


3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge.

## 1. Research and Development Centre & Committee members

D:\Research Center Data /Research Center Positive and Negative Letter (Win) .doc

**Dr. Babasaheb Ambedkar**  
**Marathwada University**  
Aurangabad – 431 004, Maharashtra, India  
NACC Re-accredited 'A' Grade  
Office PBX : (0240) 24033900/400  
Office Tele : (0240) 2403218 / 2403223  
Affiliation: (0240) 2403118/119/115  
Web Site : www.bamu.ac.in  
http://bamua.digitaluniversity.ac



स्थापना वर्ष : १९५८

**डॉ. बाबासाहेब आंबेडकर**  
**मराठवाडा विद्यापीठ**  
औरंगाबाद- ४३१ ००४, महाराष्ट्र, भारत  
नॅक समितीतर्फे 'अ' दर्जा प्राप्त  
Office : Academic Section  
कार्यालय :- शैक्षणिक विभाग (संलग्नीकरण)

संदर्भ क्र. : शैक्ष/ संलग्न/एआरडब्ल्यू/२०२०-२१/ २२१३७-७९ दि. २४-११-२०२०.

प्रति,  
प्राचार्य,  
श्रीयश प्रतिष्ठाण संचलित,  
श्रीयश कॉलेज ऑफ इंजिनिअरिंग अँड टेक्नॉलॉजी,  
औरंगाबाद.

**विषय :-** शैक्षणिक वर्ष २०२०-२१ पासून मेकॅनिकल इंजिनिअरिंग विषयाच्या संशोधन केंद्रास मान्यता देणे बाबत.

**संदर्भ :-** १) आपला संशोधन केंद्रासाठीचा प्रस्ताव.  
२) प्रस्तावित संशोधन केंद्रासाठी तज्ञ समितीने सादर केलेला अहवाल.  
३) महाराष्ट्र सार्वजनिक विद्यापीठ अधिनियम २०१६ कलम १११ (१) ते (८) अन्वये निश्चित केलेले निकष.  
४) पीएच.डी. अध्यादेश १६७ (इ) अन्वये निश्चित करण्यात आलेले निकष.  
५) अधिष्ठाता मंडळाने दि. २७-०८- २०२० रोजी घेतलेल्या घोरणात्मक निर्णयानुसार केलेली शिफारस.

**महोदय / महोदया,**  
उपरोक्त संदर्भिय विषयाच्या अनुषंगाने मा. कुलगुरु महोदयांनी दिलेल्या आदेशानुसार आपणास कळविण्यात येते की, महाराष्ट्र सार्वजनिक विद्यापीठ अधिनियम २०१६ कलम १११ (१) ते (८) व पीएच.डी. अध्यादेश १६७ (इ) अन्वये विहित केल्यानुसार विद्यापीठाने / अधिष्ठाता मंडळाने प्राप्त प्रस्तावांची छानणी / तपासणी करून नियुक्त केलेल्या चौकशी / तज्ञ समितीने सादर केलेल्या अहवालानुसार **मेकॅनिकल इंजिनिअरिंग** विषयाच्या संशोधन केंद्रास शैक्षणिक वर्ष २०२०-२१ पासून खालील कोष्टकात दर्शविण्यात आलेल्या अभ्यासक्रमानुसार प्रवेश क्षमतेसह मान्यता देण्यात येत आहे.

अ. क्र.	महाविद्यालयाचे नाव	संशोधन केंद्राचे अभ्यासक्रमासह नाव	विद्यापीठाने निर्धारित केलेली प्रवेश क्षमता
१.	श्रीयश कॉलेज ऑफ इंजिनिअरिंग अँड टेक्नॉलॉजी, औरंगाबाद.	संशोधन केंद्र मेकॅनिकल इंजिनिअरिंग	१० विद्यार्थी

प्रस्तुत प्रकरणी अधिष्ठाता मंडळाने शिफारशित केल्यानुसार महाराष्ट्र सार्वजनिक विद्यापीठ अधिनियम २०१६ कलम १११ (७) अन्वये विहित केल्यानुसार मा. कुलगुरुंना प्राप्त असलेल्या अधिकारानुसार उपरोक्त कोष्टकात विनिर्दिष्ट करण्यात आलेल्या संशोधन केंद्रास मान्यता देण्यात आलेली आहे.

78

प्रस्तुत प्रकरणी आपणास असेही अवगत करण्यात येते की, सदरील संशोधन केंद्राची मान्यता शैक्षणिक वर्ष २०२०-२१ ते शैक्षणिक वर्ष २०२२-२३ पर्यंत अनुज्ञेय राहिल. सदरील संशोधन केंद्राच्या मान्यतेचा कालावधी संपण्यापूर्वी सहा महिने अगोदर विद्यापीठास पुनरमान्यता / पुनरसंलग्नीकरणासाठी विहित शुल्क व पुरक दस्तावेजासह प्रस्ताव सादर करणे अनिवार्य राहिल, अन्यथा सदरील संशोधन केंद्राची मान्यता आपोआप संपुष्टात येईल, याची कृपया सर्व संबंधितांनी गांभीर्याने नोंद घेण्यात यावी.

  
प्र कुलगुरु

**प्रतिलिपी :-**

१. उपकुलसचिव, पदव्युत्तर / पीएच.डी. विभाग, डॉ. बाबासाहेब आंबेडकर मराठवाडा विद्यापीठ, औरंगाबाद यांना माहितीस्तव अग्रेषित.
२. संचालक, युनिक, डॉ. बाबासाहेब आंबेडकर मराठवाडा विद्यापीठ, औरंगाबाद यांना माहितीस्तव अग्रेषित.

-sd-  
प्र कुलगुरु

प्रतिलिपी प्राप्तकर्ता	संलग्नक/संलग्नक क्रमांक	आपला स्वाक्षरी क्रमांक	दि
विभाग	प्रतिलिपी प्राप्तकर्ता	प्रतिलिपी प्राप्तकर्ता	१
	प्रतिलिपी प्राप्तकर्ता	प्रतिलिपी प्राप्तकर्ता	१



# Shreeyash Pratishthan's Shreeyash College of Engineering & Technology, Aurangabad.

(An ISO 9001 : 2015, Certified Institute)

Approved by : AICTE, New Delhi, Recognised by : Govt. of Maharashtra & DTE, Mumbai.  
Affiliated to : Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.  
Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.



(Institute Code : 2112)

Ref. SYCET/odcum/2021/53

Date : 1/1/2021

## Research and Development Centre

A committee is constituted for research and development work at SYCET, consists of following members. All committee members should act and do the needful in this regard.

Name of Faculty Members	Department	Designation
1. Dr. Hulas Raj Tonday	Mech Engg	Head
2. Dr. Masarrat Sultana	Civil Engg	Member
3. Dr. Praveen Shastri	MBA	Member
4. Prof. K. T. Patil	Mech Engg	Member
5. Prof. A.N. Shaikh	ETC Engg	Member
6. Prof. D. A. Deshmukh	Mech Engg	Member
7. Prof. K. K. Pathak	Civil Engg	Member
8. Prof. Mrs. Y. A. Kale	Electrical Engg	Member
9. Dr. H. A. Khawal	Engg Science	Member
10. Prof. Mrs. Rubina Shah	CSE	Member

### Functions of R&D Centre

- To identify the potential areas of research in various disciplines
- To prepare the proposals in order to apply for funded projects
- To encourage multidisciplinary research within the institute and externally with other organizations
- To identify the research areas and divide the faculty into research clusters based on their specialization
- Identify the area of research and encourage the staff to attend the conferences in their specialized areas
- Paper publications by students and faculties.
- To provide research conducting and testing facilities with proper infrastructure.

Received  
HS

1. Notice Board
2. Copy to: - All Committee Members

Dr. R.S. Pawar

Principal

Shreeyash College of Engineering  
& Technology Aurangabad

Gut No. 258 (P), Near SRPF Camp, Satara Parisar, Aurangabad - 431 010. Tele / Fax : (0240) 6608709.

Phone : (0240) 6608701 / 702 / 777 / 7654901. www.sycet.org. Email : sycet@shreeyash.com



Date: 05/02/2021


## Research and Development Centre

### MINUTES OF MEETING

A meeting of committee members was held on 5<sup>th</sup> Feb., 2021 in Room No. 002 Dept. of Mechanical Engineering in order to discuss the research disciplines and novel topics for final year project works of UG and PG students in all the Depts. Every member of each department had given their views regarding the research interest of faculties and students. It had been decided that students will give their review report and presentation on line mode due to ongoing Covid 19 pandemic situation. The following members were present in the meeting.

Name of Faculty Members	Department	Designation
1 Dr. Hulas Raj Tonday	Mech Engg	Head
2 Dr. Masarrat Sultana	Civil Engg	Member
3 Dr. Praveen Shastri	MBA	Member
4 Prof. K. T. Patil	Mech Engg	Member
5 Prof. A.N. Shaikh	ETC Engg	Member
6 Prof. D. A. Deshmukh	Mech Engg	Member
7 Prof. K. K. Pathak	Civil Engg	Member
8 Prof. Mrs. Y. A. Kale	Electrical Engg	Member
9 Dr. H. A. Khawal	Engg Science	Member
10 Prof. Mrs. Rubina Shah	CSE	Member



  
**Dr. R.S. Pawar**  
Principal

## 2. Entrepreneurship & Development Cell



# Shreeyash Pratishthan's Shreeyash College of Engineering & Technology, Aurangabad.

(An ISO 9001 : 2015, Certified Institute)

Approved by : AICTE, New Delhi, Recognised by : Govt. of Maharashtra & DTE, Mumbai.

Affiliated to : Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.



(Institute Code : 2112)

Ref. *sycet / Admin / 2021 / 229 D*

Date : *14.06.2021*

## Entrepreneurship Development Cell

A committee is constituted for Entrepreneurship Development Cell at SYCET, consists of following members. All committee members should act and do the needful in this regard.

Name of Faculty Members	Department	Designation
1. Prof. Anil Palve	MBA	Head
2. Prof. A. V. Karadhhele	Mech Engg	Member
3. Prof. Mrs. S. Waghmare	ETC Engg	Member
4. Prof. S. S. Rathod	Electrical Engg	Member
5. Prof. Miss. Kiran Katak	CSE	Member

### Functions of EDC

- To promote Entrepreneurial culture in campus
- To encourage E-Cell students to take new initiative for interaction with successful entrepreneurs.
- To create an environment for self-employment and entrepreneurship development through formal and non-formal programmes.
- To generate innovative ideas and help students to become entrepreneurs.
- To assist students in legal procedure for registering new enterprises.

