosphere of technical competitions, hands-on training, and workshops based on trending technology, talks by eminent professors and seminars by industry professionals/experts. A symposium of this scale is organized entirely by a dedicated student body under the able guidance of faculty.

##### 3. The Context

Phase Shift an annual event is based on a theme and over the years, the themes evolved have been innovative and intriguing. In the year 2019, the focus was on being environmentally responsible. We have been relentlessly exploiting fossil fuels, be it for our commute or generation of electricity. These acts of impulse have landed us in a dire situation. Earlier known as alternative sources of energy, renewable energy today is known to have innumerable benefits. Hence the 6th edition of Phase Shift set its theme as “**Energy and Sustainability**”.

The sixth edition of Phase Shift took place on **14th and 15th of September, 2019. More than 4000 students from other institution, 3000 plus BMSCE students took part in 80 plus competitions and 30 plus workshops which were held during the two days.** First time in Phase shift, a 36 hours **Hackathon** on ‘Energy Harvesting’ was conducted on campus with the financial assistance for Hardware procurement, from TEQIP III and implementation of energy harvesting were adjudged by a well experienced industry jury from renowned industries who witnessed the event. **More than 65 industries** were inside BMSCE campus, hosting different workshops, competitions with **Alpha Design Technologies taking the main lead.**



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### 4. The Practice

Phase Shift every year will be conducted for two days to commemorate Engineer's Day. The theme of the Phase Shift will be chosen based on the generic, trending technical, multidisciplinary concept addressing various moderate to complex Engineering problems. The Theme for 2019 Phase Shift was chosen as "Energy and Sustainability". The team comprises of faculty and student core teams, organizing committee members and coordinators.

Participating Institutes can decide the team from various streams of UG like Electronics, Instrumentation, Mechanical, Electrical, or Mechatronics, Computer, IT etc. The events comprised of a Hackathon, walkathon and treasure hunt.

### 5. Evidence of Success

This edition of Phase shift was a great success too. Several industries around 65 in no. collaborated, with Alpha Design Technology as the main sponsors. A sum of about Rs. 24 Lakhs was collected from various sponsorships. The total number of events hosted was ninety with thirty industry driven workshops. Around twenty plus colleges participated and had more than 5000 students participation.

### 6. Problems Encountered and Resources Required

The overall event came out as an excellent team work. All the stake holders were involved in successful conduction of the event. The involvement of the departments in terms of bringing out excusive projects requires improvement.

### 7. Notes (Optional)

The Phase Shift 2019 platform provided the students to ***Collaborate, Innovate and Excel*** in the field of Energy and Sustainability. The following are the pictures showcasing the grand annual event in BMSCE. It comprises of the team PS -19, inauguration of the stalls by dignitaries, and the green initiatives taken by the student community.



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Team PS-19





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### Green Commute – A Walkathon





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### **Best Practice- II**

#### **1. Title of the Practice**

National Level Competition for Factory Automation

#### **2. Objectives of the Practice**

The Competition aims to improve college students' engineering application capability, arouse their interests in learning technology, build up innovation capacity and cooperation spirit, as well as improve their self-management ability and communication skills. It is also intended to embody the "learning for practice" ideology, review students' actual manufacturing and commissioning abilities, and meanwhile enhance exchange and cooperation between university and enterprise.

#### **3. The Context**

In this competition, students are required to integrate Mitsubishi Electric's factory automation products (including PLC, servo, inverter and human-machine interface, processing machine, etc.), built up and achieve an analogous system of intelligent manufacturing and energy saving management application, based on e&eco-f@ctory concept and taking e-f@ctory system as the trunk.

Basic set of Mitsubishi Electric FA components (comprising of PLC, HMI and VFD or Servo Drive – Servo Motor set) will be given on returnable basis to the participating institute. All other electro-pneumatic, mechanical, sensor or any other accessory will be in participants/institute's scope. If any team needs additional Mitsubishi Electric hardware, then institute needs to purchase from authorized Channel partners of MEI or arrange by their own. For FA components, only Mitsubishi Electric Make FA components are allowed to use. The basic full score of the competition is 100 points, consisting of "basic knowledge" (5 points) "system design and presentation" (90 points; bonus 5 points other Mitsubishi Electric FA components in addition to standard package are used) and "good behavior" (5 points).

#### **4. The Practice**

The competition provides a challenging platform for the students to ***Collaborate, Innovate and Excel*** in the field of Automation which ultimately contributes to the National Mission of Skill Development.



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### *4.1. Flow of Competition*

The flow of competition is as shown below



### *4.2 Team Formation*

Participating Institutes can decide the team from various streams of UG & PG like Electronics, Instrumentation, Mechanical, Electrical, or Mechatronics, Computer, IT etc. with below criteria:

- Maximum No. of member: Four Students (UG + PG)
- Maximum No. of PG students per team: One
- PG student is not mandatory.
- Faculty Adviser: 1 No.

### *4.3 Registration*

- No Registration Fee for this competition.
- Registration must be done through website <http://www.mitsubishielectric.in/fa/mecup/>
- No provision for offline registration.
- Last date for online registration is 1<sup>st</sup> September, 2019
- Maximum Two Teams per institute can register

### *4.4 Procedure being adopted for shortlisting of 35 teams*

The following selection procedure will be implemented for selecting top 35 teams from the received proposals:

- a) Proposition & Design (20 marks)
- b) Quality of work (20 marks)
- c) e&eco-F@ctory Concept (10 marks)



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### **4.6 Technical Guidance & Training**

For each selected team, Mitsubishi Electric India will appoint Technical Mentor.

### **5. Evidence of Success**

This edition of competition witnessed huge response from 140 colleges across 16 states across the country. We received 279 proposals the highest amongst till now compared to all the previous ME Cup competitions. All the proposals were quite interesting and it was a challenging task for the jury to shortlist the best 35 proposals. In the final event all the selected teams demonstrated their projects and the winners were announced and awarded as per the following

- Certificate of Participation and training to all 35 Teams
- Prizes
  - Winning team -- Prize worth of INR 1,00,000 & Winner Trophy
  - Runner-up -- Prize worth of INR 75,000 & Runner up Trophy
  - Third place -- Prize worth of INR 50,000 & Trophy
  - Appreciation Prize -- Prize worth of INR 10,000 /-  
(Total 15 Nos., in this category)
  - Most Popular Team -- Trophy & Certificate

### **6. Problems Encountered and Resources Required**

The overall conduction of the event comprises of several sections viz. Stalls, Stage, Logistics and Hospitality, Cultural Program, Food, Media & Publicity and faculties/students are nominated for each section.

### **7. Notes (Optional)**

The competition provides a challenging platform for the students to *Collaborate, Innovate and Excel* in the field of Automation. This involves knowledge creation and distillation, diffusion and dissemination, and organizational adoption and implementation. Exploring new ideas and relevant findings can be packaged into products that can be put into action—such as specific practice recommendations. Diffusion and dissemination involves partnering with industry to disseminate knowledge that can form the basis of action. Organizational adoption, implementation, and institutionalization are the final stage of the knowledge transfer process. This stage focuses on getting organizations, teams, and individuals to try to adopt these evidence-based projects and innovations in everyday practice.

  
Director - IQAC

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