*Palve*

1. Notice Board
2. Copy to: - All Committee Members

*Dr. R.S. Pawar*

Dr. R.S. Pawar

Principal

Principal

Shreeyash College of Engineering  
& Technology Aurangabad

Original Article

# Study of Implementation of Agile Supply Chain For Efficient Delivery of Essentials During Covid-19

Hulas Raj Tonday<sup>1</sup>, Poonam D. Katore<sup>2</sup>, Dipali S. Raut<sup>3</sup>, Akash D. Rathod<sup>4</sup>, Anuja I. Morwal<sup>5</sup>

<sup>1,2,3,4,5</sup> Mechanical Engineering Department, Shreeyash College of Engineering and Technology Aurangabad, MH-431001, India

Received Date: 08 July 2021  
Revised Date: 09 August 2021  
Accepted Date: 20 August 2021

**Abstract** - At present, a deadly first wave and second wave of Coronavirus attacked people worldwide. In India, different variants of the virus are spreading speedily across the country which causes a higher demand for large numbers of medical equipment and Oxygen gas cylinders for COVID-19 patients. Before this pandemic, such amounts of medical equipment and Oxygen gas have not been demanded in hospitals of India. The main objectives of this paper are: 1) to study the methods that assure reliable and economical delivery of essential commodities, 2) to research on the processes that permit easy access of essentials to all patients and registered suppliers when they are required, 3) to examine the dimensions of the agile supply chain and their utilization during pandemics, and 4) to contemplate the concepts and framework of the agile supply chain for the delivery and distribution of essential commodities during the Covid-19 pandemic.

**Keywords** — Coronavirus, agile supply chains, lean strategy, inventory management, logistics management, essential commodities.

## I. INTRODUCTION

The concept of supply chain management (SCM) was introduced in the 1980s. Several authors and researchers have pointed out the need to integrate key business processes, from end-user to first-time vendors. SCM focuses on planning, forecasting, purchasing, storage, mobility, product integration, and product tracking. SCM is essential for efficiency. It plays a role in cultural evolution and helps to improve the quality of life. It creates jobs, reduces pollution, and improves the quality of life. Agile Manufacturing (AM) is a novel manufacturing concept that is designed to improve the competitiveness of firms [1]. Manufacturing/service processes followed the concepts of AM are prioritized by integrated methods for PDS, actual production, marketing, delivery, and maintenance services [2]. In Agile manufacturing, there is a great focus on customers to ameliorate the competitiveness, accommodate the changes in markets, and also collecting data at every stage of the process. The term agility was coined in 1993 by

Goldman et al. [3, 4]. Agility means “readiness to change”, from the management viewpoint, the definition of agility is that it is a blueprint, which is more amenable in uncertain business scenarios and emergency situations [4]. As buyers purchasing patterns are varying every day, thereby the entire supply chain networks changes. The parameters such as speed, cost, and efficiency are the elemental drivers of supply chain agility [5] as shown in figure 1. Agile supply chain networks are dependent on the perceptivity of buyers’ demand. The term Agile is traced from the Latin term *agilis* which means “nimble or quick,” and from the term *agere* which means “to set or keep in movement”. Therefore, the meaning of agility is to move quickly and easily [6].

The pandemic that occurred due to COVID-19 has outraged the global supply chains of almost all kinds of products including medical support systems, foods, drugs, automotive parts, textiles, etc. as lockdown inflicted in several countries where Coronavirus is spreading quickly. The government of several countries tries to re-establish the supply chain system for at least availing the healthcare support systems, medicines, foods, and other essentials. Still, there is a scarcity of life-saving commodities and their price hikes in several countries [7]. The people are afraid of losing their loved ones and unnecessary storing the essential items in large quantities. Therefore, it is the need of the present situation to create awareness among the common people, share information transparently, and utilize the modern supply chain concepts such as lean and agile supply chain [8]. At present, there are different challenges for researchers and companies to deal with, which are resisting the smooth operation of logistics and supply chain systems. In the present decades, the exploitation of agile manufacturing systems and agile supply chain systems are the key concerns during pandemic situations. To cogitate the furtherance in this field, a critical literature review has been carried out and found the research gaps.



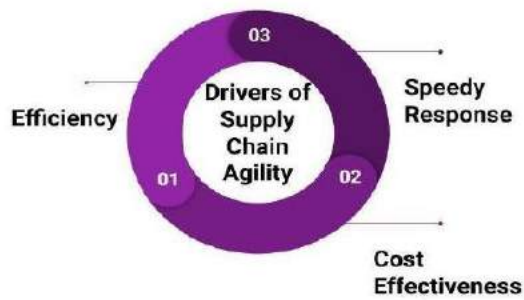


Fig 1: Drivers of supply chain agility.

## II. LITERATURE REVIEW

Large numbers of research works had been published in the field of agile supply chain before the existence of the Covid-19 pandemic. The context of the previous literature was applied for developing new models and methods for further improvement in this field. The purpose of supply chain management has historically been informed by knowledge of narrow functional areas such as logistics, materials handling, distribution, and documentation of deliveries. Nagel & Dovein [1] recommended the use of automation technology to achieve agility in supply chain management. A significant increase in work published in this field has occurred between 2001 and 2011. Supply chain management continues to be largely eclectic with little consensus on its conceptualization and research methodological bases. Moreover, it has been identified works of literature on logistics and transportation capabilities and the various elements and dimensions that contribute to supply chain agility [9]. In today's competitive environment and pandemic situations, businesses are increasingly reliant on the relationships they have with their suppliers or buyers in a timely manner. The purpose of this paper through reviewing cross literature analyzes critical determinants of the agile supply chain and provides a new theoretical framework for underpinning and driving the supply chain agility [10]. Choi [11] identified that the supply chain disruption can be controlled and smoothen by efficient logistics systems. They have also supported the "bring-service- near-your-home" concept to deal with the disruptions due to Coronavirus. Mehrotra et al. [12] procreated demand scenarios based on the multi-period stochastic programming model for distribution of ventilators for COVID-19 patients. Ivanov et al. [13, 14] developed a plan of digital supply chain model to cope with the issues of supply chain disruptions during and post COVID-19. Shahed et al. [15] formulated a mathematical inventory model based on the renewal reward theory to diminish the risk of supply chain discontinuity. They also suggest agile supply chain networks. There is the utilization of optimization techniques to help the manufacturer for decisions making & maximizing

the profit [16]. Sing et al. [17] worked up a simulation model for public distribution of foods and other essentials. They have identified a breach in the food supply chain due to COVID-19 and suggested that their simulation model assist in decision-making and procreate agile supply chain networks.

In this work, a critical review of published articles, books, and magazines has been carried out in the field of agile supply chain management and its applicability during the COVID-19 pandemic. Several authors have developed various empirical, mathematical, and simulation models on the concept of agile supply chain management but none of them has applied those models for efficient delivery and distribution of essential commodities during the COVID-19 pandemic. It is required to examine the influence of supply chain collaboration and flexibility in pandemic circumstances. It is also crucial to investigate the impact of supply chain agility on the smooth delivery of commodities in need of people. However, it has been found that very little research has been performed to apply the concept of agile supply chain management to deliver medicines, equipment, and essential items in a challenging pandemic situation.

## III. METHODOLOGY

### A. Supply Chain Agility

Agility refers to the effective and flexible accommodation of unique customer demands. The major role to impart an agile response is flexibility throughout the supply chain. In modern manufacturing, this could necessitate the capability to manufacture and supply in large or small batches, reducing the pain related to machines and product changeovers, often known as a critical component of lean manufacturing. Agility must also require flexible personnel with members cross-trained or capable to carry out a variety of jobs as directed by the demand condition during the COVID-19 pandemic. Product development and design would also reflect mitigated in the assembly that allows for quick transformation of materials from raw to finished good. Beyond the capabilities of the dedicated industries, the rest of the supply chain must be responsive as well for agile market accommodation. Moreover, the term short is used for feedback-related supply chains where fewer or no middleman is allowed. The delivery and distribution could be located at appropriate places, and information sharing among the companies should be transparent and frequent. The fundamental elements of a supply chain are shown in figure 2. A well-known example of agile industry transformation is exercised by Dell in its direct-to-consumer business model. The computer maker holds inventories of component parts such as hard drives, processors, memory storage media, monitors, speakers, and a host of other supplies at each of the company's three assembly plants in the U.S.

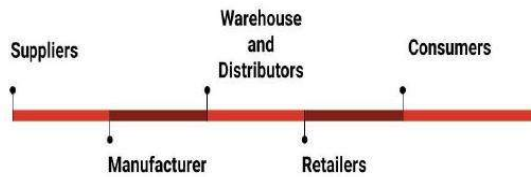


Fig 2: Fundamental elements of a supply chain.

### B. Methodology for agile supply chain

The methodology for obtaining the agile supply chains during the circumstances of COVID-19 pandemic can be discussed under the following four viewpoints:

- Agile Planning
- Manufacturing and supply chain systems
- Utilization of technology
- Manpower planning

#### a) Agile Planning

A novel agile structure system needs to be developed for the COVID-19 pandemic based on the well-established architecture of supply chain systems. The context such as processes, control & monitoring, information, and data sharing, development, delivery, and distribution are primary elements of the architecture of agile manufacturing and supply chain systems. In the present portion, the strategically consummated structure of agility is explained. High-level integration of suppliers, manufacturers, distributors, retailers, and delivery personnel for each and every product is significant for supply chain management in pandemic conditions.

#### b) Manufacturing and Supply Chain Systems

The first pace of methodology of agility is to combine a designed route sheet, schedule, control, monitoring, and feedback system. Real-time monitoring of essential commodities from their production to end use is an important criterion for expedient development and implementation of an agile supply chain. Since the essential items are well-established products, there is no need to waste time in design and process planning. The production should be continued by using automatic machinery in less time and at minimum cost based on the demands during an emergency. The shop floor manager furnishes the items' requirements to the automatic machines. The manufacturer has knowledge about the functionality, process plans, capabilities, schedules, and tooling. Collaborating with suppliers or traders is a matter of concern and a traditional task in the agile supply chain rather than timely dispatching and delivery are complicated in dynamic market conditions. The parameters such as timely dispatching and delivery,

location, quality of and quantity of essentials responsiveness, and costs, and online platforms should be considered primary during collaboration with partner companies during pandemics. The conventional way of collaboration will not work in emergency conditions like COVID-19.

#### c) Utilization of Technology

It is a crucial circumstance, when everyone should learn from Indian e-commerce giants such as Amazon, Flipkart, shopclues, Paytm mall, Zomato, swiggy, Jiomart, Domino's and many more how they are utilizing the modern technologies such as internet, robots, automation in materials handling, drones, artificial intelligence, and machine learning, IoT, etc. How do they manage their physical resources and manpower to achieve agility and high-level flexibility? In this pandemic, Government and private sectors should utilize these advanced techniques and managerial concepts effectively and expeditely. Agility in the supply chain can also be augmented by the use of these appropriately integrated technologies.

#### d) Manpower planning

Manpower is the crucial factor for acquiring agility in the supply chain and logistics for loading, unloading, and distribution of products. Several authors have found that it is hard to organize and directs people towards flexibility in supply chain and logistics. Manpower planning significantly influences the decisiveness and ideas of obtaining agile supply chain systems. Many authors suggested that there should be openness and transparency to sharing information from top management to bottom and vice-versa in a speedy growing agile environment. In COVID-19 circumstances, novel challenges have occurred for HR managers as the deadly coronavirus spreads from person to person who is working together without maintaining social distancing. So many personnel are in fear of getting affected by COVID-19; therefore, they refuse to work in a flexible environment. It is very difficult to encourage people to join their duties on time and work efficiently. This scenario originates & new research challenges for industries and academia.

## IV. DISCUSSION AND DISSEMINATION

### A. Agile Supply Chain

Basically, the agile supply chain is referred to the concept of responsiveness, competency, flexibility, and quickness to manage a supply chain entity that operates on a daily basis. The benefit of Agility in the supply chain is to focus on avoiding quick shortages and eliminating excessive stocked inventory. 1. The concept of the agile supply chain is first built by Dr. Fisher's which works with efficient and responsive supply chain strategies. 2. That involves Conditions of demand uncertainty and implicitly of stable characteristics. 3. After Dr. Fisher's concept of an agile supply chain is described that supply uncertainty also needs



to be considered for varying conditions of the supply chain. 4. Focusing on the Agile supply chain there should be high demand uncertainty and supply uncertainty which means high responsiveness and risk-hedging.

**B. Agile Supply Chain Strategy involves**

1. Relationships
2. Sensitivity
3. Processes
4. Information
5. Flexibility

In a complex covid-19 situation, the supply chain management plays a crucial role and due to this pandemic, there are lots of failures of this process: 1) missing documentation, 2) late for damage shipment, 3) quality issues, and 4) ingredient shortages. Due to these kinds of failures, new challenges occur in front of industries which is something extraordinary and unexpected that's why we should have the ability to identify, track and manage issues anywhere in the supply chain. To improve the way of supply chain management Agile supply chain is used which basically focuses on being responsive and flexible towards customer changing needs while in disruption risks. The goal of agile supply chain management is to quickly respond to changing supply and demand conditions. The essential components of agile supply chain are shown in figure 3.



**Fig 3: Essential components of agile supply chain.**

**C. Five dimensions of the agile supply chain**

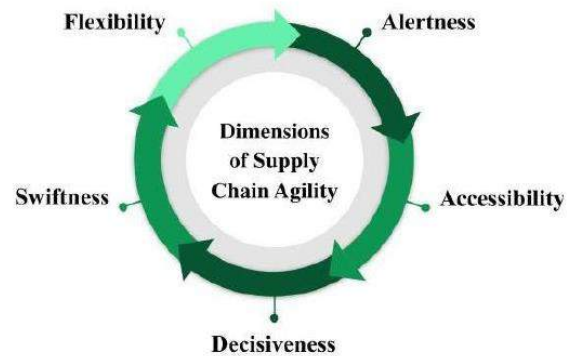
The five dimensions of the agile supply chain suggested by Gligor et al.[9, 10] his article are alertness, accessibility, decisiveness, swiftness, and flexibility. These dimensions are sequential and mandatory criteria to obtain an agile supply chain in any industry & Government organization. The intended zone of agility will be consummated by effectuating these five capabilities in their organizations for supply chain management in normal conditions as well as COVID-19 pandemics. These five dimensions of the agile supply chain are illustrated in figure 4.

**a) Alertness**

When we start discussing the dimensions of agility in the supply chain, alertness comes first. The alertness is the characteristic of being attentive in all conditions similar to what happens in sports and the military. The sportsperson and army men are always alert when they are on duty in the battleground. In the case of the COVID-19 pandemic, the Government entities and private sectors which are involved in supply chains of essential commodities should be alert when coronavirus is surging rapidly and different waves are about to attack the people of the various country. The Government authorities also need to be alert for stopping the perfidious black marketing of life-saving drugs and equipment, foods, and other important things.

**b) Accessibility**

Accessibility is the quality of using the information right away to study the data concerned with an event. In another word, it is the approachability towards facts based on the relevant data. In a pandemic situation, it is imperative to present the related data about the number of active COVID patients, medications, foods, and health care equipment required for them, the time required to deliver these items to respective places, so that the government executives can coordinate and makes plans for delivery of commodities at right places and distribute it at right time.



**Fig 4: The five dimensions of the agile supply chain.**

**c) Decisiveness**

Decisiveness is the third dimension of supply agility which is one of the crucial dimensions. It is the potential to decide to execute the plans firmly based on the accessed data and facilities available. Decisiveness plays a crucial role in emergency circumstances like the COVID-19 pandemic as it is the question of life and death. The decision-making time should be as minimum as possible to attain agility in the supply chain during pandemics. In several countries, it was a challenging question of who will and how will make decisions regarding lockdowns and supply of commodities to the people who are in need.

**d) Swiftness**

Swiftness deals with the proper action decided during the decisiveness phase and the implementation required coping up with changes. The swiftness is the criterion on which the agility relied. For example, as soon as the decision is made to increase the production of medicines and smooth its delivery, all the stakeholders should work hard to achieve the production rate decided. They should be capable of speedily pursuing the new transitions such as new machines, raw materials, required to accommodate the changes that occurred due to pandemics thereby agility can be obtained in supply chains. It is a prerequisite to expediting all the activities necessary for increasing the production as well as delivery of life-saving drugs, equipment, and significant groceries.

**e) Flexibility**

To completely actualize the agility in supply chain flexibility is the important dimension. Flexibility is the changeability in materials and machines within a specified limit. It is a versatility of manpower to accomplish different tasks for the fulfillment of organizational objectives. As far as the COVID-19 pandemic is concerned, flexibility in manufacturing and supply chain is a means of framing the agility. The pharmaceutical company manufacturing traditional drugs should be flexible to manufacture drugs for the treatment of COVID-19 patients. Textile factories should be flexible with present circumstances to produce masks and personal protective gowns for people. The steel plants, which are traditionally producing Oxygen gas for metallurgical work, should be flexible and they have delivered medical Oxygen gas to hospitals for COVID-19 patients. With the proper attention and utilization of these five dimensions of supply chain agility, Government entities and private sectors all over the world can mitigate the influence of COVID-19 as minimal as possible, and thereby we can win the war against the uninvited evil.

**V. CONCLUSIONS**

In the COVID-19 pandemic and lockdown circumstances, the success of delivery and public distribution of essential goods depends on efficacious management and advancement of the supply chain system by utilizing supply chain concepts. To end the dependency on imports from other countries, Indian Government entities and private companies had to develop a framework based on the lean and agile manufacturing concepts. Several authors and researchers are suggesting that India has to establish its supply networks and delivery systems by implementing the lean and agile supply chain concepts thereby it will be capable to deal with pandemics like COVID-19 in the future.

It is believed that the suggestions given in this article will assist the organizations to re-establish their supply chain strategies and re-direct their workforce to deal with the pandemic environment and survive in the long run.

**REFERENCES**

- [1] Nagel RN, Dove R. 21st century manufacturing enterprise strategy: An industry-led view. Diane Publishing, 1991.
- [2] Goldsby TJ, Griffis SE, Roath AS. Modeling lean, agile, and leagile supply chain strategies. *Journal of business logistics*. 2006 Mar;27(1):57-80.
- [3] Goldman SL, Nagel RN. Management, technology and agility: the emergence of a new era in manufacturing. *International Journal of Technology Management*. 8(1-2) (1993) 18-38.
- [4] Gunasekaran A. Agile manufacturing: a framework for research and development. *International journal of production economics*. 1999 May 20;62(1-2):87-105.
- [5] Womack JP, Jones DT, and Roos D, *The Machine That Changed the World*, Rawson Associates, New York, NY, 1990.
- [6] <https://vitalitychicago.com/blog/what-is-agile-and-why-is-it-important/>
- [7] Veselovská L. Supply chain disruptions in the context of early stages of the global COVID-19 outbreak. *Problems and Perspectives in Management*, 18(2) (2020) 490-500.
- [8] Butt AS. Strategies to mitigate the impact of COVID-19 on supply chain disruptions: a multiple case analysis of buyers and distributors. *The International Journal of Logistics Management*. (2021).
- [9] Gligor DM. The role of supply chain agility in achieving supply chain fit. *Decision Sciences*. 2016 Jun;47(3):524-53.
- [10] Gligor D, Gligor N, Holcomb M, Bozkurt S. Distinguishing between the concepts of supply chain agility and resilience: A multidisciplinary literature review. *The International Journal of Logistics Management*. (2019) 1-22.
- [11] Choi TM. Innovative "bring-service-near-your-home" operations under corona-virus (COVID-19/SARS-CoV-2) outbreak: can logistics become the messiah?. *Transportation Research Part E: Logistics and Transportation Review*. 140 (2020) 101961.
- [12] Mehrotra S, Rahimian H, Barah M, Luo F, Schantz K. A model of supply-chain decisions for resource sharing with an application to ventilator allocation to combat COVID-19. *Naval Research Logistics (NRL)*. 67(5) (2020) 303-20.
- [13] Ivanov D, Dolgui A. Viability of intertwined supply networks: extending the supply chain resilience angles towards survivability. A position paper motivated by COVID-19 outbreak. *International Journal of Production Research*. 58(10) (2020) 2904-15.
- [14] Ivanov D. Viable supply chain model: integrating agility, resilience and sustainability perspectives—lessons from and thinking beyond the COVID-19 pandemic. *Annals of Operations Research*. 22 (2020) 1-21.
- [15] Shahed KS, Azeem A, Ali SM, Moktadir MA. A supply chain disruption risk mitigation model to manage COVID-19 pandemic risk. *Environmental Science and Pollution Research*. 5(2021) 1-6.
- [16] Tonday HR, Tigga AM. An empirical evaluation and optimization of performance parameters of wire electrical discharge machining in the cutting of Inconel 718. *Measurement*. 140(2019) 185-96.
- [17] Singh S, Kumar R, Panchal R, Trivari MK. Impact of COVID-19 on logistics systems and disruptions in food supply chain. *International Journal of Production Research*. 59(7) (2021) 1993-2008.
- [18] Gligor DM, Holcomb M. The road to supply chain agility: an RBV perspective on the role of logistics capabilities. *The International Journal of Logistics Management*. (2014)

#### 4. Conducted Technical Training Session



Shreeyash College of Engineering & Technology



Department of Electronics and Telecommunication Engineering

**Name of the event:** Webinar

**Date of the event:** 6<sup>th</sup> May 2021

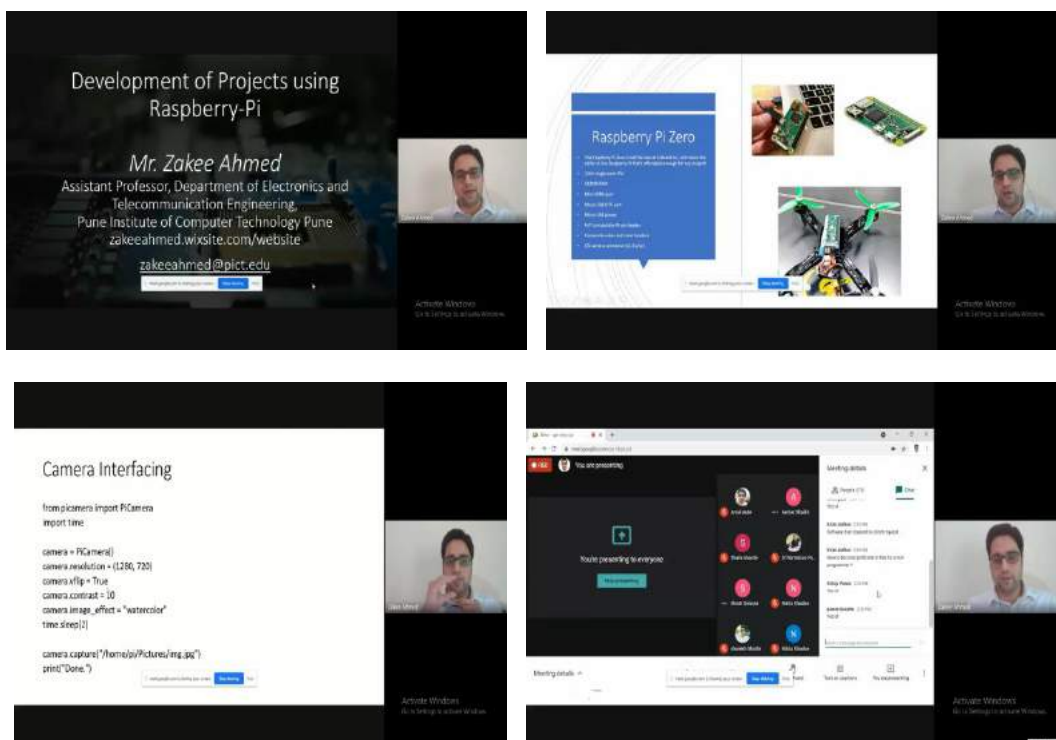
**Class:** SE, TE & B.E.

**Expert / Guest of the event:** Dr. Zakee Ahmed (Assistant Professor, ETC Dept. PICT Pune )

**Summary of the event:** This is Expert talk on “**Development of Projects using Raspberry-Pi**”. Prof. Zakee Ahmed has focused on how to prepare a project and implement own idea using Raspberry-Pi board. He also explain all the key features and the main parts of Raspberry-Pi board. He has guided the students thoroughly about the importance of project work implementation with examples. Also He has cleared the queries raised by the students.

**Outcome:** Students come to know about the importance of project development through Raspberry-Pi board. Also they come to know about the basics theory behind it.

#### Photographs of the event:





# Need of Computerized Early Fire Detection System

Renuka Hingolikar<sup>1</sup>, S.S.Gadekar<sup>2</sup>, S.P.Kharde<sup>3</sup>

<sup>1</sup>PG Student, <sup>2</sup>Asst.Prof., <sup>3</sup>HOD, Dept. of ETC, Shreeyash College of Engineering and Technology, Aurangabad (MH), India

**Abstract:** Every year, fire is a common calamity that claims thousands of lives and causes incalculable material damage. As a result, early fire detection has become increasingly vital in order to defend against this hazard. In 2015, 17,700 people died in fires, a number that has steadily decreased each year, with just 10,915 people dying in fires in 2019. In the recent year, different computerized systems are developed, which is very useful to control the deaths due to the fire accidents. This paper provides the important of computerized fire detection system and also gives the theoretical survey on the systems which are developed in the recent year.

**Keyword:** Fire Detection System, Hazard, Computerized.

## I. INTRODUCTION

In the industrial and process industries, vision-based fire detection and automated suppression (VFDAS) systems are one of the most significant mechanisms. It is especially important in businesses that rely on oil, gas, and petrochemicals as fuels. To avert fire accidents and loss of life and property, a quick automated detection system must be available. VFD (vision-based fire detection) system has a number of advantages over traditional fire detection technologies, including quick response, non-contact detection, and no installation restrictions. Sensors are currently used in the majority of fire detection systems to detect smoke, temperature changes, and other events [2]. It is vital to build a monitoring system that can detect early flames in order to prevent fires and slow their spread. The rapid development of urban monitoring systems provides the framework for camera-based fire detection, and establishing a camera-based automatic fire monitoring

algorithm may achieve 24/7 automatic fire monitoring without interruption, which considerably decreases personnel expenses.

## II. NEED

In 2019, there were 11,037 fire accidents registered across the country, according to the ADSI-2019 data. In comparison to 2018, the number of such recorded fire accidents decreased by roughly 16 percent. The reduction was more pronounced than the year before, when it was roughly 2%. In addition, the number of people injured in fires has decreased by more than half, from 1193 in 2015 to 441 in 2019. During this time period, however, the least number of people were harmed as a result of fires. According to the statistics presented in ADSI reports, the overall number of fire accidents has decreased over the last five years in all locations of occurrence. Figure 1 shows the Fire Accidents in India (2015-2019).

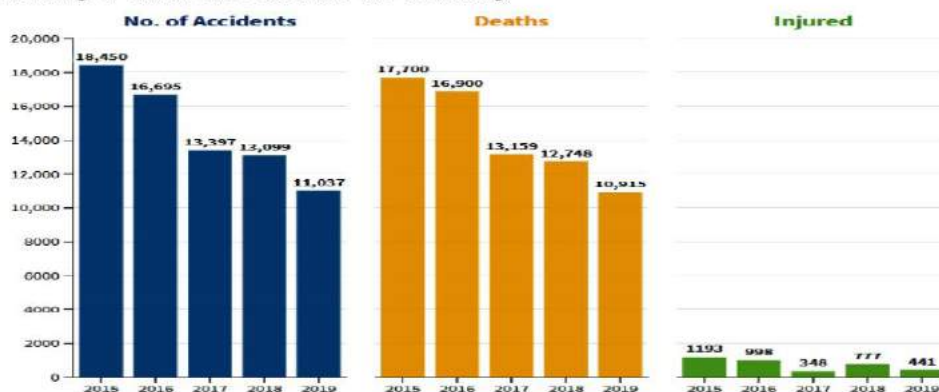


Figure 1 Fire Accidents in India (2015-2019)

### III. LITERATURE SURVEY

Several approaches for detecting fire in videos or photos captured by typical video security cameras have been proposed in recent decades. All forms of fire detection use some form of color evaluation. Color information can be recovered using chromatic segmentation techniques that use numerous color spaces. Manjunatha K.C. et al. [2] describe computer vision-based automated fire detection and suppression system for manufacturing businesses and it plays a critical part in the Onsite Emergency System (OES), which can help the industry avoid accidents and losses. The exact placement of fire pixels in the image frame is determined using a Neuro-Fuzzy algorithm. Based on the region of the fire and the intensity values of the fire pixels, fuzzy logic is proposed once more to determine the valve to be controlled.

Faming Gong et al. [3] have developed a novel detection method based on flame multifeature fusion. As a fire preprocessing stage, we merged the motion detection and color detection of the flame. In screening the fire candidate pixels, this strategy saves a significant amount of computing time. Second, despite its irregularity, the flame has a considerable resemblance to the image's sequence. In order to acquire the spatiotemporal information of the flame centroid, we calculated the centroid of the flame region in each frame of the image and included the temporal information. Then, to improve recognition accuracy, we retrieved information such as spatial variability, shape variability, and area variability of the flame. Finally, we trained using a Support Vector Machine (SVM), finished analyzing candidate fire photos, and accomplished automatic fire monitoring. According to the results of the experiments, the proposed method's right rate is close to 95.29 %, demonstrating that it is more accurate and stable.

A video-based early fire detection system is presented by Pedro Santana et al. [4]. The obstacles associated with the actual deployment of the vision system are highlighted. Most importantly, background subtraction is done in a windowed manner for better accuracy, an attentive mechanism is used to focus a computationally expensive frequency analysis of potential fire regions, and interaction with people detection and tracking system is included to allow model-based false alarm rejection. The camera-world

mapping is approximated using a GPS-based learning calibration technique, and new color-based models of fire's look as well as a new Wavelet-based model of fire's frequency signature are presented. The model's applicability to real-life applications is demonstrated by a 92.7 percent average success rate at a processing rate of 10 Hz.

Mohammad Sultan Mahmud et al. [5] describe a smart fire detection system that can alert the appropriate authorities even before the fire breaks out. A signal processing unit, an image processing unit, and a GSM module unit have been combined in a model. To gain more accurate detection, a machine learning approach is adopted and compared to the result. A multi-level approach for fire detection that examines chromatic information patterns, shape randomization, and fire optical flow estimation proposed by Arnisha Khondaker et al. [6]. To extract the regions of interest, the decision function of fire pixels based on chromatic information first employs majority voting among state-of-the-art fire color detection algorithms. Finally, an upgraded optical flow analysis technique evaluates turbulence to establish the existence of fire. We use videos from the Miviva and Zenodo datasets to assess the proposed model's performance. These datasets offer a varied collection of scenarios, including indoor, outdoor, and forest fires, as well as videos with no fire. For our test dataset, the proposed model has an average accuracy of 97.2 percent.

K.K. Wong et al. [7] use video flame detection analyses to offer segmentation and recognition methods. The Otsu multi-threshold approach can provide clear flame only images when used with Rayleigh distribution analysis. To detect specific image types, the Nearest Neighbour (NN) method can be utilized. In the segmentation of flame photos, Otsu's method's multi-threshold algorithm and the Rayleigh distribution analysis method (modified segmentation algorithm) can be employed. The updated segmentation technique, on the other hand, can be improved to extract pool fire photos using the best threshold values. Following this segmentation, the Nearest Neighbor (NN) method can be utilized to recognize pool fire photos using the centroid analysis technique. The table 1 gives the literature survey on Methods, Algorithm or Techniques used for fire detection system in the recent year.

Table 1 Methods, Algorithm or Techniques used for fire detection system.

Sr. No.	Reference	Method/Algorithm/Technique Used	Accuracy
1	Manjunatha K.C. et al. [2]	Neuro-Fuzzy algorithm	99 %
2	Faming Gong et al. [3]	Support Vector Machine (SVM)	95.29 %
3	Pedro Santana et al. [4]	Wavelet-Based Model	92.7 %
4	Arnisha Khondaker et al. [6].	Enhanced LKT Optical Flow Analysis Algorithm	97.2 %
5	Jareerat Seebamrungsat et al. [8]	HSV and YCbCr Color Models	90 %
6	Pedro Gomes et al. [9]	Wavelet-Based Model	93.1 %
7	Kumarguru Poobalan and Siau-Chun Liew [10]	Segmentation Technique	80.64 %

8	Turgay Çelik et al. [11]	Fuzzy Logic	99.00 %
9	Raam Pujangga Sadewa et al. [12]	Convolutional Neural Networks (CNN)	92 %
10	Sally Almanasra and li Alshahrani [13]	Alternative Image-Based Algorithm	95.10 %
12	B. Triveni et al. [14]	RGB color model Algorithm	80.64 %
13	S. Sree Southry et al. [15]	Supervised Multi-Model Image Classification Algorithm (SMICA)	98.38 %
14	John Adedapo Ojo and Jamiu Alabi Oladosu [16]	Support Vector Classifier	99.30 %
15	Bo-Ho Cho et al. [17]	statistical color model	85 %

#### IV. CONCLUSION

One of the changeable risks that cause property destruction is fire. Many academics are working on early warning systems that help to reduce the effects of fire damage. Many existing image-based fire detection systems, on the other hand, can perform effectively in a certain field. Different computerized technologies have been created in the last year that are highly useful in reducing the number of deaths caused by fire accidents. This study discusses the significance of computerized fire detection systems and provides a theoretical overview of systems that have been created in the last year.

#### REFERENCES

- [1] <https://factly.in/number-of-fire-accidents-in-the-country-reduced-over-time/>
- [2] Manjunatha K.C., Dr. Mohana H.S, Dr. P.A Vijaya, "Implementation of Computer Vision Based Industrial Fire Safety Automation by Using Neuro-Fuzzy Algorithms", I.J. Information Technology and Computer Science, Vol. 04, 2015, pp. 14-27.
- [3] Faming Gong, Chuantao Li, Wenjuan Gong, Xin Li, Xiangbing Yuan, Yuhui Ma, and Tao Song, "A Real-Time Fire Detection Method from Video with Multifeature Fusion", Hindawi, Computational Intelligence and Neuroscience, Volume 2019.
- [4] Pedro Santana, Pedro Gomes, and Jos'e Barata, "A vision-based system for early fire detection", ResearchGate, 2014.
- [5] Mohammad Sultan Mahmud, Md. Shohidul Islam and Md. Ashiqur Rahman, "Smart Fire Detection System with Early Notifications Using Machine Learning", International Journal of Computational Intelligence and Applications, Vol. 16, No. 2, 2017.
- [6] Arnisha Khondaker, Arman Khandaker, and Jia Uddin, "Computer Vision based Early Fire Detection Using Enhanced Chromatic Segmentation and Optical Flow Analysis Technique", The International Arab Journal of Information Technology, Vol. 17, No. 6, November 2020, pp. 947-953.
- [7] Arthur K. K. Wong and N. K. Fong, "Experimental study of video fire detection and its applications", Elsevier, 2014.
- [8] Jareerat Seebamrungsat, Suphachai Praising, and Panomkhawn Riyamongkol, "Fire Detection in the Buildings Using Image Processing", Third ICT International Student Project Conference (ICT-ISPC2014), IEEE, 2014.
- [9] Pedro Gomes, Pedro Santana and José Barata, "A Vision-based Approach to Fire Detection", International Journal Advanced Robot System, Vol. 11, 2014.
- [10] Kumarguru Poobalan and Siau-Chuin Liew, "Fire Detection Algorithm Using Image Processing Techniques", Proceeding of the 3rd International Conference on Artificial Intelligence and Computer Science (AICS2015), Penang, Malaysia, 2015, pp.160-168.
- [11] Turgay Çelik, Hüseyin Özkaramanli, and Hasan Demirel, "FIRE AND SMOKE DETECTION WITHOUT SENSORS: IMAGE PROCESSING BASED APPROACH", 15th European Signal Processing Conference (EUSIPCO 2007), Poznan, Poland, 2007, pp.1794-1798.
- [12] Raam Pujangga Sadewa, Budhi Irawan, Casi Setianingsih, "Fire Detection Using Image Processing Techniques with Convolutional Neural Networks", International Seminar on Research of Information Technology and Intelligent Systems (ISRITI), IEEE, 2019.
- [13] Sally Almanasra and li Alshahrani, "Alternative Real-time Image-based Smoke Detection Algorithm", Advances in Science, Technology and Engineering Systems Journal Vol. 5, No. 3, 2020, pp. 123-128.
- [14] B. Triveni, K. Siva Mounika and B. Jeen Rahelu, "Fire Detection Using Digital Image Processing", Iconic Research And Engineering Journals, Volume 3, Issue 11, 2020.
- [15] S. Sree Southry, S. Vinayagapriya, A. Ayub Khan and P. Srinivasan, "A Highly Accurate And Fast Identification Of Forest Fire Based On Supervised Multi Model Image Classification Algorithm (SMICA)", Journal of Critical Reviews, Vol. 7, Issue 6, 2020.
- [16] John Adedapo Ojo and Jamiu Alabi Oladosu, "Effective Smoke Detection Using Spatial-Temporal Energy and Weber Local Descriptors in Three Orthogonal Planes (WLD-TOP)", Journal of Computer Science and Technology, , vol. 18, no. 1, 2018.
- [17] Bo-Ho Cho, Jong-Wook Bae, and Sung-Hwan Jung, "Image Processing-based Fire Detection System using Statistic Color Model", International Conference on Advanced Language Processing and Web Information Technology, IEEE, 2008, pp. 245-250.

## Institute signed MOU's with various industries in academic year 2020-21

### 1. Vedant Energy Solutions Llp

# MEMORANDUM OF UNDERSTANDING

Between

**Shreeyash Pratishthan's  
Shreeyash College of Engineering and Technology, Aurangabad (M.S.)**

Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road, Near SRPF Camp, Aurangabad (M.S.) – 431 010.  
T/M: +91 240 6608702 | E: principal@sycet.org | W: www.sycet.org

And

**Vedant Energy Solutions Llp**

1-2, Udyogpushpa Apartments, Plot No. 230, Ulkanagari, Aurangabad-431005 (M.S)

T/M: +91 7774 037 481 | E: sales@vedantenergysolutions.com | W: www.vedantenergysolutions.com

This Memorandum of Understanding (M.O.U.) is entered into this 31 day of July 2021 by and between **Shreeyash Pratishthan's, Shreeyash College of Engineering and Technology, Aurangabad (M.S.)**; an Engineering & Management institute established in 2008, represented by Dr. R. S. Pawar – Principal; having its campus at Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road, Near SRPF Camp, Aurangabad (M.S.) – 431 010 (hereinafter referred to as “the institute”).

And

**Vedant Energy Solutions**, LLP Provides Training & Consultancy for Implementation of Various Management Systems based on ISO & API Standards, ISM, Product Certification Requirement (DQA, CE Mark, DCL, UL, ATEX).

#### Recitals

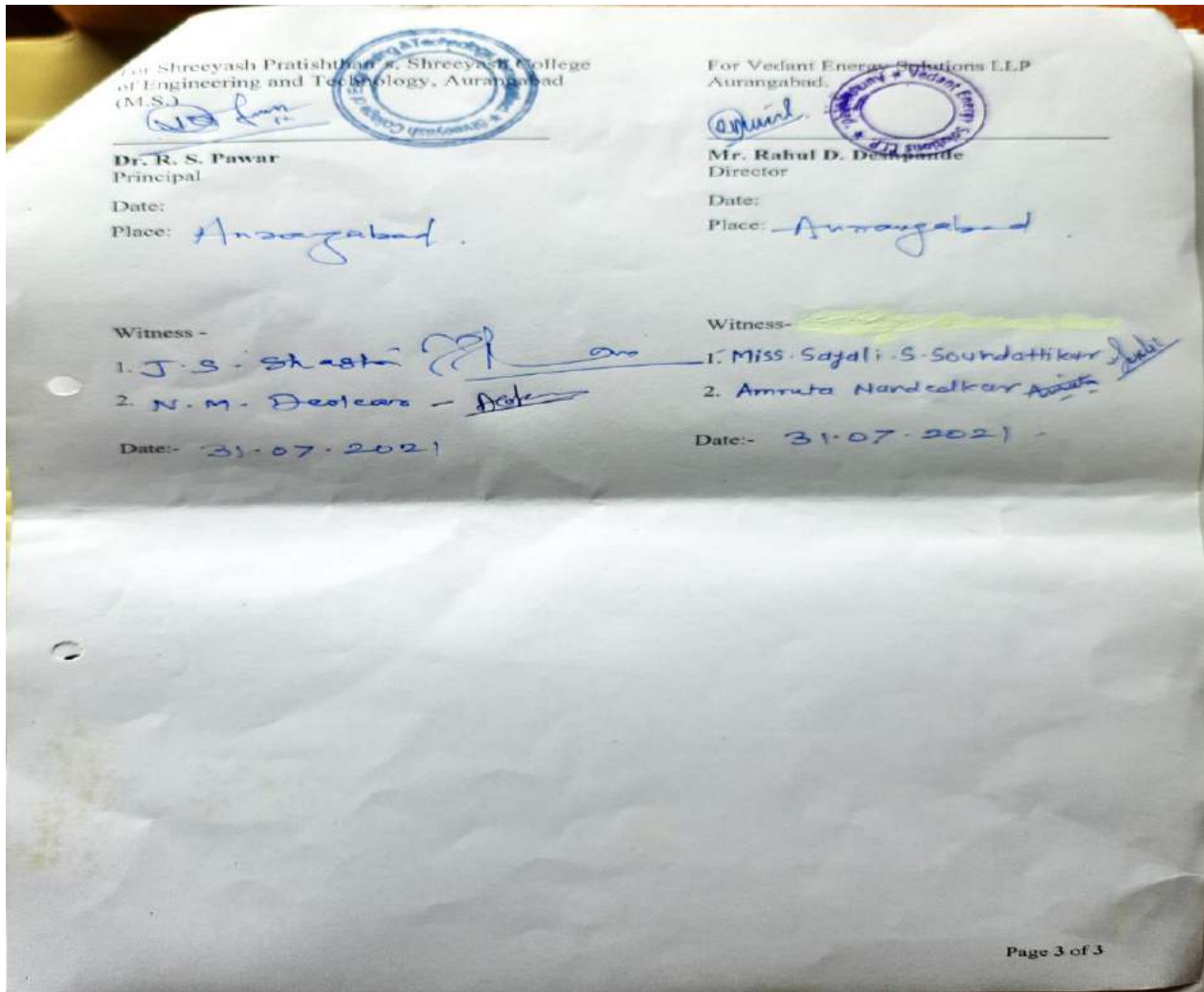
- A. Shreeyash Pratishthan's, Shreeyash College of Engineering and Technology, Aurangabad (M.S.) is an Engineering & Management institute established in 2008, providing education in the area of Engineering, Technology and Management.
- B. Vedant Energy solutions provide 100% reliable solutions in harmonics and power quality applications. This llp also deals with issues related to thermal engineering & utility services.
- C. The purpose of this M.O.U. is with reference to exploring the areas of cooperation, benefiting both **the institute and the industry** (hereinafter collectively referred to as “the parties”).

### Areas of cooperation

1. To impart training to the students and faculty members of the institute by the industry and to the employees of the industry by the institute.
2. To facilitate regular interaction between the faculty members & students of the institute and the workforce of the industry.
3. The parties shall explore the possibilities of mutual support in their learning, hiring and research requirement based on mutual convenience.
4. The industry may avail library, laboratories, computational facilities, etc at the institute.
5. **Confidentiality:** Each party shall maintain complete confidentiality of any information of the other, disclosed during the term of this M.O.U.
6. In no event shall either party be liable for any indirect, incidental, special, consequential damages, including, but not limited to, loss of profit, revenue, data or use, incurred by the other party in connection with, arising out of or under this M.O.U. save for any such loss suffered resulting from any wilful and grossly negligent act or omission of either of the parties.
7. Neither this M.O.U., nor any activities described herein, shall be construed as creating a partnership, joint venture or other such relationship. Both parties agree that this M.O.U. represents a nonexclusive relationship between the parties and nothing contained herein shall preclude either party from participating/initiating similar relationship with third parties.
8. This M.O.U. may not be amended without the prior written consent of both the parties.
9. **Termination:** Either party can cancel or terminate this Agreement unilaterally (and without reason), by giving an advance written notice of one month to the other.
10. **Indemnity:** Each of the parties shall defend, indemnify and hold the other party harmless from and against any claim, liability, loss, costs or expenses (including reasonable Attorney's fees) arising out of or resulting from the material breach of the provisions herein.

IN WITNESS WHEREOF the parties have set their hands hereto on the day and year first hereinabove written under their respective seal of office.





### Student Internship Certificate at Vedant Energy Solutions



**MEMORANDUM OF  
UNDERSTANDING(MOU)**

**BETWEEN**

**SHREEYASH COLLEGE OF ENGINEERING &  
TECHNOLOGY  
(SYCET), Aurangabad**

**&**

**Ccentric Learning Edge Pvt. Ltd., NOIDA**

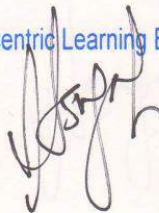
**On Behalf of**

**ITI Ltd, headquartered at Dooravaninagar,  
Bangalore-560016, Karnataka, India**

For Ccentric Learning Edge Pvt. Ltd.

Director

  
Shreeyash College of Engineering  
& Technology Aurangabad



## MEMORANDUM OF UNDERSTANDING

This **Memorandum of Understanding** (hereinafter called as the 'MOU') is entered into on this the 11-06-2021

**BETWEEN**

**Shreyash College of Engineering & Technology, Aurangabad (SYCET), located at Gut no, 258, Prem Nagar - Satara Parisar, near SRPF Camp, Aurangabad 431010** represented herein by its **Name of Competent Authority / Representative Prof. Dr. R. S. Pawar, Principal** (hereinafter referred as "SYCET" the institution which expression, unless excluded by or repugnant to the subject or context shall include its successors - in-office, administrators and assigns).


**AND**

**Ccentric Learning Edge Pvt. Ltd, having its registered office at C- 612, G C Centrum, Indirapuram, Ghaziabad - 201014 and Corporate office at D-9 Sector 3 Noida, 201301, Uttar Pradesh, India** and represented herein by its Zonal / Divisional Head, **Name of Competent Authority / Representative, Mr. Sachin Sangal, Founder, CEO & MD,** (hereinafter referred to as "CLE", company which expression, unless excluded by or repugnant to the subject or context shall include its successors - in-office, administrators and assigns).

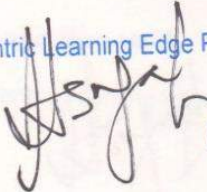
(First Party and Second Party are hereinafter jointly referred to as 'Parties' and individually as 'Party')

**WHEREAS:**

A) First Party is a Higher Educational Institution named:

  
Principal  
Shreyash College of Engineering  
& Technology Aurangabad

For Ccentric Learning Edge Pvt. Ltd.

  
Director


**SHREEYASH COLLEGE OF ENGINEERING & TECHNOLOGY, AURANGABAD (SYCET)**

- B) **CLE**, the Second Party is engaged in Business, Manufacturing, Skill Development, Education and R&D Services in the fields of Pharmacy and Engineering.
- C) **Ccentric Learning Edge Pvt. Ltd** is promoted by **Mr. Sachin Sangal, Founder, CEO & MD.**
- D) **CLE** has entered into an agreement with **ITI Ltd**, a PSU, established in 1948 and headquartered at **Dooravaninagar, Bangalore-560016, Karnataka, India**, to utilize the infrastructure at their **Rae Bareli Unit** to train the students who have completed/or Final Semester of their Engineering Degree in Mechanical, Electrical and Electrical and Electronics Stream.
- E) That **CLE** is human resource sourcing and training partner for **Electric Vehicle(EV) variants/Operations for JBM, Volvo, Escorts, Bosch, Minda Corporation, BASF Catalysts, and others working towards Electric Vehicle EV segment of Automobile sector.**
- F) First Party & Second Party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources, and provide each of them with enhanced opportunities.
- G) The Parties intent to cooperate and focus their efforts on cooperation within area of Skill Based Training, Education, Outsourcing and Research.
- H) Both Parties, being legal entities in themselves desire to sign this MOU for advancing their mutual interest.
- I) Give related information, its branches, and dimensional information about the industry concerned with whom the MOU is sworn.

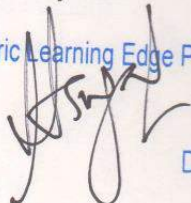
**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERETO AGREE AS FOLLOWS:**

**CLAUSE 1: CO-OPERATION**

- 1.1 Both Parties are united by common interests and objectives, and they shall

  
Principal  
Shreeyash College of Engineering  
& Technology Aurangabad

For Ccentric Learning Edge Pvt. Ltd.


  
Director

establish channels of communication and co-operation that will promote and advance their respective operations within the **SHREEYASH COLLEGE OF ENGINEERING & TECHNOLOGY (SYCET)** and its related wings. The Parties shall keep each other informed of potential opportunities and shall share all information that may be relevant to secure additional opportunities for one another.

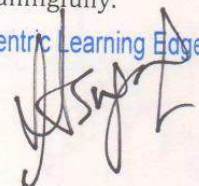
- 1.2 **SYCET** and **CLE** will facilitate effective utilization of the intellectual capabilities of the faculty of First Party providing significant inputs to them in developing suitable teaching / training systems, keeping in mind the needs of the industry, the Second Party.
- 1.3 The general terms of co-operation shall be governed by this MOU. The Parties shall cooperate with each other and shall, as promptly as is reasonably practical, enter into all relevant agreements, deeds and documents (the 'Definitive Documents') as may be required to give effect to the actions contemplated in terms of this MOU. The term of Definitive Documents shall be mutually decided between the Parties. Along with the Definitive Documents, this MOU shall represent the entire understanding as to the subject matter hereof and shall supersede any prior understanding between the Parties on the subject matter hereof.

#### **CLAUSE 2: SCOPE OF THE MOU**

- 2.1 The budding graduates from the institutions could play a key role in technological up-gradation, innovation and competitiveness of an industry. Both parties believe that close co-operation between the two would be of major benefit to the student community to enhance their skills and knowledge.
- 2.2 **Curriculum Design:** Second Party will give valuable inputs to the First Party in teaching / training methodology and suitably customize the curriculum so that the students fit into the industrial scenario meaningfully.

  
Principal  
Shreeyash College of Engineering  
& Technology Aurangabad

For Ccentric Learning Edge Pvt. Ltd.

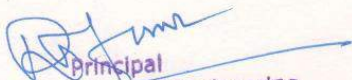
  
Director

2.3 **Industrial Training & Visits:** Industry and Institution interaction will give an insight into the latest developments / requirements of the industries; the Second Party to permit the Faculty and Students of the First Party to visit its group companies and also involve in Industrial Training Programs for the First Party. The industrial training and exposure provided to students and faculty through this association will build confidence and prepare the students to have a smooth transition from academic to working career. The Second Party will provide its Labs / Workshops / Industrial Sites for the hands-on training of the learners enrolled with the First Party.

2.4 **Internships and Industry Exposure for Students:**

The training programme developed by CLE will also take care the following statutory requirements by AICTE for a student to complete the engineering degree

- Internship: As the students will be working at the shop floor of **ITI Ltd** and **CLE** is an empanelled agency with **AICTE**, the students will get internship certificate to suffice the requirements
- Projects : As the students are enrolled in hands on training on latest technology, they can choose different projects which they can design, develop and complete under the guidance of **ITI staffs alongwith CLE Trainers**, during the course of their stay at ITI campus and can submit the same
- **CLE** will provide Internship for the students studying in **SYCET** and appeared in Semester VI examination. As per AICTE curriculum the internship program is designed for 150 hours. The program will be conducted at **ITI Ltd.'s Rae Bareli** facility. The cost for the programme is fixed at Rs. 30,000/- (Thirty Thousands) + GST negotiable only including the cost of stay and Food. **SYCET** will assist for maximum participation of the students for the current batch of **2018-2022** after their scheduled

  
Principal  
Shreyesh College of Engineering  
& Technology Aurangabad

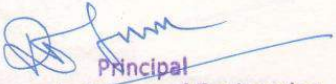
For Centric Learning Edge Pvt. Ltd.

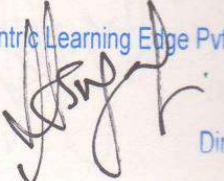
  
Director

Semester V end examination.

- **CLE** has developed an Internship, Industrial training and placement assured programme of four months duration to be imparted to the students of **SYCET** studying in eighth semester. The program will be conducted at **ITI Ltd.'s Rae Bareli** facility. The cost for the programme is to be borne by the student. **SYCET** will assist for maximum participation of the students in the programme. The detailed curriculum, fee structure is detailed in the brochure, which is also a part of this agreement.
- As **SYCET** stands as a **Facilitator** for the students of **2017-2021** batch and will assist for participation of maximum number of students who shall clear the entrance examination of the programme. For the students of **SYCET**, a deferred payment schedule for the present batch of the students is offered as detailed in the student agreement attached as an annexure in this agreement.

- 2.5 **Research and Development:** Both Parties have agreed to carry out the joint research activities in the fields of **Electric Vehicle**
- 2.6 **Skill Development Programs:** Second Party to train the students of First Party on the emerging technologies in order to bridge the skill gap and make them industry ready.
- 2.7 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lectures to the students of the First Party on the technology trends and in house requirements.
- 2.8 **Faculty Development Programs:** Second Party to train the Faculties of First Party for imparting industrial exposure/ training as per the industrial requirement considering the National Occupational Standards in concerned sector, if available.
- 2.9 Both Parties to obtain all internal approvals, consents, permissions, and

  
Principal  
Shreeyash College of Engineering  
& Technology Aurangabad

For Ccentric Learning Edge Pvt  
  
Dir

licenses of whatsoever nature required for offering the Programs on the terms specified herein

**CLAUSE 3 INTELLECTUAL PROPERTY**

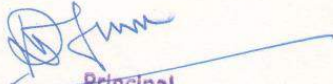
- 3.1 Nothing contained in this MOU shall, by express grant, implication, Estoppel or otherwise, create in either Party any right, title, interest, or license in or to the intellectual property (including but not limited to know-how, inventions, patents, copy rights and designs) of the other Party.

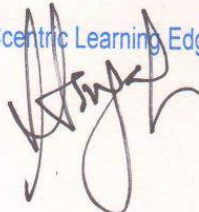
**CLAUSE 4: VALIDITY**

- 4.1 This Agreement will be valid until it is expressly terminated by either Party on mutually agreed terms, during which period the Parties, as the case may be, will take effective steps for implementation of this MOU.
- 4.2 Both Parties may terminate this MOU upon 30 calendar days' notice in writing. In the event of Termination, both parties have to discharge their obligations

**CLAUSE 5: RELATIONSHIP BETWEEN THE PARTIES**

- 5.1 It is expressly agreed that SYCET, AURANGABAD Maharashtra and Ccentric Learning Edge Private Ltd acting under this MOU as independent contractors, and the relationship established under this MOU shall not be construed as a partnership. Neither Party is authorized to use the other Party's name in any way, to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other Party. Neither Party shall have, nor represent itself as having, any authority under the terms of this MOU to make agreements of any kind in the name of or binding upon the other Party, to pledge the other Party's credit, or to extend credit on behalf of the other Party.

  
Principal  
Shraeyash College of Engineering  
& Technology Aurangabad

For Ccentric Learning Edge Pvt. Ltd  
  
Director



Any divergence or difference derived from the interpretation or application of the MOU shall be resolved by arbitration between the parties as per the Arbitration Act, 1996. The place of the arbitration shall be at Head Office of the First Party. This undertaking is to be construed in accordance with Indian Law with exclusive jurisdiction in the Courts of **Aurangabad, Maharashtra.**

**List of Annexures:**

**Annexure "A" : Agreement with Students**

**Annexure "B" : Agreement between ITI Ltd and Ccentric Learning Edge Pvt. Ltd.**

**Annexure "C" : Name change certificate from Ccentric Learning Edge Pvt. Ltd. To Ccentric Learning Edge Pvt. Ltd.**

**AGREED:**

**SYCET, Aurangabad Ccentric Learning Edge Pvt. Ltd**

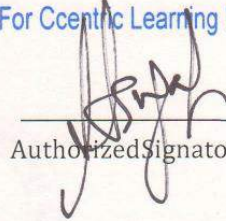
**For Ccentric Learning Edge Pvt. Ltd.**



Authorized Signatory

Principal

**Shreeyash College of Engineering  
& Technology Aurangabad**



Authorized Signatory

**Director**

<b>Shreeyash College of Engineering &amp; Technology( SYCET)</b>	<b>Ccentric Learning Edge Pvt. Ltd.</b>
<b>Gut no, 258, Prem Nagar - Satara Tanda Rd, near SRPF Camp, Aurangabad 431010</b>	<b>C- 612, G C Centrum, Indirapuram, Ghaziabad - 201014, Uttar Pradesh, India</b>
Contact Number : 9049989805	
EmaillID :principal@sycet.org.	





SHREEYASH PRATISHTHAN'S  
**Shreeyash Technical Campus**  
(SHREEYASH COLLEGE OF ENGINEERING & TECHNOLOGY,  
SHREEYASH POLYTECHNIC,  
SHREEYASH INSTITUTE OF PHARMACY)



### List of Students Selected for Electric Vehicle Training

Following student have been selected for Electric vehicle Residential training program with joint MOU of Ccentric Learning Edge Pvt. Limited Noida sector -62, Uttar Pradesh 201309

Sr. No.	Name of Student	Branch	Year of passing
1	Ratan Barde	Electrical	2020
2	Nilesh Dalvi	Electronics	2021
3	Sachin Dorle	Electronics	2021
4	Ganesh Deshmukh	Electronics	2021
5	Sahadev Surwase	Mechanical	2021
6	Utkarsh Chipate	Mechanical	2021
7	Nilesh Ghayawat	Mechanical	2021
8	Avinash Jadhav	Electronics	2021
9	Mauli Gavhad	Mechanical	2021

Training Program have been Started w.e.f 6<sup>th</sup> September 2021 for duration 15 Weeks.



  
Principal

### 3. Technical studio

## MEMORANDUM OF UNDERSTANDING

BETWEEN

**Technical Studio**

**Address: FL No- 1, Khadkeshwar Appt., Khadkeshwar,  
Aurangabad, Maharashtra, 431001**

**Contact No. 8805553425**

**Email Id: technicalstudio55@gmail.com**

AND

**Shreyash Pratishthan's**

**Shreyash College of Engineering and Technology, Aurangabad  
(M.S.)**

**Address: Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road,  
Near SRPF Camp, Aurangabad (M.S.) – 431 010.**

**T/M: +91 240 6608702**

**Email ID: [principal@sycet.org](mailto:principal@sycet.org)**

**Website: [www.sycet.org](http://www.sycet.org)**



## MoU

Whereas,

Shreeyash Collage of Engineering and Technology provide an in-depth education in engineering principles built on mathematics, computation, and the physical and life sciences, and encourage our students to apply what they learn through projects, internships, and research. The dedicated faculty and the supporting staff are the pillars of strength, combined with vibrant and talented student community with human values certainly make Shreeyash Collage of Engineering and Technology as the Institute of global importance. The modernization will offer excellent central computing facilities to students, who will also have access to improved laboratory and workshop facilities. Shreeyash Collage of Engineering and Technology is First "NAAC ACCREDITED" Engineering Institute in Marathwada region.

And

Technical Studio is ready to offer printed circuit board design services for your product. Our experience in development and manufacturing of various types of PCB – analog and digital, single- and double-sided, multilayer with BGA packages – allows us to deliver you PCB layout services at expert level. We use different PCB design softwares to meet your needs: Altium Designer; Cadence Orcad or Allegro; Eagle; KiCAD, which provides very high level PCB design files and full 3D CAD design output capabilities. Our industrial designers can help you develop the concepts for manufactured products. The projects include not only development of style and appearance of a custom-made enclosure, but also its structural design and manufacturability analysis. We prepare documentation for each device's subsequent mass-production.



## SCOPE OF THE MOU

This MOU details the modalities and general conditions regarding collaboration between Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad and Technical Studio, for enhancing, the availability of highly qualified manpower in the areas of Electrical and Electronics without any prejudice to prevailing rules and regulations in Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad and Technical Studio, Aurangabad. The areas of cooperation can be extended through mutual consent.

## SCOPE AND TERMS OF INTERACTIONS

Both Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad and Technical Studio, Aurangabad shall encourage interactions between the Engineers, Research fellows, faculty members and students of both the organizations through the following arrangements:

- a) Exchange of personnel through deputation for special subject periods.
- b) Organization of joint conferences and seminars, Industrial visits, Expert lectures etc  
Monitor process of organizing industry based projects and thesis for graduate & postgraduate students.
- c) Practical training of Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology , Aurangabad college of Students/Staff at Technical Studio, Aurangabad
- d) Technical Studio may request to design a Course or Courses to enhance quality and performance of its employees. Such Courses maybe run at any mutually convenient premises.
- e) Technical Studio may seek assistance/guidance of Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad Faculty member/s introduce/ process modification, modernization, trouble shooting, etc.
- f) Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad & Technical Studio would arrange discussion sessions for the staff and students, which will help SYCET to design its Syllabus, Vision & Mission of the Institute & Departments, Program Objectives, Course Objectives according to the current requirement of the Technical Studio, as well as design various certificates and diploma courses for the requirement of Technical Studio.



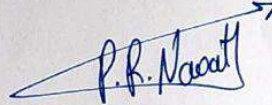
IN WITNESS WHERE OF PARTIES HERE TO HAVE ENTERED INTO THIS AGREEMENT EFFECTIVE AS ON THE DATE AND YEAR FIRST WRITTEN ABOVE.



**Dr. R. S. Pawar**

Principal

**Shreeyash College of Engineering  
& Technology Aurangabad**  
Shreeyash College of Engineering and  
Technology, Aurangabad (M.S.)



**Mr. Kiran Rajesh Nawhate**

Director

Technical Studio, FL No- 1, Khadkeshwar  
Appt. Khadkeshwar, Aurangabad,  
Maharashtra- 431001



**Witness:-**

1.

2.

Date:

**Witness:-**

1.

2.

Date:

**4. Samarth Electrocare Pvt. Ltd.**

**MEMORANDUM OF UNDERSTANDING**

BETWEEN

Samarth Electrocare Pvt. Ltd.  
Address: S4, Advait Residency, Aditya Nagar, Sudhgarini chouk  
Garkheda Aurangabad  
Contact No. 7755990767  
Email Id: [hr@mysepl.in](mailto:hr@mysepl.in)  
Website: [www.mysepl.in](http://www.mysepl.in)

AND

Shreeyash Pratishthan's  
Shreeyash College of Engineering and Technology, Aurangabad  
(M.S.)  
Address: Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road,  
Near SRPF Camp, Aurangabad (M.S.) – 431 010.  
T/M: +91 240 6608702  
Email ID: [principal@sycet.org](mailto:principal@sycet.org)  
Website: [www.sycet.org](http://www.sycet.org)





## MoU

Whereas,

Shreeyash Collage of Engineering and Technology provide an in-depth education in engineering principles built on mathematics, computation, and the physical and life sciences, and encourage our students to apply what they learn through projects, internships, and research. The dedicated faculty and the supporting staff are the pillars of strength, combined with vibrant and talented student community with human values certainly make Shreeyash Collage of Engineering and Technology as the Institute of global importance. The modernization will offer excellent central computing facilities to students, who will also have access to improved laboratory and workshop facilities. Shreeyash Collage of Engineering and Technology is First 'NAAC ACCREDITED' Engineering Institute in Marathwada region.

And

Samarth Electrocare Pvt. Ltd. Backed by the experience of more than 10 years, company have positioned ourselves as one of distinguished system integrator, suppliers and traders of electrical and electronics equipments. Our range comprises ABB make AC/DC VFDs, PLCs, Soft Starters, and Instrumentation Items. Autonics (Korea) make proximity sensors, photoelectric sensors, area sensors (picking sensors), Door/Door side sensors and fiber optic sensors, temperature controller field network, counters, timers and multi panel meters. Ingesco makes external lighting arresters, finders (relays and timers), OBD bettermann (surge protective devices and cable management system) these are known for their energy efficiency and most reliable features. This array of products finds its applications in almost all industries and homes for safe electrical fitting.



## SCOPE OF THE MOU

This MOU details the modalities and general conditions regarding collaboration between Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad and Samarth Electrocare Pvt. Ltd., for enhancing, the availability of highly qualified manpower in the areas of Electrical and Electronics without any prejudice to prevailing rules and regulations in Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad and Samarth Electrocare Pvt. Ltd. Aurangabad. The areas of cooperation can be extended through mutual consent.

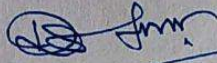
## SCOPE AND TERMS OF INTERACTIONS

Both Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad and Samarth Electrocare Pvt. Ltd, Aurangabad shall encourage interactions between the Engineers, Research fellows, faculty members and students of both the organizations through the following arrangements:

- a) Exchange of personnel through deputation for special subject periods.
- b) Organization of joint conferences and seminars, Industrial visits, Expert lectures etc Monitor process of organizing industry based projects and thesis for graduate & postgraduate students.
- c) Practical training of Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology , Aurangabad college of Students/Staff at Samarth Electrocare Pvt. Ltd., Aurangabad
- d) Samarth Electrocare Pvt. Ltd. may request to design a Course or Courses to enhance quality and performance of its employees. Such Courses maybe run at any mutually convenient premises.
- e) Samarth Electrocare Pvt. Ltd. may seek assistance/guidance of Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad Faculty member/s introduce/ process modification, modernization, trouble shooting, etc.
- f) Shreeyash Pratishthan's Shreeyash Collage of Engineering and Technology, Aurangabad & Samarth Electrocare Pvt. Ltd. would arrange discussion sessions for the staff and students, which will help SYCET to design its Syllabus, Vision & Mission of the Institute &



IN WITNESS WHERE OF PARTIES HERE TO HAVE ENTERED INTO THIS AGREEMENT EFFECTIVE AS ON THE DATE AND YEAR FIRST WRITTEN ABOVE.



**Dr. R. S. Pawar**

Principal

**Shreeyash College of Engineering  
& Technology Aurangabad**

Shreeyash College of Engineering and  
Technology, Aurangabad (M.S.)



**Mr. Gopal Shete**

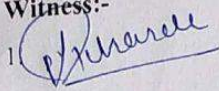
Director

Samarth Electrocure Pvt. Ltd.

S4, Advait Residency, Aditya Nagar,  
Sudhgarini chok Garkheda, Aurangabad



Witness:-

1. 

2.

Date:

Witness:-

1.

2.

Date:

## 5. Samrat Distributers

# MEMORANDUM OF UNDERSTANDING

Between

**Shreyash Pratishthan's  
Shreyash College of Engineering and Technology, Aurangabad (M.S.)**

Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road, Near SRPF Camp, Aurangabad (M.S.) – 431 010.  
T/M: +91 240 6608702 | E: principal@sycet.org | W: www.sycet.org

And

## SAMRAT DISTRIBUTORS

Address

Shop No. 3 Renuka complex, Satara Parisar, Aurangabad (M.S.) – 431 001  
T/M: 9423456115 | E: Nileshgawale77@gmail.com |

This Memorandum of Understanding (M.O.U.) is entered into this 08 day of March 2021 by and between **Shreyash Pratishthan's, Shreyash College of Engineering and Technology, Aurangabad (M.S.)**; an Engineering & Management institute established in 2008, represented by Dr. R. S. Pawar – Principal; having its campus at Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road, Near SRPF Camp, Aurangabad (M.S.) – 431 010 (hereinafter referred to as “the institute”).

And

### **SAMRAT DISTRIBUTORS:**

Shop No. 3 Renuka complex, Satara Parisar, Aurangabad (M.S.) – 431 001

### **Recitals**

- A. Shreyash Pratishthan's, Shreyash College of Engineering and Technology, Aurangabad (M.S.) is an Engineering & Management institute established in 2008, providing education in the area of Engineering, Technology and Management.
- B. Samrat Distributors is in the business of sales, services, Production of Electronic circuits products and Computer Assembly.
- C. The purpose of this M.O.U. is with reference to exploring the areas of cooperation, benefiting both **the institute and the industry** (hereinafter collectively referred to as “the parties”).

### **Areas of cooperation**

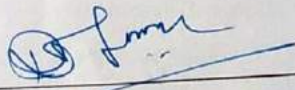
1. To impart training to the students and faculty members of the institute by the industry and to the employees of the industry by the institute.

2. To facilitate regular interaction between the faculty members & students of the institute and the workforce of the industry.
3. The parties shall explore the possibilities of mutual support in their learning, hiring and research requirement based on mutual convenience.
4. The industry may avail library, laboratories, computational facilities, etc at the institute.
5. **Confidentiality:** Each party shall maintain complete confidentiality of any information of the other, disclosed during the term of this M.O.U.
6. In no event shall either party be liable for any indirect, incidental, special, consequential damages, including, but not limited to, loss of profit, revenue, data or use, incurred by the other party in connection with, arising out of or under this M.O.U. save for any such loss suffered resulting from any wilful and grossly negligent act or omission of either of the parties.
7. Neither this M.O.U., nor any activities described herein, shall be construed as creating a partnership, joint venture or other such relationship. Both parties agree that this M.O.U. represents a nonexclusive relationship between the parties and nothing contained herein shall preclude either party from participating/initiating similar relationship with third parties.
8. This M.O.U. may not be amended without the prior written consent of both the parties.
9. **Termination:** Either party can cancel or terminate this Agreement unilaterally (and without reason), by giving an advance written notice of one month to the other.
10. **Indemnity:** Each of the parties shall defend, indemnify and hold the other party harmless from and against any claim, liability, loss, costs or expenses (including reasonable Attorney's fees) arising out of or resulting from the material breach of the provisions herein.


IN WITNESS WHEREOF the parties have set their hands hereto on the day and year first hereinabove written under their respective seal of office.

For Shreeyash Pratishthan's, Shreeyash College  
of Engineering and Technology, Aurangabad  
(M.S.)

For Samrat Distributors  
Aurangabad (M.S.)

  
\_\_\_\_\_  
**D.F.R. S. Pawar** Principal  
Principal **Shreeyash College of Engineering  
& Technology Aurangabad**  
Date: 8/3/2021  
Place: Aurangabad



\_\_\_\_\_  
Samrat Distributors  
**Mr. N. P. Gawale**  
owner  
  
Proprietor  
Date: 8/3/2021  
Place: Aurangabad

## 6. Aasara Enterprises

# MEMORANDUM OF UNDERSTANDING

Between

**Shreyash Pratishthan's  
Shreyash College of Engineering and Technology, Aurangabad (M.S.)**

Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road, Near SRPF Camp, Aurangabad (M.S.) – 431 010.

T/M: +91 240 6608702 | E: principal@sycet.org | W: www.sycet.org

And

**AASARA ENTERPRISES**

Address

**31, Kokanwadi, Station Road, Aurangabad (M.S.) – 431 001**

T/M: 9423456115 | E: nileshgawale77@gmail.com |

This Memorandum of Understanding (M.O.U.) is entered into this 08 day of March 2021 by and between **Shreyash Pratishthan's, Shreyash College of Engineering and Technology, Aurangabad (M.S.)**; an Engineering & Management institute established in 2008, represented by Dr. R. S. Pawar – Principal; having its campus at Gut No.: 258 (P), Satara Parisar, Beed By-Pass Road, Near SRPF Camp, Aurangabad (M.S.) – 431 010 (hereinafter referred to as “the institute”).

And

**AASARA ENTERPRISES:**

**31, Kokanwadi, Station Road, Aurangabad (M.S.) – 431 001**

### **Recitals**

- A. Shreyash Pratishthan's, Shreyash College of Engineering and Technology, Aurangabad (M.S.) is an Engineering & Management institute established in 2008, providing education in the area of Engineering, Technology and Management.
- B. Aasara Enterprises is in the business of sales, services, Production of Electronic circuits products and Computer Assembly.
- C. The purpose of this M.O.U. is with reference to exploring the areas of cooperation, benefiting both **the institute and the industry** (hereinafter collectively referred to as “the parties”).

### **Areas of cooperation**

1. To impart training to the students and faculty members of the institute by the industry and to the employees of the industry by the institute.
2. To facilitate regular interaction between the faculty members & students of the institute and the workforce of the industry.

3. The parties shall explore the possibilities of mutual support in their learning, hiring and research requirement based on mutual convenience.
4. The industry may avail library, laboratories, computational facilities, etc at the institute.
5. **Confidentiality:** Each party shall maintain complete confidentiality of any information of the other, disclosed during the term of this M.O.U.
6. In no event shall either party be liable for any indirect, incidental, special, consequential damages, including, but not limited to, loss of profit, revenue, data or use, incurred by the other party in connection with, arising out of or under this M.O.U. save for any such loss suffered resulting from any wilful and grossly negligent act or omission of either of the parties.
7. Neither this M.O.U., nor any activities described herein, shall be construed as creating a partnership, joint venture or other such relationship. Both parties agree that this M.O.U. represents a nonexclusive relationship between the parties and nothing contained herein shall preclude either party from participating/initiating similar relationship with third parties.
8. This M.O.U. may not be amended without the prior written consent of both the parties.
9. **Termination:** Either party can cancel or terminate this Agreement unilaterally (and without reason), by giving an advance written notice of one month to the other.
10. **Indemnity:** Each of the parties shall defend, indemnify and hold the other party harmless from and against any claim, liability, loss, costs or expenses (including reasonable Attorney's fees) arising out of or resulting from the material breach of the provisions herein.

IN WITNESS WHEREOF the parties have set their hands hereto on the day and year first hereinabove written under their respective seal of office.

For Shreeyash Pratishthan's, Shreeyash College  
of Engineering and Technology, Aurangabad  
(M.S.)

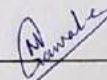
For Aasara Enterprises  
Aurangabad (M.S.)



Dr. R. S. Pawar Principal  
Principal Shreeyash College of Engineering  
& Technology Aurangabad

Date: 8/3/2021

Place: Aurangabad.



Mr. N. P. Gawale  
Owner

Date: 8/3/2021

Place: Aurangabad.

